Coaching Efficacy and Stakeholders' Perceptions

of Coaches: Relationships with National

Coaching Standards

by

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ABSTRACT

Research on coaching behaviors as well as how these behaviors relate to national standard is limited. Utilizing the conceptual framework of the National Association for Sports and Physical Education (NASPE) National Coaching Standards and the body of literature on coaching behaviors, the current study examined: (a) coaching behaviors, coach's self- efficacy and stakeholders' (i.e., athlete, parents'/guardians') perceptions of their coaches' effectiveness, and (b) an in-depth review of coaching effectiveness with a subsample of coaches (observations) as well as comparing coaching behaviors to the National Coaching Standards (NASPE, 2006). Coaches completed the Coaching Efficacy Scale (CES), while athletes and parents'/guardians' used a modified version of the CES measuring perceptions of coaching effectiveness. Observations [using the Arizona State University Observation Instrument (ASUIO)], formal and informal interviews, and document analyses [field notes, artifacts, and interviews] were used to explore coaching behaviors and perceptions of coaching experiences as they relate to the NASPE Coaching Standards. Coaches had the post positive perceptions (efficacy) of the stakeholder groups. Consistent with previous research on effective coaches, it was found that this cohort of coaches frequently used instruction (38.5%) and non-instructional (51.07%) behaviors (Becker & Wrisberg, 2008; Bloom, Crumpton, & Anderson, 1999; Kahan, 1999; Lacy & Darst, 1985; Segrave & Ciancio, 1990). Qualitative data revealed three themes related to coaching effectiveness and relationships with the NASPE Coaching Standards: (a) the structure of the program and environment, (b) pedagogical content knowledge, and (c) past athletic experiences. Findings suggest that observed coaching behaviors do not enact

many of the NASPE Coaching Standards and that coaches are not be aware of the

national standards.

DEDICATION

This is dedicated to my Dad.
Without him none of this would be possible
You are loved
You are missed
You are not forgotten

ACKNOWLEDGMENTS

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CHAPTER 1

INTRODUCTION

An emerging relationship exists between studies in Sport Pedagogy and Coaching

in the last three decades. However, there have been few empirical studies in the area of

sport coaching investigating behaviors and stakeholders' perceptions of coaching. The

dearth of research on sport coaching limits the abilities: (a) to set agendas and build a

body of literature, (b) provide coaches access to coaching research, and (c) provide

researchers/teacher educators with the opportunity to implement and integrate sport

coaching research into coach education and programs (Gilbert & Trudel, 2004). This

discussion provides an overview of coaching behaviors, coach efficacy, and coach-athlete

relationships.

Coaching Behaviors

Gilbert and Trudel (2004) identified four behavior categories or themes in

published research from 1970-2001 in sport pedagogy related to (sport) coaching,

including: (a) behavior, defined as best practices (e.g., coach-athlete relationship,

effectiveness, general behaviors, and leadership style): (b) thoughts, defined as what

coaches think or feel (e.g., attitudes, decision making, knowledge, and perception): (c)

characteristics, defined as their background (e.g., demographics, gender, and

qualifications) and (d) career development, defined as coaches' career experiences (e.g.,

experiences as an athlete, enthusiasm versus burnout, career opportunities/satisfaction,

and coach education). Based on a review of over 160 journals and 610 articles, the

authors indicated that what coaches do (i.e., their behavior) has dominated coaching

science research, and systematic research and descriptive studies have played a major

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role in the emergence of coaching behavior research, and coaching science (Anderson, 1990). Similarly, Darst, Zakrajsek, and Mancini (1989) highlighted the significant role of behavioral analysis in the field of sport pedagogy and coaching research and stated that "systematic observation has played a major role in the emergence of coaching behavior research as a bona fide area of empirical study" (p. 5).

Gilbert and Trudel (2004) also noted that the body of sport coaching science literature consists of studies conducted from a quantitative epistemology that rely heavily on questionnaires. Therefore, studies utilizing qualitative methodologies are needed for further development of the field and to gain a greater understanding of effective sport coaches. Lee, Keh, and Magill (1983), noted that, "gaining access to these interpretations would be immensely valuable for understanding why teacher [coach] feedback appears to have differential effects on student [athlete] learning" (p.152). If sport coaches are to be at their most productive level, it is essential that they acquire knowledge of what behaviors are desired by and most effective for their athletes from the stakeholders' point of view. Potrac, Brewer, Jones, Armour, and Hoffet (2000) also suggest the need for more ecologically grounded studies of coaching, including systematic observation, interviews, and athletes' perspectives.

Potrac et al. (2000) called for a holistic understanding of the coaching process. Framed by a methodological framework they used a combination of qualitative and quantitative research techniques to provide a holistic understanding of the coaching process. First, they examined instructional behaviors utilized by (sport) coaches using systematic observation (van der Mars, 1989). They also looked at participant perceptions using in-depth interviews, and they determined that one-on-one interviews allowed

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researchers to fully understand the structures of meaning and understanding created by athletes in their particular sporting context. Secondly, the data obtained in interviews allowed athletes to indicate the instructional strategies they perceived as being integral to positive development in sport.

Few research studies focused on empirically exploring which leadership behaviors that facilitate effective sport coaching (i.e., success; Gilbert, Cote, & Mallett, 2006). Several studies have focused on the importance of past experiences as a source of effective coaching knowledge (Gould, Giannini, Krane, & Hodge, 1990; Irwin, Hanton, & Kerwin, 2004; Jones, Armour, & Potrac, 2004; Sage, 1989.) For example, Gilbert and Trudel (2004) showed that coaches in different sport coaching contexts require context-specific knowledge about athletes' competencies and the contextual environment. This knowledge directly influenced the coaching process and its subsequent effectiveness. To date, most research efforts have focused on the sport coaching-related success of the team related to performance, i.e., the season win/loss record. Cumming, Frank, Smoll, Smith, and Grossbard (2007) reported that athletes related better to coaches who had teaching abilities, knowledge of the sport. Players also indicated that if they liked their coach, they would play for them again regardless of their teams' win/loss records.

Furthermore, there is no national protocol to measure best sport coaching practices at any level of sport coaching. Quality sport coaching is critical to athlete retention and the successful development and sustainment of any athletic program. Bush & Silk (2010) contended the function of the modern coach has expanded beyond directing practice and training. The expanded role of the (sport) coach involves taking personal responsibility for players outside the practice/competition environment, as well

as being aware of their overall social and psychological well-being and development (Bush & Silk, 2010). In the changing world of sport, the National Association of Sports and Physical Education (NASPE) responded to these needs and created the National Standards for Sport Coaches ([NSSC]; NASPE, 2006) to clarify the skills and knowledge that coaches should possess (NASPE, 2006). By design, the NSSC provides a framework that can be applied and used to identify coaching competencies within the structure and context of any sport or coaching program (NASPE, 2006).

The value of adopting evidence-based knowledge in sport coaching is best appreciated by considering the complexity of the game/sport and the athletes' needs. High-level performance requires a blend of physical and mental skills. Because the coach is responsible for developing and nurturing these skills, the coaching literature supports the role of the coach in fulfilling a wide range of goals which includes creating a better working environment for the performer (Bush & Silk, 2010). In contrast, unsuccessful coaches are unable to accomplish the intended goals for their athlete/performer. This may include the win/loss record in terms of developing youth. Borrie and Knowles (2003) agreed adding that, effective coaches demonstrate a people-centered attitude.

Coaching Efficacy

Coach efficacy or confidence influences coaching effectiveness (Myers, Vargas-Tonsing, & Feltz, 2005; Vargas-Tonsing, Warners, & Feltz, 2003). Variables which influence coach efficacy include coaching experience, prior team success, perceived skill of one's athletes, and perceived social support from school, community, and athletes' parents (Kavussanu, Boardley, Jutkiewicz, Vincent, & Ring, 2008). Also, coaching

efficacy has been linked to team efficacy, satisfaction with the coach, and team performance in athletes (e.g., Feltz, Chase, Moritz, and Sullivan, 1999).

Feltz et al. (1999) defined coaching efficacy as the extent to which coaches believe they have the capacity to affect the learning and performing of their athletes. Feltz et al, (1999) definition of coaching efficacy was comprised of four dimensions: (a) game strategy, (b) motivation, (c) technique, and (d) character building efficacy. Game strategy efficacy was defined as the coaches' confidence in their ability during competition and to lead their team to a successful performance. Motivation efficacy refers to the coaches' confidence in affecting the psychological skills and states of their athletes. Technique efficacy pertains to the belief coaches have in instructional and diagnostic skills, while character building efficacy concerns the coaches' personal ability to influence their athletes' personal development and positive attitude toward sport.

Coach and Athlete Relationships

Specifically, Potrac and his colleagues found that in their quest to develop contextual understanding the instructional process in sport coaching, it is necessary to investigate the pedagogical impact of coach on the performer (athlete). Hanson and Gould (1988) showed that sport-coaching practitioners do not generally read their athletes well. Langley (1997) asserted that it is critical to include the athletes' perspective of skill learning to develop a comprehensive understanding of the instructional process of sport. "Research on athletes subjective experience may result in more contextual and unified picture of athlete learning and offers the coach an expanded knowledge base on the athlete learning processes" (Potrac, Jones, & Armour, 2002, p. 142).

There is little research on the relationship between coaching knowledge and athlete outcomes. Ambrose and Horn (2000) asked male and female college athletes from a variety of sports to report their perceptions of their coaches' feedback patterns, leadership styles, and motivation. They found that high motivation levels were associated with coaches who displayed a leadership style that emphasized training and instruction, high democratic behavior, and frequent positive informative-based feedback.

The impact of the coach-athlete relationship plays a critical role in the development of the athlete as both a performer and as a person. In their study of Olympic medalists' perspectives' of the coach-athlete relationship, Jowett and Cockerill (2003) recommended that coach education programs provide education to develop effective coaches to build these important relationships. They investigated the nature and significance of the coach-athlete relationship with-in the context of the three constructs of: (a) constructs of closeness (b) co-orientation, and (c) complementarily. The authors reported that the impact of the coach-athlete relationship on success became evident through narratives and recollections. The implications of the study highlight the importance of incorporating social skills in coach education programs. Thus, the ability of coaches to develop effective relationships with their athletes could impact athletes' well-being, and, in turn, their performance accomplishments.

The current research study expanded the literature base related to coaches' efficacy and their coaching behaviors. This research also provides a much-needed investigation into athletes' and parents' views of coaches' effectiveness and the alignment of coaches' efficacy and stakeholders' perceptions of their effectiveness. Perhaps the greatest contribution of the study is the use of the National Coaching

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Standards (NASPE, 2006) as a guiding framework. Notably, this is the first investigation that compares coaching efficacy, coaching behaviors and stakeholders' perceptions of coaches' competence to the competence areas in the National Coaching Standards. It is critical to empirically analyze the National Coaching Standards and to investigate coaching efficacy/effectiveness and how perceptions of sport coaches and stakeholders align to the standards. Furthermore, this study describes the practical implications for coaches who want to have a successful season and develop the whole student athlete to make positive differences in athletes' learning, achievement, and persistence to attain professional status.

The conceptual framework that guided the current study is the National Coaching Standards, (NASPE, 2006), as well as the body of literature on "effective coaching." This study employed mixed methodologies to study coaches' efficacy and how this parameter is related to the areas of competency developed in the National Coaching Standards (NASPE, 2006) of advanced high school athletes. Coaches' efficacy was also compared to athletes' and parents' perceptions of their coaches' effectiveness using the framework of the National Coaching Standards.

The second part of this research, also guided by the National Coaching Standards (NASPE, 2006) and the effective coaching literature, took an in-depth look at sport coaching behaviors, as well as coaches' perceptions of coaching behaviors. This in-depth review will include assessments coaching materials (e.g., document analyses). The NASPE Coaching standards were also used to frame this in-depth look (e.g., observations and interviews) at coaches' experiences and behaviors.

RESEARCH QUESTIONS

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1) How efficacious do high school sport coaches feel about the areas within the 2006 (NASPE) Coaching Standards?

2) What are student athletes' and their parents' perceptions of coaches' efficacy and how does this compare to the coaches' perceived efficacy?

3) How effective are coaches in terms of their coaching practices, as evidenced through systematic observations, field notes, interviews, and document analysis?

4) How do coaches' behaviors align with the 2006 (NASPE) Coaching Standards?

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CHAPTER 2

LITERATURE REVIEW

For the 23rd consecutive year, 2012 scholastic sport participation reached an all-time high of 7.7 million participants (National Federation of State High School Associations [NFHS)], 2012).   As society moves toward an age of increased sport participation, it is vital that the leadership roles are clearly defined and supported (Campbell, 2000). The coaches' role is supportive in nature. The coaches' role is to create and support an athlete by conducting training and development in a sport specific domain (sport) to achieve a specific personal competence goal. The influence of good coaching extends beyond sport. Highly educated coaches are needed who use well-designed national performance standards and benchmarks so that all athletes' talents can be nurtured and developed in a systematic manner. If we believe that every sport participant should be given the opportunity to fulfill their potential, regardless of standard, then we must ensure that coaches receive the support they need and deserve (Campbell, 2000).

The increased participation in sport has also progressed the professional nature of coaching and sparked a great deal of activity in the area of coach development. At the same time, the fields' understanding of coach development is limited. Several studies have stated that past experiences are a key source of coaching knowledge (Potrac, Brewer, Jones, Armour, & Hoff, 2000, Gilbert &Trudel, 1999: Trudel & Gilbert, 2006). This is consistent with other related fields of study, such as teaching (Clark & Peterson, 1986) and physical education (Silverman, 1991: Gilbert & Trudel, 2004). Although, considerable data are available on coaching behavior, there is relatively little on coaching

knowledge (Lyle, 2002). Furthermore, the understanding of how these diverse learning activities interact to produce an effective coach has never been systematically analyzed.

Given the progress in the world of coaching, it is surprising that relatively little is known about how one becomes a successful coach. Few studies have empirically documented the path to coaching success. The most consistent theme found across the literature is the critical role of the coach in developing sport talent. It is ironic to discover coach development has yet to be critically examined (Gilbert, Cote, & Mallett, 2006).

Coach Education

In the U.S., coaching has a high status. However, the U.S. does not have a national system for the training and licensing of coaches: therefore, standards for employment in coaching vary from sport to sport and level to level, and individual states have their own coaching standards (Gilbert et al., 2006). There is no mandatory or standard national coaching certification program in the U.S.. High School, community college, and Division I college coaches in many states are not required to have any type of formal coach education, particularly on an annual basis (Gilbert et al., 2006). Coach education strategies are largely determined by the culture, politics, and traditions of the nation concerned, and they are built around the existing sporting structures and traditions that already exist (Campbell, 2000).

It is essential that future coaching systems be constructed around a sound philosophy and framework. One area of particular concern in coach development for all involved in sport is the ethics underpinning sport performance. Coaches must work toward an ethical code or code of practice protecting the athlete, coach, and sport (Campbell, 2000). The purpose of the code of ethics is to establish and maintain

standards for coaches and to inform and protect persons who use their services. Ethical

standards should cover issues such as integrity, responsibility, competence, and

confidentiality. Members of the institutions, in agreeing to the code, accept the

responsibility to behave ethically with regard to performers, colleagues, the institute, the

sport's governing body, and society (Campbell, 2000). For example, the British Institute

of Sport Coaches has produced a code of coaching ethics and conduct provides a

framework for coaches in which to work. This series of guidelines cover issues of

responsible conduct including (a) humanity, coaches must treat everyone equally; (b)

integrity, coaches must not encourage athletes to violate the rules of their sport and

should actively discourage such actions; and (c) issues of competence, coaches should

regularly seek ways to increasing their professional development and self-awareness.

Code of Conduct areas include (a) commitment, when coaches enter into a commitment

with an employer, team, or individual, the nature of that commitment should be

respectfully agreed upon; (b) confidentiality; coaches must not divulge confidential

information relating to a player [athlete]; and (c) misrepresentation, coaches must not in

any way misrepresent their qualifications, affiliations, or professional competence to any

client or in any publication (Campbell, 2000).

Beyond having an established code of conduct, a well-designed training program

for coaches can result in improvements in various areas of coaching. These include (a)

improved time management, (b) increased motor engagement time, (c) positive changes

in specific coaching behaviors, and (d) personality (mental) development in athletes.

Coach education programs have previously been reported as one of the most pressing

issues in sport science research (Gilbert & Trudel, 1999).

Coach Education Providers

A number of organizations have developed coach education resources; one of the largest is the American Coaching Effectiveness Program (ACEP) developed by Human Kinetics (Martens, 1988). Also, since 1920, The National Federation of State High School Associations (NFHS) has led the development of education-based interscholastic sports and activities that help students succeed in their daily lives. The NFHS publishes playing rules in 16 sports for boys' and girls' competition. The NFHS provides a variety of program initiatives that reach 18,500 high schools and over 11 million students involved in athletic and activity programs (NFHS, 2014).

OBSERVATION SYSTEMS

Interest is increasing in the development of observational systems suitable for application in athletic/coaching environments to better understand the science of coaching. It is necessary to find out what good coaches do and how such behaviors relate to successful athletic performance. Improving the effectiveness of coaching needs to be further investigated, specifically, in sport pedagogy and sport coaching and analysis of instructional behavior. Woodman (1993) stated that the application of knowledge of effective behavior separates excellent practitioners of coaching from others (Vangucci, Potrac, & Jones, 1997).

Systematic observations have played a major role in the emergence of (teaching) coaching behavior research as an area of empirical study. Coaches who were trained to use the behavioral guidelines of their coaching effectiveness program were better liked and rated as more effective than untrained coaches. However, it is recognized that more

studies across a variety of sports are necessary before a theoretical framework guiding

effective coaching can be formulated (Vangucci, et al., 1997).

COACHING BEHAVIORS

It is also essential that researchers acquire knowledge of what coaching behaviors

are desired by and most effective for athletes (Potrac et al., 2000). It is important to

probe and understand the shared experiences of the coaches and their athletes. Lee, Keh,

and Magill (1983) stated that, "gaining access to these interpretations would be

immensely valuable for understanding why teacher [coach] feedback appears to have

differential effects on student [athlete] learning" (Potrac, Jones & Armour, 2002, p.152).

The majority of published research has focused on the feedback patterns and

general leadership styles of coaches. One factor that appears particularly relevant in

these studies is coach behavior. Darst et al., (1989) also highlighted the significant role

of systematic observation in learning more about coaching behaviors; however, there

have only been a handful of studies examining the influence of various coaching

behaviors on athlete performance. A variety of issues remain unresolved regarding

coaching behaviors and athletes' perceptions (Hollembeak, & Amorose, 2005).

National Standards for Coaches

Coaches at all levels of sport should possess at least the minimum competencies

as discussed in the Quality Coaches, Quality Sports: NSSC Handbook (2006) before

beginning coaching. It is imperative that all coaches be fully prepared for their

responsibilities (NASPE, 2006). The National Standards document includes statements

that successful coaching requires certain knowledge and skills that can only be gained

through appropriate professional training. The 40 standards, grouped into eight domains

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with benchmarks provide examples of varying degrees of progress (e.g., knowledge, skill) toward achieving the standards (NASPE, 2006). The domains, standards, and benchmarks as outlined by the national standards are based on the most recent scientific information related to coaching.

The NSSC provide direction for coaches and stakeholders, including coaches, athletes, parents, and administration, regarding the skills and knowledge that coaches should possess. The eight domains are (a) philosophy and ethics, (b) safety and injury prevention, (c) physical conditioning, (d) growth and development, (e) teaching and communication, (f) sport skill and tactics, (g) organization and administration, and (h) evaluation.

The two main goals of the National Standards are to clearly articulate a conceptual framework that establishes sport coaching as a profession and to provide a foundation for all coaching organizations to implement a comprehensive, quality coaching education program (NASPE, 2006).

At the present time there is limited knowledge in the literature related to the National Standards. No research studies could be found that included the National Standards in studies of coaches.

COACHING EFFICACY

Over 140 articles have cited the Coaching Efficacy Scale (CES), with some redundancy among the topics observed. The major findings were three common themes, which included research on head coach competencies (e.g., motivation, game strategies, character building), coaching educational programs and athlete perceptions of their

coach. In 2008 Myers, Feltz, and Wolf conducted a confirmatory study of the CES. Their study extended the evidence for the coaching efficacy measures derived from the CES.

STAKEHOLDER PERCEPTIONS

Parents are an essential influence on adolescents. Parental involvement reflects a dedication to the child and positive attention to the child-rearing process Phares, Fields, and Kamboukos (2009) suggested that many patterns of parental involvement evident in infancy and early childhood continue throughout adolescence (e.g., time involvement, level of responsibility). Their study also highlighted the importance of considering parental satisfaction and inter-parental conflict in relation to adolescents' functioning. In sport, Hellstedt (1987) described parental involvement on a continuum ranging from under involvement to over involvement, and moderate involvement seems to facilitate a positive sport career. It is not surprising that parent perceptions play a huge role in the success of their student athletes.

The coach-athlete relationship is also important and directly influences the athletes' perceptions toward sport. Coaches represent key sources of influence within the process of learning (in sport) (Tammerin & Holt, 2012). There is substantial literature on athletes perceptions in the area of coaching related to motivation, educational background of the coach, and success rates. Overall, the growing number of qualitative studies in this area suggests that there may be a complex, interactive and multifaceted motivational atmosphere in coaching contexts (Keegan, Harwood, Spray, & Lavallee, 2014). Côté, Baker, and Abernethy (2003) and Holt, Tamminen, Black, Mandingo, and Fox (2009); however, reported difficulty in attempting to consistently associate specific coaching behaviors with specific motivational outcomes. Future research should assess these

motivational links as well as the use of continued education for coaches related and

student athlete performance and life skill outcomes.

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CHAPTER 3

COACHING BEHAVIORS AND STAKEHOLDERS' VIEWS OF COACHES'

EFFICACY

In the current literature on coaching, authors often use coaching efficacy,

effectiveness, and competence interchangeably. Despite nearly 35 years of research and

discussion, there remains "a lack of precision in terminology and approach, and a

singular failure to relate effectiveness and expertise literature to any conceptual

understanding of the coaching process" (Lyle, 2002, p. 251) (Cote & Gilbert, 2009).

This study examined coaches' self-efficacy, and stakeholders' perceptions of their

coaches' efficacy. This work is grounded in the literature on coaching efficacy. It is also

framed by the National Standards for Coaches (NASPE, 2006).

Defining Coaching Efficacy and Effectiveness

The general meaning of effectiveness is defined as causing the desired or intended

result. In the sport coaching literature, effectiveness is often defined as how effective the

coach is in terms of her/his win/loss record. Effective coaching results in either or both of

the following (a) successful performance outcomes (measured either in terms of win-loss

percentages, individual player development, or success at the national or international

level) or (b) positive psychological responses in the athletes (e.g., high perceived ability,

high self-esteem, intrinsic motivational orientation, or high level of sport enjoyment and

satisfaction (Horn, 2008, p. 240).

Cote and Gilbert (2009) presented an integrative definition of coaching

effectiveness and expertise that is both specific and conceptually grounded in the

coaching, teaching, psychology, and athlete development literature. Their definition of

coaching effectiveness included: (a) effective coaching behaviors (e.g., knowledge, behaviors, dispositions, education, and experiences); (b) positive outcomes for the athletes (e.g., performance self-esteem and satisfaction), and (c) appropriate coaching methods for the specific coaching contexts, that is, coaching behaviors that vary by athlete age, developmental level, needs and goals.

Gilbert and Trudel (2004) identified four coaching behavior categories or themes in research published from 1970-2001 in the coaching literature, including: (a) behaviors, defined as best practices (e.g., coach-athlete relationship, general behaviors, and leadership styles); (b) thoughts, defined as what coaches think or feel (e.g., attitudes, decision making, knowledge, and perception); (c) characteristics, defined as their background (e.g., demographics, gender and qualifications); and (d) career development, defined as coaches' career experiences (e.g., experiences as an athlete, enthusiasm versus burnout, career opportunities/satisfaction, and coach education).

Cote and Gilbert's categories have been used by various authors. For example, Jones Armour, and Potrac (2003) studied the life events of a professional soccer coach, focusing on coaching behaviors. Through field-notes, interviews, and critical reflection of the current literature, they reported themes of life events and coaching behaviors (knowledge and thoughts) to better understand this successful coach. Similarly, Wilson, Bloom, and Harvey (2010) also investigated coaches' knowledge using the Cote and Gilbert framework. Using qualitative methodologies, the authors studied six urban high school team sport coaches from the same school district. The coaches initially used similar means to acquire knowledge, and this knowledge was further enhanced through a combination of formal training, practical experiences, and informal learning

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opportunities. Lyle (1998) postulated that the theoretical basis for exploring coaching

effectiveness was dependent on the research of teacher behavior due to the vast

similarities between the two professions. As such, the findings support the notion that

coaches require effective pedagogical skills to be successful.

Coaching Efficacy

Efficacy (noun) and effective (adjective) are different concepts. They are both

similarly defined as the ability to produce the desired result. However, self- efficacy

relates to the coaches' perception (or specific self-confidence related to coaching) of

her/his ability to produce desired athletic outcome in athletes. Sullivan and Kent (2003)

define self-efficacy as the situation-specific belief that one can act to successfully

produce a given outcome. Thus, self-efficacy pertains to contextualized judgments of

personal capabilities. As such, these perceptions are powerful as direct or indirect

antecedents of behaviors and thought patterns. Self-efficacy is also defined as a judgment

about one's capability to successfully perform a task. Efficacy, is not just knowing, what

behavior is appropriate; rather, it involves organizing cognitive, social, and behavioral

sub-skills, strategies, and actions (Chase, Lirgg, & Feltz, 1997).

Bandura (1986) proposed that self-efficacy beliefs contribute to individual

psychosocial behavior in distinct ways. These beliefs influence how people behave, as

well as their emotional reactions in various situations. An individual's strength of

efficacy will determine how much effort they exert and how long they persist in the face

of failure. Thoughts and emotional reactions are affected by one's efficacy with regard to

stress, potential demands, and effort. People with strong self-efficacy can focus their

attention on the task at hand. They may also spend more effort than people with

weak/low or no efficacy, who may be stressed, and expend these efforts on identifying possible solutions. Bandura (1986) suggests that there are four sources of self-efficacy: (a) past performance, (b) vicarious experience, (c) verbal persuasion, and (c) psychological state.

In the sport coaching literature, Feltz, Chase, Moritz, and Sullivan (1999) cited coaching behavior as the primary contributor to a coach's confidence and further discussed coaching experience/preparation, prior success, perceived skill of athletes, and school/community support as factors contributing to a coach's sense of self-efficacy in coaching. The four elements of coaching efficacy are (a) instructional technique, (b) motivation, (c) character building, and (d) game strategy (Feltz et al., 1999).

The concept of self-efficacy is vital to coaches, athletes, and spectators for at least two reasons. First, as a coach, being confident that you know what athletes feel and think about their skills, abilities, and talents is important in the development of those characteristics. Second, a coach's efficacy to better understand an athlete's psyche can significantly improve sport performances (Moritz, Feltz, Fahrbach, & Mack, 2000; Shelangoski, Hambrick, Gross, & Weber, 2014).

Coaching experience is a key factor in coaching efficacy. Along with the observation of other coaches, coaching experience is often cited as the primary source of knowledge for coaching (Gilbert & Trudel, 2001). Although Housner and Griffey (1985) studied teachers rather than coaches they found that experienced and inexperienced teachers varied considerably in their decision-making strategies. They found experienced teachers: (a) make more planning decisions, (b) make more planning decisions concerning assessment, (c) spend more time observing student performance, (d) provide

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more specific feedback, (e) spend less time managing behavior and focusing attention, and (f) demonstrate motor skills more frequently.

Fung (2003) identified levels of coaching efficacy among a group of high school coaches to gain insight for planning future coach preparation programs. In Fung's study, the Coaching Efficacy Survey (CES) was used to assess the efficacy of high school coaches in four dimensions: (a) Motivating Athletes, (b) Strategy Use, (c) Coaching Techniques, and (d) Character Building. The dimension in which the participating coaches felt most efficacious was Character Building whereas the dimension in which they felt the least efficacious was Strategy Use.

Coaches with higher self-efficacy related to coaching engaged in different types of coaching behaviors. They had extensive playing and coaching backgrounds, an increased perception of athlete skills, and a higher level of coaching education compared to coaches who reported lower levels of self-efficacy related to coaching (Sullivan, Paquette, Jolt, & Bloom, 2012).

Researchers have conducted studies on the relationship between coaches' self-efficacy and athlete performances in various sports (Moritz et al., 2000). From baseball (Hepler & Chase, 2008) to basketball (Vealey, Hayashi, Garner-Holman, & Giacobbi, 1998) and distance running (Heazlewood & Burke, 2011; Martin & Gill, 1991), many populations have been examined to determine the precise impact of self-efficacy on sport performance and how it can be better harnessed to improve the understanding of athletes and their psyches (Shelangoski et al., 2014). These studies showed that gender was significant factor in determining these measures of self-efficacy: State, Trait, and Overall Self-Efficacy. The authors also noted that overall, high levels of self-efficacy levels

among coaches, with males reporting higher levels than females. However, the authors

reported that there was no interaction found between Gender and Playing Experience on

the coaches' self-efficacy (Shelangoski et al., 2014). The relationships between self-

efficacy and performance may depend on the amount of experience athletes have had,

because those with more experience tend to have higher levels of self-confidence

(Shelangoski et al., 2014). Rattanakoses et al. (2009) also found a significant positive

correlation between coaches' experience level and their self-efficacy for both male and

female coaches, although it was stronger for males.

Coach Education

Coach education has a significant positive influence on coaching efficacy

(Sullivan et al., 2012). However, an inherent problem with this approach to learning

about effective coaching practices is that the learning (education) is often

decontextualized. Without the conceptual frame of reference of coaching youth, learning

about coaching has little relevance as coaching practitioners may be unable to adapt what

they learn to the complex and dynamic human environment present in youth coaching

settings. Through the separation of theory from practice, including the tendency to

routinize high-level tasks and the deskilling of the practitioner, learning can take place

but it might not lead to improved coaching practices. Potrac, Brewer, Jones, Armour, and

Hoff (2000) argued that, coaches are far from being merely technicians and they need to

be educated as intellectuals with social and cognitive skills and values.

Studies on Effective Coaches

Doug and Hastie (1993) identified five behaviors that consistently emerge from

the examination of coaches during training and competition. They reported that effective

coaches (a) frequently provide feedback and incorporate numerous prompts and hustles, (b) provide frequent instruction (c) use high levels of questioning and clarifying, (d) are predominantly engaged in instruction, and (e) manage the training environment to achieve considerable order (Trudel, Cote, & Bernard, 1996). Gallimore and Tharp (1992) similarly reported that athletes' performances were highest when the following factors were in place: (a) collaboration between students and teachers (coaches) was accompanied by instruction, (b) instructional activities were meaningful and connected to youths' prior experience and knowledge, and (c) instruction was dialogic (conversation between two or more people) and occurred within the learners' zone of proximal development (Doherty, Hilberg, Epaloose, & Tharp, 2002). Therefore, coaches need a strong content base related to the sport content knowledge and should know how to teach (i.e., pedagogical methods). In addition, coaches should have what Shulman calls Pedagogical Content Knowledge (PCK), which is an understanding of what makes the learning of specific topics easy or difficult (based on how the information is presented). It is also important to understand the conceptions, preconceptions, and experiences that students of different ages and backgrounds bring with them to the learning of frequently taught topics and lessons (Shulman, 1986).

Stakeholders' Perceptions of Coaches' Efficacy

The athletes' and parents' perceptions of their coaches' efficacy is an understudied area across the body of coaching literature. If, coaches are to be successful, it is essential for them and others to understand what coaching behaviors are desired by and most effective for their athletes (Potrac, Jones, & Armour, 2002). It is important to probe and understand the shared experiences of the coach-athlete relationship. Lee, Keh,

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and Magill (1983) note that, "gaining access to these interpretations would be immensely valuable for understanding why teacher [coach] feedback appears to have differential effects on student [athlete] learning" (p. 152).

Athletes Perceptions of Coach Efficacy. The coach-athlete relationship is fundamental in the process of coaching because its nature is likely to determine the athletes' satisfaction, self-esteem, and performance accomplishments (Jowett & Meek, 2000; Lyle, 1999; Vealey, Armstrong, Comar, & Greenleaf, 1998). Although the coach-athlete relationship is integral for athlete development, there is also evidence that it can be a source of stress and distraction for the athlete under certain circumstances. Gould, Guinan, Greenleaf, Medbery, and Peterson (1999) revealed that during preparation for the Olympic Games, athletes were affected by the lack of trust, support, communication, and respect from coaches and athletes. Several qualitative studies have illustrated the significance and quality of the coach-athlete relationship. For example, in a qualitative study examining athletes' perceptions of their coaches' training (education), the participants' views had implications for coach education. Specifically, the results suggested that athletes viewed their coaches' education as critical to their effectiveness (McCullick, Belcher & Schempp, 2005).

Furthermore, Dwyer and Fisher (1990) referred to the multidimensional model of leadership developed by Chelladurai and Carron (Chelladurai & Carron, 1978; Chelladurai & Saleh, 1978). They studied a specific aspect of the multidimensional model including leadership athletes' satisfaction of their leaders' [coach] behavior, and types of sport. The model proposes that athletes' satisfaction and performance are associated with leadership behaviors and the sport. Dwyer and Fisher studied athletes'

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perceptions of coaching leadership and found that athletes had favorable perceptions of four leadership styles (training and instruction, democratic behavior, social support, and positive feedback) and less favorable perceptions of autocratic behaviors. Their model proposes that athletes' satisfaction and performance are associated with specific leadership behaviors.

Chelladurai and Carron (1978) also found that the athletes' perceptions on training, instruction, democratic behaviors, social support, and positive feedback were related to high satisfaction with the leadership. Coaches who strive to provide their athletes with the life skills they deserve should concentrate on developing the athlete as both a performer and a person. The coach-athlete relationship is too significant to neglect, and the significance may reach beyond the confines of sport (Jowett & Cockrill, 2003).

Parent Perceptions of Coach Efficacy. Parents represent an unquestionable socialization agent and source of influence on their athlete son or daughter. Through education (transmission of values, beliefs, and expectations), they influence their child's choice to participate in a sport activity (Fredricks & Eccles, 2005).

Parents also play a pivotal function in children's (athletes) socialization to sport (Brustad, 1996) and throughout their sporting lives (Baumann & Alferman, 1994; Fredricks & Eccles, 2004). Fredricks and Eccles (2004) proposed that parents fulfill three fundamental roles in their child's sport experience. These are as ''provider'' (for example, of opportunities, finance, and transport), ''interpreter'' of the sport experience (i.e., emotionally reacting in adaptive ways to wins and losses), and ''role model'' (i.e., modeling the ideal attributes and behaviors in sport). How well parents fulfill these roles serves to influence their child's beliefs and values and, in turn, their motivated behaviors

and performance (Harwood & Knight, 2009).

Parents have the best intentions for their child and have certain expectations of the coach and what the sporting experience will provide for their child. It is imperative that coaches understand parents' expectations that they want their child to be successful. That is, playing to the best of their ability and with confidence, but not necessarily being the best on the team (O'Connor, 2006).

Parent involvement has been studied in the realm of sport psychology for the last 25 years (e.g., Bloom, 1985; Côté, 1999; Durand-Bush, Salmela, & Thompson, 2004; Hurtel & Lacassagne, 2009). The role of parents has primarily been studied through interviews with athletes, coaches, and parents. In the current study the stakeholder perceptions of coaches' efficacy are investigated.

The present study grounded in the coaching efficacy literature added to the existing literature on effective coaching by examining the CES instrument as it relates to coaches' self-efficacy and the stakeholders' (athlete and parent) perceptions of the coaches' efficacy.   This study increases our understanding of coaching efficacy. It is also critical to understand more about stakeholders' perceptions of their coaches' efficacy (Potrac et al., 2000).

Purpose

The specific purpose of this research study was to investigate varsity coaches' self-efficacy. A secondary purpose of this study was to investigate stakeholders' perceptions of coaches' efficacy using parallel items. The three research questions guiding this study were: (a) How efficacious are coaches? (b) What are student athletes'

and parents' perceptions of their coaches' efficacy? (c) How does coach efficacy relate to stakeholders' perceptions of coach efficacy?

METHODS

Participants

Coaches, athletes, and parents were recruited from school districts in the Western U.S.A to participate in this coaching study. Institutional Review Board (IRB) study approval was obtained from the University and the school district. All coaches, athletes, and parents provided informed consent or assent. A total of 516 coaches, 115 athletes, and 103 parents were recruited.

Coach Recruitment and Participants. A list of the state's High School Athletics Association-sanctioned coaches was obtained from the state's High School Athletics Association website. Coaches were sent an e-mail invitation to complete the Coaching Efficacy Scale (CES) via an on-line instrument. An initial e-mail message, as well as two follow up messages, were sent to recruit participants. Of the 2,806 surveys sent, 516 (18%) surveys were completed by the state's High School Athletics Association-sanctioned coaches. A large sample size was recruited despite the low response (this may have been due to incorrect e-mail addresses and the list not being up to date).

Coaches who participated were male ($n= 387$) and female ($n= 129$) with ethnic backgrounds of Caucasian ($n= 419$), Hispanic ($n= 47$), Native American ($n= 17$), African American ($n= 12$), Asian ($n= 6$), and other ($n= 15$). Their ages ranged from 21 to 71 years old ($M = 42.8$, $SD = 10.75$). The coaches were from 180 school districts in the Southwestern U.S. Coaches reported their years of coaching experience as 1 to 14 years ($M = 14.27$, $SD = 9.52$). In addition, 10 coaches were recruited as a convenience sample

from a convenience district via the athletic director in order to recruit their participation in the online survey, as well as to help recruit willing stakeholders. A member of the research team attended practices to recruit stakeholders and to collect surveys from them. The student athletes and parents who were willing to participate were given a parallel instrument (student athlete/parent efficacy scale) for them to report their perceptions of her/his coach's efficacy along with a demographic questionnaire.

Stakeholder (Athlete and Parent) Recruitment and Participants. From the 180 school districts with participating coaches, one convenience district was selected to recruit stakeholders to evaluate coaching efficacy. The pseudonym "Grand Valley" is used to represent this district where 10 coaches were recruited to participate in both the on-line coaching survey and to recruit athlete and parents to provide their views as stakeholders. Athletes and parents were invited to participate by a member of the research team during a practice session. Stakeholders who participated returned the survey to a member of the research team at the next practice session.

Athletes. Athletes who participated in this study were males ($n = 78$) and females ($n = 37$) aged 14 to 18 years old ($M = 16.1$, $SD = 1.3$). Their ethnic background were Caucasian ($n = 81$), Hispanic ($n = 24$), African American ($n = 9$), and other ($n = 1$). The sport years' experience of the athletes ranged from 1 to 11 years ($M = 4.68$, $SD = 3.24$).

Parents. Both male ($n = 32$) and female ($n = 71$) parents participated in this study and their ethnic backgrounds were reported as Caucasian ($n=73$), Hispanic ($n= 22$), African American ($n= 7$), and other ($n= 1$).

Instruments

CES. Coaching efficacy was assessed using the CES (Feltz et al., 1999). Specific

factors in the CES include: (a) instructional techniques, (b) motivation, (c) character

building, and (d) game strategy. The scale includes 24 multi-dimensional self-report

survey items were scored on a 10-point scale with "0" indicating "not at all confident"

and "9" indicating "extremely confident". Sample items are as follows: How confident

are you in your ability to skillfully . . . "Maintain confidence in athletes" and "Mentally

prepare athletes for competition" (motivation), "Make critical decisions during

competitions" and "Maximize own athletes' strength during competition" (game

strategy), "Detect skill errors" and "Teach the skill of the sport" (instructional technique)

and "Instill an attitude of fair play among athletes" and "Promote good sportsmanship"

(character building) (Feltz et al. 1999; Fung, 2003). The CES has psychometric qualities

that provide an acceptable level of confidence in the efficacy measures (Feltz et al., 1999;

Lee, Malete, & Feltz, 2002; Myers, Feltz, Maier, Wolfe, & Reckase, 2006). The internal

consistency reliability for the instrument showed Cronbach's α values of .90, .91, .91,

and .92 for Motivating Athletes, Strategy Use, Coaching Technique, and Character

Building, respectively, and the overall instrument internal consistency reliability was α =

.85. The levels of these coefficients suggested that the instrument produced reliable and

valid scores in a similar sample of coaches (Fung, 2003; Nunnally & Berstein, 1994).

Myers, Feltz, and Wolf (2008) extended the validity evidence for the measures of

the CES. The study looked at post hoc data manipulation from the confirmatory factor

analysis (CFA) from a previous study (Roman, 2006) of the four category rating scale

structure of the CES. Data were also calibrated using the Rasch Rating Scale Model

(RSM; Andrich, 1978) using Winsteps (Wright & Linacre, 1997). The authors compared

model-data fit statistics, category statistics, parameter estimates, and separation statistics produced by each structure within the CES. Results supported the four category structures, providing empirical evidence for the expected covariance for between-item responses, person measure, and the positive orientation of the items. The items exhibited acceptable fit to the measurement model. The study extended the validity evidence for the coaching efficacy measures derived from the CES (Myers et al., 2008).

A second study by Myers et al. (2006) used multilevel CFA with the items of the CES. The results showed some redundancy among the dimensions. The internal consistency reliabilities using Cronbach's α estimates were .90 (Motivation), .87 (Game Strategy), .85 (Technique), and .82 (Character Building). These coefficients suggested very good to excellent internal consistency for multidimensional coaching competency estimates. Their findings showed a reason to believe the CES adequately measures athletes' perceptions of their coach's competencies in the four constructs of the CES (motivation, instructional techniques, character building, and game strategy). The model fit indices were CFI, .92; TLI, .91; RMSEA, .08; and SRMR .04.

Coaches, athletes, and parents also provided demographic information including: (a) name, (b) gender, (c) sport, (d) number of years coaching or number of years as a participant in the sport, and (e) ethnicity.

Athlete Survey: A modified version of the CES was used for the athlete survey instrument. This questionnaire asked the athletes about his/her perceptions of her/his coach's efficacy. The wording was slightly modified to reflect the athletes' perceptions of their coaches efficacy rather than the coaches' own efficacy based on a modified version of the instrument for athletes by Short and Short (2004). For example, the coach

questionnaire asks "How confident are you in your ability to skillfully maintain

confidence in your athletes?" The athlete instrument asks "How confident are you in your

coaches' ability to maintain confidence in you?" The athlete indicated their confidence

level of their coach by marking the appropriate items scored on a 10- point scale with "0"

indicating "not at all confident" and "9" indicating extremely confident.

The Short and Short (2004) instrument for athletes showed that the internal

consistency reliability values were above .90 for all subscales, with the exception of

Character Building, which was .86. These results show adequate internal consistency

reliability for the modified items in each factor when completed by the athlete.

Parent/Guardian Survey: A modified version of the CES was also used for the

parent survey instrument. This questionnaire asked the parent/guardian about their

perceptions of their student athletes coach's efficacy. The modifications to the instrument

included changing the language of the instrument to address the parents'/guardians'

perception of the coach's efficacy. For example, the coach's questionnaire asks "How

confident are you in your ability to skillfully maintain confidence in your athletes?" The

parent/guardian instrument asks "How confident are you in your student athlete's coach's

ability to maintain confidence in your athletes?" The parent/guardian indicated his/her

confidence level in the coach by marking the appropriate items scored on a ten point

scale with "0" indicating "not at all confident" and "9" indicating extremely confident.

There were no studies found where the CES had been modified to parents'/guardians'

views of coaches' efficacy.

Data Analyses

Coaches

CFA for Four-Factor Model of CES Instrument. CFA was employed to analyze the fit of the coaching efficacy data to the original four factors (e.g., Instructional Technique, Motivation, Character Building, and Game Strategy) of the instrument using SPSS software. CFA is a confirmatory technique that tests the relationships among latent constructs and manifest variables that are supported by logic or theory (Schreiber, Stage, King, Nora, & Barlow, 2006). CFA tests the extent to which the hypothesized model fits the data. Brown (2006) advocated the following indices to evaluate goodness of fit: root mean square error of approximation (RMSEA), standardized root mean square residual (SRMR), comparative fit index (CFI), and the Tucker Lewis index (TLI). RMSEA and SRMR should be close to 0, with values below .05 indicating good fit and anything below .08 indicating adequate fit. CFI and TLI should be close to 1.00, with values above .90 indicating adequate fit and anything above .95 indicating good fit. Cronbach's α was calculated to measure the internal consistency of constructs and the instrument items. Cronbach's α should be ≥ .9 for excellent consistency or $.7 \leq \alpha < .9$ indicating good consistency.

Athletes and Parents/Guardians

CFA for the four-factor model of CES Instrument was also run for the athletes (*N* = 115) and the parents/guardians (*N*=103). This was done to see if the athletes and parents/guardians viewed the items in the same way. Cronbach's α were calculated for internal consistency reliabilities for the four constructs of the CES and the overall items. For the athletes, Cronbach's α values were as follows: Instructional Technique, .94; Motivation, .94; Character Building, .89; Game Strategy, .90; and Overall, .97. For the

parents/guardians the Cronbach's α values were as follows: Instructional technique, .95; Motivation, .97; Character Building, .95; Game Strategy, .97; and Overall, .99.

Differences across Stakeholder Groups

A one way ANOVA was conducted to compare differences across the stakeholders (coaches, athletes and parents.

RESULTS

The results are first presented for the CES instrument for coaches. Second, results are presented for the modified CES instruments for the stakeholders (athletes, parents/guardians).

CFA with Coaches

All items were maintained in the CFA with coaches showing a good fit of the items to the four-factor structure in the current sample of coaches. The CFA for the CES indicated a good fit X^2 (167, N= 516) = 535.56, $p <. 01$; CFI = 1.0, TLI (NNFI) =. 90, SRMR =.03 and RMSEA = .06. The Standardized factor loadings ranged from .01 to .87. The CFA analyses indicated a good model fit. Cronbach's α values were calculated for internal consistency reliabilities for the four constructs of the CES and overall items; the α value results were: Instructional Technique, .87; Motivation, .91; Character Building, .88; Game Strategy, .89; and Overall, .94.

Correlations. The correlations indicated that the four dimensions of coaching efficacy were modestly and positively interrelated, except for motivation and technique efficacy, which had a low correlation. Correlations of .10, .30, and .50 were considered small, medium, and large, respectively (see Cohen, 1992). The results of the descriptive statistics and correlational analyses are shown in Table 1.

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CFA with Athletes

All items were maintained in the CFA with athletes to determine if there was a good fit of the items to the four-factor structure in the current sample of athletes. The CFA for the CES indicated a good fit X^2 (167, $N= 115$) = 525.10, $p < .01$; CFI = .97, TLI (NNFI) = .8, SRMR = .03 and RMSEA = .1, < .10 mediocre fit (Hu & Bentler, 1999). Cronbach's α were run for internal consistency reliabilities for the four constructs of the CES. The Cronbach's α values were: Instructional Technique, .94; Motivation, .94; Character Building, .89; Game Strategy, .91, and overall .97.

CFA with Parents/Guardians

All items were maintained in the CFA the with parent/guardian to determine if there was a good fit of the items to the four-factor structure in the current sample of parent/guardians. The CFA for the CES indicated a good fit X^2 (167, $N= 103$) = 500.74, $p < .01$; CFI = .98, TLI (NNFI) = .8, SRMR = .05 and RMSEA = .1, < .10 mediocre fit. The Cronbach's α values were run for internal consistency reliabilities for the four constructs of the CES and the results were: Instructional Technique, .95; Motivation, .97; Character Building, .95; Game Strategy, .98, and overall .99.

t-tests for Gender Differences in Coaching Efficacy

Independent-samples *t*-tests were conducted to compare male and female coaches on the CES using the original four domains. There was a significant difference in the scores by gender for Instructional Technique $t(182.02)= 2.25$, $p = .025$ and Game Strategy $t(195.03) = 3.25$, $p = .001$. The results showed that male coaches reported being more efficacious than female coaches in these two CES categories. The remaining

categories (Motivation and Character Building) showed no significant gender-specific

differences at $p < .05$.

ANOVA for Differences across Stakeholders

A one way ANOVA was conducted to compare differences across the

stakeholders (coaches, athletes and parents). There was a significant effect for

stakeholder differences on the CES for all four factors (i.e., Instructional technique [IT]

$F(2, 731) = 142.33$, $p <.05$; Motivation [M] $F(2, 731) = 137.03$, $p <.05$; Character

Building [CB] $F(2, 731) = 171.90$, $p<.05$; and Game Strategy [GS] $F(2, 731) = 131.03$,

p<.05. Post hoc comparisons using the Fisher LSD tests revealed that for all four

categories of the CES, there were significant differences between both the coaches and

athletes as well as between the coaches and parents; however, there were no significant

differences between the athletes and parent's/guardian's views. The results of the

descriptive statistics are shown in Table 2.

Regression Analyses for CES

Multiple Regression analysis was used to test if years coaching, age, and gender

traits significantly predicted efficacy for the four factors of the CES. The F test results

for the complete linear models are presented first followed by t tests for the significance

of the predictor variables. The linear model of age, gender and years of coaching for

predicting coaches' efficacy for instructional technique was statistically significant, $F(1,$

$514) = 24.25$, $p < .01$. Our adjusted R^2 estimate of effect size in the population indicates

that 4.3% of the variance in *instructional technique* was accounted for by the linear

combination of age, gender and years of coaching, $R^2 = .045$, adjusted $R^2 = .043$. After

controlling for age and gender, years of coaching, predicted coaches' efficacy for

instructional technique increased 0.019 point for every additional year of coaching, B = .019, SEB = .006, $t(2) = 3.26$, $p < .01$.

The linear model of age, gender and years of coaching for predicting coaches' efficacy for *motivation* was statistically significant, $F(3, 404) = 4.5$, $p < .01$. Our adjusted R^2 estimate of effect size in the population indicates that 3.3% of the variance in motivation was accounted for by the linear combination of age, gender and years of coaching, $R^2 = .041$, adjusted $R^2 = .033$. After controlling for age and gender, years of coaching, the predicted coaches' efficacy for motivation increased 0.017 point for every additional year of coaching, B = .017, SEB = .006, $t(2) = 2.708$, $p < .01$.

The linear model of age, gender and years of coaching for predicting coaches' efficacy for *character building* was statistically significant, $F(3, 404) = 3.451$, $p < .05$. Our adjusted R^2 estimate of effect size in the population indicates that 1.8% of the variance in character building was accounted for by the linear combination of age, gender and years of coaching, $R^2 = .025$, adjusted $R^2 = .018$. After controlling for age and years of coaching, there was gender difference between male and female coaches indicating that the predicted coaches' efficacy for character building increased 0.186 point for male as compared to female coaches B = .186, SEB = .095, $t(2) = 1.947$, $p < .05$. Years of coaching was not a significant predictor for coaches' efficacy for character building after controlling for age and gender.

The linear model of age, gender and years of coaching for predicting coaches' efficacy for *game strategy* was statistically significant, $F(3, 404) = 13.241$, $p < .001$. Our adjusted R^2 estimate of effect size in the population indicates that 8.3% of the variance in game strategy was accounted for by the linear combination of age, gender and years of

coaching, $R^2 = .090$, adjusted $R^2 = .083$. After controlling for age and gender, years of

coaching, the predicted coaches' efficacy for game strategy increased 0.029 point for

every additional year of coaching, $B = .029$, $SEB = .006$, $t(2) = 5.260$, $p < .001$. The

results of the descriptive statistics are shown in Table 3. Regression Correlations for

CES variables are shown in Table 4.

Coaching Efficacy/Effectiveness Descriptive Results

Coaching Efficacy/Effectiveness using the four- factor CES Model. It can be

seen that most coaches reported high levels of coaching efficacy, with the highest rating

given for Character Building and the lowest rating given for Motivation. The lowest

value reported was 4.0; however the mean ($M = 8.37$, $SD = .31$) was higher than the mid-

point of the 10-point scale used in this study. Overall coaches reported $M = 8.83(.87)$ for

the four subscales. Graphs are used to represent descriptive findings across groups

pictorially (i.e., coaches' self-efficacy along with the athletes' and parents' perceptions of

the coaches' effectiveness, figure 1). The means and standard deviations for coaching

efficacy and stakeholders' views of efficacy are shown in Table 5.

Correlations across Stakeholders.

The correlational findings related to the CES instrument factors showed strong

relationships across the stakeholders' views. For example, for the coaches' efficacy,

Domain One (Philosophy and Ethics) and Character Building were highly correlated, as

were Domain Six (Sport Skills and Tactics) and Game Strategy. Results are shown in

Table 6 for the correlations across domains for athletes and Table 7 show results for

correlations across domains with the parent/guardians.

DISCUSSION

The findings of the present research study regarding perceived coaching efficacy and stakeholders' views of coaches' effectiveness are consistent with previous reports (e.g., Kavussanu, Boardley, Jutkiewicz, Vincent, & Ring, 2008). The following is a discussion of coaches' self-efficacy, athletes' views of their coaches' efficacy, and parents'/guardians' views of their children's coaches' efficacy.

Coaches' Personal Perceived Efficacy

The coaches in this study, on average, rated themselves as high on all four Coaching Efficacy subscales and on the total Coaching Efficacy scale. The lowest value reported was 4.0; however the mean was higher than the mid-point of the 10-point scale used in this study. Overall, coaches reported for the four subscales.

Gender Differences in Coaches Efficacy. Similar findings were reported by Kavussanu et al. (2008), who found that coaching experience and gender did not predict motivation or character building efficacy, but gender did predict game strategy efficacy. Specifically, male coaches reported significantly higher beliefs in their ability to coach during competition than female coaches, which is consistent with earlier research (Marback et al., 2005; Sullivan & Kent, 2003).

Coaching Effectiveness: Stakeholders' Perceptions

Athletes' Perceptions. In the current study, the four-factor scale also fit the data with athletes (with minor wording changes to assess athletes' perceptions of their coaches' effectiveness rather than coaches' self-efficacy). In this study, athletes' reported low perceived efficacy in the ability of their coach to motivate them. The lowest athlete-related item was their coaches' ability to instruct the individual athletes on technique.

However, the athletes' data showed that the highest perceived efficacy from their coach was the ability to promote good sportsmanship.

Athletes versus Coaches Perceptions.

Similar to the coaches' and athletes' rating in the current study, coaches in previous research studies on average, rated themselves higher on the efficacy dimensions of motivation, instructional technique, game strategy, and character building, compared to their athletes' ratings of their efficacy (e.g., Kavussanu et al. 2008; Short & Short, 2004). Kenow and Willams (1992) also used the CES to compare coaches' perceived efficacy compared to athletes' perceptions and reported similar findings, with athletes' ratings of their coaches' perceived efficacy lower than the coaches' own rating.

Coaches have also reported higher frequencies of using certain efficacy enhancing techniques than their players perceived them to use (Vargas-Tonsing, Myers, & Feltz, 2004), and evaluated themselves as more socially supportive than their athletes did (Salminen & Luikkonen, 1996). Taylor and Brown (1988) also revealed that individuals (Coaches) tend to evaluate themselves more favorably than others (stakeholders).

Parents'/Guardians' Perceptions. One of the primary purposes of this study was to examine parent/guardians' perceived views of coaches efficacy. Specifically, the CES was used as a means of assessing coaches perceived efficacy, while parents of their athletes rated the coach's perceived efficacy. When coaches', athletes', and parents'/guardians' ratings were compared, the coach rated their efficacy higher than the stakeholders. The parents'/guardians' mean values were between 6.74 and 7.54, which was lower than the coaches' perceived efficacy. We did not identify any studies that assessed parents using a modified version of the CES. However, studies that investigated

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the parental views of coaching reported similar results. A study on tennis players and their parents carried out to determine the perceptions of athletes and parents regarding sport-related behaviors. Their results also showed few discrepancies between the responses of the athletes and parents (DeFrancesco & Johnson, 1997).

Coaches versus Athletes' and Parent/Guardians' Views

In the current study, coaches rated themselves as more efficacious on all four constructs of the CES compared to both athletes and parents/guardians in the current study. Secondly, athletes' and parents'/guardians' felt that motivation was the area in which the coaches were least efficacious. Short and Short (2004) and Kavussanu et al. (2008) also found that the athletes' perception was lowest for motivation. The second construct in this study where athletes found the coach to be less efficacious was instructional technique. This differed from Short and Short (2004) and Kavussanu et al. (2008), their results showed it to be character building as well as parents who indicated less effective in game strategy.

In a similar study investigating the parental/guardian point of view on perceptions of their student athletes' coaches, Harwood and Knight (2009) used open-ended questions to focus on perceived stressors. The results showed that the behavior of the coach emerged as a stressor for over half of the parent sample, including on-court behavior during matches. These data are related to our findings with parents/guardians reporting that their perceptions of coaches having lower efficacy for game strategy. Qualitative methodologies have become more prevalent in studying the relationships among coaches' efficacy, athletes' views of their coaches' efficacy and parents' views of the coaches' efficacy.

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Keegan, Harwood, Spray, and Lavallee (2014) and Tamminen and Holt (2012) used semi-structured focus group interviews to investigate stakeholders' views' and roles in sport.   Stakeholders in this case included coaches, parents, athletes, and peers. They found similarities to existing research in perceived perceptions of coaching, including themes found in the present study, such as the athletes' perceived perceptions of their coaches' behavior in effective leadership and the perceived perception of the role of the parent is less likely to be lower for motivation.

Together, the three aforementioned reports (e.g., Keegan et al. 2014; Tammerinen & Holt, 2012; Harwood & Knight, 2009) and the current study begin to give a voice to stakeholders in the coaching learning process. Whether it is perceived efficacy or the role (the coach/parent) play for their student athlete in their athletic career, parents and coaches are integral to the success of their athlete (Tamminen & Holt, 2012). Parents'/guardians' views are crucial for positive sporting experiences as they provide training and playing opportunities through transportation, financial and socio-emotional support, and unconditional love (O'Connor, 2011). The findings are significant because the content of parents' discourse has not been widely reported and may help provide critical information to inform coaching education, coaching programs, and other stakeholders (Hurtel & Lacassagne, 2011).

Limitations. Although the current study revealed interesting findings, it also had some limitations. First, this study targeted secondary varsity coaches, athletes, and parents/guardians. This may make the findings less generalizable to coaches and stakeholders in different settings. Rad and Gharehgozli (2013) and Myers, Vargas-Tonsing, and Feltz (2005) reported that the inconsistency of results could be attributed to

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differences in gender, sport, and competitive level among the studied teams. Moreover, an athlete whom had participated in a sport for more years may have a more biased opinion in the perceptions of coaching behaviors.

Rad and Gharehgozli (2013) studied coaching efficacy in professional women basketball teams using the CES instrument. The results showed that there were significant (two way) negative relationships among character building and effort and overall collective efficacy. Their findings suggest among the CES dimensions of coaching efficacy, only character-building efficacy and motivation efficacy were significant predictors of collective efficacy in professional woman's' basketball teams. Rad and Gharehgozli reported similar findings to the current study; their study revealed that motivation was also a significant predictor for athletes in relation to the perceived coaching efficacy. Myers et al. (2005) also found that motivation was related to athlete/team satisfaction; however, they also demonstrated that character building efficacy was negatively related to coaching efficacy whereas the current study showed that coaching efficacy was related to character building.

Conclusion

In conclusion, the current study identified coaching experience and background knowledge (education) as two key components of coaching efficacy as it relates to the CES. The CFA with all three groups (coaches, athletes, parents/guardians) showed a good fit of the data with the original four-factor model. Thus, these results provided additional support for the CES model with these three stakeholder groups (Feltz et al, 1999). Athletes who are more experienced may be hypercritical of their coach and the

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compatibility between instructional technique and game strategy. Finally, coaches appear

to evaluate themselves more positively than stakeholders.

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Figures and tables

Table 1

Coaches Means, Standard Deviations, and Correlations between Measures

	M	SD	1	2	3	4	5	6
Age	42.80	10.76						
YrCohing	14.58	9.58	.26**					
YrsProfess	12.21	9.93	.549**	.629**				
IT	8.88	0.88	0.081	.221**	.092*			
M	8.57	0.93	.152**	.212**	.169**	.555**		
CB	9.24	0.80	.126*	.120**	0.06	.451**	.591**	
GS	8.66	0.87	.140**	.299**	.132**	.713**	.688**	.447**

*Note. *p<0.05, **p<0.01;*

Table 2

Fisher LSD for the four domains of the CES (Instructional Technique, Motivation, Character Building, and Game Strategy) for the Coach, Athlete, and Parent /Guardian

	(I) Group	(J) Group	Mean Difference (I-J)	Std. Error
Instructional Technique				
	Coach	Athlete	1.78*	0.13
		Parents	1.52*	0.13
	Athlete	Coach	-1.78*	0.13
		Parents	-0.26	0.17
	Parents	Coach	-1.52*	0.13
		Athlete	0.26	0.17
Motivation				
	Coach	Athlete	1.89*	0.14
		Parents	1.63*	0.1
	Athlete	Coach	-1.89*	0.14
		Parents	-0.269	0.18
	Parents	Coach	-1.63*	0.14
		Athlete	0.26	0.18
Character Building				
	Coach	Athlete	1.85*	0.13
		Parents	1.80*	0.13
	Athlete	Coach	-1.85*	0.13
		Parents	-0.05	0.17
	Parents	Coach	-1.8*	0.13
		Athlete	0.05	0.17
Game Strategy				
	Coach	Athlete	1.45*	0.11
		Parents	1.46*	0.12
	Athlete	Coach	-1.45*	0.11
		Parents	0.00	0.15
	Parents	Coach	-1.46*	0.12
		Athlete	-0.00	0.15

*Notes. * The mean difference is significant at the 0.05 level.*

Table 3

Summary of Regression Analysis for the CES Variables (Instructional Technique [IT], Motivation [M], Character Building [CB], and Game Strategy [GS]) by Number of Years Coaching, Age, and Gender

Variable	IT			M			CB			GS		
	B	SE B	β	B	SE B	β	B	SE B	β	B	SE B	β
Year Coaching	.02	.004	.221	.021	.004	.212	.010	.004	.120	.027	.004	.299
Age	-.004	.005	-.048	.004	.005	.051	.009	.005	.118	-.005	.005	-.064
Gender	-.035	.102	-.017	.068	.107	.032	.186	.095	.099	-.066	.097	-.034

Table 4

Regression Correlations for CES Variables (Instructional Technique [IT], Motivation [M], Character Building [CB], and Game Strategy [GS]) by Number of Years Coaching, Age, and Gender

	Mean	SD	IT	Age	Gender
IT	8.8704	.85877			
Age	42.8000	10.75501	.081		
Gender	1.2420	.42881	-.064	-.149	
YrCohing	14.2840	9.38061	.182	.613	-.258
	Mean	SD	M	Age	Gender
M	8.5619	.90527			
Age	42.8000	10.75501	.152		
Gender	1.2420	.42881	-.020	-.149	
YrCohing	14.2840	9.38061	.195	.613	-.258
	Mean	SD	CB	Age	Gender
CB	9.2420	.80190			
Age	42.8000	10.75501	.126		
Gender	1.2420	.42881	.072	-.149	
YrCohing	14.2840	9.38061	.084	.613	-.258
	Mean	SD	GS	Age	Gender
GS	8.6762	.84130			
Age	42.8000	10.75501	.140		
Gender	1.2420	.42881	-.108	-.149	
YrCohing	14.2840	9.38061	.294	.613	-.258

Table 5

Means and Standard Deviations of Coaching Efficacy Scale of Coaches and Stakeholders

Subscale/Item	Coach	Athlete	Parent/ Guardian
Instructional Technique			
Demonstrate the skill(s) of your sport	8.74 (1.38)	6.78 (2.08)	7.34 (1.91)
Instruct individual athletes on technique	8.85 (1.2)	6.62 (2.62)	7.27 (2.03)
Develop your athletes' skills	8.77 (1)	7.15 (2.15)	7.22 (2.08)
Recognize talent in athletes	9.13 (0.87)	7.13 (2.04)	7.33 (1.94)
Detect skill errors	8.68 (1.13)	7.33 (1.81)	7.54 (1.7)
Teach the fundamental skill of your sport	9.11 (1.02)	7.56 (1.75)	7.43 (2.03)
Total	8.88 (0.88)*^	7.09 (1.83)*	7.36 (1.75)^
Motivation			
Maintain confidence in your athletes?	8.48 (1.11)	6.83 (2.11)	6.74 (2.12)
Employ mental strategies to prepare athlete's for game/meet	8.28 (1.31)	6.99 (2.06)	6.86 (2.21)
Build self-esteem of athlete(s)	8.86 (1.09)	6.43 (2.28)	7.08 (2.38)
Intrinsically motivate your athletes	8.37 (1.31)	6.52 (2.1)	6.7 (2.28)
Build team cohesion	8.54 (1.25)	6.6 (2.45)	7.1 (2.19)
Build self-confidence of your athletes	8.68 (1.08)	6.61 (2.3)	6.95 (2.29)
Build team confidence	8.75 (1.09)	6.76 (2.38)	7.15 (2.06)
Total	8.57 (0.93)*^	6.68 (1.92)*	6.94 (2.04)^
Character Building			
Instill an attitude of good moral character in your athletes	9.28 (0.96)	7.28 (2.15)	7.4 (2.18)
Instill fair play among your athletes/team	9.06 (1.01)	7.04 (2.31)	7.2 (2.16)
Promote good sportsmanship	9.4 (0.85)	7.87 (1.62)	7.72 (1.82)
Instill an attitude/behavior of respect for others	9.23 (0.94)	7.37 (2.09)	7.45 (2.25)
Total	9.24 (0.8)*^	7.39 (1.78)*	7.44 (1.97)^
Game Strategy			
Recognize opposing team's strengths during competition	8.6 (1.21)	7.31 (1.61)	7.11 (1.86)
Understand competitive strategies	8.85 (1)	7.41 (1.75)	7.31 (1.83)
Adapt to different game/meet situations	8.66 (1.09)	7.17 (1.76)	7.35 (1.87)
Recognize opposing team's weaknesses during competition	8.65 (1.13)	7.3 (1.82)	7.35 (1.77)
Make critical decisions during competition	8.58 (1.14)	7.01 (1.94)	7.21 (1.86)
Adjust your game/meet strategy to fit team's talent	8.72 (1.12)	7.23 (1.87)	7.18 (1.87)
Maximize your teams strength during competition	8.72 (1.12)	7.5 (1.36)	7.3 (1.7)

	Total	8.66 (0.87)*^	7.21 (1.39)*	7.21 (1.7)^

Notes. *Difference in C&A p< .001   ^Difference in C&P p<.0

Table 6

Athlete correlational findings related to the CES instrument

	Mean	SD	IT	M	CB	GS
IT	7.0942	1.82896				
M	6.677	1.91552	.884**			
CB	7.3891	1.77988	.834**	.833**		
GS	7.2099	1.39424	.855**	.821**	.768**	

Table 7

Parent correlational findings related to the CES instrument

	Mean	SD	IT	M	CB	GS
IT	7.356	1.74787	1			
M	6.939	2.04047	.881**	1		
CB	7.4417	1.9695	.839**	.884**	1	
GS	7.2067	1.69901	.896**	.891**	.819**	1

Figure 1

Coaches' self-efficacy along with the athletes' and parents' perceptions of the coaches' efficacy
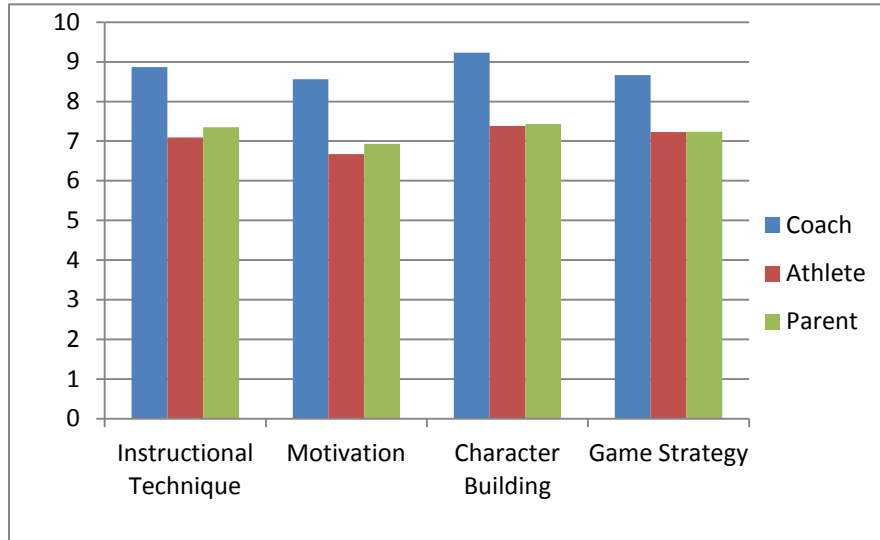
CHAPTER 4

HOW DO HIGH SCHOOL COACHING BEHAVIORS RELATE TO THE NATIONAL

COACHING STANDARDS?

Introduction

In this study, high school coaches' coaching behaviors were observed through the

lens of the NASPE Coaching standards (2006). We know little about how coaching

behaviors correlate with the NASPE (2006) National Standards. The conceptual

framework guiding this research is the NASPE National Coaching Standards and the

body of literature on coaching behaviors.

Coach Development

The increased professionalization of coaching has sparked a great deal of activity

in the area of coach development (Gilbert, Cote, & Mallett, 2006). Sport

pedagogy/coaching research findings may help coaches with training, tracking, and

leading effective coaching sessions, resulting in youth with improved sport and life skills.

Woodman (1993) stated that the application of knowledge of effective behavior separates

excellent practitioners of coaching from others. Coaches who were trained to use a set of

behavioral guidelines in their coaching were better liked and rated as more effective than

untrained coaches (Vangucci, Potrac & Jones, 1997). Furthermore, Darst, Langsdorf,

Richardson, and Krahenbuhl (1981) and van der Mas (1989) contended that the coaching

literature and the analysis of instructional behavior can assist coaches' effectiveness

(Vangucci et al., 1997).

However, there is a paucity of data on coach development. Several studies have

stated that past experiences are a key source of coaching knowledge. Furthermore, an

understanding of how these diverse learning activities interact through the development process to produce a coach has yet to be systematically analyzed (Gilbert et al., 2006). For example, Schinke, Bloom, and Salmela (1985) showed that the development of coaching competencies might be acquired through learning activities that take place in sport as an athlete, coach, or outside the sporting arena.

The global expansion of coaching science in recent years has established the need to provide a clear systematic description of coach development (Gilbert et al., 2006). Given the progress in the world of coaching, it is surprising to learn that relatively little is known about how one becomes a successful coach. Few studies have empirically documented the path to coaching success. The most consistent theme found across the literature is the critical role of the coach in developing sport talent. It is ironic to discover that coach development has yet to be critically examined (Gilbert et al., 2006).

Coach Behavior

There have been a handful of studies in which the influence of various coaching behaviors on athletes motivational orientation have been examined (Hollembeak & Amorose, 2005; Vallerand & Losier, 1999). This research has been under the umbrella of Cognitive Evaluation Theory, which specifically focuses on social factors and intrinsic motivation (Ryan & Deci, 2000, 2002). This work has focused on the feedback patterns and general leadership styles of coaches. Early studies were focused on the effects of positive and negative feedback on the intrinsic motivation of (student) athletes (e.g., Vallerand & Reid, 1984). These studies consistently revealed an association between positive feedback and high perceptions of competence and Intrinsic Motivation (IM), whereas, negative feedback produced the opposite effect. Furthermore, consistent with

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Cognitive Evaluation Theory, perceived competence was found to mediate the relationship between feedback and IM. More recently, Amorose and Horn (2000, 2001) examined the relationships between multiple coaching behaviors and athletes' IM. High levels of IM were associated with athletes who perceived their coaches to exhibit a leadership style that emphasized training and instruction and was high in democratic behavior and low in autocratic behavior. Further, high levels of IM were associated with the perception that coaches provided frequent positive and information-based feedback (i.e., technical instruction) and low frequencies of punishment-oriented feedback and ignoring behaviors. Furthermore, they suggested that coaches who exhibited high and low frequencies of democratic behavior and autocratic behavior, respectively, would lead to enhanced feelings of autonomy on the part of the athletes, which, in turn, would positively affect IM (Hollembeak & Amorose, 2005).

Coach Effectiveness

Since the early 19th century, coaches have played an important role in helping athletes develop and succeed in sport. Coaches complete various duties, such as, guiding skill practice, providing instruction and feedback, and monitoring learning and performance (Carter & Bloom, 2009). Although authors have studied coaching behaviors, the theory driven literature on effective coaching is still developing. Effective coaching behaviors can also contribute to athletes developing positive personality traits (e.g., charisma and inspiration), improved behaviors (e.g., such as goal setting), and improved resilience. Effective coaching behaviors are linked to both improved academic performance and better athletic performance (Passmore, 2010).

The coach plays an integral role in an athlete's success. Clearly, there are many opportunities for coaches to positively impact their athletes. However, one area often downplayed is the impact the coach has on the athlete (Vargas-Tonsing, 2008). The perceptions of coaches and athletes regarding their effective interactions and the underlying factors for the effectiveness of these interactions have not been widely examined. In more recent studies, investigators have assessed coaching expertise with in-depth interviews (D'Arripe-Longueville, Fournier, & Dubois, 1998) and reported that the analyses of coaches' and athletes' interview transcripts revealed different interaction strategies and underlying factors. However, some reasons of effectiveness related to tradition and productivity were shared.

Fifer, Henschen, Gould, and Ravizza (2008) suggest that a highly effective method for disseminating knowledge (in sport) is to observe the most experienced individuals in the field of interest. In the athletic area, the most experienced individual in the field may be the coaches. Watching effective coaches can lead to the dissemination of best coaching practices. To understand effective coaching behaviors it is important to understand the definition of an effective coach. According to Laios, Theodorakis and Gargalianos (2003, p. 153-154)

> Coaches become effective by doing the following: (a) develop social and intrapersonal skills, (b) create and maintain cohesive teamwork, (c) be a good listener, (d) be decisive and assume responsibility for their decisions and actions, (e) face difficult situations by directly dealing with the problem, (f) maintain standards of individual and team performance, (g) be enthusiastic and impart enthusiasm to athletes and personnel, (h) recognize others efforts and rewarding

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positive attitudes and behavior, (i) demonstrate fundamentals and skills, (j) reward/praise first and, punish last/in private, (k) make rewards and consequences clear and in advance, and (l) be generous with praise.

U.S. National Coaching Standards

The National Association for Sport and Physical Education (NASPE, 2006) published the National Coaching Standards to provide direction for coaching educators, sport administrators, coaches, athletes and their families, and the public regarding the skills and knowledge that coaches should possess. There are 40 standards grouped into eight domains that identify the scientific and practical competencies that administrators, athletes, and the public should expect of sport coaches at various levels of expertise. The eight domains include (a) Philosophy and Ethics, (b) Safety and Injury Prevention, (c) Physical Conditioning, (d) Growth and Development, (e) Teaching and Communication, (f) Sport Skill and Tactics, (g) Organization and Administration, and (h) Evaluation. Within these domains NASPE also outlined specific benchmarks indicating coaching responsibilities. NASPE had two main goals in mind when creating the National Coaching Standards: (a) clearly articulate a conceptual framework that establishes coaching as a profession and (b) provide a document for all coaching organizations to implement a comprehensive, quality training program (NASPE, 2006). The NASPE Coaching Standards serve as the conceptual framework for the current study. Over 100 articles cited the NASPE coaching standards in studies related to coaching. Although NAPSE is cited, no studies could be identified that investigated the standards themselves or looked at the coaching standards and coaching behaviors. For example, Docheff (2011) studied cultural issues in youth sport and used Domain 1 (philosophy and ethics),

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2 (safety and injury prevention), 3 (physical conditioning), and 4 (growth and development) of the NASPE National coaching standards as supportive evidence. He found that coaches must carefully consider the differences across athletes if the standards are to be met in a meaningful way. This is important because in today's society the issues demanding the attention of athletic coaches span more than the field, court, or locker room (Docheff, 2011).

In summary, the literature based on coaching behaviors was more fruitful in the 1970's and 1980's. In addition, there are no available studies that have linked coaching behaviors to the NASPE National Coaching Standards (2006) or that have studied the National Coaching Standards. The current study addressed both of these gaps in the literature and adds to the existing work on effective coaching by examining the alignment of coaching behaviors' with the National Standards through observations, interviews, and document analyses.

Purpose

The purpose of this research study was to investigate coaching effectiveness and to compare the coaching behaviors of 10 coaches to the National Coaching Standards (NASPE, 2006). Coaching behaviors and experiences were explored as they relate to the NASPE Coaching Standards.

METHODS

This study included observations and interviews with 10 coaches. Coaches, behaviors, perceptions and documents were then compared to the National Coaching Standards (NASPE, 2006).

Participants

From the 180 school districts with participating coaches, one convenience district was selected to recruit a sample of 10 coaches. IRB and school district approval, and coach informed consent were obtained. The school athletic directors asked all coaches who were currently in-session for volunteer participants. The pseudonym "Grand Valley" is used to represent this district where 10 coaches were recruited to participate in observations using the Arizona State University Observation Instrument (ASUOI), interviews and the gathering of documents.

Coaches who participated in the study (*N*=10), were all male, with an age range of 36-65 years of age (*M* = 48.2; *SD* = 8.35). Their years of coaching experience ranged from 16-35 years (*M* = 23; *SD* = 7.0). The ethnic backgrounds of the coaches were Caucasian (*n* = 8) and Hispanic (*n* = 2). All coaches observed in this study were also teachers at the high school level with a mean of 22 years of teaching experience (*SD* = 6.8). The sports observed were wrestling, boys' and girls' basketball, track and field, girls' softball, and boys' volleyball. Coaches were observed at three different high schools with five participating coaches at school a (Coach Kerbe, Ensley, Hase, Ferndale, and Howell), four participating coaches at school b (Coaches Cannon, Emmett, Briley, and Netz), and one participating coach at school c (Coach Kaleva).

Participant qualifications for coaches in this study were a minimum of 3 years of coaching at the varsity level, as well as (team) experience competing at least once at the championship level (e.g., a state tournament, an invitation-only event such as the best-of-the-best meet, or a national qualifying meet such as the Nike National Invitational).

Data Collection

Arizona State Observation Instrument (ASUOI)

The ASUOI (Lacy & Darst, 1984) was used to collect data on coaching behaviors and the environment during two practices for each of the coaches. The use of systematic observation instruments provides researchers with a method of collecting behavioral data. These data can then be analyzed and processed numerous ways to provide a descriptive profile that can be used to assess coaching effectiveness.

The ASUOI represents a refined tool that was developed to classify coaching behaviors into certain categories that reflect what are considered to be important observational events by the researchers. The behavior categories of the ASUOI are based on conceptual rationale that satisfy criteria for both content and face validity for effective coaching behaviors (Lacy & Darst, 1984). There are 14 behavior categories including: (1) pre-instruction, (2) concurrent instruction, (3) post instruction, (4) questioning, (5) manual manipulation, (6) positive modeling, (7) negative modeling, (8) management, (9) silence, (10) use of first name, (11) praise, (12) hustle, (13) scold, and (14) other.

The ASUOI instrument evolved from a series of studies focusing on various coaching environments (Dodds & Rife, 1981; Lacy, 1983; Langsdorf, 1979; Tharp & Gillimore, 1976; Williams, 1978); These studies support the hypothesis that the ASUOI represents a sensitive tool capable of collecting highly specific data on coaching behaviors (Lacy & Darst, 1984) and demonstrated that it can produce reliable and valid scores in observing similar high school coaches. In this study, the ASUOI categories were used for dual purposes: (a) to assess coaching behaviors and (b) to determine how coaching behaviors aligned with the NASPE Coaching Standards.

Procedures

All of the coaches were observed twice using the ASUOI to measure coaching

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behaviors and the environment (Darst et al., 1981). Coaches knew that researcher team members would be visiting practices; however, they were not informed of the exact observation dates. All sports were observed at the mid-point of the season, with the exception of boys' volleyball and track and field which were observed at the beginning of the season.

One interview was also scheduled with each coach which lasted approximately 1 hour; either before or after practice at the coach's convenience. During the interviews, coaches were asked to provide research team members with documents related to their coaching positions. These documents included the state's high school athletic association 2012-13 Guidelines, the School District coaching handbook, practice schedules, season records, and handouts distributed to athletes/parent guardians (if applicable). Coaches also contributed to the process by participating in informal interviews during observation days. This also served to familiarize the athletes with the research team.

Event Recording. The procedure used for data collection in this investigation is known as event recording, which is a cumulative record of the number of discrete events occurring within a specified time (Siedentop, 1976). Each time a specified predefined behavior was observed, that behavior was recorded on the coding sheet. Each practice observed was timed to the nearest minute for the purpose of determining the rate per minute (RPM) of each behavior category occurring during each observation session.

Observer Reliability. When using systematic observation instruments, independent observers must be able to obtain at least 85% agreement on what they observe and record (Siedentop, 1976) as a means of demonstrating observer reliability. Inter-Observer Agreement (IOA) checks were conducted using both event recording.

Prior to data collection, practice sessions were attended by two members of the research team in order to obtain > 90% IOA before data collection began. During data collection 6 of the 10 coaches were randomly selected and observed for IOA checks. IOA checks were conducted by two members of the research team. The IOA results on the ASUOI were 98%, 93%, 98%, 99%, 97%, 99%, and 99%. IOA throughout data collection exceeded the 85% criterion level. Table 1 shows the IOA for each behavior category for the ASUOI.

Interviews. It is important to probe and understand experiences of coaches. Lee, Keh, and Magill (1983), stated that, "gaining access to these interpretations [interviews] would be immensely valuable for understanding why teacher [coach] feedback appears to have differential effects on student [athlete] learning (Potrac, Jones, & Armour, 2002, p. 152). Although this is critical information to improve the coaching experience, little research has been done to increase the body of knowledge in this area. Each coach participated in one formal 60 minute interview that was recorded and later transcribed verbatim.

A pool of 20 interview questions was created and organized around the eight domain areas of the NASPE Coaching standards with follow-up probes available to use during the interview as needed. A general interview guide was used with open-ended questions (Patton, 2002). An example question was presented for each of the domains below: (a) for Domain One: Philosophy and Ethics, Communicate "Describe the parent involvement with your athletes," (b) Domain 2: Safety and Injury Prevention "Describe your action plan with the Sports Trainer for injuries," (c) Domain 3: Physical Conditioning: "For your sport, describe the requirements for your athletes to train in the

pre/post season," (d) Domain 4: Growth and Development: "How do you modify your practices around different skill levels of your players?," (e) Domain 5: Teaching and Communication: "At the beginning of the season describe how you and your team develop team goals (if you create them together)," (f) Domain 6: Sport Skills and Tactics: "How do you incorporate competitive strategies with your athletes?" (g) Domain 7: Organization and Administration: "What strategies do you use to communicate program goals and policies to athletes and parents?" and (h) Domain 8: Evaluation: "Describe any techniques that you use to collect input from your athletes on coaching performance post season?"

There were also 10 interview questions developed to reflect elements of the ASUOI, for example, representing the Management element on the ASUOI, one question was "As a coach, please describe why practice structure would play a role in managing your athletes during practice."

Informal Conversational Interviews. Frequent informal conversational interviews (Patton, 2002) also took place throughout the two observations. An average of an hour of informal conversational interviews occurred with coaches and or student athletes, at opportune times, such as before or after practice or during a water break. The length and frequency of the informal interviews varied. Brief field notes were taken directly following the informal interviews.

Field Notes. Descriptive field notes from observations were taken during practice sessions to describe the coaching behaviors, environment, and coach interactions with athletes.

Document Analysis. Documents collected in this study included: (a) the state's High School Athletics Association Guidelines and Bylaws; (b) Coach Handbooks; and (c) miscellaneous artifacts, which included practice schedules, season records, and handouts distributed to athletes/parents/guardians (if applicable). Coaching records were also obtained. The researcher and peer reviewer compared the documents to the eight domains of the NASPE Coaching Standards. There are some artifacts that may provide evidence in more than one domain.

Expert Validation of the ASUOI in relation to the NASPE Coaching Standards

Expert Recruitment

A list of potential coaching experts *(N=9)* was acquired from the program manager for sport through the American Alliance for Health, Physical Education, Recreation, and Dance (AAHPERD). The individuals were selected by being members of the second edition writing team or because they were familiar with the underpinnings of the National Coaching Standards. Five experts participated (56%), while four potential experts indicated that were not interested in or unavailable to participate. The male ($n = 3$) and female ($n = 2$) were Caucasian ($n = 5$). Experts taught at the university level for an average of 16.8 years ($SD = 15.1$). Their age ranged from 29 to 68 years ($M= 45.2$, $SD=16.8$). The experts had the following educational backgrounds: (a) PhD/EdD ($n = 3$) and (b) MS ($n = 2$).

Experts were sent an electronic version of the ASUOI with a key (see Table 2) defining the 14 categories covered by the instrument. Experts were asked to place the 14 items from the ASUOI instrument in the eight NASPE Coaching Standards categories: (a) philosophy and ethics, (b) safety and injury prevention, (c) physical conditioning, (d)

growth and development, (e) teaching and communication, (f) sport skills and tactics, (g)

organization and administration, and (h) evaluation of competency. When placing these

14 items into the eight domains, the expert could have chosen more than one domain

appropriate for the item. The experts were also asked to provide comments regarding the

content and appropriateness of the items. The percent agreements were calculated

between the experts and the predetermined eight categories for the items.

Expert Agreement ASUOI. The percentage agreement of the experts with the

classifications of each item into the eight NASPE Coaching Standards for the ASUOI

was calculated. Of the 14 items, all items had > 80% agreement across the experts for the

classifications as belonging to one the eight domains of the National Coaching Standards

(NASPE, 2006). However, it should be noted, that the experts only put the items in four

of the eight domain areas; that is, Domains 3 (Physical Conditioning), 4 (Growth and

Development), 7 (Organization and Administration), and 8 (Evaluation) were not

represented in the experts' results related to areas addressed in the ASUOI.

Data Analysis

Data analysis included descriptive statistics for the observational data (i.e.,

ASUOI instrument). It also included both inductively derived categories expressed

directly from the data and deductive categories based on priori constructs as determined

from the NASPE Coaching Standards. Open and Axial coding were used to interpret

data in developing categories representing coaching and stakeholders' views of coaching

efficacy and perceived coaching effectiveness. During the coding phase, each researcher

individually read all transcripts and documents several times, making notations of

significant phrases or sentences that pertained directly to the NASPE Coaching Standards

and (open) coding. The researchers made notes of questions, comments, and ideas about emerging themes in the data.

Observational data. Descriptive statistics (means, standard deviations, frequencies, and percentages) were used to report how the coaching behaviors aligned with the NASPE coaching standards. Specifically, the percentages of teaching behaviors that fell into each of the eight NASPE categories were determined. Field notes were also taken by a researcher during the observations to triangulate what was said in interviews and data collected using the ASUOI.

Interview data and document analyses. A constant comparison technique (Brannen, 2005) was utilized to code, record, and analyze data from the data sources. Open coding was used to identify several overall themes. Axial coding was also used to match collected data to the eight domains for the NASPE National Coaching Standards: (a) Philosophy and Ethics, (b) Safety and Injury Prevention, (c) Physical Conditioning, (d) Growth and Development, (e) Teaching and Communication, (f) Sport Skill and Tactics, (g) Organization and Administration, and (h) Evaluation.

NASPE Document Analyses. After coding all documents (e.g., the state's High School Athletics Association Constitution and Bylaws, Coaching Handbook, field notes, coaching materials), themes were developed from all of the data sources (observations, interviews, and document analyses), and the lead researcher and three peer reviewers reviewed all of the materials to view and organize them in relation to the eight NASPE Coaching Standards.

Trustworthiness. Trustworthiness was established through the use of several techniques. First, field notes were taken by a researcher during the observations to

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triangulate data across field notes, the ASUOI instrument, interviews (formal and informal) and document analyses. Second, one researcher and a peer reviewer independently reviewed all materials, coding for themes across several stages of data analyses. Once they analyzed the data separately, reviewers conferred on findings related to the themes that emerged from the data sources. During this process, past athletic experience was a common thread found in the data. Through peer negotiations, it was decided that past athletic experience should be a subtheme along with previous coaching experiences under the larger theme of coaching experiences. Third, a negative case search was performed to locate exceptions to the emerging themes, and no negative cases were found. Once themes were agreed upon, member checks with 10 coaches were performed (Merriam, 2009). The coaches agreed that the themes were accurate representations of effective coaches in their district.

ASUOI. Event recording raw data (e.g., number of behaviors observed for each category of coaching behavior) was used to calculate the percentage and rate per minute (RPM) of behaviors exhibited by category and overall for the 10 coaches. Descriptive statistics were also calculated by category and overall for the observation variables.

The percentage of behaviors accompanied by the use of first name should be considered separately from the percentages calculated in the other behavior categories (Lacy & Darst, 1985; Lacy & Goldston, 1990). Thus, the number of occurrences of first name use was subtracted from the total number of behaviors before percentages for the other behavior categories were calculated. If this were not done, the percentages of each category would decrease and the true percentages would be distorted.

RESULTS

The purpose of this research study was to determine the effectiveness of the coaches and compare the coaching behaviors of 10 high school coaches to the National Coaching Standards (NASPE, 2006) based on the perceptions of the coaches (interviews), field notes, artifacts, and observations.

First, the descriptive findings related to coaching effectiveness using the ASUOI as well as the relationship between observations and the NASPE Coaching Standards (2006) are presented. Second, the three themes are discussed that emerged from the data sources related to coaching effectiveness and then again relationships with the NASPE Coaching Standards (2006).

ASUOI Results

Coaching Effectiveness/ASUOI. Across 20 observations, a total of 1,265 minutes of observation consisting of 5,678 coaching behaviors were coded. Table 3 provides a summary of the frequencies of behaviors for each category of the ASUOI (Lacy & Darst, 1984). The results are provided by specific categories and the combined instruction category as a sum of the categories of pre-instruction, concurrent instruction, and post-instruction (as has been done in previous studies e.g., Becker and Wrisberg, (2008). Figure 1 depicts the frequencies of coaching behaviors directed toward the team. The coaches' most frequent form of instruction was concurrent instruction (during action; 32.63%, $n = 1853$), followed by pre-instruction (before action; 4.84%, $n = 275$), and post instruction (after action; 1.02%, $n = 58$). Non-instructional behaviors accounted for 51.07% of observed behaviors. Table 4 shows the means and standard deviations for each behavior category of the ASUOI (please note that on Table 4 the categories of pre-

instruction [before action], concurrent instruction [during action], and post instruction [after action] are not combined.)

In this study, the coaches' average overall behaviors observed at practice were 5.78 RPM. The instruction categories (Pre/Post/Concurrent) dominated the group and accounted for 37.02% of all behaviors observed followed by First Name (12.37%) and Management (11.54%). Another interesting result was found related to the praise and scold behavior categories, with praise occurring at a rate of 6.23% and scolding occurring at a rate less than 1%.

Along with the ASUOI results supporting the effectiveness of the coaches, their overall win/loss records as a group provides additional evidence of their effectiveness. Overall, their record for the current season was 96 wins and 128 losses.

Observed Coaching Behaviors and the NASPE Coaching Standards. Although the experts indicated that four of the eight NASPE Coaching Standards Domain areas were represented on the ASUOI (i.e., [1] philosophy and ethics, [2] safety and injury prevention, [5] teaching and communication, [6] sport skills and tactics); the majority (71.42%) of the observed behaviors were reported by the experts on the ASUOI of being related to Domain 5 (teaching and communication).

Observations

Three Themes for Coaching Effectiveness and Alignment with NASPE Standards. The three themes identified related to Coaching Effectiveness and Coaching Standards included: (a) the structure of the program and environment, (b) Pedagogical Content Knowledge: educational background and modeled and (c) past athletic experiences. Themes as related to the NASPE Coaching Standards are shown in Table 5.

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Field notes and quotes will be presented in the next section to illustrate themes. Pseudonyms are used to protect the coaches' identities.

   Theme 1: Program Structure and Environment. The observation data supported the theme that practice structure and environment affected the athletic program and the coach's effectiveness. Field notes taken during practice, with the goal of capturing the structure and environment, demonstrated the coaches' use of procedures and creating an environment of respect and decorum.

   Practice begins with Coach Cannon saying "let's go." The chattering among athletes decreases to a silent hum as the team captain rallies his teammates and starts off by jogging around the wrestling room and all members fall in. To the observer, there is an unspoken rule of respect and procedure to how practice begins. Coach Cannon continues to observe and monitor practice by moving and walking the perimeter of the room [showing with-it-ness regarding the practice session], "Toooot-toot" of the whistle [by Coach Cannon], and the athletes automatically find their own space, and the team captain(s) start the next phase of warm-up. Coach Cannon continually walks around the room periodically looking at his stop watch. He [Coach Cannon] deliberately walks to the area of the room where the injured players are sitting. Some are icing or are doing other types of therapy. He asks each one individually "How are you doing?", "Is your injury getting better?" "Toooot-toot!"

   Program structure and environment is also represented in the NASPE Coaching Standards: Domain 1: Philosophy and Ethics, Standard 2: Identify, model, and teach positive values learned through sport participation, and Benchmark C: Facilitate and

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reinforce the development of positive character traits through team policies and procedures. Coach Howell exemplified the goal that all great educators share related to changing athletes' lives. He excels in his ability to influence and add value to the lives of his students and create an environment of success and respect. Coach Howell (girls' softball coach) attributes this environment to culture during his formal interview. "The culture that has been established around Luhtala High School (Coach Howell)", and that's the philosophy Coach Howell and his coaching staff have instilled into players work to make those things happen. This is observable from the first moment of practice.

One after another athletes walk the 600 meters along the fence to the dugout for the start of practice. As they make the turn between the Varsity and Junior Varsity (JV) fields, Coach Howell greets each player. The player is acknowledged and follows the team procedures for starting practice. The athletes set their bag down in a chosen space, pull out their glove, bat, and whatever pieces of equipment are needed and place them in the designated area. Athletes loiter in the right field until they get the cue to begin warm up. "Shirl" Coach Howell bolsters across the field from the dug-out, "Get 'em going" "Warm up!" Without hesitation you hear Shirl (team captain) take command and lead the team around the outfield for warm-up. It is very methodical. Coach Howell is never too far away or out of ear shot. He gives the responsibility to the captain and as usual Shirl is prepared to take the challenge full on, "As seniors, we feel like this is finally our year." She said. "It's our job to get the team together to do it." "Coach," Shirl says . . . and Coach Howell walks over brings the team

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into a circle and begins by stating his expectations for practice and pre-

instruction for the first drill.

Overall, the field notes indicated a consensus among all 10 coaches that they

emphasized the importance of program (i.e., practice) structure and environment. It is

critical that coaches demonstrate routines and an environment of respect during practice.

Throughout the 20 observations, it was noted in the field notes that all of the coaches had

a set of procedures for practice. These procedures signify effective behaviors that

coaches must possess to result in successful performance.

Structure of the Program and Environment and the NASPE Coaching

Standards. The interview, observation, and document data resulting in the Structure of

the Program and Environment theme are aligned with three of the NASPE Standards.

First, Domain 1 (Philosophy and Ethnics) from the Coaching Standards, supports the

current study's Structure of the Program and Environment theme. For example, the

NASPE standard states that the coaches structure opportunities for development that can

be applied in and out of sport. Secondly, NASPE's Domain 2 (Safety and Injury

Prevention) from the NASPE Standards is focused on suggests that coaches are providing

a safe environment with necessary equipment and facilities. Similarly, Domain 7

(Organization and Administration) has as a focus from the NASPE Standards indicates

that coaches creating a fair and positive competitive environment.

Theme 2: Pedagogical Content Knowledge: Educational Background and

Modeling. For any coach to be successful Pedagogical Content Knowledge (PCK)

should be a major part of their foundation for instructing their athletes' educational

background. Shulman (1986) defined PCK as a form of practical knowledge that

teachers (and coaches) use to guide their actions in highly contextualized classroom (practice) settings. PCK builds on other forms of professional knowledge (combining content knowledge and pedagogical knowledge in understandable ways, such as put your pinkies together to form a soup bowl when catching a low ball). It is therefore a critical—and perhaps even paramount—constitutive element in the knowledge base of teaching (Rowan, Schilling, Ball, & Miller, 2001). When reviewing the collected documents, three sub themes emerged for PCK: the educational background of the coach and how the coach models this knowledge for the athletes, and coaching standards knowledge.

Coaches Educational Background. As outlined in Domain 4 of the NASPE Coaching Standards (2006), the coach should be properly trained and knowledgeable about the age and developmental level of their athletes. Participants have previously reported that in order for a program to be successful, content knowledge should be a major part of the curriculum (McCullick, Belcher, & Schempp, 2005). Field notes from the current study indicated that all participants had an educational background in a degree pertaining to education (i.e., Bachelor of Arts, Bachelor of Science, or Bachelor of Arts in Education). Based on document analyses, in the district observed, coaches have a professional development meeting at the start of each season where all main points in the District's manual about effective and safe coaching are re-discussed. Example topics include policies, procedures, and eligibility, as well as an update on critical safety issues, including hazing, eligibility, and concussions.

When asked about professional development in particular, Coach Netz said in his formal interview: "I wish there was more professional development for coaches,

especially in our sport [Track & Field]. I stopped going to the clinic here years ago because the information was the same and the topics covered never changed. We started looking at other clinics and Coach Sagewerker and I attend one yearly in California." The coach also noted that he has attended the California clinic for the last 7 years or so. He went on to say that the information presented was current and the content provided was up-to-date research to support the subject matter being taught. Six coaches mentioned that they were involved in continuing education either by attending classes or conventions or by being involved in a professional organization. Coach Hase commented, ". . . I always attend the Arizona Health Physical Education Recreation and Dance (AHPERD) convention each year. . ." Whereas Coach Ferndale indicated that he was a founding member of the Arizona Basketball Coaches Association (ABCA), Coach Cannon had attended the USA Wrestling Silver Coaches College in 2010, and had organized the National Coaches Education Program Bronze-level clinics in Arizona since 2007. Furthermore, Coach Howell was a member of the Executive Board for the Arizona Softball Coaches Association and facilitated workshops for the Pacific Institute's Thought Patterns for High Performance. When asked in the formal interview about his educational background and what impact that it has had on his coaching, Coach Kerbe replied, "The positive impact I have on kids through teaching and coaching is my greatest treasure." I have been teaching/coaching history and economics over 29 years. "It's the ultimate reward seeing kids 10 years later and them telling you how you inspired them to accomplish great things."

In the U.S., there is no mandatory or standard national coaching certification program, and coaches in many states are not required to have any type of formal

coaching education. Notably, there are no requirements on an annual basis. Based on the

document analyses the studied district did not require a national coaching certification;

however, the district required the state's High School Athletics Association certification.

Because there are no national standards, it is not known if pre-coaching experiences

relate to future coaching competency. Additional research is needed to explore why

certain coaches continue to pursue formal coach educational opportunities whereas

others cease once a minimum requirement is met.

Modeling. When the subject of content knowledge came up in interviews and

field notes, an interesting sub-theme of modeling emerged. As defined on the ASUOI

(Lacy & Darst, 1985) modeling is a demonstration of correct or incorrect performance of

a skill or playing technique. Modeling is the practical hands-on application of PCK. The

coaches did not always explicitly state they were teaching content knowledge, but they

would discuss the importance of a well-paced, well-rounded season, which included skill

development, technique progression, and cross-sport training. For example, Coach

Emmett, a Southwest stats' all-time winningest basketball coach, schedules the weight

room for strength training before, during, and after the season (field notes, document

analysis [schedule]). This cross training reduces the occurrence of injuries and improves

on-court performance. Also, from the observations (field notes), teaching of content

knowledge and communicating to athletes was sport specific and happened in many

ways, such as, positive and negative feedback, modeling, and manual manipulation.

> Coach Kerbe, (field notes) is an intense coach who gets down to business
>
> and knows his stuff. He does not have to ask his athletes to follow
>
> directions, pay attention, or re-teach a drill. As he explains and models the

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drills (using positive language), all athletes are engaged. You can see and feel the sense of respect they have for him. All athletes are engaged and tracking Coach Kerbe during the phases of the drill he models. Coach Kerbe pauses and asks, "Any questions on hand placement?" The athletes' choral in response "no." The second time, he (Coach Kerbe) checks for understanding the athlete respectfully asks a question by raising their hand and not shouting out. During practice Coach Kerbe is always sparing with an athlete, rotating to other athletes and leaving with positive comments when he is done.

From field notes it was observed that: Coach Kaleva called all the athletes to the center of the court for instruction. When he talks, the expectations are clear. He describes the drill they are going to perform next, the protocol for how he would like them to rotate, and demonstrates how the skill is performed. He uses specific PCK as he demonstrates (models), such as: "make sure the elbow is square to the net," and "get a high toss out in front of your toe."

The behaviors demonstrated (educational background [PCK] and modeling) by the effective coaches in this study are also outlined in the NASPE Coaching Standards and primarily relate to Domain 3: Physical Conditioning, teaching techniques that support athlete development and have knowledge of fitness and sport specific demands; Domain 4: Growth and Development, the coach should be properly trained and apply knowledge of sport and provide performance feedback (positive, negative, modeling); and Domain Six: Sport Skills and Tactics, coach understands up-to-date specific sport

skills and game tactics and should be able to provide feedback and develop the skills of all the athletes.

Finally, the art and science of coaching includes developing the skills of all team members into an efficient and successful group. Meaningful participation and team success relies on the coaches' combined sport-specific knowledge and pedagogical knowledge or their PCK and modeling of it (i.e., manual manipulation, positive modeling, and negative modeling) (NASPE, 2006).

Coaches Knowledge: National Standards. The third sub-theme emerged during informal interviews and conversations. When all of the coaches were asked about the NASPE Coaching Standards, none of them replied with any knowledge of the national standards for coaching. This presented huge findings in regards to the presence of the national standards in coaching education programs and sport programs being observed. The role and purpose of the NASPE standards are to provide direction regarding the skills and knowledge that coaches should possess and reflect the fundamental actions expected of sport coaches (NASPE, 2006). Therefore, there is a need for use of the standards as well as holding coaches accountable for adhering to the standards in order to support coaches in addressing the national coaching standards.

PCK Relationships with the NASPE Coaching Standards. The second theme of educated coaches providing relevant content knowledge also aligns with three of the NASPE Coaching Standards. First, NASPE Coaching Standards Domain 4 (Growth and Development) supports the necessary coach background knowledge by stating that all coaches should be properly trained and knowledgeable about the age and skill level of their athletes. Next, in NASPE Coaching Standards Domain 5 (Teaching and

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Communication), the coach must understand the fundamentals of the sport to maximize

the potential of each athlete and to provide the athlete with a variety of systematic

instructional techniques. The third domain from the NASPE Coaching Standards

addressed is Domain 6 (Sport Skill and Tactic). The coach should know how to utilize

the athletes' ability to maximize meaningful participation and know up-to-date

understandings of sport-specific skills and game tactics.

 Theme 3: Past Athletic Experiences. The increased professionalism of coaching

has sparked a great deal of activity in the area of coach development. The examples

below demonstrate how coaches in the current study demonstrated high levels of

coaching experience as an athlete and as a coach.

 Coaching Experience as an Athlete. Coach development stems from the

experience a coach has as an athlete. Trudel and Gilbert (2006) support this by

suggesting that successful coaches appear to have been highly skilled athletes in relation

to their peers.

> Coach Ferndale [informal interview] said, "My dad coached all of our
>
> teams growing up, so I was always at his teams' practices and games. I
>
> always joke that I was raised by team managers. I knew at an early age
>
> that I wanted to coach, partially because it was all I knew. As a player, I
>
> was always intrigued by preparing for an opponent, game-planning and in-
>
> game adjustments. I was a three-sport athlete. I ran cross-country, track,
>
> and played basketball."

Coach Hase expressed a long history with wrestling in an informal interview. He

grew up with the sport, wrestling throughout elementary school, junior high, high school

and college.

> "Wrestling in an eastern state of the U.S., is very serious and a big deal,"
> said Coach Hase. "In high school our matches would be on TV. Our
> matches sold out!" When asked to reflect about his past experience as an
> athlete Coach Hase replied, "I know that all this training has led me to this
> varsity team. I'm excited for this great opportunity."

Coach Ensley [informal interview] also had a strong history of playing sports as a

youth. Coach Ensley is a product of the district where this study took place. He

attended Sapphire Elementary, Firebird Junior High, and graduated from Kismet High

School. During his journey, Coach Ensley was very active in athletics and was a

member of Kismet High's state championship football team. Because of his experience

as a youth, Coach Ensley is well known as a coach who provides youth with

opportunities to participate in sports by offering clinics and sport camps in the off-

season.

Coaching experience as a Coach. The examples below show that all coaches in

this study had high levels of coaching experience.

Coach Ferndale was entering his 17th year as a coach. Coach Ferndale (informal

interview) was a founding member of ABCA and past president, Division representative,

ABCA Coach of the Year, and the Walton Region Coach of the Year. Ferndale was the

winningest boys' basketball coach at Walton (previous school). Ferndale's team

averaged 18 wins per season, including final four appearances in 2011 and 2013 and

winning the 2007 State Championship. In reflection of his past coaching experiences

Ferndale replied, "I make mistakes daily. I just try to make sure they aren't the same

ones. I just try to acknowledge each mistake, learn from it, and then do something about

it." Coach Cannon also has a successful coaching history. From field notes and informal

interviews, Coach Cannon reflects on his previous experiences "I've been a head coach

in LaVerne Valley for 17 years and you are constantly chasing and working," said

Cannon, who began his coaching career at Macaday (High School). "This [his current

school's coaching program] is very special. The program has always been successful, but

I have also put my stamp on it, too. Those kids who are coming through here have been

with me. I remember when they walked into our room as fifth graders. They are all

grown up now." The stamp (or coaching methods) Coach Cannon has put on the

program as a coach has brought home the State Championship in 2014 and State Runner-

up Team Trophies in 2006 and 2007. Eleven Mott Wrestlers have brought home State

Individual Championships during this time. The Mott Team Dual record from 2005 to

the present is 164-27. In 2013-2014 Mott went 23-0 in Duals and won the State

Wrestling Tournament. The Mott team placed nine wrestlers at the State Tournament,

including two State Championships. Mott ended the season with a #43 ranking in the

U.S. by intermat wrestling, and Coach Cannon was named the 2013-14 Coach of the

Year by the National Wrestling Coaches Association, Beazle Republic, LaVerne Valley

Tribune and Grand Valley Public Schools.

Over the course of his 40+ year high school coaching career, Coach Emmett has

had nine state titles. Coach Emmett became A Southwestern State in the U.S. as the all-

time winningest basketball coach with 775 wins (2013).

Coach Netz, a former Track and Field hurdler, is no stranger to having high expectations for his athletes. His achievements as a coach of the Track and Field program at Mott are second to none. Mott has been crowned State Champions four times in both Boys Track & Field and Girls Track & Field. Mott has been State Runner-Up nine times in Boys Track & Field and twice in Girls Track & Field. In total, Mott High School has won over 60 State Championships and 50 State Runner-Up trophies during the history of the school. Coach Netz has been a part of this program for over 10 years. From informal interview field notes, Coach Netz said, "The goal of the program is to provide sound training in all facets of track and field and to instill a love and respect for the sport to our student athletes, as well as producing fine citizens within our community. The phrase 'student athlete' is stressed above all others. The word student comes first for a reason."

In summary, a variety of past coaching experiences are influential in shaping coaching effectiveness and past and present successes. Domain 6 of the NASPE Coaching Standards supports the importance of past coaching experiences by explaining that the art and science of coaching includes developing the skills of all team members into an efficient group with maximized athlete participation. Effective coaching is related to up-to-date coaching techniques, a strong foundation of coaching skills, and previous experiences as an athlete.

Past athletic experience relationships with the NASPE Standards. The third theme to emerge from the findings of the current study was that past athletic experience (which covers the sub themes of experience as an athlete and as a coach) related to effective coaching. This theme is aligned with three of the NASPE Coaching Standards.

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Domains 1 (Philosophy and Ethics) supports the importance of experiences by stating that the coach plays a key role in teaching and demonstrating the positive values gained through sport experience. Domain 4 (Growth and Development) supports the role the coach plays in recognizing change in athlete development patterns. Both the past and present experiences of the coach are needed to create an effective learning environment. Domain 5 (Teaching and Communication) from the NASPE Coaching Standards also relates to coaching effectiveness, where coaches build upon past experiences as an athlete and as a coach. For example, it is stated that a coach will provide a positive learning environment that is appropriate to the characteristics of the athletes and the goals of the program (NASPE, 2006).

Domain 3 (Physical Conditioning) of the NASAPE Coaching Standard relate to both the structure/environment theme of this study as well as the pedagogical content knowledge theme. This preparation is present in the structure of the program (developmentally appropriate drills), the environment (maintain safety), and teaching PCK (research–based teaching techniques), as well as in communication (teaching) to athletes (teach techniques supporting athlete development).

DISCUSSION

ASUOI

The purpose of this study was to systematically examine 10 high school coaches' practice behaviors and the alignment of their coaching behaviors with the NASPE Coaching standards. Consistent with previous research findings (Becker & Wrisberg, 2008; Bloom, Crumpton, & Anderson, 1999; Kahan, 1999; Lacy & Darst, 1985; Segrave & Ciancio, 1990) on effective coaches, it was found that the cohort of coaches in the

current study provided *instruction* more often (38.5%, *n* = 2186) than any other coaching behavior. The next most frequent behaviors were *first name* (12.47%, *n* = 708) and *management* (11.54%, *n* = 655). These findings show that instruction is clearly an important component in the coaching process. Given the more complex tactics and game strategies inherent at each further level of sport, players need and even prefer to receive greater amounts of instruction as they mature (Chelladurai & Carron, 1983). In the current study, it was found that the most common form of instruction provided by our cohort of coaches during practice was concurrent instruction. As players executed various tasks, coaches (from ASUOI) frequently provided athletes with concurrent technical and tactical information (from field notes). Doing so allowed athletes to actively change their behaviors and make corrections without interrupting the flow of practice. The coaches' overall recorded feedback behaviors were 5.78 RPM, meaning the coach, on average was giving feedback six times per minute. In another study that used the ASUOI instrument, Lacy and Darst (1985) reported a value of 5.31 RPM. Authors also reported that hustle (verbal statements intended to intensify the efforts of the players, such as run it out, push, etc.) was the third most frequent coaching behavior. In the current study, it was found that Instruction was the most frequent behavior with First Name second and Management third, indicating similar findings between the two studies.

Coaches' instructional feedback had the highest frequency during pre-instruction (pre activity). This trend seems sound considering that it is logical to address the whole team when introducing skills or plays and to address individual athletes when providing performance-relevant feedback.

The summed instruction category was observed more than twice as often as any other behavior across all the observations of the 10 coaches. These findings support the idea that informational feedback is a prerequisite for effective coaching. The dominant nature of the instruction category is not surprising, given that other observational studies using similar categories reported similar findings of the instructional categories carrying the highest percentage of feedback to athletes and coaches focusing their time on instruction (Langsdorf, 1979; Tharp & Gallimore, 1976; Williams, 1978). However, it should also be noted, that the coaches spent more time on non-instructional behaviors than instructional behaviors. This seems to be due the time spent in management activities (i.e., organizational details of practice sessions not referring to strategies or fundamentals of the sport (i.e., making lines, retrieving equipment, etc.).

The second purpose of this study was to determine whether the effective coaches' coaching behaviors would be supported by the framework of the NASPE Coaching Standards (2006). This study supported the use of NASPE coaching Standard Five: Teaching and Communication; which suggests that the coach must plan and implement organized practices for a positive learning experience. In addition to understanding the fundamentals of the sport, the coach should use a variety of systematic instructional techniques to maximize the potential of each athlete (NASPE, 2006). Having most of the behaviors observed from the ASUOI be related to Domain 5 is not a representative sample of coaching effectiveness as it relates to the NASPE coaching standards. That is ASUOI does not capture a broad enough range of coaches' actions that are more reflective of the other standards. Future studies may want to consider aligning the research design to the NASPE Coaching Standards and providing explicit

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definitions/rubrics on instruments/materials related to how coaches may meet the Standards.

Coaching Behavior Themes

The three themes that emerged from the data were: (a) program structure and environment, (b) Pedagogical Content Knowledge: educational background and modeled and (c) past athletic experiences. It has been noted that structure, sequence, and environment are vital to the educational background for coaches in sport (McCullick, Schempp, & Clark, 2002). As the above theme of program structure and environment reveal, the coach is responsible for implementing developmentally appropriate drills and teaching techniques that support athlete development. By recognizing the patterns of cognitive, motor, emotional, and social development, the coach can create an effective learning environment (NASPE 2006).

Also, it was found that program structure and environment was a critical foundation for successful sport programs. While some may dismiss the value of participants' (athlete's) perceptions toward program development, McCullick et al. (2005) reported that it is indeed worthy of examination. Players have previously reported that they felt it important for their coach to be either very knowledgeable, highly experienced, or both (Keegan, Harwood, Spray, & Lavallee, 2014).

Several studies (Gould et al., 1990; Irwin et al., 2004; Jones et al., 2004; Sage, 1989) have stated that past experiences are a key source of coaching knowledge (Gilbert et al., 2006). Coaching experience has often been cited as one of the primary sources of knowledge for coaching (Coaching Association of Canada, 1996; Gould, Giannini, Krane, & Hodge, 1990; Salmela, 1996). For example, Gould and colleagues surveyed

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130 coaches in the U.S. and found that "one of the most important themes arising from findings was the importance of experiential knowledge and informal education" (Gilbert & Trudel, 2001, p. 34). However, our understanding of coach development is limited. Authors of several studies (e.g., Gould et al., 1990; Irwin, Hanton, & Kerwin, 2004; Jones et al. 2004; Sage, 1989) have reported that past experiences are a key source of coaching knowledge. It has also been reported that there may be a minimum threshold of athletic experience necessary for an individual to become a successful coach (Gilbert et al., 2006).

This study also highlights the important role of coaches' content knowledge and PCK that need to be taken into consideration as more coaching education programs are developed. It is important to strike a balance between providing participants with adequate sport content knowledge and various other topics such as, drills, techniques and pedagogical knowledge that will enable them to be better coaches (McCullick et al., 2005). Future research may explore why certain coaches continue to pursue formal coach education opportunities, whereas others cease to seek training once a minimum requirement is met. Finally, it is not known if pre-coaching experiences are correlated with future coaching competency. However, pre-coaching experiences provide coaches with tactical knowledge about the sport and coaching roles (Gilbert et al., 2006).

NASPE Alignment and Document Analysis. The findings of this study are critical to coaches and individuals training coaches. If coaches are following the districts guidelines of incorporating the state's High School Athletics Association Constitution and Bylaws and the Coaching Handbook, as well as demonstrating traits found during observations and field notes, then they should meet the minimum standards as out lined

by the NASPE Coaching Standards. However, if approved coaches are not incorporating the required set of documents, then they would not be meeting the guidelines set forth in the NASPE Coaching Standards. Since many of the standards are not readily observable, one recommendation for future work is to revise the NASPE Coaching Standards so that they are competency based.

It would be beneficial to replicate this study with different coaches, across different levels of competition, and across different sport contexts in order to add to the generalizability of the findings. Further research efforts are also needed in the area of coaching behaviors and the NASPE Coaching Standards. The field notes revealed that none of the coaches observed in the current study had any knowledge of the National Standards for Coaching developed by NASPE.

Limitations. Limitations of this study were no female coaches were observed.

CONCLUSION

The results described here showed that coaches exhibited many positive and effective behaviors (especially related to instruction). It was surprising to find that none of the 10 coaches were familiar with the National Coaching Standards and that the standards were not fully reflected in the ASIOI, the coaching documents, or the coaches' philosophies. It recorded behavioral events likely to occur during a high school team coaching practice. Coaching behaviors were investigated in this study through the lens of the NASPE Coaching Standards. All of the domains from the Coaching Standards were observed or present in documents; however, domain five was observed much more frequently than all of the other domains. The coaching themes identified from all data sources were the importance of program structure and environment, educational

background and pedagogical content knowledge, as well as coaching experiences.

Findings from this study add to the existing knowledge on effective coaches and how

their coaching practices related to the NASPE Coaching Standards.

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Table 1

IOA Percent agreement by behavior and overall for ASUOI

ASUOI Category	Percent Agreement						
	IOA #1	IOA #2	IOA #3	IOA #4	IOA #5	IOA #6	IOA #7
Pre-Instruction	100%	100%	100%	98%	100%	98%	100%
Concurrent Instruction	93%	92%	98%	100%	100%	100%	100%
Post-Instruction	100%	67%	100%	100%	67%	100%	100%
Questioning	100%	100%	100%	100%	100%	100%	100%
Manual Manipulation	100%	100%	100%	100%	100%	100%	100%
Positive Modeling	100%	100%	100%	100%	100%	100%	100%
Negative Modeling	100%	100%	94%	100%	100%	100%	100%
Management	89%	80%	100%	100%	100%	100%	100%
Silence	100%	79%	100%	100%	88%	100%	99%
First Name	100%	92%	100%	99%	100%	100%	100%
Praise	100%	100%	95%	100%	89%	90%	100%
Hustle	100%	100%	100%	94%	100%	100%	100%
Scold	100%	100%	100%	88%	100%	100%	100%
Other	100%	100%	100%	100%	100%	100%	100%
Overall	98%	93%	98%	99%	97%	99%	99%

Table 2

ASUOI/NASPE Expert Alignment

ASUOI Category	Definition	1	2	3	4	5	6	7	8
Pre-Instruction	Initial Information given to players preceding the desired action to be executed (HOW to execute a skill, play, etc.)					x			
Concurrent Instruction	Cues or reminders given during the actual execution of the skill or play					x			
Post-Instruction	Correction, re-explanation, or instructional feedback given after the execution of the skill or play					x			
Questioning	Any question to a player concerning strategies, techniques, assignments, and etc. associated with the sport (Who does this . . . or what is the proper grip . . .)					x			
Manual Manipulation	Physically moving the player's body to the proper position through the correct range of motion for a skill (Guiding a players arm through the movement for a correct swing or strike)						x		
Positive Modeling	A demonstration of correct performance of a skill or playing technique					x			
Negative Modeling	A demonstration of incorrect performance of a skill or playing technique					x			
Management	Verbal statements related to organizational details of practice sessions not referring to strategies or fundamentals of the sport (making lines, retrieving equipment, etc.)					x			
Silence	(used only with interval recording) Periods of time when the subject is not talking (players are warming up, player is talking, coach is monitoring activities)					x			
First Name	Using the first name or nickname when speaking directly to a player	x							
Praise	Verbal or nonverbal compliments, statements, or signs of acceptance (thumbs up, high five, good job)	x							
Hustle	Verbal statements intended to intensify the efforts of the player(s) (run it out, push, etc.)					x			
Scold	Verbal or nonverbal behaviors of displeasure (terrible effort, scowling, throwing a clipboard, etc.)					x			

| Other (Not able to code) | Any behavior that cannot be seen or heard or does not fit into the above categories (Checking injuries, talking with bystanders, being absent from practice setting,) | | | | | | x |

Notes. Domain Key: Domain 1: Philosophy and Ethics Domain 3: Physical Conditioning, Domain 4: Growth and Development, Domain 5: Teaching and Communication, Domain 6: Sport Skills and Tactics, and Domain 8: Evaluation.

Table 3

Frequencies and Percentages of Total Coaching Behaviors for Each ASUOI Category

| Coding Category	Example	Total Statements	Percent Total
Instructional Behaviors			
Instruction	"When the post back screens, make sure you are using the screen, then make your cut."	2186	38.50%
Questioning	"If you are in a head lock, what would your counter move be?"	381	6.71%
Manual Manipulation	Physically moving a player's arm or body to ensure correct technique	47	0.83%
Positive Modeling	Demonstrating how to perform a movement correctly	147	2.59%
Negative Modeling	Demonstrating how an athlete performed incorrectly	17	.30%
	Total	2278	48.93%
Non-instructional Behaviors			
Management	"To set up the next drill, I would like all guards around the key and post players and forwards on the baseline."	655	11.54%
Silence	Periods of time when the subject is not talking (players are warming up, player is talking, coach is monitoring activities)	645	11.36%
First Name	Using the first name or nickname when speaking directly to a player	708	12.47%
Praise	"Good look inside to the post!"	354	6.23%
Hustle	"Hustle, get down the court. Sprint to the baseline!"	217	3.82%
Scold	Verbal or nonverbal behaviors of displeasure (terrible effort, scowling, throwing a clipboard, etc)	55	0.97%
Other	Any behavior that cannot be seen or heard or does not fit into the above categories (Checking injuries, talking with bystanders, being absent from practice setting,)	266	4.68%
	Total	2900	51.07%

Table 4

Summary of Coaching Behaviors with Means and Standard Deviations

ASUOI Behavior	Mean (SD)
Pre Instruction	13.75(12.42)
Concurrent Instruction	92.65(57.20)
Post Instruction	2.9(3.39)
Questioning	19.05(19.57)
Manual Manipulation	2.35(3.57)
Positive Modeling	7.35(5.88)
Negative Modeling	0.85(1.53)
Management	32.75(25.60)
Silence	32.25(37.59)
First Name	35.4(29.21)
Praise	17.7(16.02)
Hustle	10.85(9.09)
Scold	2.75(3.42)
Other	13.3(12.21)

Table 5

Themes as related to the NASPE Coaching Standards

Themes	Domains
Structure of Program and environment	Domain 1: Philosophy and Ethics
	Domain 2: Safety and Injury Prevention
	Domain 7: Organization and Administration
Pedagogical Content Knowledge; educational background and modeled	Domain 4: Growth and Development
	Domain 5: Teaching and Communication
	Domain 6: Sport Skill and Tactic
Past athletic experiences	Domain 1: Philosophy and Ethics
	Domain 4: Growth and Development
	Domain 5: Teaching and Communication

Domain 3: Physical Conditioning
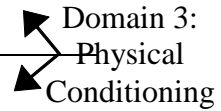
Notes. Domain eight was identified in the document analysis process; however it did not contribute to the development of the four coaching behavior themes

Figure 1

Frequencies of Coaching Behaviors (N=10)
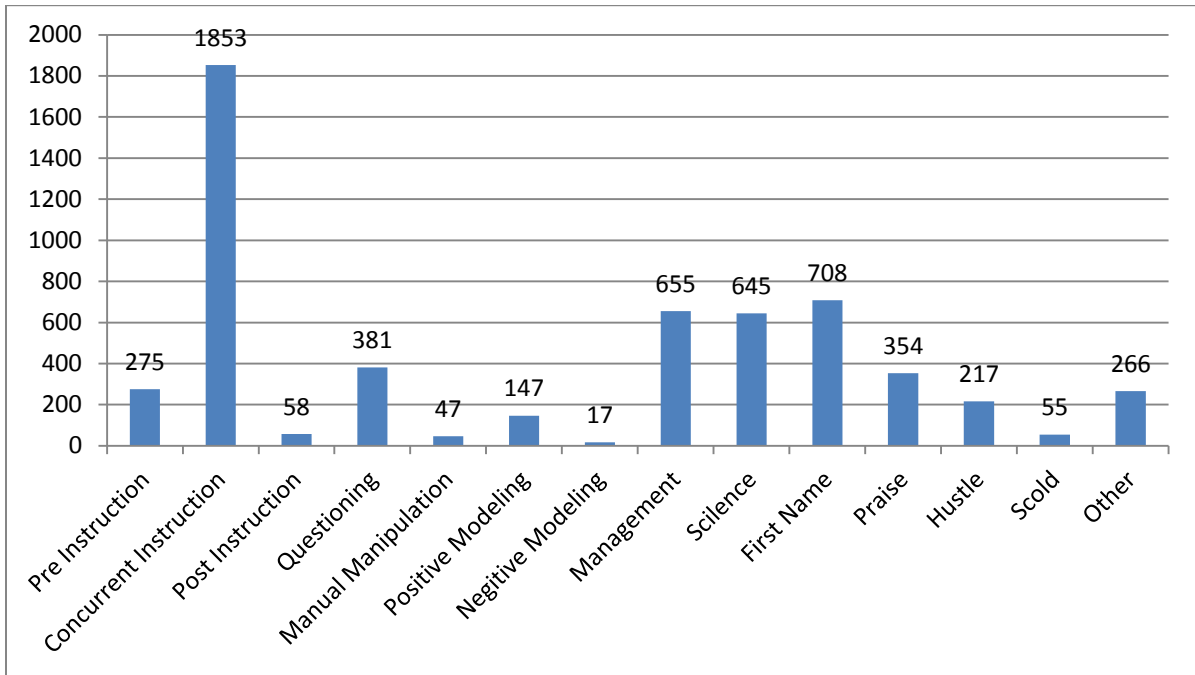
CHAPTER 5

DISCUSSION

The purpose of this project was to examine coaching behaviors and perceived

effectiveness through the point of view of stakeholders (athlete, parent/guardians) and

secondly how these behaviors relate to the National Association of Sport and Physical

Education (NASPE) Coaching Standards (2006). The findings of the present research

project showed coaching behaviors (prior knowledge and experience) were related to

coaches' efficacy and stakeholders perceptions of coaches' effectiveness on the field.

Perceptions of Efficacy/Effectiveness and observation data were aligned with the

NASPE Coaching Standards These results regarding coaching efficacy and stakeholders'

views of coaches' effectiveness as well as the observational and interview data are

consistent with previous studies.

The current study used the Coaching Efficacy Scale (CES) instrument and

identified coaching experience and background knowledge (education) as two significant

factors of coaching efficacy. This project also confirmed the fit of the data using the

CES instrument with three groups of stakeholders, that is, coaches, athletes, and

parents/guardians; providing additional support for the CES model with these

stakeholder groups. This study also extended the conceptual models/our understanding

of coaching efficacy and coaching effectiveness by identifying factors in coaching

efficacy/coaching effectiveness related to the NASPE Coaching Standards.

One salient factor in the coaching experience is the athlete perspective. Of the

three stakeholder groups, coaches rated their own efficacy for coaching higher than

athletes' rated their ability and parents' rated the coaches' efficacy. This may be due to the investment of the athlete and level of parent involvement.

Interviews, observations and document analyses of ten coaches illuminated themes related to coaching efficacy and effectiveness. The themes identified related to effective coaching were: (a) the structure of the program and environment, (b) Pedagogical Content Knowledge, and (c) past athletic experiences. The first theme is the structure of the program and environment which related to the rules, procedures, and atmosphere of practice. Secondly, pedagogical content knowledge evolved from the coaches past education and knowledge of sport specific content and how they 'taught' this knowledge in meaningful ways to the athletes. The third theme related to the coaches' past experiences both successes as an athlete themselves and past experiences as a coach. An interesting finding of the two themes pedagogical content knowledge and past athletic experiences is that they showed similar results about efficacy. They both revealed coaching experience and educational background were important factors in coaching efficacy/effectiveness.

Results of the second phase of the project with 10 coaches support the growing importance of personal athletic experience, past coaching experience, and modeling and how these factors shapes the effectiveness of a coach. Experiences are influential in developing coaching effectiveness including past and present successes as an athlete and as a coach.

Many people have suggested that coaching is as much an art as it is a science. This project contributes to the body of literature by adding to the understanding of coaches' efficacy as well as what effective coaches know, value and do. Because

coaches are teachers and mentors who influence and spend considerable time with athletes, they must also have the resources to improve their knowledge and skills. This knowledge base is what shapes coaches past experiences and content knowledge. It is imperative that coaches aspire and achieve high standards as well as have available resources to aide in gaining necessary skills and knowledge. The National Standards for Athletic Coaches (NSAC) provide this direction and expectations for all coaching educators, sport administrators, coaches, and stakeholders (NASPE, 2006). NSAC offers resources and continued professional development for coaches. As indicated in both phases of this study, continued education is imperative for a coach to be effective.

In learning more about coaching, it is critical to also learn more about stakeholders' views including athletes and parents/guardians. The coaching experience must include an ongoing conversation and input from stakeholders in order to be effective and to make a difference in the lifelong habits/behaviors of youth (Gilbert & Trudel, 2004).

Findings from the observations of the 10 coaches using the Arizona State University Observation Instrument (ASUOI) contribute to the growing number of studies using systematic observation and descriptive information to learn more about what effective coaches do. As can be seen by studying the data, a large percentage of the observed behaviors of the coaches were for instruction (pre, post, or concurrent). These three instructional behaviors accounted for 38.5% of total behaviors for the participants, along with time spent in management.

The same trend of coaches using mainly instructional behaviors was also reported in previous research, such as, Lacy and Darst (1985) reporting that 42.5% of the

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coaches' behaviors were related to these three areas of instruction. Frequently observed coaching behaviors also included using athlete's name and management behaviors. Across all of the observations, uses of first name were observed 12.47% of the time and management behaviors were observed as 11.54% of total coaching behaviors. These two behaviors of first name and management are critical in the structure and environmental design of practice.

It may be beneficial for coaches to have others' use observational instruments during their practices in order to help them determine the coaching behaviors that are working well as well as to better understand how they are using their time. By becoming aware of their behavioral habits, coaches may want to modify their behaviors in an effort to become more effective. Additional observational research of this nature can further enhance researchers' and coaches' understanding of the science of teaching and coaching.

Further research needs to continue in this line of research focusing on groups of coaches at various levels of competition and in both individual and team sports, using multiple methods of data collection, such as behavioral instruments, interviews, and systematic observation (Gilbert & Trudel, 1999).

Implications from this research show there is a need for further communication across stakeholders including the athletic directors, state organizations, coaches, athletes, and parent/guardians related to creating effective and supportive coaching environments as well as to learn more about the relationships among what coaches and stakeholder do and NASPE Coaching Standards (2006).

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