The Coach Expectancy Cycle and the Impact of a Coaching Education Intervention in Youth Soccer

Erica Ann Pasquini
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THE COACH EXPECTANCY CYCLE AND THE IMPACT OF A COACHING EDUCATION INTERVENTION IN YOUTH SOCCER

by

Erica Ann Pasquini

A Dissertation
Submitted to the Graduate School and the School of Kinesiology at The University of Southern Mississippi in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

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ABSTRACT

THE COACH EXPECTANCY CYCLE AND THE IMPACT OF A COACHING EDUCATION INTERVENTION IN YOUTH SOCCER

by Erica Ann Pasquini

August 2016

The coach expectancy cycle is a four-stage model that explains coaches’ feedback behaviors (Horn, Lox, & Labrador, 1998). In the first stage, coaches make judgments based off of previous sport experience and knowledge. In the second stage, these judgments influence coaches’ behaviors. Solomon (2008, 2010) has shown that coaches provide more instruction, praise, and corrective instruction to athletes they perceive to be higher expectancy. In the third stage, the unequal behaviors coaches exhibit affect athlete performance and satisfaction in sport. Research has shown that athletes’ perceptions of poor coaching behavior positively correlate with drop out (Gearity & Murray, 2011; Hollembeak & Amorose, 2005). In the fourth stage, athlete performance reinforces coaches’ initial expectations, thereby creating a continuous cycle. Although this cycle’s occurrence has been confirmed in high school and collegiate sport, the youth sport setting has seen minimal research (Solomon, 1998).

The purpose of the present study is twofold, first to confirm the presence of the second stage of the coach expectancy cycle in a competitive youth sport context. Specifically, to investigate if competitive soccer coaches provide higher instances of instruction, correction, and praise to high expectancy athletes when
compared to their low expectancy peers. The second purpose it to provide a coach education intervention aimed at decreasing the disparity of behaviors between high and low expectancy athletes in a treatment group. A strategic sample (N=8) of competitive youth soccer coaches was selected to participate in six weeks of behavioral observation. Data from the first three weeks was analyzed using three Mann-Whitney U rank order tests to confirm coaches provide higher feedback to youth athletes they perceive to be high expectancy. A treatment group of coaches received an intervention to reduce the disparity in behavior. Post-intervention, three repeated measures ANOVA’s tested the effects of the intervention. Mann Whitney U tests revealed that coaches provided significantly more of all three behaviors to high expectancy athletes. Although the RM-ANOVARA’s did not yield significant results, large effect sizes suggest that with a larger sample a behavioral intervention could statistically reduce the disparity of behaviors seen between high and low expectancy athletes.
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DEDICATION

I could not have done this without the help and encouragement of my family and friends. My parents and grandparents, thank you for always being there to listen, for always believing in me, and for giving me a push when I need it the most. My brother, thank you for answering the phone at any given time, for sending a funny text when I need it, and for your unconditional support through the years. Cameron, thank you for being a shoulder for emotional breakdowns, a sidekick for emotional highs, and a constant rock. Thank you all for helping me in every way you can. Again, I hope you are as proud of me as I am of all of you.

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Finally, I would like to formally dedicate this to my Nonno. You are my inspiration and the voice inside my head. Thank you for teaching me more than you will ever know. This is for you Coach.
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CHAPTER I - INTRODUCTION

Talent identification, or the process of characterizing individuals based on expectation of success, is an unavoidable occurrence in sport. Currently, there are distinct differences in how researchers measure talent versus how coaches measure talent (Pasquini, Garity, & Thompson, 2015). Researchers have focused on measuring physiological, psychological, and anthropometric qualities, while coaches have relied on intuition (Christensen, 2009). Christensen (2009) qualifies that coaches’ intuition is much more than a simple gut feeling, but rather a culmination of previous experience and knowledge. Although previous experience provides beneficial knowledge to inform decisions, there are also potential negative consequences to relying on intuition.

Horn and colleagues (1998) developed the coach expectancy model to explain such consequences. This four-stage model starts with coaches developing expectations for athlete success based on previous biases and experience, these expectations then influence coach behavior toward athletes, which in turn affects athletes’ performance and learning opportunities, ending with athletes’ performance confirming coach expectation, inevitably forming a self-fulfilling prophecy. The first stage of this model has been confirmed in recent research interviewing high school basketball coaches (Pasquini et al., 2015). When asked where coaches had obtained their knowledge of talent identification practices, they collectively cited previous basketball experience and past coaching experience as their number one source of information. These previous
experiences have created expectations of what talent looks like, prior to evaluating their own players.

The second stage of the cycle, coaches’ expectations inform their behaviors, has a growing although incongruent body of literature. For example, Solomon (2008) examined coaches’ expectations of athletes and the differences in coach behavior in youth, high school, and college athletics. High school athletes who were perceived as high expectancy received more praise and feedback than did their low expectancy counterparts, while no differences were found in youth sport. Although research with youth sport is limited and incongruent, instances of differing behavior between high and low expectancy athletes have been found in other studies (Solomon 1998, 2008). This is an area of concern in youth sport as this is where athletes are learning fundamental skills, as well as deciding if they want to continue playing organized sport.

Previous research has shown that the most frequent behaviors coaches exhibit are corrective instruction, general instruction, and encouragement (Solomon, 1998). Corrective instruction can be described as feedback providing information about specific behaviors needed to improve performance. General instruction can be described as any feedback behavior that is providing direction towards a skill or movement. Encouragement is any verbal or nonverbal feedback that is used to motivate an athlete. If high expectancy athletes are receiving these behaviors with higher frequency, there is a greater potential for this to affect athlete performance and satisfaction (Solomon, 2008).
Finally, the third and fourth stages of the cycle, behavior affecting athlete outcome and outcomes confirming coach expectations, have been the least researched. It has been shown that both negative and positive coach-athlete interactions have important impacts on psychological, motivational, and performance success or lack thereof (Gearity & Murray, 2011). Further, much research has focused on athlete perception of coach behavior. Hollembeak and Amorose (2005) found that athlete perception of positive feedback was a significant predictor of intrinsic motivation. Additionally, research has shown that athletes notice these differing behaviors and have cited this as a reason for performance and satisfaction decreases (Gearity & Murray, 2011). In the fourth stage, athletes’ lowered performance reinforces coaches’ initial talent expectations, reinforcing the cycle. In other words, the final stage of the coach expectancy cycle creates a self-fulfilling prophecy, or the phenomenon of a prediction by an individual that causes it to come true due to the association between beliefs and behaviors.

The existing knowledge of the coach expectancy cycle offers support for interrupting the beginning of the cycle to make the greatest impact for athletes. Coaches’ expectations, as previously stated, are formed due to biases and previous experience and in turn affect their behavior toward their athletes. Not to mention, many coaches, specifically at the grassroots level, have not received adequate formal coaching education. According to the International Sport Coaching Framework, created by the International Council for Coaching Excellence (International Council for Coaching Excellence, 2013), coaches
should have knowledge in three core areas: professional knowledge (content knowledge and how to teach the sport), interpersonal knowledge (relating to having the ability to connect with athletes and pertaining to emotional intelligence), and intrapersonal knowledge (knowledge of self, based on experiences, self-awareness, and reflection). As many coaches are lacking knowledge in these areas, and base their own knowledge on previous experience, they are most likely unaware of the coach expectancy cycle transpiring on their own teams. If it is proven that the coach expectancy cycle exists in youth sport, athletes who are deemed as high expectancy at the beginning of the season will receive more opportunity to learn and grow, while those perceived as low expectancy confirm this expectation, do not develop as fast as their peers, and potentially drop out of sport.

Statement of Problem

It has been found that coach behavior affects athletic outcome (Vealey, 2002). The lack of youth sport literature surrounding the second stage of the coach expectancy cycle inhibits researchers from fully understanding how to help change coach behaviors. Given the lack of current research in the youth sport setting regarding the coach expectancy cycle, there needs to be more evidence of the occurrence of this phenomenon and our ability to change coach behavior with training. With more depth of research, educational courses can be implemented in order to better inform coaches of how their behaviors can be altered in order to fully develop all of their athletes and influence long-term athlete development and involvement in sport. Further, the dropout rate in youth
sport, specifically soccer, is one of the highest instances of dropout post-maturation (Figueiredo, Goncalves, Silva, & Malina, 2009), suggesting this population is a prime target for analysis.

Therefore, the purpose of the following study was two-fold. First, the researcher confirmed coaches were more likely to provide instruction, corrective feedback, and encouragement to high expectancy athletes when compared to their low expectancy counterparts in a competitive youth soccer population, more specifically, in a group prior to maturation and dropout. Based on previous research, the three main coach behaviors of general instruction, corrective instruction, and feedback were identified for analysis. Second, the study implemented a coach education workshop targeted at decreasing the behavioral differences coaches exhibit with these three behaviors toward high and low expectancy athletes in a randomly selected treatment group.

Research Questions

*RQ 1:* Do coaches exhibit significant differences in frequency of instruction, correction, and encouragement with high versus low expectancy athletes?

*RQ 2:* Can a coach education workshop intervention reduce the disparity of instruction, correction, and encouragement exhibited toward high and low expectancy athletes?
Alternate Hypotheses

*Hypothesis 1.* Coaches will provide significantly more instruction, correction, and encouragement feedback to their high expectancy athletes when compared to low expectancy athletes.

*Hypothesis 2.* The intervention will reduce the disparity in frequency of instruction, corrective feedback, and encouragement between high and low expectancy athletes in the intervention group.

Delimitations

The study is delimited to

- head coaches with limited formal coach education.
- competitive youth soccer prior to deselection and maturation or under age 11.
- behavioral intervention was one two-hour educational workshop.

Limitations

Limitations of the present study include

- the small sample size (N=8).
- the limited region the sample was selected from; which may lead to a low generalizability of the study.

Assumptions

The researcher assumes

- participants were not influenced by the presence of the researcher or recording equipment.
the sample is representative of the competitive youth soccer population in the Southeast United States.

that the researcher and research assistant attending two weeks of practice before coding sessions began in order for the coaches and athletes to become comfortable with the equipment would eliminate any bias of researcher presence. Further, the researcher and research assistant did not communicate or interfere with coaches during sessions.

that coach perceptions of ability did not change over the course of the study (Solomon, 1998).

Definition of Terms

Coach Behaviors: Based on previous behavioral research, three coach behaviors were chosen to be analyzed by the Coach Analysis and Intervention System (CAIS; Cushion, Harvey, Muir, & Nelson, 2012; Solomon, 2008).

General Instruction: For coding purposes, general instruction was classified as any instance of the coach providing direction to a drill or movement (CAIS; Cushion et al., 2012).

Corrective Instruction: For coding purposes, corrective instruction was classified as any instance of the coach providing specific direction to improve a skill or movement (CAIS; Cushion et al., 2012).

Encouragement: For coding purposes, encouragement was classified as any instance of the coach providing verbal or nonverbal action meant to motivate the athlete (CAIS; Cushion et al., 2012).
Coach Expectation Bias: The four-stage model of self-fulfilling prophecy that occurs in sport; developed by Horn, Lox, and Labrador (1998).

High Expectancy Players: The top one third, in this case top three players from each team, designated by the coach at the start of the study (Solomon, 2008).

Low Expectancy Players: The bottom one third, in this case bottom three players from each team, designated by the coach at the start of the study (Solomon, 2008).

Significance of Research

The current study is significant in the field of coaching education by adding to the limited body of research focusing on coach education and behavior change regarding talent identification within the coach expectancy cycle. Further, this study helps fill the many gaps in previous work by collecting data on youth sport in a competitive millennial setting. This study has provided evidence that differences in behavior exhibited from coaches between athletes perceived as high or low expectancy exist in the sample youth soccer population. Moreover, through the proposed educational intervention, this research has provided valuable information regarding the potential of coach education to affect coach behavior. Therefore, with information from the intervention provided, coaches are able to gain insight on how their perceptions of expectancy affect their behaviors, which in turn affect athlete performance outcomes. Additionally, coaches and coach educators have a better understanding of how to intervene in order to interrupt the coach expectancy cycle.
CHAPTER II – REVIEW OF LITERATURE

A growing area of interest in coaching research has concentrated on coach behaviors in relation to talent identification. A leading model in coaching behavior research is Horn and colleagues (Horn et al., 1998) four-stage model of coaching expectations. These researchers postulate that coaches form expectations from personal cues, and these expectations inform their behaviors. Coaches’ behavior then affects athlete performance, which in turn reinforces coaches’ initial expectations. In the youth sport setting, there is limited research on how coaches’ initial expectations of talent influence their behavior, potentially creating self-fulfilling prophecies. Therefore, the following review of literature is designed to offer the reader a better understanding of talent identification literature and how coach behaviors affect athlete performance. Further, this review will explore coaching education’s connection to both areas of interest.

The Coach Expectancy Cycle

In recent years, the study of coaches’ behaviors has grown as an area of interest in sport research (Solomon, 2008). Much of the original coaching behavior theories and research developed from teacher-student investigations (Feltz, Chase, Moritz, & Sullivan, 1999), and much like teachers, coaches’ interactions with their athletes help predict athlete performance success, motivation, and satisfaction in sport (Feltz et al., 1999). Unlike teacher-student relationships, athletics adds a unique competitive nature to the coach-athlete relationship. Further, coaching behavior happens in multiple settings, which
include, practice, pre-competition, competition, and post-competition. These settings lend themselves to different behavioral scenarios.

Much like Feltz and colleagues (1999), Horn and colleagues(1998) speculated that coaching behaviors could be predicted by other personal characteristics of the coach. Horn et al. (1998) suggest that coach expectations can predict behaviors that can alter athletic performance. These researchers developed a four-stage model from the notion that coaches can let their expectations affect their interactions with their athletes, which in turn creates a sequence of events that can also alter performance.

The coach expectancy cycle contains four stages, each of which are explored more in depth throughout this chapter (see Figure 1). In the first stage, coaches form expectations based off of person cues, such as race, size, gender, and socioeconomic status (Horn et al., 1998). Coaches can also use performance cues, such as past accomplishments, skill tests, practice behaviors, and other evaluations in order to form expectations. Next, these expectations influence coaches’ behaviors. This stage is broken down into: 1) frequency and quality of coach-athlete interaction, 2) quantity and quality of instruction, and 3) type and frequency of feedback. Third, coaches’ behaviors affect athlete performance. For example, if a coach is consistently giving more praise and valuable feedback to a high expectancy athlete, this athlete will most likely have a better performance than their peers due to these altered coaching behaviors. Further, athletes are aware of these unequal behaviors, which affects motivation
and satisfaction. Finally, athletes’ performances confirm the coaches’ expectations. As in the previous example, if said coach already believed this player to be high potential, thus was providing this player with more valuable feedback, the player performs at a higher level than their peers and confirms the coach’s initial belief that he/she was a high expectancy athlete.

Figure 1. The Coach Expectancy Cycle

The Coach Expectancy Cycle, adapted from Horn et al. (1998). Depicts the four stage cycle.

Solomon (2008) provided support for the coach-expectancy model when she examined coaches’ expectations of athletes and the differences in coaching behaviors. Coaches were asked to rank athletes’ expectancy and coach behaviors were monitored using the Coaching Behavior Assessment System (CBAS) for both the top one-third and bottom one-third of athletes. Solomon found that high school athletes who were perceived as high expectancy received
more praise feedback. Further, coaches’ expectations predicted differential instruction, where high expectancy athletes received more instruction. There has been little to no research regarding the fourth stage of the coach expectation cycle, therefore, the following sections of this review will take a closer look at the first three stages of the cycle and the research surrounding individual stages.

**Stage One: Expectation Development**

In the first stage of the cycle, coaches make judgments of talent based on previous sport experience and knowledge pertaining to talent gained from formal and informal coach education. Talent identification is defined as selecting individuals based on their motor abilities, physical characteristics, and psychological characteristics to play or participate in certain sports (Pankhurst & Collins, 2013). In some cases, talent identification is used in order to screen young athletes to determine those most likely to succeed and direct them towards the sport for which testing implicates them to be best suited (Anshel & Lidor, 2012). In particular, anthropometric and physiological characteristics are being used as a major determinant of early success in sport (Karpowicz, & Strzelczyk, 2010). Psychological characteristics, which can be broken down into game knowledge and personality traits, have been used to a lesser extent in the research setting (Falk, Lidor, Lander, & Lang, 2004). Although, these characteristics develop over time, adolescents are being assessed, and results are being used to identify talented athletes. In the following paragraphs, a brief description of talent identification practices found in current research is provided.
Anthropometric Measures. Anthropometric testing occurs at all levels of physical growth, from basic elementary fitness testing to Olympic level wrestlers weighing in before competition. Common measures of anthropometric testing include height, weight, and wingspan. Generally, coaches and athletic personnel monitor these attributes both officially and unofficially. In terms of the research setting, these measurements are generally used in conjunction with physiological measurements to quantify an individual’s talent (Bailey & Collins, 2013). For example, in a water polo study, measurements were compiled comparing motor abilities of elite water polo players to non-water polo playing 12-year-old boys (Aleksandrovic, Radovanovic, Okicic, Madic, & Georgiev, 2011). It was found that water-polo players had higher body mass and height, either a potential reason for their having been chosen to play elite-level water polo or a potential outcome of the considerable training the elite water polo players have had.

While formal anthropometric measures exist, previous research demonstrated that coaches use more informal anthropometric measurements, such as looking for tall players, when considering talent. An example of informal anthropometric assessment was found during in-depth interviews with high school basketball coaches whom stated that one of their number one priorities was to look for tall players (Pasquini et al., 2015).

Anthropometric assessments should not be used as a singular talent identification practice for a multitude of reasons. First, by using these practices researchers are informing coaches this is the correct way to identify talent.
Coaches, whom are largely volunteers at a youth level, are likely uninformed of the average anthropometric measurements of youth. Secondly, these measurements are only accurate at one stage and do not take into account early or late maturation for particular youth. Finally, although certain body types may be beneficial for certain sport, it would not be best practice for coaches to assume the players who do not fit those body types are less talented. Therefore, longitudinal anthropometric data on general and elite populations would help eliminate issues such as measurements taken at one point in time or on a singular group of elite youth athletes. Further, anthropometric assessments may provide beneficial information to coaches but should be used in conjunction with other assessments, such as physiological and psychological measures.

*Physiological Measures.* Physiological measurements include measurements of speed and agility, such as high jump and 40 yard dash time, and are being used to assess youth athletes’ current and predicted talent. Testing is primarily focused on athletes who have been chosen to specialize in a particular sport at a young age. These tests are being used to differentiate between elite level players and non-elite players. For example, a recent European study was conducted with a group (N=92) of 12-year-old water polo players (Aleksandrovic et al., 2011). These players had already had at least two years of water polo specific training and experience. The researchers’ goal was to see if there was a correlation between general functional abilities and swimming specific abilities between athletes chosen for the national team versus
ones who were not chosen from the original group. It was found that there was a strong correlation, suggesting that high motor ability can generate high sport specific ability. Although, as stated earlier, this testing was done with athletes whom had already been chosen to specialize in water polo, meaning that these athletes had higher levels of elite training which could have also increased their motor ability.

Another use for motor ability tests is the targeting of players classified as elite in order to identify variability among position specific players. For example, female basketball camps across Europe pulled players from various Eastern European countries and then divided the athletes into three groups according to position: centers, forwards, and guards (Eruclj, Blas, Cohn, & Bracic, 2009). Players were then measured in a battery of motor ability tests, pertaining to both basic motor ability and sport specific motor ability. Substantial differences were found between players of different positions in throwing and sprint tests. The research was meant to help basketball coaches with future training of position players, but it is also suggestive of how sport specialization can have a profound negative effect on individuals’ motor capabilities. In other words, the players tested in this study had significantly different motor abilities based off their primary position, even though they were all elite basketball players, showing that with increased specialization there is a decrease in overall balance in motor ability.
Another potential negative aspect of focusing on motor ability testing is that this testing has not been proven as a predictor of sport specific success over time. In fact, one gymnastics specific balance test found that general motor testing had no correlation with gymnast success (Vandorpeet et al., 2012). In this longitudinal study, seven-year-old gymnasts were chosen as participants after being selected as “potentially elite”. These gymnasts were then tested using a battery of non-gymnastics specific motor ability testing for two years. Results indicated no significant relationship with the competition results and motor ability of elite gymnasts two years later. These findings indicate that general physical performance tests do not predict potential performance outcomes. The difference may be, rather, because of the sport participation. Again using gymnasts, researchers placed “matched-pairs” of gymnasts and non-gymnasts together in order to distinguish if elite gymnasts have increased balance (Carrick, Oggero, Pagnacco, Brock, & Arikan, 2007). Although these individuals might have been in pairs with the same age, height, and weight ratio, participants had significantly different history. The trained gymnasts spent hours practicing stability and core strength. It was not surprising they demonstrated significantly higher scores on posturography testing. Because these studies are using elite level, well trained, athletes and comparing them to non-athletes who have not received the same type of training, the measurements seem to identify current ability rather than potential to excel. Therefore, coaches interested in identifying talent within their own teams should not use these findings in order to determine talent.
While researchers and coaches are still interested in potential physiological differences in participants, once athletes reach the professional level there seems to be little differentiation between individuals (Gabbett, Jenkins, & Abernethy, 2011a). Recently, a longitudinal test of 86 rugby players looked into which, if any, physiological qualities could discriminate between high-performance rugby league players. Players were tested at the beginning of each season over a four-year time span. At the end of the four seasons, players were chosen for professional teams. Once classified as starters, non-starters, and non-selected players, player comparisons were conducted. Results indicated that players selected as starters or non-starters had faster sprints, better vertical jumps, and higher aerobic power than non-selected players. No differences were found in other anthropometric or physiological qualities, suggesting little influence of the physiological characteristics on ability.

Overall the findings related to physiological measures suggest two very important things: 1) current physiological testing does not predict future success and 2) comparing elite early specialization athletes to non-elite athletes does not prove that talent was correctly assessed in early years as non-selected players have not received the coaching and practice time and have not been monitored once de-selected.

*Psychological Measures.* Psychological measurements can be broken down into two categories, game knowledge and personality. Game knowledge is measured by the athletes’ knowledge of strategy in their given sport while
personality characteristics can be defined as athletes’ leadership qualities, coachability, and mental toughness. Interestingly, very few studies include game knowledge or personality traits when considering talent identification. Anshel and Lidor (2012) argue that the reasons psychological testing is not used in order to identify talent are threefold. First, because of the focus coaches and parents place on the physical attributes of an athlete, psychological skill testing is often overlooked. Second, psychological skill testing does not take into account coach expertise and influence. Third, and finally, Anshel and Lidor (2012) argue that psychological testing is not used as frequently in talent identification practices because there are inherent flaws in the scientific process. These flaws included, but were not limited to, inconsistencies in defining “elite” athletes, sample biases, failure to use baseline measures, limitations in personality research, and inherent problems with self-report questionnaires. The following will be a review of the brief amount of studies that do include psychological testing.

Game Knowledge

Game knowledge, or the strategic understanding of one’s sport, is an aspect of psychological characteristics. In one-study using elite water polo players, researchers used not only motor abilities but also tested game intelligence (Falket et al., 2004). Youth male water polo players were compared by separating males who made the junior national team versus those who did not. Among a battery of tests, including anthropometric and psychological measurements, the largest difference found between national team players and
non-national team players was game intelligence. Although this was the critical finding in this study, game intelligence is still not a widely researched area. Game intelligence can be difficult to measure and subjective (Falk et al., 2004). Further, coaches rank game intelligence as an important aspect of talent, but largely believe it to be a part of talent they can foster themselves (Pasquini et al., 2015).

**Personality Characteristics**

Personality, the second aspect to psychological characteristics, includes traits that are deemed important in specific sports, such as leadership tendencies, coachability, and ability to work with teammates. In Christensen’s (2009) interviews with soccer coaches, participants stated that they choose athletes who seem to be “hard-working” and “dedicated”. Expert coaches use these behavior traits to identify talent, although Christensen further states that these behaviors have the potential to be cultivated in a targeted environment. For example, in another qualitative study with high school basketball coaches, each coach stated that they are looking for mentally tough players who are coachable (Pasquini et al., 2015). When interviewed further, each coach stated that game knowledge was also an important psychological skill, but something they felt they could teach their athletes.

*Talent Identification in Practice.* Recently, research has begun to show that researchers and practitioners are using differing methods of talent identification practices (Croston, 2012). While researchers focus on the anthropometric, physiological, and psychological measurements in sport,
coaches rely on previous sport experience (Pasquini et al., 2015). Research has begun to explore these practices. In Croston’s (2012) study, electronic surveys were collected from 84 physical education teachers where teachers self-reported that they were responsible for identifying talent. Teachers were further asked to define how they identified talented individuals; perceived physical ability was their primary measure for talent over half (62%) of the time. While teachers used their own perception of physical ability to identify talent, they virtually ignored the other aspects of ability: cognitive skills (14.5%), personal attributes (12%), social skills (14.8%), and creativity (14.6%) were used significantly less. This research is indicative of physical educators defining talent by their own perceptions of what a talented player encompasses, as opposed to how researchers quantify talent through measurement.

Similarly, coaches appear to lack formal talent identification training, thus, use methods similar to physical educators (Christensen, 2009). Christensen explored top-level men’s soccer coaches and their knowledge of talent identification. After an in-depth qualitative analysis of interviews with eight coaches, results showed that much of talent identification is a result of coaching intuition. Coaches formulate opinions of players based on their constant observations and their perceptions of athlete’s willingness to learn. Christensen (2009) argues that this coaching intuition is not simply a gut feeling, but a formation of knowledge based off previous experiences. Although elite coaches maintain that they can “see” talent purely by observation, the great majority of
coaches have not reached this level, nor have they received any formal education surrounding talent identification (Day, 2011). This research reflects a direct bias of coaching opinion in talent identification. Coaches have also been shown to pass expertise through their communities, mentors, or previous coaches, introducing a historical bias in talent identification practices (Day, 2011).

An example of the bias that can be introduced was shown in a recent study (Gee, Marshall, & King, 2010). High school hockey coaches were asked to rank players based on current skill level as most to least talented on their teams. Scouts then watched video of the same players and performed the same ranking. Scouts and coaches had an extreme lack of agreement, with nine out of 13 players being placed in both the top and bottom five. These rankings occurred during a high school tryout setting where coaches stated they were specifically looking for the most talented players to select for their team. Further, research has shown that coaches’ initial judgments of talent remain rigid throughout the course of a season, regardless of participant improvement (Solomon, 1998, 2008). This is an important verification that coaches’ judgments of talent remain stagnant even when athlete performance increases.

_Talent Identification as a Specialization Practice._ Although talent identification will continue to be a major aspect of sport, there is research questioning whether coaches are currently exhibiting suitable methods. In much of the current research, youth who have already been specialized are tested,
however, an emerging body of research highlights some of the undesirable qualities that result from early specialization. For example, in studies assessing motor ability in six to twelve year old males, results indicated that boys who participated in multiple sports had more speed, cardiovascular endurance, and gross motor coordination than did boys who played one sport (Fransen et al., 2011). Further, early sport specialization through youth talent identification has been shown to lead to higher risk of dropout, burnout, injury, and error in prediction of talent (Goncalves, Diogo, & Carvalho, 2014; Hodge & Deakin, 1998; Hodge & Starkes, 1996; Starkes Deakin, Allard, & Hodges, 1996; Wall & Côte, 2007). Recently, research has begun to argue that not only can early talent identification be detrimental to athletes’ futures, but also there is evidence to support that the testing being used by practitioners does not take athletes’ physical maturation into account (Anshel & Lidor, 2012). Because of these negative outcomes, an increased focus has been placed on talent development.

Developmental Model of Sport Participation. Talent development is the process in which coaches refine athlete motor skill over time. Côte and Hay (2002) have created the developmental model of sport participation (DMSP). The foundation of the DMSP is Côte’s theory of deliberate play (Côte & Hay, 2002). Deliberate play, an alternative to deliberate practice, is characterized by sporting activities that are intrinsically motivating, provide immediate gratification, and are specifically designed to maximize enjoyment. Further, deliberate play is described as what it is not, specific pedagogical play designed to increase
performance or deliberate practice. Côté and Hay (2002) describe deliberate play as activities children are engaging in spontaneously such as a pick-up basketball game with peers. These kinds of games have benefits that exceed enjoyment such as the improvement of multiple motor patterns, contribution to the regulation of emotions and cognitive performance, and contribution to endurance and strength (Côté, Lidor, & Hackfort, 2009).

From deliberate play, Côté and colleagues (2009) established stages of development that involve differing levels of deliberate play activities. Children begin learning fundamental motor skills in the sampling years, where the focus of learning activities is deliberate play. This sampling is thought to allow children to experiment with difficult movements and improvise their own motor programs in order to gain autonomy. Deliberate play is also thought to increase creativity, which has been shown to be important in elite players engaged in coactive sports (Memmert, Baker, & Bertsch, 2010). From the sampling years, there are different paths children can follow in order to either become elite performers or recreational participants. As practitioners, the goals are to increase engagement in not only elite performance, but also lifetime activity. The DMSP allows for both of these opportunities.

Recreational participation is thought to develop in the sampling years where active children engage in a variety of sports focused on deliberate play. Around maturation, ages 13 and up, children move on to the recreational years, where they continue being active with play and practice. This provides athletes
who are not on an elite track an opportunity to continue to engage in activity that is intrinsically motivating and enjoyment centered. Currently, these years also coincide with the largest amount of drop out in sport (Schmidt & Stein, 1991). This could potentially be explained by the current American youth sport model’s lack of recreational activities available to American youth with differing abilities.

Elite performers then have two alternate pathways: elite performance through sampling and elite performance through early specialization. Elite performance through sampling moves from the sampling years to the specializing years around maturation. Youth athletes begin to engage in small amounts of deliberate practice as a transition period into investment years, which is proposed to occur around 13 to 15 years of age. During the investment years, athletes begin to commit to one sport and engage in higher amounts of deliberate practice. In this type of expertise training, for example, athletes who are interested in swimming might still engage in other cardiovascular activities such as soccer and cross-country running.

This transitional model is thought to balance the negative effects of engaging in deliberate practice at an early age, such as drop out and injury. Because athletes have formed a foundation of deliberate play, they have the potential to be more intrinsically motivated, and engage in sport for longer periods of time than their peers who achieved elite performance through early specialization. Further, elite performance through sampling allows for transfer, the idea that cross training, or engaging in activities that are similar to those of
competition and performance is beneficial for youth motor programming autonomy (Bullock et al., 2009). While the idea of deliberate play does not correct all of the issues in a developmental model of sport participation, it does propose many benefits, such as diversified sport experience, fewer incidences of burnout and injury, and higher accounts of intrinsic motivation.

Although research on deliberate play is in developmental stages and the issue of gathering longitudinal data has been established, data has been collected on the benefits of deliberate play. Questionnaire data from a study published in 2007 was revisited four years later (Ford, Ward, Hodges, & Williams, 2009). Researchers found support for early deliberate play. Elite soccer performers still active in sport participation four years later were shown to engage in more average hours of soccer deliberate play per year between the ages of six and 12 than their ex-elite counterparts. In another qualitative study, participants from multiple sports were given questionnaires to gain information on the developmental profiles based on engagement in deliberate play versus deliberate practice activities (Memmert et al., 2010). Their results indicated that more creative players accumulated more time in overall training for their main sport, including time spent in unstructured play. The United States has been slow to adopt a model of talent development, resulting in ill-prepared coaches making decisions that affect athlete participation, while other countries have deliberately begun to implement the models (Balyi, 2001).
The Practice of Talent Development. While researchers are calling for coaches to use these theoretical frameworks of talent development, there is little evidence that this is happening in real time (Day, 2011). In order to combine both talent identification and talent development, researchers are calling for practitioners to allow the normal process of growth, maturation, and development to occur before talent identification or specialization occurs. Further, they encourage practitioners to teach athletes the sport skills, behavioral skills, and cognitive abilities that are necessary for improvement in overall sport performance (Abbott & Collins, 2004). For this to happen, coaches need to know that technical skill is limited by physical development (Pankhurst & Collins, 2013). With this being said, there is again a lack of evidence that coaches understand physical development from a biological and psychological perspective (Pasquini et al., 2015).

Moreover, although some governing bodies are introducing long-term athlete development models, there seems to be a lack of understanding and support surrounding the models from all the development stakeholders (Pankhurst, Collins, & Macnamara, 2013). Recently, researchers aimed to investigate coaches, parents, and a national governing body’s perceptions of the five key constructs of a recently instituted talent identification and development system (Pankhurst et al., 2013). Results indicated that none of the stakeholders showed support for recent research, all preferring existing practices of development. Although coaches seemed to understand that junior success has
shown limited correlation with senior success, coaches still placed significant emphasis on competition with children as young as six years old.

Interestingly, Woolcock and Burke (2013) developed a method for talent tracking, in which they found pockets of metropolitan areas where a significant amount of talented Australian League Football players had grown up. Regardless of where these players moved, their talent developed in the same region. Woolcock and Burke argue that population density allows a larger amount of sport participants, thus allowing more development of talent. Another interesting aspect of this phenomenon may be that these athletes’ talent development was dependent on their youth sport coaches’ behavior and practices.

Stage Two: Expectations Inform Behavior

In the second stage of the coach expectancy cycle, coaches’ initial judgments influence their behavior toward their athletes. Researchers focused on the second stage of the coach expectancy cycle have studied this phenomenon in an array of sport contexts. For example, in a study conducted assessing four head high school basketball coaches and 49 athletes, coaches’ behavior was assessed using the Arizona State University Observation Instrument (ASUOI; Solomon, 1998). Coaches were asked to hierarchically rank their athletes’ expectancy and coaches’ behavior was assessed with the high versus low expectancy groups. Late in the season, coaches provided more instructional feedback, management feedback, and overall feedback to the high expectancy players. Researchers suggest the differential feedback may have occurred in the
late season as this is when critical games occur, therefore more feedback was
issued to high expectancy athletes in hopes of increasing possibilities of winning.

Further, Solomon (1998) has tested whether years experience influenced
teachers’ feedback patterns between athletes perceived to be high and low
expectancy. Twelve high school basketball coaches were observed using the
Coaching Behavior Assessment System (CBAS) six times over the course of the
season. Coaches with less than ten years experience were considered low
experience (n=6) while those with more than ten years experience were
considered high experience (n=6). In order to determine whether coaches’
experience influenced their feedback a 2 X 2 multivariate analysis of variance
(MANOVA) was conducted. Results indicated that regardless of coach
experience coaches provided significantly more praise and instruction to high
expectancy athletes.

Another study assessed four division I, college basketball coaches’
stability of their expectancy rankings and their improvement rankings in relation
to feedback behaviors (Solomon & Kosmitzki, 1996). Measures of coach
behavior were assessed using the CBAS, and measures of expectancy were
utilized by asking coaches to rank players based of perceived expectancy at the
beginning and end of each observation. Coaches were observed at four points
over the course of one season, twice during the first two weeks of regular season
play and twice during the final two weeks of regular season play. Results
indicated that coach perceptions of expectancy remained rigid over the course of
the season, while perceptions of improvement were flexible. Interestingly, coaches’ perceptions of improvement were not related to quantity of feedback, while coaches’ perceptions of expectancy were significantly related to feedback behaviors. High expectancy athletes received more organizational instruction than their low expectancy counterparts.

Minimal research related the second stage of the cycle has been conducted in youth sport settings. Solomon (2008) assessed expectations as predictors of feedback in youth, high school, and college basketball. The youth sport sample consisted of six basketball teams. Coach behavior was assessed using the CBAS, and coaches were asked to rank players from most to least skilled. The top one-third of each team was designated as high expectancy, while the bottom one-third was designated as low expectancy. Over the course of a ten-week season, coaches were observed four times for 50 minutes. Independent t-tests were used to determine the differences in the amount of feedback for high and low expectancy athletes. There were no significant differences found between high and low expectancy athletes in the amount of praise feedback or instruction feedback given. On the other hand, high school and college athletes perceived as high expectancy received significantly more praise feedback and instructional feedback than their low expectancy counterparts. Researchers hypothesize that there were no significant differences in the youth sport setting because of the league rules regarding equal playing time. Therefore, regardless of the coaches’ normal feedback behavior, in an
equal playing time environment, all athletes irrespective of perceived expectancy would receive the equivalent frequency of instruction and praise because coaches know all the athletes must play.

**Measuring Coaching Behaviors**

*Coaching Behavior Assessment System (CBAS).* Formed from a cognitive-behavioral model of social learning theory (Bandura, 1969), Smoll, Smith, and Hunt (1978) developed the Coaching Behavior Assessment System (CBAS; Smoll et al., 1978). Initially, coaches' behaviors were observed and recorded during games and practice sessions. This information was used to develop a set of behavior categories that separate behaviors into two classes: reactive and spontaneous. Reactive behaviors are those that are responses to either a desirable performance or a mistake. Spontaneous behaviors are those initiated by the coach.

These behaviors are further broken down into classes. Reactive behaviors have responses to desirable performance (positive reinforcement or no reinforcement), responses to mistakes or errors (mistake-contingent encouragement, mistake-contingent technical instruction, punishment, punitive technical instruction, and ignoring mistakes), and responses to misbehaviors (keeping control). Spontaneous behaviors include game related (general technical instruction, general encouragement, and organization) and game irrelevant (general communication).
These behaviors are measured by monitoring practice or game settings using a 15 second time interval. This tool has been used in multiple studies, particularly relative to Horn and colleagues’ coaching expectation theory (Solomon, 1998). As this was one of the first coaching behavior tools developed, it has multiple shortcomings. First, this tool was developed watching male coaches in baseball. Assuming coaching is not homogeneous, this limits the CBAS by excluding areas of behavior from other sporting environments and female coaches. Secondly, the CBAS was developed while watching baseball coaches interact with only one team at one age, making it difficult to grasp the differences in behaviors coaches’ exhibit over time. Finally, the behavior tool only has one code for silence, which can be categorized in multiple ways. For example, silence can be used as a punishment or as a tool for autonomy.

The Arizona State University Observation Instrument (ASUOI)

In order to collect information about the behaviors of coaches in practice settings, researchers observed basketball coach John Wooden for 15 practice sessions (Tharp & Gallimore, 1976). From these observations, researchers developed a ten-category system. This system was later revised by Langsdorf (1979) while observing the behaviors of Frank Kush, then head coach at Arizona State University. The system was tested using multiple other head coaches from other sports, finalizing a set of 14 behavioral categories. Because the categories are specifically defined and related to coach behaviors, face validity is present. Further, because a rational basis for behavior selection based off of previous
research exists, content validity is present. Interobserver reliability was established using event and interval recording procedures were the percentage of agreement was at 85% in all behavior categories (Tharp & Gallimore, 1976).

The fourteen behavior categories on the ASUOI include: use of first name, pre-instruction, concurrent instruction, post-instruction, questioning, physical assistance, positive modeling, negative modeling, hustle, praise, scold, management, uncodable, and silence. Observations are made over the entire practice session in intervals of ten minutes of coding followed by two minutes of rest. The coding is to be done live, using a printed version of the observation instrument by simply adding tally marks next to a behavior when it has been used. At the end of the session, the rate per minute (RPM) of each behavior is calculated, then the percentage of the total practice each behavior was used is calculated. For example, if use of first name happened 30 total times during a 20-minute observation, the RPM is 1.5 and the coach used first names 15.5% of practice (Lacy & Darst, 1985).

The data derived from the ASUOI provides quantitative information about the behaviors exhibited during a practice session. It is important to note that there is no qualitative judgment to the quality of the behaviors being coded. Further, the instrument is to be used only during a practice session where live coding is taking place, meaning that many observers will be needed at once for interrater reliability.
Coach Analysis and Intervention System (CAIS)

In response to a call for a more robust and sensitive observational tool, Cushion and colleagues developed the Coach Analysis and Intervention System (CAIS; Cushion et al., 2012). Following an in-depth review of literature, researchers identified 50 behaviors coaches commonly exhibited. Next, researchers pilot tested the behavioral tool using soccer, volleyball, basketball, and hockey coaches. The CAIS was amended based on feedback from pilot studies. Face and content validity was then confirmed through interactions with experts in order to ensure the instrument would capture behaviors of coaches.

The end result is an assessment tool for 23 primary coaching behaviors that relate to physical behavior, feedback and reinforcement, instruction, questioning, and management. The CAIS then considers secondary details of behavior relating to performance states, content, recipients, and timing. This provides a multidimensional mechanism able to provide detailed contextualized data about specific coaching behaviors in a multitude of environments. Further, the CAIS is a computerized system, providing researchers the option for field or video coding. Cushion and colleagues (2012) believe that this provides researchers and practitioners the opportunity to identify patterns of behavior.

In the current form, the CAIS has not been used for research in conjunction with coaches’ behavior related to expectancy identification. The CAIS has, however, been used to monitor coach behavior across a season with top-level youth soccer coaches. Partington and colleagues (2013) systematically
observed 12 male, professional youth soccer coaches in England over a 16-week period. The CAIS was used to create coach behavior profiles and to provide feedback to coaches of their personal behaviors. Coaches were shown video feedback of their behaviors as an intervention. Results indicated that coaches increased their questioning behavior and listening behavior. Further, through detailed interviews coaches stated video results provided a trigger for behavior change and created a vehicle for increased self-awareness. Moreover, coaches stated the CAIS provided a source to inform coach behavior changes. These results support the use of the CAIS in the proposed coach intervention.

*Quality Feedback Behaviors.* Because research has shown that there is a difference in the behaviors coaches exhibit between high and low expectancy athletes (Solomon, 1998), it is important to note how quality feedback behaviors are demonstrated. Two of the main functions of feedback are motivation and instruction (Weinberg & Gould, 2015). Motivational feedback aims to enhance performance by increasing confidence and encouraging increased effort. Motivational feedback can also create a positive environment. By reinforcing athletes’ efforts, coaches are encouraging increased sport participation.

A second type of feedback is related to instructional or corrective feedback, providing information about the specific behaviors needed to improve performance. When coaches provide athletes with increased instruction, specifically when learning a new or technical skill, this creates a more effective
learning environment and increases the likelihood that athletes will succeed (Milanese, Facci, Cesari, & Zancanzro, 2008).

Both of these types of feedback come in many forms, including verbal and nonverbal. For example, coaches can provide verbal praise such as “well done!” or nonverbal praise, such as a pat on the back. However, research has shown that feedback becomes more effective when coaches give specific corrective feedback. By clearly identifying the issue or the corrective movement, athletes are more likely to retain and correct their movement patterns (Weinberg & Gould, 2015).

_Stage Three: Behaviors Affect Athlete Performance_ In the third stage of the cycle, the unequal behaviors exhibited by the coach influence athlete performance and satisfaction. One of the most important relationships in sport is the relationship developed between athlete and coach (Smith, Cumming, & Smoll, 2006). Both positive and negative coach-athlete relations have important psychosocial, motivational, emotional, and performance success, or lack thereof (Gearity & Murray, 2011). The following section will provide a brief breakdown of the coach-athlete relationship and its relation to coaching behaviors.

Communication has been cited as the most essential function of enabling two or more individuals to maintain simultaneous orientation towards one another (Newcomb, 1953). Communication research in the instructional setting has focused on immediacy behaviors between teachers and students (Gorham, 1988; Mottet & Richmond, 1998; Stewart & Wheeless, 1987), but can be
transferred to the sport setting (Turman, 2008). Immediacy has been conceptualized by behaviors that depict approachability and openness during interactions (Mottet & Richmond, 1998). Further, it has been stated that teachers who exhibit immediate behaviors decrease psychological distance between themselves and their students (Gorham, 1988). In relation to the above-mentioned theories, coaches’ communication behaviors (i.e., feedback) are extremely important to the coach-athlete relationship, and therefore to overall athlete performance and satisfaction.

In an effort to relate specific communicative behaviors to competition outcomes, Smith, Wallace, and Wang (1999) analyzed 20 high school basketball coaches’ behaviors during practice. Interestingly, research found negative relationships between the amounts of time players spent listening to their coaches explain drills and player performance. This suggests that not only is the type of communication used by coaches important, but how well coaches are able to concisely and effectively verbalize their instructions is also imperative to athletes’ ability to learn. Further, an athlete’s ability to spend time engaging in skill related drills are dependent on effective coach communication. If coaches are aware of how their expectations are created, the first step in coach expectancy cycle, and are informed on their behaviors influence athlete performance this could influence how the coach directly treats the athlete, potentially also affecting athlete performance.
Athlete Perception of Behaviors. It is important to note that when studying behaviors, personal accounts of one’s own behaviors are not always accurate. Thus, in studies that do not perform direct observations of coach behavior it is important to take the athletes’ perceptions of coaching behaviors into consideration.

In an effort to relate athlete perceived coaching behaviors to the coach-athlete relationship, 103 coach-athlete dyads were surveyed in relation to athletes' perceptions of coaches’ autonomy supportive behaviors, coaches' controlling behaviors, and athletes' perceived quality of the coach-athlete relationship (Lafreniere, Jowett, Vallerand, & Carbonneau, 2011). Results revealed that athletes who experience high-quality coach-athlete relationships also experience a higher level of autonomy supportive behaviors from their coaches. These types of behaviors involve taking their athletes’ perspectives into account, providing athletes with rationale for tasks, and encouraging athletes. These behaviors were then conducive to strong emotional bonds and positive feelings toward coaches.

Holleybeak and Amorose (2005) sought to examine the specific coaching behaviors that are positively or negatively related to athletes’ motivation. Two hundred and eighty student-athletes were assessed using the Leadership Style Survey (LSS) and the sport motivation scale (Pelletier et al., 1995). Positive feedback was a significant predictor of both relatedness and perceived competence, both necessary for intrinsic motivation. Again, if coach feedback is
affected by a coach’s initial expectations of an athlete, there is potential that
different athletes will receive more positive feedback and therefore have a more
positive relationship with their coach and sport, both of which result in prolonged
participation in organized sport.

In a qualitative analysis of poor coaching, Garity and Murray (2011)
found athletes perceived poor coaches to be subpar with respect to providing
instruction, individualizing instruction, and managing behaviors. Further, athletes
also believed that poor coaches were unable to provide emotional support and
treated some athletes more favorably than others. In fact, because of the lack of
instruction, athletes believed that their coaches were demotivating and
engineering self-doubt in their own players. In conjunction with previous research
on poor coaching behaviors, this resulted in de-selection and decreased sport
satisfaction (Fraser-Thomas, & Côte, 2009). This is an important example of the
negative results due to the coach expectation cycle. Coaches’ negative
expectations of athletes resulted in lack of instruction, which directly impacted
athlete self-doubt, providing a self-fulfilling prophecy to reiterate coaches’
expectations. The cycle resulted in athletes leaving sport.

Research in the area of coaching behaviors and perceptions of coaching
behavior will continue to evolve. Athletes are constantly developing, thus their
preferences for behavior will also change over time. Further, with advances in
kinesiology, sport is evolving, thus behavior will need to be modified to match
such advances. Consequently, a call for not only continued research in this area,
but also modern research is necessary. A large part of this research should be related to educating coaches on proper techniques and the coach expectation cycle in order to maximize potential for all participants and decrease sport dropout.

Stage Four: Athlete Performance Reinforces Coach Expectations

In the final stage of the coach expectancy cycle, the unequal behaviors coaches exhibit have affected athlete performance, therefore reinforcing coaches’ initial beliefs of their expectations. The final stage perpetuates this cycle to continue occurring, as it is believed coaches accredit these performances to their expectations as opposed to their behavior (Solomon, 2008). Another term for this phenomenon is a self-fulfilling prophecy, which means when you expect something to happen it actually helps cause it to happen. Negative self-fulfilling prophecies are a vicious cycle, and are common in most competitive contexts (Vealey, 2002).

In a recent study, 80 former competitive athletes were asked to fill out the Coaches’ Behaviors Survey, which contains exploratory questions on coaches’ behavior towards athletes (Siekanska, Blecharz, & Wojtowicz, 2013). It was confirmed that athletes did notice differences in coaches’ behavior towards more skilled athletes, in fact, 90% of participants answered positively when questioned if coaches’ behavior differed towards high-achieving athletes. Further, during qualitative analysis, these athletes identified that these behaviors led them to
believe that they were lower achieving than their peers, thus completing the coach expectancy cycle and creating a self-fulfilling prophecy.

Coach Education

Current coach education literature has made it apparent that coaches rely heavily on knowledge they have gained from previous sport experience, through both coaching and as a player themselves (Carter & Bloom, 2009). In interviews, coaches have stated that their elite sport experiences helped shape how they train and develop athletes (Pasquini et al., 2015). These elite sport experiences include mentors, clinics, personal play, and formal education. The issue with this approach to coaching is many coaches, specifically at a grassroots level, have not received formal education, meaning that they are receiving most of their knowledge through experience and mentors, potentially passing down poor coaching practices, unfounded expectations, and behavioral biases.

According to the International Sport Coaching Framework, created by the International Council for Coaching Excellence (ICCE; 2012), coaches should have knowledge in three core areas, professional knowledge (content knowledge and how to teach the sport), interpersonal knowledge (relating to having the ability to connect with athletes and pertaining to emotional intelligence), and intrapersonal knowledge (knowledge of self, based on experiences, self-awareness, and reflection). All three of these are directly related to the coach expectation cycle. If coaches are creating expectations based on their knowledge (previous experience) but lack the intrapersonal knowledge to acknowledge
these biases, then their behavior will remain stagnant. Further, the inability to recognize poor communication and feedback style is an indicator of low interpersonal knowledge.

As most coaches at the grassroots level are volunteer coaches, an expectation of collegiate level coach education is unrealistic. With that being said, coaches could continue to develop through informal education. A non-formal education experience has been characterized as any systematic educational activity carried on outside the framework of the formal educational system to provide select learning opportunities to subgroups in a population (Coombs & Ahmed, 1974). In a systematic review of coach education interventions, Langan, Blake, and Lonsdale (2013) found that the majority of interventions focused on coaches’ interpersonal effectiveness on athletes’ behavior, affect, and cognitions. Overall, interventions based on a theoretical framework and that monitored coaches prior to intervention were the most methodologically sound.

Further, research shows that level of education has been established as a powerful source of coaching efficacy, or the belief in one’s ability to perform their job confidently (Campbell & Sullivan, 2005). Campbell and Sullivan surveyed coaches on their coaching efficacy before and after a formal coach education course. Results showed that coaching efficacy was significantly greater post course from both their pre-course scores and the control group scores. Moreover, there has been evidence that coaches with higher coaching efficacy
engage in different types of coaching behaviors than their low efficacy counterparts (Feltz et al., 1999). Specifically, in a youth sport setting coaches with higher coach efficacy have been shown to exhibit higher instances of positive feedback, instruction, social support, and training instruction (Sullivan, Paquette, Holt, & Bloom, 2012). Therefore, a coaching education intervention designed to educate coaches on the coach expectancy cycle and teach them proper feedback techniques should serve to increase coach knowledge and efficacy, thereby increasing more positive coach behaviors.

Summary

In summary, the identification of talent is an unavoidable daily occurrence in sport. Issues remain with how coaches are identifying talent, specifically at a young age; coaches are using talent identification as a form of early sport specialization. Further, at the youth level, coaches have been shown to be uneducated surrounding age appropriate physiological, anthropometric, and psychological measurements. These early identifications are the first stage of the coach expectation cycle.

Coaching behaviors are then influenced by expectations of athlete ability. This could influence coach feedback and instruction toward both athletes perceived as high and low expectancy. According to the coach expectancy cycle, coach behaviors would then influence athlete performance, confirming coach expectations. In order to disrupt this cycle, coaches need some basic training. Coach education workshops need to focus on coach knowledge of daily talent
identification and on their own professional knowledge, interpersonal skills, and intrapersonal skills. Coach education interventions that are theoretically sound and continue to monitor coach behavior have the potential to inform coaches of better behavior practices thus influencing athlete development in a beneficial way.
CHAPTER III – METHODOLOGY

Procedures

Procedures for the current study spanned over nine weeks (see Table 1). After Institutional Review Board (IRB) approval was received, a strategic sample of eight coaches from a youth soccer association was contacted by electronic mail with information regarding this study. The email provided a letter describing the purposes of the study, an assurance of confidentiality, and a link to a QUALTRICS survey containing a demographic survey, an informed consent form, and the opportunity for coaches to provide a ranking of their players from highest to lowest expectancy for success. Further, parents of children participating on teams involved in the study were notified via the association sign up packet and through team parent representatives about the purpose of the study. Based on the rankings the coach provided, the top one third (n=3) and bottom one third (n=3) players were classified as high and low expectancy athletes respectively (Solomon, 2008).

Once coaches completed the QUALTRICS survey, coaches were randomly selected for the treatment or control group using a random assignment generator. The researcher and research assistant then attended and video recorded three, one-hour practices for each coach over three consecutive weeks. Coach behavior was coded by the primary researcher using the Coach Analysis and Intervention System (CAIS; Cushion et al., 2012) software. In order to assure that one coder was sufficient, the research assistant and primary researcher met
to establish reliability of at least .85 for all three behaviors. Additional steps were taken to reduce coder bias by single-blinded the coder. In order to blind the primary researcher to the high and low expectancy groups, the research assistant provided the primary researcher with a combined alphabetical list of athletes in the high and low expectancy groups. A one-day educational workshop was provided for the four coaches in the treatment group (for intervention information see Table 2 and Appendices C-F). Post intervention, the researcher and research assistant attended and video-recorded three, one-hour practices over three consecutive weeks. Coach behavior was again coded using CAIS software in order to establish comparative data.

Table 1

Procedural Timeline

| Week One | IRB Approval. Parents notified of study. Coaches' consent received. Roster received from director of coaches. |
| Week Two | Observation one |
| Week Three | Coaches' perception of expectancy roster received. Observation two |
| Week Four | Observation three |
| Week Five | Spring Break |
| Week Six | Coach Education Intervention |
| Week Seven | Observation four |
| Week Eight | Observation five |
| Week Nine | Observation six |

Sampling Procedures

Coaches were strategically chosen as those who have limited formal coach education, and whose athletes were pre-maturation in a sport with high
instances of post maturation drop out (Figueiredo et al., 2009). These criteria resulted in a strategic, purposive sample of eight youth sport coaches being identified for observation. The director of coaching at a local soccer association provided coaches’ email addresses and approval for association participation.

Instruments

Demographic Survey

Questions consisted of information pertaining to the participant’s age, sex and ethnicity, years coaching, and coaching certification level within U.S. soccer. These variables were used to measure the homogeneity of variance between the treatment and control groups prior to data analysis of research question two.

Coach Expectancy Survey

Team rosters were obtained from the director of coaching for all participating teams. Coaches were provided a link and asked to rank their players using jersey number and full names from highest to lowest expectancy of success through an online QUALTRICS survey. In alignment with previous research, once these rankings were obtained, the top one third (n=3) of players were classified as high expectancy while the bottom one third (n=3) of players were classified as low expectancy for the duration of the study (Solomon, 2008). To ensure that the primary researcher did not bias the coding procedures, the study was single-blinded. The research assistant obtained the results of the QUALTRICS surveys and provided the primary researcher eight alphabetical lists containing both high and low expectancy athletes’ numbers, and first and last
names (n=6). In order to identify players during coding, athletes were asked to wear their team jerseys at all practices, the primary researcher then matched the last name of high and low expectancy players to their jersey numbers.

**Coach Analysis and Intervention System**

The Coach Analysis and Intervention System (CAIS) was used to analyze coach behaviors (Cushion et al., 2012). Cushion and colleagues developed the CAIS in order to analyze and code coach behavior and interaction with individual athletes and teams on a computerized, systematic instrument. The CAIS has 23 primary behaviors; based on previous coach literature three behaviors were the focus of the current study (Solomon, 1998, 2008). Frequency of general instruction, corrective instruction, and encouragement were measured for this study. General instruction was defined as anytime the coach gives direction to an athlete (e.g. the coach explaining a drill to a specific athlete in more detail). Corrective instruction was defined as anytime the coach gives remedial instruction to an athlete (e.g. when a coach corrects the way an athlete is kicking the soccer ball). Finally, encouragement was defined as anytime the coach verbally or nonverbally motivates the athlete, including phrases such as “good job” or gestures such as clapping. The CAIS produces itemized coach frequency charts exported through an excel spreadsheet. The researcher used these charts to create individual behavioral profiles in the form of a line graph for coach and researcher observation, which were then used in the coach intervention.
Each coach observation video was uploaded to a computer and converted to a digital file that was then transferred to an iPad and the AXIS coaching application. This app was operational on a single password protected iPad. Once data was collected the research assistant and primary researcher met in order to establish inter-rater reliability. After one instructional session, reliability was established at 86% for general instruction and 90% for encouragement. After a second session, corrective feedback reliability was established at 100%. Based off of previous research procedures (Solomon 1998, 2008), inter-rater reliability establishment, and single-blinding the primary research felt it was adequate to use one coder for the remaining 120 hours of video coding. The primary researcher coded the videos using the AXIS coaching application. In order to code each of the three specified coaching behaviors separately, every observation was coded three times, with the researcher’s focus on one behavior per coding session.

Intervention

The treatment group received a two-hour, coach education intervention following the fifth week of the study (see Table 2). Solomon (2010) has suggested two primary strategies for enhancing positive expectancy effects based on previous research on the coach expectancy cycle. The workshop used in this study was designed around these strategies. First, Solomon suggests that coaches need to become aware of the expectancy sources that inform their evaluation of an athlete’s potential for success. Therefore, coaches were
educated on the coach expectancy cycle and sources of skill appraisal. Coaches received information on how their expectancies are developed and how these expectancies influence their behavior.

Secondly, Solomon (2008) suggests that coaches should attend to patterns of feedback issues in both practice and game settings in order to minimize the effects of differential treatment. Therefore, coaches received personal coach profiles, gathered from the first stage of data collection (see Appendix D). Once the profile implications were explained, coaches learned about feedback techniques and methods of self-monitoring. Coaches received take-home examples of self-monitoring devices (see Appendix E).

Table 2

*Coach Intervention Lesson Plan*

<table>
<thead>
<tr>
<th>10 minutes</th>
<th>Introduction to the workshop and coach expectancy cycle. Coaches received a handout explaining the coach expectancy cycle.</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 minutes</td>
<td>Coaches received their CAIS personal profiles. Profiles explained to coaches.</td>
</tr>
<tr>
<td>30 minutes</td>
<td>Information about general instruction was given to coaches. Coaches learned how much time during each practice should be dedicated to general instruction. Examples of appropriate general instruction were provided. Applications of examples were discussed. Finally, coaches were provided time to practice clear general instruction with their peers and reflect on how this can be adapted to their personal practice.</td>
</tr>
<tr>
<td>Time</td>
<td>Content</td>
</tr>
<tr>
<td>------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>30 minutes</td>
<td>Information about corrective instruction was given to coaches. Coaches learned how to provide concise and age appropriate corrective instruction. Examples of applicable corrective instruction were provided. Application of examples was discussed. Finally, coaches were provided time to practice corrective instruction with their peers and reflect on how this can be adapted to their personal practice.</td>
</tr>
<tr>
<td>30 minutes</td>
<td>Information about proper positive encouragement was given to coaches. Coaches learned about the benefits of positive encouragement and how often this should occur. Examples of appropriate encouragement were provided. Application of examples was discussed. Finally, coaches were provided time to practice encouragement techniques with their peers and reflect on how this can be adapted to their personal practice.</td>
</tr>
<tr>
<td>10 minutes</td>
<td>Time for questions.</td>
</tr>
</tbody>
</table>

**Total Time: 120 minutes**

**Design**

The current study utilized a time series, treatment-control group research design (see Table 3). The three, pre-intervention observations allowed researchers to gather baseline information for coaches and establish if there were differences in behaviors between groups (high expectancy vs. low expectancy athletes) in a competitive youth sport setting. This design also
allowed the researcher to understand the effectiveness of the intervention while providing evidence for how coach behaviors differ over time post-intervention.

Table 3

Research Design

<table>
<thead>
<tr>
<th>R</th>
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<th>O5</th>
<th>O6</th>
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<tbody>
<tr>
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<td>2</td>
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</table>

<table>
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<th>O</th>
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<th>O1</th>
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<td>8</td>
<td>9</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Analysis

Behavioral Quotient Score

In order to make meaningful the frequency of feedback scores between high and low expectancy athletes, a behavioral quotient score (BQS) was calculated. During observation, frequency was recorded by tallying the amount of general instruction, corrective instruction, and encouragement each coach has provided for high and low expectancy athletes, respectively. Therefore, each coach has a general instruction – high performing, general instruction – low performing, corrective instruction-high performing, corrective instruction – low performing, encouragement – high performing, and encouragement – low performing frequency score, resulting in six frequency scores for each coach for each day of observation. The BQS is a ratio described by the following equation

\[ BQS_i = \frac{f_{ih}}{f_{il}} \]
Where \( i \) is the behavioral category (instruction, correction, or encouragement); \( h \) is the high expectancy group; and \( l \) is the low expectancy group. For example, if coach X provided two corrective instruction statements to low performing athletes and seven corrective instruction statements to high performing athletes, then coach X would have a BQS-CI (behavioral quotient score – corrective instruction) of \( 7/2 \) or 3.5. Therefore, the interpretation of that score is that coach X was 3.5 times more likely to provide corrective instruction to their high expectancy athletes. In the event of a frequency of zero in both numerator and the dominator, the BQS received was zero. In the event of either the numerator or dominator being zero, the zero was padded with one. For example, if coach X was to provide zero instances of corrective feedback to the low expectancy group and five to the high expectancy group, coach X BQS would be five. Without the researcher padding the zero with one, coach X BQS would be zero or undefined.

The researcher understands this is creating a BQS score that is lower than the actual frequency. However, this BQS is more representative than a BQS of zero. These calculations resulted in three overall BQSs for each coach for each observation, a corrective instruction BQS (BQS-CI), a general instruction BQS (BQS-GI), and an encouragement BQS (BQS-E).

The BQS is an ideal representation of the comparison between behaviors toward high and low expectancy athletes. A BQS closer to one would depict equivocal behavior between types of athlete, while a score greater than one would indicate more imbalanced coach behavior.
Change Score

Once BQSs were calculated for each behavioral variable, the primary researcher computed a pre-intervention average for each behavior by calculating the average BQS of weeks 1-3. This pre-intervention average was then used to calculate a change score for each coach with the formula

\[ d_{io} = BQS_{io} - \overline{BQS}_{ip} \]

Where \( i \) is the behavioral category (instruction, correction, or encouragement); \( o \) is the observation; and \( p \) is pre-intervention average for weeks 1-3.

Thus, each coach had a change score at weeks 4-6 for each variable. A negative change score reflected higher amounts of change post-intervention (see Table 4). These change scores were then used as the dependent variable for the analysis of research question two.

Table 4

<table>
<thead>
<tr>
<th>Change Score Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zero</td>
<td>Indicates coaches remained stagnant between pre and post intervention BQS.</td>
</tr>
<tr>
<td>Positive</td>
<td>The higher the positive value the greater the change in BQS disparity. Another way to describe a positive change score would be the disparity of coach behaviors increased.</td>
</tr>
<tr>
<td>Negative</td>
<td>A negative change score indicates a decrease in BQS post-intervention. Another way to describe a negative change score would be the disparity of coach behaviors decreased.</td>
</tr>
</tbody>
</table>
Data Screening

Following data collection a comprehensive data screening process took place. First, data was screened for entry errors and missing values. Once true zeros and no errors were established the data was screened to assure the tenability of assumptions for parametric statistics including: normality, outliers, independence of variables, and homogeneity of variance.

Analysis of RQ1

Following data collection of the first three observations data was screened for normality. If tenability of the assumptions of normality were established, three independent t-tests were to be conducted in order to analyze the differences between coaches’ behaviors toward high versus low expectancy athletes. An a priori level of significance was set at .05. This enabled the researcher to investigate if the coach expectancy cycle phenomenon exists in competitive youth soccer, exhibited by higher frequencies of positive feedback, instruction, and praise for high expectancy athletes. The independent variable was athlete group, high and low expectancy, with the dependent variable being mean frequency of instruction, corrective feedback, and encouragement from all coaches exhibited in the first three observations.

As the data failed to meet the assumptions of normality, homogeneity of variance, or independence a non-parametric analysis was used. Specifically, the researcher conducted three Mann-Whitney U rank order tests in order to test the
differences seen in frequency of instruction, corrective feedback, and encouragement given to high versus low expectancy athletes.

Analysis of RQ2

In order to answer the second research question, following data collection and calculation of BQS and change scores, three separate 2 (treatment/control) x 3 (time) ANOVA’s were conducted in order to analyze the mean differences between control and treatment groups in each behavior post intervention. An a priori level of significance was set at .05. This enabled the researcher to investigate effects of the treatment. Further, the use of RM-ANOVA’s allowed the researcher to analyze the potential affect of the treatment over time post intervention.

The multiple assumptions of the factorial ANOVA were tested and controlled for prior to or within data analysis. First, the researcher assumed that the dependent variable approximated a multivariate normal distribution. This was tested using a goodness of fit, or Chi-Square test against a normal distribution. Second, the repeated measures ANOVA assumes homoscedasticity of error variances, meaning all variability in the measurement error should be constant. This was tested using a Levene’s test. The factorial ANOVA requires no multicollinearity, meaning all independent variables will be measured independent of each other, which was true for the current study.
Table 5

Summary of Analyses

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Independent Variable(s)</th>
<th>Dependent Variable</th>
<th>Statistical Analysis</th>
</tr>
</thead>
</table>
| RQ 1: Do coaches exhibit significant differences in frequency of instruction, correction, and encouragement with high versus low expectancy athletes? | Group (high and low expectancy) | 1. Frequency of instruction  
2. Frequency of correction  
3. Frequency of encouragement | Mann-Whitney U |
| RQ 2: Can a coach education workshop intervention reduce behavioral differences exhibited toward high and low expectancy athletes? | 1. Group  
2. Time | Change Scores | 3 separate  
2x3 Repeated Measures ANOVA(s) |
CHAPTER IV – THE COACH EXPECTANCY CYCLE AND THE IMPACT OF A COACHING EDUCATION INTERVENTION IN YOUTH SOCCER

Sport coaching is a complex profession that combines knowledge of motor behavior and development, physiology, competition, and pedagogy. Thus, the natural overlap between coaching and the traditional teaching environment provides researchers with the foundation on which to build research related to coach behaviors by examining literature from teacher education (Feltz et al., 1999). One example is self-fulfilling prophecy, a well-known theory developed in teacher-student research that involved teachers predicting student outcomes based on personal biases and these expectations producing changes in student achievement (Rosenthal & Jacobsen, 1998). Much like teachers’ influence on students, coaches’ interactions with their athletes help predict athlete performance success, motivation, and satisfaction in sport.

Based on the extensive research involving self-fulfilling prophecy in teacher-student interactions, Horn et al. (1998) speculated that coaching behaviors could be predicted by other personal characteristics of the coach. Horn and colleagues (1998) further suggest that coach behaviors have the potential to alter athletic performance, thereby producing a recurring cycle. Ultimately Horn and colleagues developed the coach-expectancy cycle, a four-stage model (see figure 1) to demonstrate how coach expectations can influence athlete performance.
**Stage One**

The first stage involves coaches forming expectations based on person cues, such as race, size, gender, and socioeconomic status (Horn et al., 1998). Coaches can also use performance cues, such as past accomplishments, skill tests, practice behaviors, and other evaluations in order to form expectations.

Recently, research has begun to show that researchers and practitioners are using differing methods of talent identification practices (Croston, 2012). While researchers focus on the anthropometric, physiological, and psychological measurements in sport, coaches rely on previous sport experience or intuition (Christensen, 2009). Christensen explored top-level men’s soccer coaches and their knowledge of talent identification. After an in-depth qualitative analysis of interviews with eight coaches, results showed that much of talent identification is a result of coaching intuition. Coaches formulate opinions of players based on their constant observations and their perceptions of athlete’s willingness to learn. Christensen (2009) argues that this coaching intuition is not simply a gut feeling but a formation of knowledge based off previous experiences. Although elite coaches maintain that they can “see” talent purely by observation, the great majority of coaches have not reached this level, nor have they received any formal education surrounding talent identification (Day, 2011). This research reflects a direct bias of coaching opinion in talent identification. Coaches have also been shown to pass expertise through their communities, mentors, or previous coaches, introducing a historical bias in talent identification practices.
Further, research has shown that coaches’ initial judgments of talent remain rigid throughout the course of a season, regardless of participant improvement (Solomon, 1998, 2008). This is important verification that coaches’ judgments of talent remain stagnant even when athlete performance increases.

Ultimately, coaches use these perceptions of talent in order to identify athletes who they believe to have a high potential for success. This select group of athletes then becomes the high expectancy athlete group for the remainder of their tenure under a specific coach. Previous research has defined groupings by the top one third of the team as high expectancy, which would designate the bottom one-third as the low expectancy athlete group (Solomon, 2008).

**Stage Two**

In the second stage, these expectations influence coaches’ behaviors. This stage is broken down into: 1) frequency and quality of coach-athlete interaction, 2) quantity and quality of instruction, and 3) type and frequency of feedback. Research has shown that coaches across performance levels, including high school and collegiate, provide differential feedback to their athletes (Solomon 1998, 2008).

Solomon (1998, 2008) provided support for the second stage of the coach-expectancy cycle when she examined coaches’ expectations of athletes and the associated differences in coaching behaviors. In a study conducted assessing four head, high school basketball coaches and 49 athletes, coaches’ behavior was assessed using the Arizona State University Observation
Instrument (Solomon, 1998). Coaches were asked to hierarchically rank their athletes’ expectancy and coaches’ behavior was assessed with the high versus low expectancy groups. In early season, coaches displayed no significant differences in behavior, although late in the season, coaches provided more instructional feedback, management feedback, and overall feedback to the high expectancy players. Researchers concluded that the differential feedback may have occurred in the late season as this is when critical games occur. Therefore, more feedback was issued to high expectancy athletes in hopes of increasing possibilities of winning. A more recent study (Solomon, 2008) found that high school athletes who were perceived as high expectancy received more praise and feedback. Further, coaches’ expectations predicted differential instruction, where high expectancy athletes received more instruction and feedback regardless of time.

Stages Three and Four

In the third stage, coaches’ behaviors affect athlete performance. For example, if a coach is consistently giving more praise and valuable feedback to a high expectancy athlete, this athlete will most likely experience better performances than their peers who are not receiving as much feedback due to the altered coaching behaviors. Further, athletes are aware of these unequal behaviors, which affects motivation and satisfaction (Gearity & Murray, 2011). Therefore, athletes who are getting less feedback and instruction from the coach
are also likely to develop low motivation to work hard. Together, these forces can produce a decrease in performance and increase in sport drop out.

The fourth, and final, stage of the cycle is that athletes’ performances confirm coaches’ expectations. As in the previous example, if the said coach already believed this player to be high expectancy, thus was providing this player with more valuable feedback, the player performs at a higher level than his/her peers and confirms the coach’s initial belief that he/she was a high expectancy athlete. The same can be said for the athlete who is considered low expectancy and is receiving less instruction. In the event he/she has an opportunity to compete, the lack of preparation may result in poor performance, reinforcing the coach’s perception that he/she is low expectancy.

*Competitive Youth Sport*

Although research has verified that the coach expectancy cycle is occurring in the competitive setting, research has been minimal in the youth sport setting. Solomon (2008) assessed expectations as predictors of feedback in youth, high school, and college basketball. Over the course of a ten-week season, coaches were observed four times for 50 minutes. Independent t-tests were used to determine the differences in the amount of feedback for high and low expectancy athletes. In the youth sport group, there were no significant differences found between high and low expectancy athletes in the amount of praise feedback or instruction feedback given. Researchers hypothesized that there were no significant differences in the youth sport setting because of the
league rules regarding equal playing time. Therefore, regardless of the coaches’
normal feedback behavior, in an equal playing time environment, all athletes
irrespective of perceived expectancy would receive the equivalent frequency of
instruction and praise because coaches know all the athletes must play.

These results were true for a recreational youth league in which guidelines
state players have to be given adequate playing time, since then the nature of
competitive youth sport has evolved. Previous research has shown that
competitive level affects coach behaviors (Chaumeton & Duda, 1988) and, in a
competitive youth sport league that does not have play guidelines, coaches are
more likely to focus on winning opposed to youth enjoyment or development.
Given the current nature of American competitive youth sport, it is important to
revisit these results.

Coach Education

An examination of the literature revealed minimal research on how to
affect or interrupt the cycle. However, based on Solomon’s extensive research
regarding the coach expectancy cycle, two primary strategies have been
suggested for enhancing positive expectancy effects (Solomon, 2010). First,
Solomon suggests that coaches need to become aware of the expectancy
sources that inform their evaluation of athlete potential for success. Secondly,
Solomon suggests coaches should attend to patterns of feedback issues in both
practice and game settings in order to minimize the effects of differential
treatment. The most logical way to address these strategies would be by way of
coach education. Current coach education literature has made it apparent that coaches rely heavily on knowledge they have gained from previous sport experience, through both coaching and as a player themselves (Carter & Bloom, 2009). In interviews, coaches have stated that their elite sport experiences helped shape how they train and develop athletes (Christensen, 2009). These elite sport experiences include mentors, clinics, personal play, and formal education. The issue with this approach to coaching is many coaches, specifically at a grassroots level, have not received formal education, meaning that they are receiving most of their knowledge through experience and mentors, potentially passing down poor coaching practices, unfounded expectations, and behavioral biases. As most coaches at the grassroots level are volunteer coaches, an expectation of collegiate level coach education is unrealistic. With that being said, coaches could continue to develop through nonformal education. A nonformal education experience has been characterized as any systematic educational activity carried on outside the framework of the formal educational system to provide select learning opportunities to subgroups in a population (Coombs & Ahmed, 1974). In a systematic review of coach education interventions, Langan and colleagues (2013) found that the majority of interventions focused on coaches’ interpersonal effectiveness on athletes’ behavior, affect, and cognitions. Overall, interventions based on a theoretical framework and that monitored coaches prior to intervention were the most methodologically sound.
Further, research shows that coach education has been established as a powerful source of coaching efficacy, or the belief in one’s ability to perform their job confidently (Campbell & Sullivan, 2005). Campbell and Sullivan (2005) surveyed coaches on their coaching efficacy before and after a coach education course. Results showed that coaching efficacy was significantly greater post course from both their pre-course scores and the control group scores. Moreover, there has been evidence that coaches with higher coaching efficacy engage in different types of coaching behaviors than their low efficacy counterparts (Feltz et al., 1999). Specifically, in a youth sport setting coaches with higher coach efficacy have been shown to exhibit higher instances of positive feedback, instruction, social support, and training instruction (Sullivan et al., 2012). Therefore, a coaching education intervention designed to educate coaches on the coach expectancy cycle and teach them proper feedback techniques should serve to increase coach knowledge and efficacy, thereby increasing more positive coach behaviors.

The purpose of this study was two-fold. First, to confirm that the second stage of the coach expectancy cycle is occurring in a competitive youth sport context. Specifically, hypothesis one predicted coaches would provide higher frequencies of instruction, corrective instruction, and encouragement to athletes they perceived to be high expectancy when compared to their low expectancy counterparts. Second, to conduct a two-hour coach education intervention in order to mitigate the behavioral differences coaches exhibit between high and
low expectancy athletes in a treatment group. Hypothesis two postulated that disparity in coach behaviors would significantly reduce in a treatment group post coach education intervention.

Method

Procedures

After Institutional Review Board (IRB) approval was received, a strategic sample of eight coaches from a youth soccer association was contacted by electronic mail with information regarding this study. The email provided a letter describing the purposes of the study, an assurance of confidentiality, and a link to a QUALTRICS survey containing an informed consent form, a demographic survey, and the opportunity for coaches to provide a ranking of their players from highest to lowest expectancy for success. Further, parents of children participating on teams involved in the study were notified via the association sign up packet and through team parents about the purpose of the study. Based on the rankings the coach provided, the top one third \((n=3)\) and bottom one third \((n=3)\) players were classified as high and low expectancy athletes, respectively (Solomon, 2008).

Once coaches completed the QUALTRICS survey, coaches were randomly selected for the treatment or control group using a random assignment generator. The researcher and research assistant then attended and video recorded one-hour practices for each coach over three consecutive weeks. Coach behavior was coded using the Coach Analysis and Intervention System
(CAIS; Cushion et al., 2012) software in order to establish baseline data. In order to single blind the study the research assistant sent a combined alphabetical list of athletes in both the high and low expectancy groups for each coach to the primary researcher. Once pre-intervention data was coded the data was sent back to the research assistant to group. This process allowed the primary researcher to remain blinded until the six-week data analysis was complete. A two-hour educational workshop was provided for the four coaches in the treatment group. Post intervention, the researcher and research assistant attended and video-recorded three, one-hour practices over three consecutive weeks. Coach behavior was coded using CAIS software in order to establish comparative data.

Design

The current study utilized a time series, treatment-control group research design (see table 3). The three, pre-intervention observations allowed researchers to gather baseline information for coaches and establish if there were differences in behaviors between groups (high expectancy vs. low expectancy athletes) in a competitive youth sport setting. This design also allowed the researcher to understand the effectiveness of the intervention while providing evidence for how coach behaviors differ over time post-intervention.

Participants

There were eight head, competitive youth soccer coaches (4 male, 4 female), coaching children between 8 to 11 years old. Coaches ranged in age
from 22 to 27 years old with at least two years of coaching experience. Each coach participant had at least one US soccer coaching license or taken one college-level coaching course. Coaches were randomly assigned to either the treatment (n= 2 male and 2 female) or control group (n= 2 male and 2 female).

**Instruments**

Prior to the first observation, coaches received a demographic survey and coach expectancy of success survey through a QUALTRICS link provided by electronic mail. Coding of coach behaviors was conducted through use of the Coach Analysis and Intervention System described below (CAIS; Cushion et al., 2012).

**Demographic Survey.** Questions asked participants to provide personal information pertaining age, gender, ethnicity, years coaching, and coaching certification level within USA soccer. These variables were used to measure the homogeneity of variance between the treatment and control groups prior to data analysis of research question two.

**Coach Expectancy Survey.** Team rosters were obtained from the director of coaching for all participating teams. Coaches were provided a link and asked to rank their players using jersey number and full names from highest to lowest expectancy of success through an online QUALTRICS survey. In alignment with previous research, once these rankings were obtained, the top one-third of players were classified as high expectancy while the bottom one-third of players were classified as low expectancy for the duration of the study (Solomon, 2008).
Coach Analysis and Interventions System. The Coach Analysis and Interventions System (CAIS; Cushion et al., 2012) was used to analyze coach behaviors. Cushion and colleagues developed the CAIS in order to analyze and code coach behavior and interaction with individual athletes and teams on a computerized, systematic instrument. The CAIS has 23 primary behaviors; based on previous coach literature three behaviors were the focus of the current study (Solomon, 1998, 2008). Frequency of general instruction, corrective instruction, and encouragement were measured for this study. General instruction, as defined by CAIS, is anytime the coach gives direction to an athlete (e.g. the coach explaining a drill to a specific athlete in more detail). Corrective instruction is defined as anytime the coach gives remedial instruction to an athlete (e.g. when a coach corrects the way an athlete is kicking the soccer ball). Finally, encouragement can be defined as anytime the coach verbally or nonverbally motivates the athlete, including phrases such as “good job” or gestures such as clapping (CAIS; Cushion et al., 2012). The CAIS produces individual behavioral profiles that can be exported to an excel spreadsheet. The primary research then converted these spreadsheets to a line graph for coach and researcher observation, which were printed and used in the coach intervention (see appendix A). Based off of previous research guidelines (Solomon, 1998, 2008), inter-rater reliability establishment at the beginning of the study meeting the preset criterion of \( r > .85 \) with general instruction at .86, corrective instruction at 1.0, and encouragement at .90, respectively (Hartmann, 1977), description of
behaviors being specifically described and determined prior to coding (Cushion et al., 2012), Van der Mars (1988), and the single-blinding, a single coder was used for the duration of the study.

*Intervention*

The treatment group received a two-hour coach education intervention based on Solomon’s suggested strategies detailed previously. Coaches were educated on the coach expectancy cycle and sources of skill appraisal. Coaches discussed their expectancies, how they have been developed, and how these expectancies influence their behavior. Specifically, coaches were provided their personal behavior profiles gathered from CAIS data and converted to a line graph displaying the disparity in their behaviors at each variable between high and low expectancy groups.

In order to minimize the effects of differential treatment and attend to feedback issues in both practice and game settings coaches discussed the implications of their personal profiles. Coaches also learned how to improve feedback techniques related to instruction, corrective feedback, and encouragement. Finally, coaches received education on self-reflection and ability to self-monitor these behavior disparities.

*Analysis*

*Establishing the Coach Expectancy Cycle.* Based on the data screening revealing non-normally distributed frequency data, non-parametric testing was chosen. In order to confirm the coach expectancy cycle was occurring with this
sample of competitive youth soccer coaches, three Mann-Whitney U rank order tests were conducted to test the differences seen in frequency of instruction, corrective feedback, and encouragement given to high versus low expectancy athletes.

*Intervention Effectiveness.* In order to analyze the effects of the intervention, three separate 2 (treatment/control) X 3 (time) ANOVA’s were conducted in order to analyze the differences between control and treatment groups in each behavior post intervention. An a priori level of significance was set at .05. The dependent variables tested are described in more detail subsequently.

*Behavioral Quotient Score.* In order to make meaningful the frequency of feedback scores between high and low expectancy athletes, the researchers developed the behavioral quotient score (BQS). During observation, frequency was recorded by tallying the amount of general instruction, corrective instruction, and encouragement each coach provided for high and low expectancy athletes, respectively. Therefore, each coach has a general instruction – high performing, general instruction – low performing, corrective instruction-high performing, corrective instruction – low performing, encouragement – high performing, and encouragement – low performing frequency score, resulting in six frequency scores for each coach for each observation. The BQS is a ratio described by the following equation

\[
BQS_i = \frac{f_{ih}}{f_{il}}
\]
Where \( i \) is the behavioral category (instruction, correction, or encouragement); \( h \) is the high expectancy group; and \( l \) is the low expectancy group. For example, a coach who provided two corrective instruction statements to low performing athletes and seven corrective instruction statements to high performing athletes would have a BQS-CI (behavioral quotient score – corrective instruction) of \( \frac{7}{2} \) or 3.5. Therefore, the interpretation of that score is that coach X was 3.5 times more likely to provide corrective instruction to their high expectancy athletes. In the event of a frequency of zero in both numerator and the dominator, the BQS received was zero. In the event of either the numerator or dominator being zero, the zero was padded with one. For example, if coach X was to provide zero instances of corrective feedback to the low expectancy group and five to the high expectancy group, coach X BQS would be five. Without the researcher padding the zero with one, coach X BQS would be zero or undefined. The researcher understands this is creating a BQS score that is lower than the actual frequency. However, this BQS is more representative than a BQS of zero. These calculations resulted in three overall BQSs for each coach for each observation, a corrective instruction BQS (BQS-CI), a general instruction BQS (BQS-GI), and an encouragement BQS (BQS-E).

The BQS is an ideal representation of the comparison between behaviors toward high and low expectancy athletes. A BQS closer to one will depict equivocal behavior between types of athlete, while a score further from one would indicate more imbalanced coach behavior.
**Change Score.** Once BQSs were calculated for each behavioral variable, the primary researcher computed a pre-intervention average for each behavior by calculating the average BQS of weeks 1-3. This pre-intervention average was then used to calculate a change score for each coach with the formula

\[ d_{io} = BQS_{io} - \overline{BQS}_{ip} \]

Where \( i \) is the behavioral category (instruction, correction, or encouragement); \( o \) is the observation; and \( p \) is pre-intervention average for weeks 1-3.

Thus, each coach had a change score at weeks 4-6 for each variable. A negative change score reflected higher amounts of change post-intervention (see Table 4). These change scores were then used as the dependent variable for the analysis of research question two.

**Results**

**Data Screening**

Prior to the data analysis process, all raw data was screened for missing data, true zeros, outliers, and normality. Homogeneity of variance was also confirmed during the data analysis process. Further, three independent samples t-tests were run to ensure that there were no significant differences between the treatment and control groups prior to the intervention.

**Sample**

Preliminary analyses revealed there were no differences in age, gender, or levels of coach education between groups.
**Establishing the Coach Expectancy Cycle**

In order to answer the first research question three Mann Whitney U tests were conducted to compare the frequency of instruction, corrective feedback, and encouragement coaches provided to high expectancy and low expectancy groups (see table 6). There was a significant difference in the frequency of instruction between high expectancy ($M=13.63$) and low expectancy ($M=5.21$) groups; $U=45.000$, $z=-5.046$, $p=0.000$, $r=-1.03$. There was a significant difference in the frequency of corrective feedback between high expectancy ($M=4.91$) and low expectancy ($M=2.13$) groups; $U=120.500$, $z=-3.485$, $p=0.000$, $r=-0.711$. There was a significant difference in the frequency of encouragement between high expectancy ($M=15.38$) and low expectancy ($M=5.67$) groups; $U=45.000$, $z=-5.023$, $p=0.000$, $r=-1.03$. These results suggest that coaches gave significantly more instruction, corrective feedback, and encouragement to athletes whom they reported to be high expectancy versus low expectancy athletes. Secondly, effect size values calculated by

$$r = \frac{z}{\sqrt{n}}$$

Results of effect size calculations suggest large effect sizes at all three variables (Cohen 1992; Fritz, Morris, & Richler, 2012)
Table 6

Summary of Results for Mann-Whitney U

<table>
<thead>
<tr>
<th>Variable</th>
<th>M Rank High</th>
<th>M Rank Low</th>
<th>U Value</th>
<th>SD</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instruction</td>
<td>34.67</td>
<td>14.33</td>
<td>45.000</td>
<td>-5.046</td>
<td>.00*</td>
</tr>
<tr>
<td>Corrective Feedback</td>
<td>31.48</td>
<td>17.52</td>
<td>120.500</td>
<td>-3.485</td>
<td>.00*</td>
</tr>
<tr>
<td>Encouragement</td>
<td>34.62</td>
<td>14.38</td>
<td>45.000</td>
<td>-5.023</td>
<td>.00*</td>
</tr>
</tbody>
</table>

Note: * Denotes *p* < 0.05

Intervention Effectiveness

The results of the RM-ANOVA’s for within-subjects yielded no significant results for each of the three behavioral variables: instruction, F(2,1) = 1.449, *p* = 0.273, *n*² = .195, correction, F(2,1) = .420, *p* = .667, *n*² = .065, and encouragement, F(2,1) = 2.039, *p* = .173, *n*² = .254.

The results of the RM-ANOVAs interaction of time by group yielded non-significant results for two variables: instruction, F(2,1) = 2.816, *p* = .144, *n*² = .319 and encouragement F(2,1) = .013, *p* = .912, *n*² = .002. While corrective feedback yielded a significant interaction, correction, F (2,1) = 11.727, *p* = .014, *n*² = .662,

The results of the RM-ANOVAs between-subjects yielded no significant results for each of the three behavioral variables: instruction, F(2,1) = 5.003, *p* = 0.067, *n*² = .455, corrective feedback, F(1,2) = 2.683, *p* = .146, *n*² = .317, and encouragement F(2,1) = 3.035, *p* = .132, *n*² = .336,. However, the researchers reviewed the mean BQSs’ over six weeks and noticed a non-significant reduction in BQS for the treatment group post intervention at each variable (figures 2-4).
Figure 2. Instruction Mean BQS Values Over Six Weeks.

Figure 3. Corrective Feedback Mean BQS Values Over Six Weeks.
Based on visual changes in the BQSs' over time, effect sizes were calculated. Analyses revealed large effect sizes for each variable: instruction ($f=0.83$), corrective feedback ($f=0.46$), and encouragement ($f=0.51$; see table 7). As a result, post-hoc power analyses were conducted to determine what sample size would be required to achieve statistical significance. Given an *a priori* significance of .05, power of .8, two groups with three levels of measurement (time), and the above achieved effect sizes, a sample of 10 for instruction, 28 for corrective feedback, and 26 for encouragement would be necessary.

Table 7

*Results 2X3 ANOVA*

<table>
<thead>
<tr>
<th>Variable</th>
<th>F</th>
<th>p</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instruction</td>
<td>2.816</td>
<td>144</td>
<td>.83**</td>
</tr>
<tr>
<td>Corrective Feedback</td>
<td>11.727</td>
<td>.014</td>
<td>.46*</td>
</tr>
<tr>
<td>Encouragement</td>
<td>3.035</td>
<td>.132</td>
<td>.51*</td>
</tr>
</tbody>
</table>
Discussion

The results of the current study are noteworthy as this is the first time the coach expectancy cycle has been shown to occur in a competitive youth sport sample. More specifically, over the course of three weeks, coaches provided significantly more instruction, corrective feedback, and encouragement to the athletes they deem to have more potential for success. These findings support the occurrence of the coach-expectancy cycle at the second stage, coaches’ judgments affecting their behavior toward athletes. In previous research, Solomon (2008) found that youth sport coaches did not provide differential feedback to their high versus low expectancy players. Solomon suggested that this may have been because of league rules stipulating that all coaches needed to play athletes for a given amount time, thus each player needs instruction, correction, and encouragement. However, the league represented in the present study has no such playing time stipulation. Therefore, the result of this study may more accurately reflect the competitive nature of current youth sport environments. Further, it is possible that the competitive nature of the league encouraged coaches to focus on winning as opposed to overall athlete development, resulting in coaches providing more attention and instruction to the athletes who they believe to be higher expectancy, receive more playing time, and whom they want to continue in the sport.

Further, given the post treatment effect sizes, it appears that it is important to make coaches aware of the coach expectancy cycle’s occurrence. In addition
to discussing the cycle, coaches in the intervention group responded positively to receiving actual data showing their behavior disparity. Further, the primary researcher focused on how these behavioral differences could affect low expectancy athletes’ overall satisfaction negatively and increase dropout (Horn et al., 1998). Therefore, during a behavioral intervention it is important to not only make coaches aware of the coach expectancy cycle occurrence, but also provide evidence of their own behaviors coupled with a reminder that coaches are affecting youth physical activity in a long-term capacity.

Although participants in the current study have had some form of coach education/training, the majority of youth sport coaches are volunteers. The results of the current study imply that coaches with limited formal coach education or training are providing differential treatment to high expectancy athletes; this may be because their courses have focused on teaching skills and tactics rather than on behavioral coaching skills. Although coach literature states that coaches need 3 types of knowledge: professional, interpersonal, and intrapersonal, these findings support that most basic coach training occurs on professional knowledge (Côte & Gilbert, 2009). This study further implies coaches have not received adequate training in the effects of their own differential treatment or self-reflection techniques in order to monitor and adjust said differences. The consequences of the coach-expectancy cycle occurring in competitive youth sport are worrisome for youth sport athletes. Youth who are not receiving feedback consistently are more likely to lack adequate
developmental skills or enjoyment needed to continue organized sport participation. In fact, previous research suggests that youth participants cite skill mastery on the top of their list of reasons why sport is fun, while winning hovers close to the bottom of the list (Visek et al., 2015).

Additionally, research with sufficient sample sizes could confirm that behavioral-based coach education can change the frequency of behaviors between high and low expectancy athletes, ultimately interrupting the second stage effectively. The current study would suggest that providing adequate coach education could impact BQS in a positive way, resulting in more equitable distribution of feedback, instruction, and encouragement. In psychology research, this type of intervention technique is termed consciousness raising and has been shown to improve alertness (Enns, 1992). Likely, offering a coach education intervention based in discussion and role-play that ultimately involves self-reflection will raise coach consciousness about their own daily behaviors while simultaneously equipping them with new coaching strategies to try.

Finally, in light of participants’ level of coach education, it is important to discuss the impact of coach development opportunities throughout coaches’ careers. The current study displays the potential impact of a behavioral intervention when the coach expectancy cycle is already occurring. These findings imply, however, the need for quality behavioral coach education on the forefront of coach training. If coach education included behavioral training related
to personal biases in talent identification, perhaps the presence of the coach expectancy cycle could be avoided altogether.

Implications and Future Directions

In previous research, league rules were hypothesized to mitigate the coach-expectancy cycle’s occurrence in youth sport, shifting the focus of coaching from outcome to competency (Solomon, 2008). As competitive youth sport grows in popularity, these rules are dwindling and outcome focused coaching is becoming more prevalent. Coaches should be cognizant of their expectations and how these expectations are affecting their behaviors, specifically with instruction, corrective feedback, and encouragement.

Future research should continue to explore the coach-expectancy cycle in competitive youth sport. The current study provided evidence of the cycle’s existence, but did not investigate the quality of coach feedback disparity between high and low expectancy athletes. In order to provide further support for the cycle’s occurrence and need for quality coach education, the disparity in quality of feedback should also be investigated. Because the current study focused on interrupting the second stage of the coach expectancy cycle, further research should examine the effects of coaches’ behavior changes on the third stage of the cycle. Specifically, if coaches’ behaviors change, how does this impact athlete satisfaction? Research exploring if the occurrence of the coach-expectancy cycle in youth sport leads to youth sport drop out and youth dissatisfaction will be critical additions to the literature. Limited studies exploring
the coach-expectancy cycle from the athlete’s perspective exist, therefore, future research should also explore if youth participants are aware of coach expectations and behavioral differences, and how this could affect youth psyche and performance. These specific directions would offer support for the final two stages of the coach expectancy cycle.

Given the potential impact of the coach education intervention, future research examining coach reflections post intervention might provide a better understanding of coaches’ cognitions related to their own behaviors and how those thought processes changed in relation to the intervention. Previous research has found coach expectancies remain stagnant over time (Solomon & Kosmitzki, 1996). Additionally, researchers should examine if coaches’ expectations change after a coach expectancy cycle intervention. Overall, it is important to continue the line of research pertaining to behavioral disparities, coach education, and the coach-expectancy cycle.
CHAPTER V – DEVELOPING THEORY DRIVEN INTERVENTIONS

TO CHALLENGE COACH THINKING: BREAKING

THE COACH EXPECTANCY CYCLE

The coach-expectancy cycle is a well-researched model of coach behavior in a competitive sport context (Horn et al., 1998; Solomon, 1998, 2008, 2010). This four-stage cycle starts with coaches developing expectations of their athletes based on their own sport experience, personal biases, and knowledge of athletes. In the second stage, coaches’ expectations inform their behavior towards athletes. For example, Solomon (2008) found that high school and college basketball coaches provide their high expectancy players with more general instruction, corrective instruction, and encouragement than their low expectancy counterparts. In another study exploring high school basketball coaches, Solomon (1998) found that late in the season coaches provided more instructional feedback, management feedback, and overall feedback to high expectancy players. When exploring years of coaching experience and the coach expectancy cycle, Solomon (1998) found that regardless of years experience coaches provided significantly more praise and instruction to high expectancy athletes. Even collegiate coaches have been shown to provide more organizational instruction to high expectancy athletes (Solomon & Kosmitzki, 1996). This unequal behavior affects athletes’ overall satisfaction and performance outcomes, thus completing the cycle by reaffirming coaches’ initial expectations.
Although previous research has been ambiguous as to whether this cycle is occurring in the recreational youth sport setting, recent research has confirmed it is occurring in competitive youth sport (Pasquini, Thompson, Gould, Speed, & Doan, 2016). More specifically, competitive youth soccer coaches were shown to provide higher frequencies of general instruction, corrective feedback, and encouragement to their self-proclaimed high expectancy players when compared to low expectancy players.

Youth Sport as an Area of Critical Inquiry

Youth sport is an area of growing research interest because of the juxtaposition between current sport frameworks and the competitive nature of youth sport in America. In many sport frameworks, youth sport is the era when children and adolescents should be learning a host of fundamental sport skills (Cóte et al., 2009). From a psychosocial perspective, it is imperative that coaches are encouraging children in this stage of learning as this has been shown to increase overall satisfaction and decrease sport drop out (Smith, Cumming, & Smoll, 2008). With that being said, in recent years youth sport has become increasingly competitive with coaches focused on winning as opposed to skill development. This culture creates a small number of athletes who continue to the elite level, with a large amount of drop out and discontinued physical activity (Project Play, 2015). Because youth sport coaches are traditionally volunteers, these coaches often have the least amount of coach training. In fact, a large majority of youth sport coaches have received no formal coach education.
This lack of education combined with the growing competitive youth sport culture creates a hot spot for the coach expectancy cycle’s occurrence. Simply put, youth sport coaches are dictating athlete development based on their limited knowledge and personal biases.

Coach Education as a Means to Interrupt the Cycle

Although youth sport coaches receive limited formal coach education, coaches should continue to develop through formal, non-formal, and informal education (ICDF, 2014). Formal education is often expensive and time-consuming and informal education lacks insight from more knowledgeable others. This leaves non-formal education as the preferable choice when working to change coach behaviors in a relatively short time. A non-formal education experience has been characterized as any systematic educational activity carried on outside the framework of the formal educational system to provide select learning opportunities to subgroups in a population (Coombs & Ahmed, 1974). Although some youth sport associations require coach training, research has shown that this training is focused in professional knowledge, opposed to inter or intrapersonal knowledge (Côte & Gilbert, 2009). Interestingly, research has shown that behavioral coaching education can be a powerful source of coaching efficacy (Campbell & Sullivan, 2005). Research focusing on a youth sport setting found that coaches with higher efficacy engage in more positive coaching behaviors, such as positive feedback, instruction, and social support (Sullivan et al., 2012). Based on this knowledge, and as part of a larger study, a non-formal
coaching education intervention, designed to disrupt the coach expectancy cycle at the second stage in a sample of competitive youth soccer coaches, was conducted.

The purpose of the current paper is to contribute to the best practices in coaching intervention literature by describing the development and implementation of the coach education intervention. While some of the elements of the intervention will refer specifically to the coach expectancy cycle, many of the strategies employed as well as the theoretical underpinning of the approach can be applied to a variety of coach training and development settings.

Guiding Frameworks for Development

In order to develop the coach education intervention, multiple frameworks were referenced. First, the International Council for Coaching Excellence’s (ICCE) International Coach Developer Framework (ICDF) was considered (ICCE, 2012). The ICDF states that learning should be viewed as more than knowledge accumulation, but also a changing of conceptions. In order to change coach conceptions, the coach developer must be actively involved in the process, creating a facilitative approach to learning. Facilitative learning is a learner-centered approach that involves flexibility and focuses on the learners needs, practice and application, and encourages learning from peers. Historically, coach education has occurred in a more directive construct, one that is coach-developer led, content driven, and highly structured (ICDF, 2014). The ICDF
advocates for coach developers to work on a continuum between these styles to encourage a more developmental approach.

Similar to facilitative and directive approaches, the ICDF refers to mediated learning, a time when the coach developer decides on the material to be covered, when and where learning takes place, and the style in which the material is covered (ICDF, 2014). The opposite of mediated learning, unmediated learning, reflects situations where the coaches choose what they would like to learn about, or self-directed learning. Although coach developers do not have control over coach unmediated learning, the ICDF explains that unmediated learning can be facilitated through teaching coaches self-reflective skills.

Finally, the ICDF provides principles of adult learning with which the coach developer should comply. These principles include, but are not limited to, coaches’ experiences and abilities being recognized. Further, these experiences should be allowed time for reflection. Adult learners need to understand the relevance of the material and be encouraged to take responsibility for learning said material. The climate of the development should be encouraging and supportive so the learner feels comfortable with experimentation. Finally, learners should receive ample time to engage in practices the information given and applying the information to their own situations.

Many of the guiding principles of the ICDF align with Kolb’s (1984) theory of experiential learning. Kolb (1984) states “learning is the process in which knowledge is created through the transformation of experience” (p. 38).
theory presents a cyclical model of learning involving four stages. Learners can begin at any stage of the model, but must follow the order sequentially. For example, a learner might begin experiential learning with a concrete experience. A concrete experience is described as when a learner actively experiences an activity. Following concrete experience, learners experience reflective observation, a time to reflect back on the experience. Following reflective observation, learners participate in abstract conceptualization, or attempts to conceptualize a model of what has been observed. Finally, the learner reaches active experimentation, where he or she tries to plan for how to test the newly conceptualized model in future experience. Kolb (1984) believes that active experimentation will forge continued concrete experiences, thus the cycle of learning continues. Therefore, coach interventions should provide opportunities for coaches to engage in all four stages of the cycle.

Another important aspect of Kolb’s (1984) theory is that each learning stage incorporates a different type of learner. The corresponding stage creates a circumstance in which each type of learner is thought to learn better. The four learning styles are: 1) accommodators, whom learn with concrete experiences, 2) divergers, whom learn when allowed to observe and gather information, 3) assimilators, whom learn when provided logical theory, and 4) convergers, whom learn when provided practical applications of theory to concept. Considering this concept, it is important for coach developers to develop interventions that are varied and offer multiple types of experiences for coaches.
The third and final framework considered while developing the coach-education intervention was developed from Solomon’s research involving the coach expectancy cycle (Solomon & Kosmitzki, 1996, Solomon, 1998, 2008). Solomon (2010) posits two strategies to be used when developing coach knowledge related to the cycle: 1) coaches need to become aware of the expectancy sources that inform their evaluations of athletes’ potential for success and 2) coaches should attend to patterns of feedback issues in order to minimize the effects of differential treatment.

Intervention Development

The primary outcome of the intervention was for coaches to engage in self-reflection about their own coaching behaviors that would result in more equitable treatment for all athletes in the training environment. Three learning objectives were identified to accomplish this goal: 1) the intervention would raise awareness of the coach-expectancy cycle occurrence, 2) coaches would engage in discussion and reflection as to why the occurrence is detrimental to the youth sport environment, and 3) coaches would practice alternate coaching strategies to eliminate the coach expectancy cycle. The theoretical frameworks from the previous section served as the foundation for the learning design when developing the intervention and will be noted where appropriate (see Table 8).
Table 8

**Intervention Lesson Plan**

<table>
<thead>
<tr>
<th>Introduction</th>
<th>Introduction to the coach expectancy cycle. Coaches received their CAIS personal profiles.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>Information about general instruction was given to coaches. Coaches role-play, discuss, and reflect.</td>
</tr>
<tr>
<td>Phase 2</td>
<td>Information about corrective instruction was given to coaches. Coaches role-play, discuss, and reflect.</td>
</tr>
<tr>
<td>Phase 3</td>
<td>Information about proper positive encouragement was given to coaches. Coaches role-play, discuss, and reflect.</td>
</tr>
<tr>
<td>Conclusion</td>
<td>Self-reflection techniques discussed. Time for questions.</td>
</tr>
</tbody>
</table>

**Introduction**

In order to raise awareness of the coach expectancy cycle and in accordance with Solomon’s (2010) first suggestion, coaches were introduced to the coach expectancy cycle by way of a handout describing the cycle’s stages. This approach was taken in order to blend a facilitative and directive approach. The coach developer was directing the area of learning to the coach-expectancy cycle occurrence in youth sport. In order to incorporate facilitation and unmediated learning, coaches identified through discussion how they determine
an athlete’s potential for success (high versus low expectancy groupings). Specifically, coaches identified high expectancy athletes as those who showed enthusiasm and skill improvement at practice. Coaches stated low expectancy athletes were those who seemed as though they did not want to be there and were never going to understand or improve. These opinions seemed invariable.

In order to engage coaches in experiential learning, the coach developer provided concrete evidence to the coaches that stage two of this cycle was occurring. Coaches received personal profiles of their behavioral differences obtained from three weeks of practice observation prior to the intervention. These visuals were a simple graphic of their average frequencies of behavior between high versus low expectancy athletes for general instruction, corrective feedback, and encouragement (see Appendix D).

Although unplanned, this was a good opportunity to exhibit flexibility within the facilitation of the session. The initial outline sought to raise awareness of the cycle, but during initial discussions of the cycle, coaches seemed to already be aware of the behavior tendencies they were exhibiting. Coaches made comments such as,

“I know I pay more attention to the talented kids”, Rob

“Well, shouldn’t I be more worried about one or two people who will keep playing soccer? And make them good?”, Chris

“I know, but those are the kids who want to be there” Tiffany

“The other [children] will never understand anyway”, Rob
In turn, the plan shifted to focus on why this cycle is detrimental to youth athletes. In accordance with the adult learning principles and the ICDF (2014), coaches were encouraged to take responsibility for their learning and understand the relevance of the material. The coach developer took time to discuss the impact youth sport coaches have on athlete development and sport experience. For example, receipt of encouragement has been shown to be a predictor for both athlete relatedness and perceived competence, aspects necessary for intrinsic motivation (Pelletier, Fortier, & Vallerand., 1995). Another important discussion revolved around the level of feedback received and athlete satisfaction, which have both been correlated to sport drop out (Fraser-Thomas & Côte, 2009). Coaches seemed unaware of the lasting impact their behavior could have on youth athletes.

**Phases 1-3**

The final objective, providing alternate coaching strategies, was allotted most of the intervention. This objective focused on Solomon’s second suggestion, coaches attending to behavior disparities in order to minimize the issue. To implement this strategy, Kolb’s theory of experiential learning was used (Kolb, 1984). Learners began with a second concrete experience, in this case, practicing techniques to improve instruction, corrective feedback, and encouragement. During the beginning of each of the three phases, feedback techniques, grounded in theory and evidence, were introduced by the coach developer. For example, coaches were most interested in techniques relating to
the cognitive capacity of youth athletes. More specifically, coaches were surprised to hear that their current instruction tactics may be overwhelming and ultimately confusing for their athletes. The coach developer explained that instruction should be judicious, as athletes can become overwhelmed with the amount of information given, thereby “clogging” their brain with unnecessary information (Knudson, 2013). The information served as abstract conceptualization for the coaches. Therefore, the next step, according to Kolb, would be active experimentation.

Coaches engaged in role-play to practice the improved techniques as a group. At this time, the coach developer moved on to a more facilitative approach to learning by creating a flexible learner-driven path to explore what coaches found most interesting. Given that coaches learn better from practical experiences with other coaches (Carter & Bloom, 2009), coaches role-played being a youth athlete and coach giving judicious instruction, but were encouraged to think like a coach through the process. In accordance with the ICCE framework, coaches experienced success in these role-plays and received confidence-building feedback sandwiched with constructive critique.

To create a reflective observation, coaches were asked to discuss what they believe went well or did not go well during the role-play experience. Following reflection, coaches conceptualized a model of how these reflections could be used in practice. During discussion of these models, the aspect of abilities and experience recognition was applied. The coach developer came
prepared with ample examples and descriptions of how learners were already implementing positive coaching techniques. These examples were specific to each coach, acquired from the pre-intervention data analysis. For example, coach Chris provided an overview of the practice objectives for his team each day prior to beginning practice as well as a review of what went well and what could go better at the end. Coach Tiffany stopped her team in the middle of a drill in order to discuss how things were going, then gave the girls another opportunity to continue the drill and make corrections as a team. Coach Sue gave her team the ample chances for autonomy by letting them choose warm up drills at the start of practice. Once coaches heard the specific positive aspects of their coaching skill set they were more open to learning. Next, to elicit this experimentation, the coach developer encouraged coaches to role-play a second time and improve their experience. This provided more opportunity to practice and apply the feedback from their peers.

Conclusion

At the close of the session, coaches were invited to write down ways they would incorporate what they had learned in their future practices. This step is critical in any intervention because it requires coaches to think about how the new strategy fits into their context. The coach developer further encouraged unmediated learning by providing coaches with a self-reflective tool in order to monitor their behaviors post intervention (see Appendix E).
Reflections as a Coach Developer

As a self-audit system and a way to ensure quality coach education, coach developers should be continually learning as well (ICDF, 2014). Therefore, the final and likely most impactful aspect of the coach education intervention is a developer reflection of the session. The coach developer has chosen a three-step method of reflection for the current intervention. This process involves considering 1) what went well for each objective, 2) what did not go well for each objective, and 3) what would be changed for the next implementation of the intervention.

**Objective One**

As a coach developer, there were a few elements that went well related to achieving the first objective. As noted above, coaches seemed to know that the coach-expectancy cycle was occurring, and I demonstrated the ability to be flexible in session delivery. This was likely a result of the preparation and planning I used for the session. Also, the familiarity derived from the three weeks of data collection worked to my advantage. The coaches were comfortable with my presence, regarded me as knowledgeable, and rapport had been built with each of them individually. Further, the use of personal profile data to demonstrate that each coach was actually engaging in differentiated behavior between the high and low expectancy athletes was very successful. I would certainly employ that strategy again in the future.
As already mentioned, I had planned to provide more detail about the coach expectancy cycle, which turned out to be unnecessary as coaches were well aware that the cycle existed in their own sport teams. I also did not anticipate the coaches being so aware of how they were treating athlete differently and I certainly did not expect them to be doing it intentionally. This caught me slightly off-guard and required a quick change in the areas to emphasize related to the second objective of the intervention.

If I were to deliver this intervention again, I would keep the individual coach profiles as a starting point to discussing the coach expectancy cycle. I would probably, however, create a more learner-centered activity to draw out the stages of the cycle. To do this, I could have had coaches start by thinking about what the effects are of giving lots of instruction and praise to high performing athletes. We could put these on a white board for the group to see. Then we could do the same activity considering how low expectancy athletes feel when they experience less instruction, etc. Doing this would create a more concrete experience for the coaches than a simple discussion. It would also lead nicely into the second objective of the intervention.

Objective Two

Again, the use of coaches’ personal profiles was instrumental in achieving the second objective of the intervention. In order to get coaches to identify that their behavior was detrimental to athletes, I referred back to their personal plots. For example, when a coach stated, “I always tell the low expectancy group
instructions over and over, they just never get it”, I could easily refer back to their plots. This gave the coach a sense of ownership of their behaviors while I was trying to stretch their concept of the effects of their behaviors on athletes. Also, coaches’ familiarity with each other was conducive to creating an open environment. Coaches were able to discuss the specifics of their team and how they think their behaviors could change to keep more athletes in soccer.

During this discussion I noticed coaches being aggravated in the drop out rate of soccer. Coaches did not perceive this to be an issue they could change or control. In fact, coaches stated that soccer is used as a starter sport that children are forced to participate in until they can move on to a more popular sport. This is not something I anticipated and, therefore, had not planned to address.

In order to alleviate these issues in the future and given the success of personal profiles, I would prepare video clips from previous practices for coaches to review that showed athletes having fun. This would give coaches another concrete example and perspective for coaches to see how their perceptions might be influencing their behaviors. Coaches could have then discussed these clips in reference to the earlier activity, i.e., how they believe players felt during these interactions. This also would have provided coaches with specific examples of what to practice during the role-play experience. In the future, I would also gather more data on athlete perceptions of the given sport. Although soccer is growing in popularity in America, I had no research that would provide proof for specific reasons of drop-out or opinions of soccer.
Objective Three

During the time to practice alternate strategies, it was interesting to see the excitement and reflection as coaches interacted with each other and shared ideas; these opportunities were a cornerstone of the intervention. This might have been because of the relaxed facilitative environment created. I assumed coaches would be hesitant to the intervention, so I began by providing coaches with praise and encouragement, which modeled the behavior I was encouraging. I also encouraged experimentation and even participated in some role-play activities by being a low-expectancy athlete. This allowed coaches to laugh and decreased hesitancy for participation. The environment shift allowed for a more facilitative approach, created unmediated learning, and took the intervention from classroom to experience.

Although this time was constructive, it also felt rushed. Second, the intervention was in a small classroom, which did not allow for much movement in role-play activities. This time crunch created a very quick wrap-up in which I introduced self-reflection and provided an example tool, but self-reflection as a whole was not given the time it deserves.

Of course, time is always limited, but with better time management, I would of broken the session into two and spent the entire second session role-playing and focusing on self-reflection. This way coaches could have gone back to practice and had a chance to test out their new behaviors with the knowledge that they would have an opportunity to come back and ask questions. Discussion
could surround what they learned and what differences they noticed in their practice settings. According to the ICDF (2014), self-reflection allows time for unmediated learning and this structure would have provided coaches multiple opportunities for reflection. In the future, I must be willing to cut off other activities to provide ample time for this important concluding activity.

Conclusion

In conclusion, the use of several models and frameworks in the development and facilitation of a coach development session is critically important. The frameworks employed for the current intervention were beneficial as the ICDF providing a starting point in which the coach developer could enrich her learning program design. The ICDF is an essential base framework for any coach developer. From the ICDF, Kolb’s (1984) experiential learning was a prominent building block. Experiential learning provided the cycle around which to plan learning activities. Finally, Solomon’s (2010) strategies were critically relevant to the specific material covered in this intervention. When using such frameworks, there are many options for coach developers to create activities in which to accomplish the same goals. Therefore, it is important to note that coach developers need to practice self-reflection in order to continually improve their own skill set.
APPENDIX A – Letter to Coaches

Hello Coach XXX,

My name is Erica Pasquini and I am a doctoral student studying sport coaching at the University of Southern Mississippi. With approval from your director of coaching, your team has been selected to participate in a research study exploring youth soccer.

Your participation is very important and will include the following: completion of a short demographic and coach perception of player ability survey, agreement to be video-taped during 6 coaching sessions, and participation in a two-hour coach training session (listed for treatment coaches only).

All information obtained from this study will be kept confidential, including your name and your athletes’ information. The primary researcher (myself) and a research assistant will be the only people with access to your videos. Your willingness to participate is greatly appreciated. Upon completion of the study you will be given a copy of all written reports prior to publication. If you have any questions, please contact me via phone or email, and we can discuss.

Thank you for your time,

Erica Pasquini

Doctoral Student, Sport Pedagogy

The University of Southern Mississippi

(832) 722-4422

Erica.pasquini@eagles.usm.edu
Hello HFC Parent,

My name is Erica Pasquini and I am a doctoral student studying sport coaching at the University of Southern Mississippi. After speaking with your director of coaching, your child’s coach has been selected to participate in a research study exploring youth soccer.

This letter is to inform you I will be attending eight practice sessions in order to video your child’s coach. Please be assured that I am observing and recording the coach to better understand coach behaviors and your child will in no way be identified through this study.

All information obtained from this study will be kept confidential, including coach information and your athletes’ information. The sole researcher (myself) will be the only person with access to these videos. The results of this research will help inform future coach education practices. If you have any questions, please feel free to contact me.

Thank you for your time,

Erica Pasquini
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The University of Southern Mississippi Kinesiology, Sport Pedagogy
(832) 722-4422
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The Coach Expectancy Cycle

The Coach Expectancy Cycle is a model within sport research that explains how coaches develop expectations of their athletes based off of previous sport experience, which inform their behaviors towards athletes. When behavior differs between athletes, it has been shown that athletes perceive these differences, and it affects their performance and satisfaction within sport. In turn, athlete performance suffers and reinforces coaches’ behaviors. This cycle is depicted below.

It is important to be aware of how our behaviors differ and what we can do to stop this cycle from occurring!
APPENDIX D - Example of Cais Coach Profile

Figure A1. Example Profile
Table A1.

**Self-Monitoring Handout**

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Explanation</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of first name</td>
<td>Using player name when speaking directly to them</td>
<td></td>
</tr>
<tr>
<td>Instruction</td>
<td>Informing players preceding desired action or giving reminders during</td>
<td></td>
</tr>
<tr>
<td>Corrective Instruction</td>
<td>Correction of movement or re-explanation during or after movement</td>
<td></td>
</tr>
<tr>
<td>Questioning</td>
<td>Any question given to player concerning technique or strategy</td>
<td></td>
</tr>
<tr>
<td>Physical Assistance</td>
<td>Physically moving players body to proper position</td>
<td></td>
</tr>
<tr>
<td>Positive Modeling</td>
<td>Demonstrating a correct skill</td>
<td></td>
</tr>
<tr>
<td>Encouragement</td>
<td>Verbal or nonverbal praise or motivation given to athlete</td>
<td></td>
</tr>
<tr>
<td>Scold</td>
<td>Verbal or nonverbal behavior of displeasure</td>
<td></td>
</tr>
</tbody>
</table>

Provided is a simple example of a self-monitoring behavioral frequency chart. Coaches can have assistants monitor their behavior during practice or video their own practice and watch in order to monitor behavior. In order to use this system, simply place a tally mark in the frequency box each time a behavior is engaged in. This can be used in order to monitor overall behavior or compare behavior between athletes.
APPENDIX F - Script for Coaching Intervention

Introduction (10 minutes):

First, we will discuss the first handout I have created for you all, an explanation of the coach expectancy cycle. This is the model on which I have based my workshop. As you can see, the coach expectancy cycle is a four-stage cycle that has been shown to occur in multiple coach research studies. In the first stage of the cycle we make judgments of our athletes based on previous sport experience and social-ecological biases. For example, if we have coached a talented older sibling of a child we might make the assumption that the younger sibling is also talented. In the second stage, these talent judgments influence our behaviors toward our current athletes. In fact, research shows coaches provide less instruction, feedback, and encouragement to athletes they perceive as less talented. In stage three, the unequal behaviors we have had with the athletes affect their performance and satisfaction. In the fourth and final stage athlete performance reinforces our initial beliefs. This creates biases that perpetuate this cycle to occur.

CAIS Profile (10 minutes):

-The researcher will provide the AXIS coaching profiles to the individual coaches.

As you can see, I have been tracking your behaviors, specifically the amount of instruction, corrective instruction, and encouragement you have provided your athletes at the practices I attended. Based on the rosters you provided me four
weeks ago, the blue line shows the frequency of these behaviors with the top three athletes on your team. The red line shows the amount of the same behaviors with the bottom three athletes. Based off of what we just discussed I would like you all to take a minute and think about the shape of your profile. What do you notice about your profile? Are you surprised by the results? What would you like to see change or stay the same about your profile?

Now that we have learned about the coach expectancy cycle and our unequal behaviors, we want to not only be aware about balancing our behaviors but also providing quality instruction, corrective instruction, and encouragement to all of our athletes. We will go over some key points about each of these areas, discuss some examples, and then practice these examples amongst each other! Finally, you all will be asked to reflect on how you can better adapt these practices into your own coaching style. First we will discuss general instruction techniques.

General Instruction (30 minutes):

Research in sport coaching has shown that coaches spend more time at practice explaining the drills they would like to do than time players are actually in motion! As coaches, we want to give our athletes ample opportunity to actually practice the important drills we are teaching them. Now, let’s go over some pointers for giving good general instruction to our athletes.
1. We want instruction to be judicious; athletes can become overwhelmed with the amount of instruction provided thereby clogging their brain with unnecessary information. Instruction should be limited to the most important aspects off the task at hand.

2. Frequency. Again, if we are constantly providing athletes with instruction it can be overwhelming. Also, people learn best by making mistakes! Therefore we want to provide instruction directly before a task, and then give athletes ample time to practice. As our athletes become more skilled, we want to give instruction less frequently.

3. If we are providing instruction to our athletes throughout their movement, we should use small cue words as reminders. This way, athletes can continue practicing while focusing on the most important part of the task.

Now that we have some instruction pointers, lets practice with each other!

- Coaches will then partner up and instruct their partners on how to dribble the soccer ball
- After each partner goes, coaches will be encouraged to discuss what went well and what could have gone better.
- After practicing coaches will be asked to reflect on how these new skills can be adapted into their daily coaching style.

Corrective Instruction (30 minutes):
Now that we have discussed general instruction, we can move onto corrective instruction. As coaches, corrective instruction is an integral part of our skill set, but we want to make sure our corrections are positive as opposed to a punishment or a statement of how something went wrong. Let’s discuss some pointers on corrective instruction!

1. Remain positive! Even when a coach is providing a correction, feedback should be provided with a positive outlook. This is an important opportunity for growth, not an opportunity to scold or shame the athlete.

2. Feedback should be specific! For example, as a coach is telling the athlete what went right or wrong, we want to say exactly what we would like to see happen. So in combining these two pointers instead of saying “Johnny NO! That was wrong!” We can say, “Great try, but I would like to see you keep your feet pointed forward next time”. Then, Johnny does not feel unmotivated or wrong and he knows exactly what to change the following try.

3. Finally, feedback should be provided DIRECTLY after a movement. I know this is hard! We have a lot of athletes to pay attention to, but this is the most effective way for change. The performance is still fresh on the athletes mind, therefore if you provide feedback directly after it will help the athlete retain what need to be corrected. Keep in mind, as noted above, that we don’t have to provide corrective instruction after every attempt.
Okay, let's practice with each other!

- Coaches will remain with the same partner, again dribbling the ball but this time will be instructed to provide corrective instruction to their partner post skill.
- After each partner goes, coaches will be encouraged to discuss what went well and what could have gone better.
- After practicing coaches will be asked to reflect on how these new skills can be adapted into their daily coaching style.

Encouragement:

The final coach behavior we will be discussing today is encouragement. It is important to remember that encouragement is still feedback! The only difference here is you are using the feedback you give as a motivational tool for athletes. We all know practice can get really tiring and learning a new skill is challenging, therefore encouragement is one of the best tools a coach and employ. Research has shown that positive reinforcement motivates and encourages athlete participation. Now let's go over some of our encouragement pointers.

1. Encouragement, just like corrective instruction should be specific! Again, we don’t want to overwhelm our athletes but simply saying “Good job!” does not explain to the athlete exactly what they did correctly. There are many aspects in one movement, so we want to be specific about WHAT
was good so the athlete knows what to do again next time. Instead of
good job, we should say “Good job keeping your feet forward that time!”
this way the athlete knows they improved and knows what they did
correctly.

2. Again, similar to general instruction, when an athlete is first learning a new
skill or having trouble learning a skill they are going to need increased
amounts of encouragement. As the athlete becomes better,
encouragement should be given strategically and less often.

3. Finally, encouragement should be given to all athletes! We want to keep
all of our athletes motivated to do their personal best, so instead of giving
athlete encouragement like “Johnny did that so well! Everyone watch
Johnny!” encouragement should be given separately to each athlete
depending on his or her personal improvements.

Now that we have some encouragement pointers, let’s practice with each other!

- Coaches will then partner up and have partners implement the correction they
were given the last round. While corrections are being implemented coaches will
be asked to provide their partners with encouragement based on the pointers
provided.

- After each partner goes, coaches will be encouraged to discuss what went well
and what could have gone better.
-After practicing coaches will be asked to reflect on how these new skills can be adapted into their daily coaching style.

Closing Activity (10 minutes):

-Coaches will be provided the example of a self-monitoring system.

In closing, I would like to ask each of you to take a minute to reflect on the information you have been provided today. On the back of the self monitoring system I have provided I would like to ask each of you to write down which behavior you feel you do best and what type of behavior you feel you need to work on the most.

-Coaches will then be asked to discuss what they have written down and how they plan to self-monitor their behavior in the future.

I encourage each of you to use the tools provided today and continue to use these self-monitoring devices to reflect on your own coaching behaviors!
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NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 21, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the “Adverse Effect Report Form”.
- If approved, the maximum period of approval is limited to twelve months.

Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 16021106
PROJECT TITLE: The Coach Expectancy Cycle and the Impact of a Coaching Education Intervention in Youth Soccer
PROJECT TYPE: New Project
RESEARCHER(S): Erica Pasquini
COLLEGE/DIVISION: College of Health
DEPARTMENT: School of Kinesiology
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IRB COMMITTEE ACTION: Expedited Review Approval
PERIOD OF APPROVAL: 02/25/2016 to 02/25/2017

Lawrence A. Hosman, Ph.D.
Institutional Review Board
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