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EXAMINING THE IMPACT OF A COACHING TRAINING PROGRAM ON COACHES' NON-COGNITIVE SKILLS

By
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Abstract

The purpose of this quantitative study was to examine the impact the 3-Dimensional Coaching program may have on coaches' non-cognitive skills. Non-cognitive skills are the fundamental characteristics predictive of behavior development and life-long achievement. Considered one of the most influential roles' in young peoples' lives, the focus on coaching has become more prevalent because of the infatuation of sport within society. Institutions often lack resources or commitment to provide necessary coaching development to ensure coaches learn to address issues or concerns within the dynamic and contextually complex field. The study recommendation aims to utilize empirical evidence to inform coaches and administrators at institutions that sponsor sports of the benefits of implementing a transformational-based program that may enhance the coaches' role more effectively. Findings revealed statistically significant small to moderately large effect sizes in eight of thirteen non-cognitive skills, indicating the coaches' training may positively impact the coaches' non-cognitive skills. Recommendations include strategies to improve coaches' non-cognitive skills by implementing an Interactive Model of Program Planning supportive of a versatile approach to coaching development planning that allows leaders to formulate and structure content engaging coaches collaboratively. The solution guides program leaders, outlining tasks within the interactive model allowing practical coaching conventions, such as mentoring, to influence coaches' development.

Keywords: coaching, non-cognitive, transformational, coaching development

Dedication

"The journey of a thousand miles begins with one step."

-Lao Tzu

I am dedicating this Dissertation in Practice to my loving family. Elizabeth, you were there every step of the way. You are the wind beneath my wings and the inspiration to keep me moving forward. Ryan, Ashlee, Scott, McKenna, Allison, Julia, and Eli, you fill my heart with joy and give me the courage to push myself further than I believe I am capable of doing. Thank you for your patience, support, and encouragement you have shared with me throughout this unforgettable journey. To my parents, David and Ann Bauer, thank you for always believing in me and showing me the value of hard work, persistence in the face of adversity, and the commitment to pursue my passions.

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CHAPTER ONE: INTRODUCTION

Introduction and Background

Preparing and equipping coaches for the complex and multifaceted aspects of sports is challenging and necessary for young athletes' personal development. Although some organizations mandate certification in standard coaching development programs (Nash, 2003), the effectiveness of meeting the needs and wants of coaches is uncertain (Gilbert & Trudel, 1999). The general emphasis of educational programs often promotes athletes' safety, addresses moral and legal issues, teaches basic coaching competency (Trudel & Gilbert, 2006), and deals with parental sportsmanship (Wiersma & Sherman, 2005). The high levels of participation, incidents of misguided coaching behaviors (Steward, 2013; Wiersma & Sherman, 2005), lack of role development (Gilbert & Trudel, 2004), and concerns for developing the "modern-day coaching practitioner" raise the concern of coaching education content needs, practices, and program effectiveness (Potrac et al., 2000, p. 187).

Gould et al. (2006) insists that coaching education programs are unsuccessful because they lack content focused on personal and social development. For this study, non-cognitive skills were defined as socially constructed "attitudes, behaviors, and strategies which facilitate success," such as resilience, grit, or self-determination (Gutman & Schoon, 2013, p. 4). The sports environment helps develop a favorable climate that stimulates the transference of skills (Camire et al., 2012). These skills represent factors, such as behaviors, personality characteristics, and attitudes, which are not measured by cognitive achievement tests (Messick, 1979). Thus, a more successful formal coaching

education program should address coaches' personal development to help develop their role to guide young athletes more effectively and competently (Trudel & Gilbert, 2006).

The demand for coaches has become prevalent from the influx of high school participation in sports. Most notably, the increase is due to a surge of high school girls playing sports. The National Federation of State High School Associations (NFHS) (2017) annual participation survey in the United States revealed a total of 7,963,535 participants, which is the most ever recorded. Of the ten sports surveyed, the girls' participation surpassed the previous high with 3,400,297 participants, a 75,971 increase from the previous year, representing 42.7% of all high school participants (NFHS, 2017). Although most high school coaches teach, the increases in total participation leave institutions to rely on inexperienced teachers and parents to coach the participants (Wiersma & Sherman, 2005).

Coaches play a significant and complex role in participants' holistic development (Gould et al., 2006; Koh et al., 2014). Such development addresses the need for an athlete-centered focus on the overall performance, health, and well-being of young athletes (Lindgren & Barker-Ruchti, 2017). This development also addresses specific behavioral skills and its influence on building the cognitive domain (Garcia, 2014). The need raises concern over the lack of coaching education and certification programs devoted to equipping inexperienced coaches. Such improvements provide useful knowledge and strategies to help enhance athletes' non-cognitive skills, which directly transfers to the "non-sport settings," such as school, and contributes significantly to predicting individual and societal outcomes (Gould et al., 2006, p. 28). Furthermore, influencing non-cognitive behavior leads to higher education levels and better

employment outcomes later in life (Lleras, 2008). Unlike cognitive intelligence, non-cognitive skills are malleable and can manifest and be shaped later in life with mentoring and coaching (Kautz et al., 2014; Savitz-Romer & Bouffard, 2012). For these reasons, improving non-cognitive-related factors are perhaps more significant than cognitive abilities measured by achievement tests (Lleras, 2008).

Statement of Problem

The demand for coaches has increased due to the surge of youth sports programs and increased participation worldwide. The increase in the number of novice coaches supervising and working with young athletes exacerbates problems associated with poor coaching practices (Gearity & Murray, 2011; Stewart, 2013) and the need for coaching development (Cushion et al., 2003). Gould et al. (2006) asserts that coaching education programs fail to develop the coaches' skills necessary to improve young athletes' skills. A coach's psychological attributes, characterized by the quality of non-cognitive skills, are contingent upon socially constructed interactions attributed to environmental factors (Borghans et al., 2008). Such interactions assist in developing a person's thought patterns, personal feelings, behavioral practices, and emotional stability, which are reflected in coaches' traits, attitudes, and motivations (Borghans et al., 2008; Zhou, 2016).

Research supports the development of non-cognitive skills. Studies suggest these factors contribute to meaningful, long-term effects of an individual's well-being (Zhou, 2016), educational attainment, personal conduct, and salary earnings (Jackson, 2012). However, content is typically designed to prepare and develop coaches' basic knowledge and competency, such as enhancing instruction, training, and performance (Gould et al., 2006). Although the coach's role is crucial in supporting non-cognitive skills, little is

known about how coaching education programs reinforce and improve coaches' non-cognitive skills. Thus, understanding the effects of coaching education programs on coaches' non-cognitive skills may benefit coaches in acquiring and harnessing the ability to transform young athletes' intangible skills. Moreover, developing an effective programming solution may also help produce strategies to improve the coach's role and coaching process.

Purpose of the Study

The purpose of this quantitative quasi-experimental study was to examine the changes in coaches' non-cognitive skills while completing a transformational leadership-based coaching development program designed to improve the coaches' role and effectiveness.

Research Question and Hypothesis

This study examined the changes in coaches' non-cognitive skills during a program designed to build coaching effectiveness. Specifically, this study investigated the impact of the 3-Dimensional Coaching (3-D Coaching) program on thirteen non-cognitive factors associated with numerous positive life outcomes (Davidson et al., 2018). The 3-D Coaching program is a transformational-based training program for coaches designed to explore the three-dimensional framework, which guides coaches through a series of interactive modules. The three dimensions of this framework include the fundamentals of sport (first dimension), the psychology of sport (second dimension), and the heart of the athlete (third dimension). In combination, the three dimensions represent a holistic approach to influencing athletes' body, mind, and spirit. The 3-D Coaching course curriculum intends to help coaches understand their transformational

purpose better. The program design aims to help coaches create a plan and develop strategies to move beyond the physical aspects of sport and impact athletes at a much deeper level by coaching their minds and hearts. The following research question was developed to explore the degree to which coaching training can impact coaches' non-cognitive skills.

Research Question: To what extent may the 3-D Coaching program influence coaches' non-cognitive skills?

The following research and null hypotheses were investigated in this study:

H_1*:* The non-cognitive skills of coaches will significantly increase after completing the 3-D Coaching development training.

H_o*:* The 3-D Coaching development training will result in no changes to coaches' non-cognitive skills.

Aim of the Study

This study aimed to use empirical data measured by the MindVue Profile (formerly known as the Intrinsic Profile) to inform organizations and institutions that sponsor athletic programs about the 3-D Coaching program's influence on coaches' non-cognitive skills. The aim is intended to increase school and club administrators' understanding and awareness of the importance of supporting the development of the coach's effectiveness and approach to improving athletes' non-cognitive skills, such as grit and perseverance.

The primary impetus for coaching education and certification training programs is to increase knowledge and equip coaches to lead and guide teams and individual athletes competently. Coaching education models have been extensively researched, examining

program structure, methodology, design, and various learning approaches. A recent investigation into the holistic role (Potrac et al., 2000) and understanding the coaching process to help young athletes develop skills (Gould et al., 2006) have led to a closer examination of coaches' ability to perform their role effectively (Hodgson et al., 2017).

The growing interest in holistic awareness and the development of the whole person, including the physical, mental, and social skills of young athletes, supports the need to address coaching education programming and improve coaches' non-cognitive characteristics (Casidy et al., 2009). Gillet et al. (2010) reinforces the idea that an athlete's perception of coaches' behavior is one of the most critical determinants of an athletes' motivation. Such characteristics encompass a broad scope of skills categorized as behavioral, interpersonal, and intrapersonal (Camire et al., 2012). Understandably, in social and economic settings, Green (2011) contends that such skills produce value and can be advanced through social interactions and training. Further, Gilbert and Trudel (2004) maintain that coaches have little guidance in developing their approach to coaching, and many are concerned about their role in improving the social development and behavior of their athletes. Measuring the extent of how coaching development courses influence or change coaches' non-cognitive skills may evince concepts and strategies, which help coaches develop a holistic approach through training.

Methods Overview

Coaches, who enrolled in the graduate-level coaching development course that utilized the 3-D Coaching certification program, were selected to participate in the study. Coaches in the convenience sampling were enrolled in a five- or fifteen-week graduate-level course at their university, which utilized the 3-D Coaching program as part of the

course. To bolster the sample size, participants were gathered from three collegiate institutions who were enrolled in a coaching education program to fulfill academic requirements. The coaches completed an automated online assessment called the MindVue Profile at the beginning of the course as well as at the end of the course. The assessment is composed of 120 items, each with a five-point Likert-like response scale; the instrument requires approximately 15-20 minutes to complete.

The course was comprised of 25 online modules to be completed sequentially. Upon completion of the course, the subjects were retested via post-test assessment. The quantitative study analysis examined the pre-/post-test results to determine any difference in the coaches' non-cognitive skills following the intervention.

Literature About the Professional Practice Setting

Heath (1965) and Bloom (1966) helped ignite the exploration and importance of developing practices to improve a person's non-cognitive factors such as their interests, attitudes, values, and personality traits. Bloom's early work also concluded that an individual might continue to develop and improve their non-cognitive skills throughout their lifetime. In other words, people exposed to the right kinds of training, experience, practice, and stability may develop these traits and skills more fully (Borghans et al., 2008). Heath and Bloom's early research was an extension of Gordon Allport, who published *Pattern of Growth and Personality* (1961). Similar works by Wechsler (1943) investigated the variance of what he deemed as non-intellective factors and expounding on factors not directly measured by intelligence tests. Wechsler (1943) concluded that intellective factors do not account for non-intellective attributes, which augments intelligent behavior. As more evidence has become available highlighting the importance

of non-intellective traits, interest has escalated in various alternative theories and scales related to non-cognitive characteristics. As a result, interest in measuring and developing non-intellective skills, such as motivation, persistence, and interest, has become more prevalent in fields of study, such as education, psychology, and economics.

Additionally, the terminology used to describe non-cognitive skills differs across disciplines. Earlier research uses different labels to describe these aspects of conative and affective abilities initially deemed non-intellective factors (Wechsler, 1943). More recently, other labels include non-cognitive skills in behavioral economics and psychology studies (Achtziger & Gollwitzer, 2010; Borghans et al., 2008), social-emotional or character skills and strengths in educational policy (Garcia, 2014), psychological attributes in sports (Hodgson et al., 2017), mental toughness in military psychology (Jones, 2002), life skills in Positive Youth Development (PYD) (Gould et al., 2006; Camire et al., 2012), social-emotional learning in education (Durlak et al., 2011), and soft or twenty-first-century skills in business (Andrews & Higson, 2008). For this, the term "non-cognitive skills" is a more practical term because it is globally understood and used by multiple bodies of literature (e.g., behavior economics, psychology, etc.) to measure specific behaviors, emotions, and thought patterns, such as adaptability, grit, resilience, empathy, and self-control.

Definition of Relevant Terms

The dependent variables, *non-cognitive skills*, are defined as socially-constructed "attitudes, behaviors, and strategies which facilitate success" (Gutman & Schoon, 2013, p. 4) and was measured here using the MindVue Profile. As shown in Table 1, the *MindVue Profile* is a psychometric assessment designed to measure various non-

cognitive factors found in the literature to be associated with numerous performance and other positive life outcomes (Davidson et al., 2018).

Table 1

The Skills Measured by the MindVue Profile (Davidson et al., 2018)

Non-Cognitive Skill	Definition
Self-Awareness	Possessing an accurate understanding of your strengths and overall sense of identity
Growth Mindset	Holding the belief that your potential can be cultivated through effort
Self-Efficacy	Believing in your ability to accomplish goals
Self-Determination	Having and pursuing self-generated and very meaningful goals and a strong sense of purpose
Grit	Having the passion and perseverance to achieve your long-term goals
Conscientiousness	Being organized, careful, and dependable in the completion of your work
Self-Control	Maintaining the ability to control your impulses and delay gratification for a larger reward in the future
Self-Discipline	Possessing the willingness and ability to do work most others are not willing to do
Adaptability	Possessing the ability to acclimate to the changing environment
Hope	Possessing the ability to navigate around obstacles while in pursuit of your goals
Internal Locus of Control	Believing that your success is determined by hard work and effort versus luck and external factors
Resilience	Having the ability to bounce back from setbacks and emerge from adversity stronger than before
Integrity	Possessing honesty, integrity, and acting in an ethical manner

The independent variable, the *coaching development program*, was defined as an established training course led and guided by a certified and expert coach in a virtual or formal structured setting (Koh et al., 2014). *Coaching development* (intervening variable)

was defined as a comprehensive program supporting coaching theory, sport-specific content, and coaching practices to enhance a coach's knowledge and development (Trudel & Gilbert, 2006). *Coaching education* was defined as time invested in a formal coaches training course designed to enhance a coach's knowledge and competency of working with young athletes (Gilbert et al., 2006). *3-D Coaching* program trains the coach from a transformational leadership theory foundation aimed at coaching development and the discernment of the holistic dimensions of sport, which includes physical skill (body), psychology (mind), and the heart of athletes (relationships) (Duke & Bonham, 2014).

Transformational leadership extends beyond the valuable social interactions that occur when leaders engage followers in a relationship with a shared purpose to transform and raise motivation, conduct, and morality (Simola et al., 2010). *Holistic or humanistic development* is referred to as athlete-centered leadership that fosters positive, nurturing, and careful actions focused on human development (Mallet & Rynne, 2010). Finally, a *sports coach* is characterized as a leadership role central in all sports process contexts, which produces desired performance outcomes (Lyle, 2002; International Council for Coaching Excellence, 2012).

Leader's Role and Responsibility Concerning the Problem

The importance of coaching development has become increasingly significant at all levels of sport. Sport in our society has now become the most prevalent discretionary activity people participate in our culture. Consequently, coaches have progressively become the central adult figure, role-model, and influencer, helping athletes achieve results that may be unobtainable on their own (Duke & Bonham, 2014). This study examined the influence of transformational training on coaches' non-cognitive skills. The

program under investigation was designed to engage coaches in meaningful and applicable information and strategies to guide their thoughts and behaviors. The program is intended to develop transformational leaders who inspire, build confidence, share visions, and show confidence in athletes' abilities and potential (Johnson, 2015) and impart non-cognitive skills that effectively improve their role

Significance of the Study

The study was significant because it generated new insight and knowledge of how a transformational coaching program may influence non-cognitive factors necessary for high-performance outcomes. While it has been recognized that two of the most powerful words in the English language for young athletes are "Coach Says" (M. Hall, personal communication, March 21, 2017), coach-athlete relationships can have a life-changing influence on young athletes. Such influence is a result of coaches' knowledge and practice, which are evident by their decisions and actions (Light et al., 2014). Gould et al. (2006) assert that coaches acknowledge and recognize the powerful influence they have over athletes. Potrac et al. (2000) suggest that research should explore the distinct dynamics that shape and develop the reality of interactions in the coach-athlete relationship. Such relationships are influenced in a socially-constructed field, which has been overcome by power (Potrac et al., 2000).

Although sports create opportunities for unique and dynamic social interactions, coaches have autonomy in their choice of behavior (Stewart, 2013) and have chosen the path to mentor and lead young athletes (Bloom et al., 1998). Unfortunately, the path has often led to incidents that continue to precipitate athletes' withdrawal from sports because of poor coaching practices (Gearity & Murray, 2011; Stewart, 2013). Efforts to improve

coaching competency and the coaching role's effectiveness may be achieved through a closer examination of coaching education and development.

While a combination of personal knowledge and experience influences coaches' learning, the practical experience gained through the opportunity to engage in various contextual learnings positively influences coaching behaviors, encouraged by young athletes' emotional and physical growth (Wright et al., 2007). Similarly, the classroom teacher's behavior predicts a student's motivation, influencing academic performance (Gillet et al., 2010). Subsequently, a school's effort to improve non-cognitive skills is a promising means of supporting academic success (West et al., 2016) and an indicator for improved adult outcomes (Jackson, 2012).

Like teaching, coaching behaviors motivate young athletes. An athlete's motivation induces levels of excitement, such as feelings to participate (Gillet et al., 2010). Conclusively, Gillet et al. (2010) demonstrate the success of autonomy-supportive coaches who effectively nurture self-determined motivation. According to Deci and Ryan (2000), those who aim to support others' thoughts and feelings and demand less and minimize pressure tactics engage in autonomy-supportive behaviors, which acknowledges behavior regulation. Bandura (1991) explains the importance of self-regulation, which motivates coaches to regulate their emotions and behaviors. West et al. (2016) demonstrate that a teacher's ability to motivate students inwardly improves non-cognitive skills associated with strong academic performance. Therefore, the purpose of this paper is to examine the influence a coaching development program has on coaches' thought patterns, emotions, and behavioral practices to determine if their skills were enhanced (Borghans et al., 2008).

Summary

Coaching effectiveness is difficult to determine. Beyond the outcome of participation in sports, coaching effectiveness may not be visible until the athletes reach adulthood, where the non-cognitive skills are transferred and applied to be productive, educated, and law-abiding citizens. The coach's role has serious implications for developing young athletes' emotional and behavioral skills (Gould et al., 2006). By designing programs to develop the coach's role and the coach's own non-cognitive skills, coaches may be better positioned to support and develop their athletes' skills outwardly. This study used a quantitative approach utilizing the MindVue Profile tool to explore how the transformational 3-D Coaching development program may impact coaches.

CHAPTER TWO: LITERATURE REVIEW

Introduction

The purpose of this literature review is to provide an in-depth understanding of the challenges that sport faces to educate and prepare coaches competently. Conceivably, the notion of competency may become more apparent by examining programming methods and presenting research to consider the implications of enhancing the coaches' quality of thought, feelings, and behavior directly related to success (Borghans et al., 2008). The review begins by exploring the coaching profession's historical perspective, how the leadership concept has evolved over thousands of years, and the influence of modern era changes and coaching context dynamics. The review explores preferred or standard practices of educating coaches and the coaching development and methodology utilized to acquire fundamental knowledge and skills. Further emphasis will investigate coaching and how coaching development programs influence the coaches' learning, role, and approach to their personal growth. The study will also address the coach's leadership role and factors contributing to a humanistic approach and practices and the coach-athlete interpersonal relationship. Finally, a growing body of research on enhancing non-cognitive skills, which influences long-term benefits, posits consideration for advancement in a theoretical perspective to improve the coach.

Coaching as a Profession: The Influence of History

Coaching has had a relevant and essential leadership role in the history of sport and has evolved into a legitimized modern-day profession. The origin of sport and the analogous concept of coaching the body and mind (Young, 2005) dates back to Ancient Greece, where coaches were compensated generously to train athletes to compete in the

original Olympic games (Carpenter, 2004; Greene, 2017). Comparably, a system of structured guidance, such as mentoring, has origins in ancient Greek mythology in the renowned literature of Homer's *Odyssey* (Bloom et al., 1998; Merriam, 1983). Mentor, a friend of Odysseus, provides guidance and encouragement to his son, Telemachus, in search of his father, stating, "…begin getting provisions ready for your voyage: see everything well stowed…" and "…I look with hope upon your undertaking" (Homer, 1940, p. 21). Homer's literary works helped create the conceptual meaning of a mentor, which broadly identifies and helps explain the coach's wise and supportive role in modern sports (Allaho & Van Nieuwerburgh, 2018).

Although coaches' emergence rewarded for training Greek athletes holds a historical significance in the profession, coaches training athletes in the context to excel in an individual discipline were not formally documented until the 1860s in England (Allaho & Van Nieuwerburgh, 2018). Even before the term "coach" became recognized as a person with specialized instructional sports knowledge and skills, intercollegiate athletics had already been established in 1840. Shortly after that, the resurgence of the Olympic games followed in 1896. Finally, the inception of the school-based sports system emerged in the late nineteenth century, with professional team sports closely followed in the early turn of the twentieth century with the advent of baseball, basketball, American football, hockey, and soccer (Nauright & Parrish, 2012).

The evolution of amateur and professional sports teams helped construct and establish a prominent sociocultural institution (Frey & Eitzen, 1991), created by the intricacies of the American society and what Smith (2000) contends has developed into "the religion of American people" (p. 9). Arguably, the growing popularization of sports

from youth to professional ranks over the last century and a half set the course for one of the most demanding and yet rewarding endeavors. Jones and Wallace (2005) recognize the challenges associated with this job, suggesting that anyone who has ever tried to coach knows that the goals are hard to attain, the process is demanding, and the planned outcomes are rarely realized. Although coaching is considered an arduous professional journey, the Reverend Billy Graham, while attempting to persuade a young coach on the verge of leaving the profession, prophetically described the reward of coaching by stating, "One coach will impact more young people in one year than the average person does in a lifetime" (Duke & Bonham, 2014, p. 81).

Contextual Implications in Coaching

The circumstances that influence and form the coaching experience are inherently complex, sophisticated, and not easily realized or managed in a profession where it is traditionally presumed that coaches always know what to do, how to react, and take command. According to Cushion (2011), such ideology is caught in a sociological paradox where society surmises that coaches acquire, from formal coaching education or preferred methods, the necessary knowledge, skills, and strategies to lead and influence athletes competently. Societal perception becomes a reality when organizations or institutions support unsubstantiated certification programs assumed to affect the coaches' behaviors and decisions (Cushion, 2011). Although coaches are encouraged to consider educational opportunities to learn various strategies to manage more effectively, benefit athletes holistically, or improve the coach-athlete relationships, tensions, social forces, and ambiguity remain prevalent (Jones & Wallace, 2005). As a result, the complex nature of sport characteristically charges coach practitioners with tasks that cannot be learned

with a one-size-fits-all approach because any combination of contextual changes is never straightforward (Jones & Standage, 2006).

The transformation of the coaching context is a result of international growth and sports tourism (Malchrowicz-Mosko et al., 2018), commercialization and sports science (Frey & Eitzen, 1991), and increased participation in sports worldwide (The Aspin Institution Project Play, 2019). These and other contextual changes, from a sociocultural perspective, have enhanced various aspects of human performance, such as sports psychology and coaching education. Differences are also apparent in high-level athletes at all levels who emanate commodified changes in the athlete's role and sense of utility, placing a higher value on personal development and enjoyment than those who act with a pervasive sense of self-interest and ego-oriented behavior (Frey & Eitzen, 1991; Petitpas et al., 2005).

Finally, the modern era of coaching has slowly emerged with changes and advancements in society as the sports media industry has made unparalleled contributions to creating and popularizing sports teams and figures, such as athletes and coaches (Bellamy, 2006). Although coaches may not rival the All-Star spotlight of championship teams or Hall of Fame athletes, many professional coaches have become household names. Thelin (1994) contends that the 1930s ushered in the first wave of mogul coaches. Like Knute Rockne and Glenn "Pop" Warner, these sports legends were the first of many greats who were sought after, paid lucratively, and idolized (Thelin, 1994). According to McClellan et al. (2012), the media played a significant role in elevating the college coach to the stature and prominence of nationally recognized iconic coaching figures in American sports culture.

Leadership in sport continuously presents challenges arising from contextual influence, mostly due to change and how coaches react to those challenges. Depending on how coaches manage all aspects of the job often defines one as a leader and whether they are considered successful. Cote and Gilbert (2009) describe the coaching context as the realization and appreciation of the "unique setting" while enhancing the athlete's performance more effectively (p. 314). Hertting (2019) explains that "learning is considered an ongoing sociocultural process" that describes how coaches learn, develop, and act within their particular context (p. 41). The context involves unique social and politically-motivated experiences, where learning through interactions are socially constructed (Lemyre et al., 2007). Cote et al. (1995) describe these unique characteristics, such as an athlete's traits as "peripheral components," which influence the coach's perception of an athlete's potential (p. 11).

Various contextual elements result from external influences creating pressures or non-regulatory distractions that are difficult to navigate, such as helicopter parents or the focus on outcomes (e.g., winning/losing) (Shimon, 2011). While different sports-related influences may be problematic, others may support the coaching process, or both, such as media (Jones & Wallace, 2006). Furthermore, the dynamics of coaching context pressures become more amplified as the competitive level increases and more favorable outcomes are expected.

Context: A Function of Change, Development, and Learning Process

Similar outcomes are evident in the vast emergence of coaching across disciplines, such as executive coaching, which has flourished in the late twentieth century with the advent of personal development, coaching books and articles, evidence-based

programming, leadership organizations, and emphasis on coaching psychology (Brock, 2010). Such evidence reflects the significance of coaching and its presence in other domains. Subsequently, coaching is a process to help train or guide others to improve performance and unlock potential in any field, such as academia, business, psychology, or religion, led by teachers, tutors, counselors, trainers, pastors, and gurus.

The underpinning concept of coaching has evolved into an interdisciplinary approach to gain a wide range of perspectives to inform coaching research and education and support program design or interventions to advance the learner. Consequently, a plethora of resources and the broad scope of contextual programming and coaching topics have helped explain many of the challenges placed on coaches and their drive to add value to others (Maxwell, 2005). Hudson (2008) describes coaching in a broader context, suggesting it is a central function of change and development to guide others by stating,

> A "mentor/coach" is a trusted role model, advisor, wise person, friend, mensch, steward, or guide. A coach works with emerging human and organizational forces to tap new energy and purpose, to shape new visions and plans, and to generate desired results. A mentor/coach is someone trained and devoted to guiding others into increased competence, commitment, and confidence. Coaches play many roles to achieve future-oriented results – career pathing, personal and professional renewal, high-performance training for teams, and providing informal leadership for transition management. (p. 15)

As events and issues had and will unfold over time, the context in which coaches operate directly results from continuous changes in society. According to Hudson (2008),

the proliferation of coaching ignited as society shifted from "a stable, orderly, steady-state model" before 1950 to a modern era world that is an "unstable, disorderly, change-driven one" (p. 6). In the process of analyzing and drawing meaning from factors that are most important in the coaching process, Cote et al. (1995) defined context as "unstable factors" that influence the coaching process, such as working conditions (p. 12). Although these factors are prone to impact the coaching process, they may also give rise to and improve the coach's knowledge and approach. Whitmore (2017) describes the broader essence of coaching as "unlocking people's potential to maximize their performance. It is helping them to learn rather than teaching them" (p. 23). Regardless of the context, coaches help others learn, develop, work through the challenges, and strive to reach their full potential beyond the game. The journey is a continuous learning process, and one thing is sure about coaching, "there is no one way to lead, and what works for one may not work for all" (Misasi et al., 2016).

Coaching Education and Training

Coaching education, within the complexity of the ever-changing sports domain, is beneficial for shaping coaches (Nelson et al., 2006). In efforts to equip coaches for the complex role and responsibility of guiding young athletes, indoctrination and practice methods have been extensively examined and employed. Efforts to establish benchmarks and design effective coaching education models have been implemented worldwide, as demonstrated by the Canadian National Coaching Certification Program (2008), the Society of Health and Physical Educators (2018) (SHAPE America), and the International Council for Coaching Excellence (2013) in the United Kingdom. Yet, program designs continue to demonstrate a wide variance in how to prepare and educate

coaches adequately. Hedlund et al. (2018) insist that regular open dialog is essential to developing and educating coaches effectively on current and new coaching topics, advancing knowledge and understanding of how to act. A literature review on coaches' learning and the exploration of coaching education provides ample evidence that coaching competency and behavior are acquired through various sources (Stodter & Cushion, 2019). Those sources include, but are not limited to, the following: the athletes' experiences of observing coaches (Cushion et al., 2003), models incorporating a formal classroom setting or nonformal or informal field experiences (Koh et al., 2014), mentoring, coaches creating their learning situation based on the approach to learning (Werthner & Trudel, 2006), reflection upon practice (Knowles et al., 2001), and learning through experience (Hedlund et al., 2018).

Extensive research examining coaching education has been evident in literature steeped in coaching theories, which explores interrelated concepts such as coaching interventions, coach-athlete relationships, programming, practices, roles, and learning methods (Gilbert & Trudel, 1999, Gilbert & Trudel, 2004; Jowett, 2009; Nelson et al., 2006; Smith et al., 1979). Combined, researchers have investigated and established a level of substance to the profession that calls attention to educating and developing the quality of coaching, which meets others' contextual needs and expectations. Although it appears the United States is significantly behind other countries that have established national coaching education programs, such as Canada and Great Britain, the lack or complete absence of any form of basic coaching knowledge and skill development is the primary concern of coaching research (Gilbert et al., 2006).

Beyond the necessary coaching knowledge and skills, the literature on coaching education and learning calls for more attention to developing the coaching role and philosophical focus on creating a balanced approach to holistically develop effective coaching behaviors (Potrac et al., 2000). Regardless of the certification program, Sullivan et al. (2012) concluded that coaches view formalized coaching education programs and certification as an essential part of their growth and development and positively influence their beliefs, knowledge, and behavior. Although not completely assured, one could say that exposing coaches to basic sports-related content and knowledge of practices is more beneficial to athletes' experiences than having novice coaches experiment with the coaching process. Furthermore, a closer examination of coaches and their view of coaching education programs suggests coaches place value on both formal and informal educational opportunities; however, cost and time restraints from the demands of the profession make formal training more challenging to attend (Nelson et al., 2013; Gilbert et al., 2006). As a result, coaches rely more heavily on past experiences from athletic participation and social interactions where they are actively engaged in the developmental process (Gilbert et al., 2006).

Upon closer examination of coaching education program scholarship since 1995, McCullick et al. (2009) recommend that sound improvements in coaching education and development need to be made for coaches to be adequately educated, prepared, and trained. The typical coaching education method has been to formally train or instruct coaches based on critical assumptions or frameworks of what is considered "good practices" (Potrac et al., 2000, p. 188). Sound practices are relevant to advancing athletes' skill level and development; however, coaches need to be more than technicians who

transfer knowledge and develop fundamental skills. Such limited approaches contribute to the inherent problems associated with coaches' training and have been criticized for not focusing on real-life situations involving the interactions between people (Potrac et al., 2000). Coach practitioners' recommendations include suggestions for coaching developers' who design formal educational programs to include some form of experiential, hands-on approach and content that is more relevant and applicable to their coaching context (Cushion et al., 2003; Nelson et al., 2013). Lastly, beyond the formal framework, which describes how coaches learn, Duke and Bonham (2014) insist there is a need for educational expansion and the implementation of quality coaching education programs in higher education.

McCullick et al. (2009) explain the need for an extensive investigation into coaching education programs, so developers can draw from scholarly conclusions when designing and crafting coaches' training. The significant increase in sport popularity escalates the demand for coaches, yet organizations and institutions rarely provide novice coaches with adequate training to create a healthy psychological environment (Smith & Smoll, 1997). The social dynamics of sport combined with societal pressures and inexperienced coaching are apparent in coaches' behavior and decisions, directly impacting the athletes' experience in sport (Gearity & Murray, 2011; Stewart, 2013). Furthermore, these questionable acts of wrong-doing not only harm young people and tarnish organizations' and institutions' images, but the incidents are a good indication of a lack of quality coaching education programming (McCullick et al., 2009).

Coaches' Learning Practices

While it has been recognized that the acquisition of professional knowledge and practice can be acquired through an array of experiences, the transfer of formal knowledge has been scrutinized and considered as decontextualized training (Cushion et al., 2003; Potrac et al., 2000). Subsequently, this form of isolated training removes coaches from the context of their natural setting or social interactions. According to Potrac et al. (2000) and Nelson et al. (2006), some researchers assert the contextual standpoint, programming content, and instructional delivery is altered from what coaches would customarily experience. Novice practitioners would be merely engaging in acts of mimicry and may be less apt to comprehend and adapt to a more natural setting (McCullick et al., 2009). Therefore, relevant coaches' learning is difficult to reproduce or to simulate the application of knowledge as it applies to real-world situations, and thus evidence of inconsistency in various levels of experience and quality of coaching practices exists (Nelson et al., 2006).

Coaching practices' inconsistency has led practitioners to begin connecting hands-on, informal learning experiences, such as mentoring, with interactions and content moving beyond technical aspects where coaching development can expound on coaches' cognitive and non-cognitive skills (Nelson et al., 2006). Rather than viewing coaches' learning from an over-simplified approach of the contextual coaching experience, where the nuance and complexity of coaching may be lost in the details, research examining coaching practices, such as reflection (Knowles et al., 2006) or need-supportive roles (Van Puyenbroeck et al., 2017), support coaches' training through various learning episodes (Potrac et al., 2000). Callary et al. (2012) explored the episodic approach,

finding variations of learning situations that address the coach's interconnectedness and complexity of responsibilities, social interconnections, and various tasks. These variations included learning situations, such as mentoring or formal coaching education programs. Hence, Knowles et al. (2006) suggested the demands of coaching, or the facilitation of social and psychological development, extend beyond the playing field when addressing coaches' personal development.

In an analysis of learning outcomes with formal mentoring relationships, Jones (2012) conducted a formal mentoring pilot program examining six dyads over seventeen months. The purpose of the research was to gain insight into the general assumptions and thought processes behind formal mentoring and learning benefits. The benefits exceeded the researcher's expectations. Both the mentors and mentees demonstrated significant improvements in self-confidence, self-awareness, knowledge, skills, and attitude (Jones, 2012). Additionally, Whitmore (2017) maintained that we all have the capability to learn naturally and that formal instruction can be disruptive and interfere with the natural learning process. Thus, it is crucial to understand the influence coaches have on developing an athlete's potential by creating an environment conducive to learning.

Coaching Development and Effectiveness

To fully develop young athletes' potential and enhance their experience, more considerable attention to coaches' development and learning connotes a balanced or athlete-focused approach between physical performance, mental processes, and emotional well-being (Lindgren & Barker-Ruchti, 2017). Without proper guidance or qualifications, coaches may be socialized to believe sport develops attributes without the intentional efforts of learning and implementing strategies to influence growth and development.

Hence, coaches' efforts to improve non-cognitive skills may facilitate the coaches' role as well as their ability to effectively self-regulate behavior and enhance their coaching practices, which help young athletes realize their full potential.

Formalized programs have become more prevalent from club to scholastic levels to provide "formal" provisions for coaches to gain personal, constructive, and structured support (Koh et al., 2014). Cushion et al. (2003) conclude that the coaching profession's generic formal frameworks need to be reevaluated. A recent inquiry into professional development indicates that coach developers or those who design and facilitate programs should move away from the formalized blanket approach to training that requires social interaction, such as active learning and opportunities to react to practices (Stodter & Cushion, 2019). Thus, coaches have criticized formal program content because it lacks meaningful connections and transferable content.

Similarly, Allen and Reid (2019) proposed a scaffolding approach where the practical activity is generated by guided or unguided informal learning to examine and interact with various situations depending on the need. The challenge is in addressing coaches' professional development concerns moving beyond the status quo or generic approach and integrating new evidence-based theories on altering coaches' behaviors and enhancing training (Phelan & Griffiths, 2018; Stodter & Cushion, 2019). The social phenomenon, which has elevated the coach and sport to be idolized within our culture, would benefit from programming to guide coaches and sports administrators (Duke & Bonham, 2014).

Although coaching education programs are instrumental in coaches' development, Kiosoglous (2013) concluded that coaching effectiveness might be stifled by the lack of

resources and funding, increase in participants and unqualified coaches, escalation of societal pressures, absence of coaching education programs, and need for research on coaching best practices. Accordingly, the availability of resources, development opportunities, and learning experiences are necessary for a coach's personal growth, which assists in an athlete's development and realization of their full potential. Thus, the fundamental quality of successful coaching results from coaching development opportunities, measured by experience and outcome (Kiosoglous, 2013).

Evidence substantiated that less than 5% of youth sport coaches in the United States have received any relevant coaches training (The National Council Accreditation of Coaching Education (NCACE), 2011). The number increased 25 -30% for interscholastic coaches. Furthermore, the NCACE (2011) determined a 26% attrition rate of athletes who played for untrained coaches, whereas those athletes who played for trained coaches withdrew at a rate of 5%. In comparison, of the 1.2 million coaches in Great Britain, only 38% are formally trained (Nelson et al., 2006). Gilbert and Trudel (2001) concluded that untrained coaches learn "through" experience, commenting on their work as experimental, guessing, making things up, needing to think about things, having a feeling, or getting creative and needing to dig into their bag of tricks. Conceivably, most youth sports coaches have insufficient or minimal guidance in role expectations and performance outcomes (Gilbert & Trudel, 2004).

The lack of guidance leaves many novice and unpaid volunteer coaches responsible for establishing their approach and philosophical belief of coaching. As a result, the lack of support from institutions or organizations that sponsor sports impacts most coaches worldwide. For example, Wright et al. (2007) noted that of 1.2 million

coaches in the United Kingdom, only 5% were full-time coaches, and 81% were volunteers. The Bureau for Labor Statistics (2015) indicated that 62.6 million U.S. citizens volunteered through or for an organization, and 9.3% of men (6.73 million) volunteer or engage in coaching or supervising a team. The demand for coaches is high, yet formal provisions are typically non-existent and reflect the inconsistency of volunteer coaches' abilities to fully comprehend how to reinforce personal values and skills (McCallister et al., 2000). Furthermore, Wright et al. (2007) explained the significance of coaching education, suggesting program design and development to consider a blending of learning resources, such as clinics, mentoring, or at a minimum, reading books, viewing videotapes, or regular dialogue with other coaches. Although some unqualified coaches may not have access to the necessary coaching resources, others embrace and value the long-term, meaningful benefits of the scope and impact of personal development as a lifelong process (Potrac et al., 2000).

A wide range of skills and knowledge are needed in a highly dynamic field where coaches' development and learning are critical learning opportunities that some organizations, institutions, and nations have developed worldwide. Most notably, increased efforts to improve coaching development with a competency-based approach are evident in Canada's National Coaching Certification Program (NCCP) (Canadian Coaching Association, 2008). Opportunities to educate and train coaches play a vital role in the development of coaches' effectiveness and their approach to developing talent (Gilbert et al., 2006), enhancing psychological and psychosocial well-being (Eime et al., 2013; Potrac et al., 2000), and promoting positive outcomes (Falcao et al., 2012). Coaching programs not only offer professional knowledge reinforcing an in-depth

understanding of how, why, and what quality coaching behavior exemplifies, but training influences the way coaches discern their purpose and role in the coaching process (Potrac et al., 2000). Beyond efforts to help coaches determine their function and responsibilities related to effective coaching, Nash et al. (2008) suggest that coaches are positioned well to develop a holistic role by promoting an athlete-centered philosophy that benefits both the coach and athlete.

Coaches' Role: Holistic Approach

Coaches are some of the most influential and central figures in the lives of their athletes. They play an essential role in human development focused on "the whole person and the integration of knowledge, fields, disciplines, perspectives, and experiences" (Haynes, 2009, p. 59). Essentially, this all-encompassing approach to coaching, conceptualized as humanistic or holistic coaching, is a process-oriented and athlete-centered leadership role focused on enhancing sports performance and contributing to other long-term benefits, such as autonomy (Lombardo, 1987). In examining how coaches develop and practice an athlete-centered philosophy, which empowers the athlete to take ownership of their athletic experience, McGladrey et al. (2010) conclude that a well-defined and communicated philosophy will serve to inform what athletes can expect from the coach. They contend that an athlete-centered philosophy will establish the coach's role orientation and help guide the coach's decisions. Cassidy et al. (2009) conclude that if coaches would be more sensitive to their athletes' needs and identities, they may help them realize their full potential. Concerns exist about the lack of coaching education and the developmental process associated with coaches' role orientations and

practices, which support proper management of the social context and coach-athlete interpersonal relationship (Gilbert & Trudel, 2004).

In sports, coaches should function in a manner that develops their athletes' sports performances, enhances the learning environment, and contributes to their personal development holistically (Nash et al., 2011). Lyle (2010) acknowledges the developmental direction of holism, supporting coaches who orchestrate and oversee the team's progress, focus on strategies to achieve goals, develop talent, and address all aspects of sports performance and athlete's well-being with an all-inclusive and balanced approach. Thus, coaches must be equipped to know their athletes and how they operate and care for them responsibly beyond sport.

Although the coaches' role is to encourage healthy development in young athletes, coaches employ various strategies, techniques, and coaching styles to influence and contribute to athletes' physical and psychosocial development. The host of approaches is reflective of Cote and Gilbert's (2009) definition, characterizing the coach's usual modus operandi as "the consistent application of integrated professional, interpersonal, and intrapersonal knowledge to improve athletes' competence, confidence, connection, and character" (p. 316). Although coaches must be skilled at a host of responsibilities and tasks, the fundamental coaching role involves management and role orientation to assist, develop, and improve athletes and athletic teams (Nash & Collins, 2006). The managerial responsibilities include recruiting, planning, and organizing practices, developing fundamental skills and game plan tactics, physical and mental preparations, and maintaining coach-athlete relationships. Moreover, the coaches' role orientation is broadly perceived or described as a caregiver (Lindgren & Barker-Ruchti, 2017), mentor

(Bloom et al., 1998), or positive role model (Fraser-Thomas et al., 2005). The coach plays a key role in helping athletes learn and assisting their teams to excel, which requires using different types of knowledge, practices, and training to execute and help fulfill needs.

Fontannaz and Cox (2020) recently investigated developing the coach [leader] through coaching. In a longitudinal study in the context of a living lab, teams sailed in a race around-the-world, exploring the coaches' role. The researchers discovered that coaches desire training from a coach because they feel more support when they have leadership development. The coaches perceived that they were receiving support as they began their leadership role and that the support helped develop the coaches' culture within the teams. Consequently, Fontannaz and Cox (2020) concluded that coaches' training supported "greater collective team leadership" and "contributed to more relational forms of leadership" as the teams competed (p. 31). Coach's desire for ongoing support has demonstrated a meaningful impact on coaches' development and teams' performance, ultimately influencing coach-athlete interpersonal relationships and enhancing the team's culture.

Coaches desire the opportunity to develop a philosophical belief and perception of productive coaching roles, practices, and behaviors that consider more than performance outcomes (Nelson et al., 2006). Conceivably, opportunities to develop the coach's role in promoting and engaging youth athletes holistically reflect a humanistic philosophical approach (Nash et al., 2008). A holistic coaching approach is multidimensional, involving those who strive to "foster positive processes in human growth and potential for all actors, including themselves" (Mallett & Rynne, 2010, p. 453). A holistic focus

has demonstrated a positive influence on the coach-athlete relationships (Potrac et al., 2000), enhanced life skills (Gould et al., 2006; Camire et al., 2012), and developed meaningful attributes, such as emotional control and self-esteem (Gould et al., 2006). Moreover, increasing the awareness of the coach's role augments personal development (Nash et al., 2008). For these reasons, decisions to establish the coach's role to address young athletes' needs hinges on developing a philosophy centered on developing personal characteristics and the coach's transformation (Fraser-Thomas et al., 2005).

Coaching Leadership Theory

High levels of participation and the abundance of teams create a need for adult leaders to coach. Smith and Smoll (1991) contend that this critical role extends well beyond sports into all areas of their athletes' lives. The high demands for coaches position organizations and institutions to frequently settle for novice coaches in a leadership capacity to oversee extensive formalized training with young athletes. Inexperienced coaches, who are promoted into challenging situations, are not adequately prepared to lead, yet they fill a necessary void.

Leadership may not have a universal definition; however, the concept of influence is a recurring theme that may assist those who are building a team (Kotter & Cohen, 2002) and elevate one's self to a position of power (Lunenburg, 2012). Haslam et al. (2011) suggest that despite the old psychology of leadership, which idolized the lives of "great men", effective leadership is about influencing and motivating others to achieve a common goal. Similarly, Maxwell (2005) believes that "the true measure of leadership is influence; nothing more, nothing less" (p. 4). Comparably, Smith and Smoll (1991) demonstrated that the coaches' influence significantly affects the athlete's experience

indicating the importance of structure and prioritizing athletic conditions, team goals, and social transfer of attitudes, beliefs, and behaviors. Denison and Scott-Thomas (2011) explained from a social constructionist perspective that coaches need to examine themselves, their programs, and their language when communicating with their athletes to understand better how connections develop through social interaction and avoid the overpowering nature of sport. Regardless of context or setting, Michel Foucault's theory on coaches' language and the power of coaching suggests that coaches think more ethically about developing healthy athletes effectively (Denison & Scott-Thomas, 2011).

The coach's ability to effectively support athletes' overall development addresses the need for adequate leadership skills and behavior. According to Robbins and Judge (2016), power and leadership are closely intertwined, such that "leaders use power as a means of attaining group goals" (p. 213). Johnson (2015) addresses "the shadow of power," examining hard power and soft power typologies, which range from coercive (hard) to referent (soft) power, suggesting that leaders rely on multiple power sources (p. 10). Coaches will often utilize extrinsic motivation to entice or manipulate athletes with tangible or intangible benefits, such as playing time or praise, or referent power demonstrating the athlete's respect or admiration for the coach (Lunenburg, 2012). Mello (2003) explains the historical progression of new paradigms in leadership, which draw on past assumptions from advancements in concepts. Although Foucault did not research sport directly, the historical rationality of force relations, which has dominated leadership lore for centuries, compelled him to examine the power as a relationship, suggesting coaches' behaviors help guide or direct young athletes (Denison & Scott-Thomas, 2011). The paradigm of leader-power scholarship began shifting from hierarchical to a relational

position, which brought more asserted attention to normative leadership theories describing how leaders "ought to act" (Johnson, 2015, p. 229). Not without the absence of power, such leaders may be servant, transformational, or authentic and still maintain a sense of order and control while enhancing the coach-athlete interpersonal relationship.

Numerous studies have examined coaching leadership and the contribution of the leader's approach, interactions, and efficacy to the coach-athlete relationship's contextual aspects and dynamics (Jowett, 2017; Jowett & Meek, 2000; Norman & French, 2013; Wachsmuth et al., 2018). The interdependent nature of the relationship between the coach and athlete develops "a set of relational efficacy cognitions" that complements their connection (Jackson et al., 2009, p. 204). From a practical point-of-view, Jowett (2009) suggests that the coach-athlete partnership has a higher chance of flourishing together compared to an athlete going solo. Although studies give us greater insight into coaching leadership and why coaches behave and lead as they do, the most influential leaders are more concerned about performance and relationships (Misasi et al., 2016)

Successful coaches set about influencing and changing an athlete's behavior, enhancing the mind through interpersonal interactions (Shrivastava, 2015), and creating a nurturing environment for athletes to envision possibility and strive to achieve it (Lombardo, 1987). Unfortunately, society distinctively identifies "success" with outcomes (win/loss record) and notoriety. In such contexts, unknown coaching greats and success stories of those who coach at lower levels and lower-tiered sports, such as youth wrestling, are often disregarded (Becker, 2009). Regardless of the sport or competitive level, successful effective coaching behaviors move beyond a coach's ability to teach fundamentals and tactics and socially-defined success to understand the positive

outcomes for athletes, such as performance, enjoyment, self-esteem, and perceived competence (Horn, 2002). Like athletes, coaches need to move beyond the perceptions of how successful society deems them and embrace the lifelong benefits of sport participation, such as physical activity, emotional and psychological development, personal attributes, and the opportunity to build social and non-cognitive skills. Conversely, a coach's effectiveness may be more easily determined, regardless of behavior, by examining the athlete's overall experience.

In a controlled analysis and modification of coaching behaviors, Smith et al. (1979) explored coach effectiveness training based on a cognitive-behavioral intervention program, which trains coaches to be more positive and socially-supportive. The randomly assigned coaches were taught, trained, and modeled behavioral guidelines to increase reinforcement, encouragement, and technical instruction. The coaches were provided behavior feedback and taught self-monitoring techniques to increase self-awareness of their behaviors. The trained coaches were taught strategies to intentionally enhance general communication, reinforce and encourage specific athletes' behavior, and provide general technical instruction while decreasing punishment, non-reinforcing behavior, and punitive technical instruction. Behavior profiles were created on each coach based on behaviors gathered and coded during the season's first few games. After each competition, coaches assessed self-monitoring target behaviors, and behaviors were assessed using the Coaching Behavior Assessment System (CBAS). According to Smith et al. (1979), the coaches receiving the training were far more effective in transforming athletes' beliefs, behaviors, and thoughts than the untrained coaches.

Behavior research and intervention training demonstrate that coaches' training reinforces the importance of a socially-supportive environment (Smith & Smoll, 1991). To better understand the nature of the coach-athlete conflict, Wachsmuch et al. (2018) conclude when a dispute arises from negative coaching or poor leadership, coaches and athletes are more likely to present cognitive, emotional, and behavioral responses. A coach's capacity to develop athletes humanistically and possess the skill set to influence beyond performance positively reflects the coach's role through transformational learning opportunities (Potrac et al., 2000). Transformational leadership extends beyond the valuable social interactions that occur when leaders engage followers in a relationship with a shared purpose to transform and raise motivation, conduct, and morality (Simola et al., 2010).

Transformational Leadership: Focused on the Athlete

Coaches who engage in a more meaningful approach address the growth and development of an athlete's personal and social responsibility (Hellison & Walsh, 2002), behavioral self-regulation, motivational outcomes, perceived competence (Wang et al., 2009), and life skills, such as teamwork, time management, and concentration toward long-term goals (Gould et al., 2006). Although leadership theories and techniques reflect coaching knowledge and philosophy, the opportunities for coaching development are reflective of current developmental paths and educational programming. Accordingly, coaches' learning and practices do not always reflect balanced outcome-based and humanistic approaches (Potrac et al., 2000).

According to Bass (1990), positive transformational leadership behaviors are readily observable and easily acquired. Based on the transformational theory,

transformational coaches have a vision for the future, provide model behavior, foster the team's acceptance, and imparts individualized attention (Yusof & Shah, 2008). Such practices change fundamental values, beliefs, and attitudes, inspiring others to perform beyond expectations and achieve higher goals (Bass, 1985). Ehrmann et al. (2011) describes first-hand the influence a transformational coach has on an athlete,

> I also saw the transformational coaches, who used their coaching platform to impart life-changing messages…Coach-power, like all forms of power, can be used either for good or for bad, for self or for others. Transformational coaches are other-centered. They use their power and platform to nurture and transform players. (p. 6)

Leaders who build a culture that encourages follower-leader relationships and motivates people to have a sense of purpose create a relational environment that emanates meaning, instills understanding, establishes a shared vision, produces motivation, and builds connections (Jowett, 2017).

Dissimilar, transactional leadership is characterized by a transaction where young athletes are compensated by reward or assurance for completing a task or penalized for not meeting expectations or executing a task (Bass, 1990). Essentially, subordinates may be promised a reward for effort, but on the other hand, punished for the opposite reason. According to Haslam et al. (2011), the transactional approach is defined by the coach-athlete relationship's quality, not whether they are a good fit for each other. Transactional leadership is contingent upon athlete performance, coaches' fulfilling promises, and the understanding that the coach is the leader. Stewart (2013) elaborates on the

overwhelming lack of quality coaches at all athletic levels, suggesting "the need for coaches often overshadows the pursuit of good coaches" (p. 8).

Consequently, the unexpected notoriety from coaches' displays of misguided behaviors and emotions is prevalent in sports. Often, the coach's response is transactional to assist with slight improvements or help sustain the degree of performance (Kuhnert & Lewis, 1987). Such behavior tends to impart negative, lasting impressions on young athletes, which often impact all facets of the sport experience, including the athlete's withdrawal (Gearity & Murray, 2011) and negative satisfaction (Ruggieri & Abbate, 2013).

The Coaches' Influence: Social-Cognitive and Self-Determination Theories

Coaching leadership, as it relates to coaches' and athletes' development and motivation in the context of sport, can be studied and interpreted through a social-cognitive lens. Social-Cognitive Theory explains self-regulation and reinforcement to control behavior and make modifications to help achieve the desired outcome (Bandura, 1991). According to Bandura (1991), "…people possess self-reflective and self-reactive capabilities that enable them to exercise some control over their thoughts, feeling, motivation, and actions" (p. 249). Relative to Bandura's point, behaviors regulated by controls (externally) modifies expected behavior, whereas internal appeal and excitement create voluntary and unconstrained behavior (Koestner et al., 1992). Furthermore, Ryan et al. (1997) elaborate on people's natural needs, which can be developed in a social context, suggesting the significance of improving personal attributes and self-regulation of behavior by improving humans' inner capacities. Consequently, it is essential to the

coaches' controlling style of communication or behavior when setting controls or placing limitations on young athletes.

Koestner et al. (1984) examined the impact of informative versus controlling language on children and whether limit-setting affected their performance. Comparatively, limits set with informative communication were absent of adverse effects, and limitations presented in a controlling manner decreased intrinsic motivation significantly. These findings demonstrated the effectiveness of informative communication and the positive influence on developmental outcomes in social environments, which resulted in improved competence, autonomy, and relatedness and generalizable to sports where the significance of the coaching role is elevated to loco parentis or in the place of a parent (Deci & Ryan, 2000). In summarizing several studies on the significance of why pursuing goals makes a difference in outcomes, Deci and Ryan (2000) explain, "the Self-Determination Theory (SDT) model of regulatory styles has considerable generalizability," which is applicable to sport and the study of coaching behavior (p. 240).

Within coaching, exerting influence is a key component of the leadership role. Keegan et al. (2009) determined that throughout young athletes' social experience with coaches, they learn to differentiate roles and how significant interactions, such as emotional responses, influence their motivations. The nature of motivation in sport is intended to augment production from either personal interest, enjoyment, and affinity or external influence that presses or entices a response or action (Ryan & Deci, 2000). Such efforts, precipitated by coaches' behaviors, explain their power as well as how athletes are motivated. According to Ryan and Deci (2000), the environment coaches create in sport,

positive or not, influences athletes' perceptions of basic psychological needs, such as belonging, self-efficacy, self-esteem, and self-determination. In reviewing cases across several fields of study to determine the optimal facilitation of motivation and psychological well-being, Deci and Ryan (2008) indicate that motivation influences and often determines the way people think and behave as a function of sociocultural conditions, such as interpersonal relationships. Moreover, the studies revealed that significant figures within peoples' lives, who lead with a noncontrolling style, are more motivating, performance-oriented, and committed to the well-being of those in their care (Deci & Ryan, 2008).

Coach-Athlete Interpersonal Relationship

The importance of developing a successful interpersonal relationship is paramount to the athlete's development. Maniar et al. (2001) report that athletes are more likely to confide in significant figures closest to them, like a coach, as a result of "perceived emotional closeness" (p. 214). Jowett & Cockerill (2003) contend that coach-athlete interpersonal relationships underpin many salient and necessary characteristics, such as trust, care, concern, and mutual respect. Such attributes or elements of character shed light on the inner dimensions of leadership and the significance of promoting interventions and directly or indirectly develop the coaches' role, like integrity. Interpersonal relationships are casual interconnections of coaches' and athletes' emotions, thoughts, and behaviors (Jowett & Ntoumanis, 2004). Ultimately, coaches and athletes increase their chances of succeeding in a sport together while productively influencing one another. The connection is not a one-way process. Instead, it is productively reciprocating, affecting both the coach and the athlete (Rhind and Jowett, 2010).

Consequently, the coach-athlete relationship is central to the coach's effectiveness and the athlete's success. Bloom et al. (1998) contended, "There is a personal dimension to coaching that involves expanding one's role to go beyond traditional, required tasks" (p. 268). A more recent assertion illustrated by Ehrmann et al. (2011) places greater importance on coaches as "…agents of transformation in athletes' lives," who they deem an "InsideOut Coach" (p. 9). Ehrmann et al. (2011) rationalize coaches' need to work on their "inside" by seeking and transforming themselves. Similarly, the 3-D Coaching program addresses the coach's need to deal with the deeper issues within their hearts, described as a "spiritual journey" to discover their transformational purpose (Duke & Bonham, 2014, p. 192). Additionally, Bass and Steidlmeier (1999) contend that transformational leadership is predictive "…upon the inner dynamics of a freely embraced change of heart in the realm of core values and motivation, upon open-ended intellectual stimulation and a commitment to treating people as ends and not mere means" (p. 192).

A coaching development curriculum designed to alter and potentially improve a coach's inner skills may effectively support the coach's role and ability to manage sports' ever-changing complexities (Becker, 2009). Advancements in program intervention designed to shape coaches' emotions, thoughts, behavior, and motivation, guided by knowledge and strategies that facilitate success, may effectively contribute to coaches' growth, stability, and awareness of themselves in desirable ways (Borghans et al., 2008).

Non-cognitive skills have been strongly associated with successful educational and labor market outcomes, such as work experience, productivity, and financial wages (Heckman et al., 2006). Green (2011) further described non-cognitive skills as productive

personal qualities, which can be enhanced with training across a person's lifetime (malleable) and developed through social interactions. These findings, substantiated by literature on non-cognitive skills, evince the 3-D Coaching framework's significance as a transformational-based curriculum. This program may help coaches' personal development and ultimately influence their role and practices as well as transform the team's culture.

Additionally, this research may shed light on how transformational-based programming is relevant to developing the coaches' minds and, at the micro-level, how it may transform the team's culture. Models of cultural transmission suggest that transference of behaviors, attitudes, values, and beliefs is vertically acquired from an adult figure, manifesting through activities, social interaction, instruction, or imitation (Cavalli-Sforza et al., 1982). In all cases, culture is a "visible manifestation" or a way of life within the team based on the coaches' behaviors, beliefs, values, and artifacts, such as language, that are accepted and transferred through communication (Burke, 2018, p. 246). Leaders who value culture encourage and develop expectations, such as behaving and working together as a team by creating a relational environment that builds connections and emits meaning (Jowett, 2017). At the individual level, Mintu (1992) metaphorically references how culture influences the mind like a computer, suggesting that culture is a "collective programming of the mind - one's mental software" affected by social interactions and external influences (p. 362). Hence, transformational coaching practices may be all-encompassing, elevating the team's culture through active teaching and learning while cultivating coaches' and athletes' non-cognitive skills.

Although the quality of coaches' leadership may be subjectively interpreted and perceived based on an athlete's overall experience, a coach's leadership style is inherent to underpinning the coach-athlete relationship (Becker, 2009). Transformational leaders' effects are fully understood, offering higher levels of caring and meaningful interactions, inspirational motivation, higher standards, and goal attainment that influences the athlete's experience (Johnson, 2015; Kao & Tsai, 2016). Conversely, evidence supports the psychological effects of poor and negative coaching behaviors that athletes experience, such as uncaring behavior or interpersonal conflict, should be avoided (Gearity & Murray, 2011; Stewart, 2013; Wachsmuth et al., 2018). The transformational coaching style is central to effective coaching, athlete satisfaction, and team cohesion (Kim & Cruz, 2016; Lyle, 2002; Myers et al., 2003). Similarly, Becker (2009) suggests that the coaches' influence on athletes is due to coaching attributes, the context and process, relationships, and coaching actions. The transformational coach creates a personal and impactful bond that influences the athlete's experience both in sport and life.

Lastly, coaches play a crucial role in supporting meaningful interpersonal relationships where coaches and athletes unite to develop a culture that influences, inspires, encourages, and fosters personal development (Johnson, 2015). The social environment within sports manifests a transformational culture that establishes coaches' opportunity to transfer non-cognitive attributes through socially-constructed interactions (Borghans et al., 2008; Cushion, 2011; Lemyre et al., 2007). Johnson (2015) metaphorically describes an organization's culture as a tribe where individuals develop and share "their own language, stories, beliefs, assumptions, ceremonies, and power structures" (p. 321). The theoretical aspects of the transformational culture redefine self

and self-related terms, recognizing that "we" can accomplish what "I" cannot (Haslam et al., 2011). Accordingly, coaches and athletes have needs, such as psychological and self-fulfillment (Maslow, 1943); however, in a culture that encourages everyone to think in terms of "the team," the individual learns to put "self" aside to adapt. From an interdisciplinary leadership perspective, the relevance of investigating coaching development programs, like 3-D Coaching, creates an opportunity to examine the influence of transformational leadership strategies on non-cognitive skills, which may positively cultivate personal growth and development of skills, habits, and beliefs (West et al., 2016).

Non-Cognitive Skills

Long before modern society began to recognize and link the predictive capacity of non-cognitive skills to success in education, economics, and social-emotional behavior, Horace Mann established the education system's foundation on the Calvinistic philosophies targeting more than cognitive knowledge (Blumenfeld, 1989). Mann's quest to reform education expanded state-sponsored public education to move beyond the basics and include moral values and character training. The Massachusetts Board of Education (1849) reported the opportunities and advantages of education in our country. The board explained it would be the responsibility of the state legislature and officials to "…inculcate the principles of humanity and general benevolence, public and private charity, industry, and frugality, honesty and punctuality in their dealing, sincerity, good humor, and all social affection, and general sentiments among people" (p. 33).

In reference to Horace Mann's request, Dr. James Heckman, a renowned expert in the economics of human development, explained, "…a long time ago, when Horace

Mann was devising the first common schools for Americans – character training was literally part of the curriculum," and "…reading, writing, and arithmetic are but a small portion of what we teach in school." Upon realizing there are unknown factors not being captured on intelligence tests, Wechsler (1943) began investigating and analyzing these incomplete measures that did not adequately capture all capacities of intelligent behavior. Although non-cognitive skills were nurtured initially in an educational setting, present-day society places a greater emphasis on cognitive abilities, which have been historically assessed via college entrance and scholarship requirements. More priority has been placed on cognitive prowess and reaching the desired standard of admittance into higher education, rather than developing non-cognitive skills, which are also important factors for student success (Heckman & Kautz, 2012). Morris (1939) and Woodrow (1939) early examination of intellectual measures could not explain the 40% to 60% of the unaccounted variance in intelligence test scores, increasing the debate on factors not measured directly by the tests. In an attempt to capture the essence of this abstract limitation of intelligence tests, Wechsler (1943) labeled these missing details as "…non-intellective factors in general intelligence," describing them as affective and conative abilities, which shape intelligent behavior (p. 102). Furthermore, Wechsler (1943) elaborates on the inadequacy of measures in non-intellective factors of intelligence, which do not adequately portray intelligent behavior. Ultimately, Wechsler concluded that without a more comprehensive assessment tool for non-intellective and intellective factors, the scales create an inexact method "in selecting those destined to succeed in life" (p. 103).

Heckman et al. (2014) explain achievement tests were developed to examine general knowledge and that "their validity in predicting success in outcomes that matter is not well established" (p. 3). Heckman's research in economics has spearheaded evidence highlighting the significance of how cognitive and non-cognitive skills are intertwined and fundamental to academic, labor-market, and later-life outcomes (Schanzenbach et al., 2016). Additionally, research on the economics of education indicates that students' cognitive ability and influence on academic achievement demonstrate an economic advantage in future earnings for those who are more successful in school (Green & Riddell, 2003).

Boesel et al. (1998) examined the high school dropouts who completed the General Educational Development (GED) Tests from an economic perspective. The GED or high school equivalency diploma intends to prepare participants to pass an exam to earn a GED diploma. As a result, the recipients are then recognized as high school graduates. Boesel et al. (1998) researched fifty years of GED graduates' occupational attainment and performance outcomes to discover that beyond one's general cognitive aptitude, there is a reason why some people are more successful than others. The longitudinal analysis concluded that GED graduates might have, on average, academic knowledge equal to high school graduates (Boesel et al., 1998). Although completing the GED is worthwhile and has advantages, such as earning higher wages than dropouts, GED graduates are less likely to graduate college and maintain a job than their peers who graduated high school (Boesel et al., 1998).

A more in-depth examination of common employability skills in today's industry sector reveals the need for foundational skills grounded in applied knowledge and

personal, people, and workplace skills, such as teamwork and problem solving (National Network of Business and Industry Association, 2014). Similarly, from an evidence-based learning model, which supports social, emotional, and cognitive development, Jones and Kahn (2017) stated,

> Compelling research demonstrates what parents have always known—the success of young people in school and beyond is inextricably linked to healthy social and emotional development. Students who have a sense of belonging and purpose, who can work well with classmates and peers to solve problems, who can plan and set goals, and who can persevere through challenges—in addition to being literate, numerate, and versed in scientific concepts and ideas—are more likely to maximize their opportunities and reach their full potential. (p. 4)

Although more recent evidence demonstrates how cognitive and non-cognitive skills are conceptually distinct, related, and central in maximizing one's full potential (Schanzenbach et al., 2016), the Highscope Perry Preschool Program longitudinal social experiment has long supported such connections. The Perry Preschool Program examined the value of an active learning approach emphasizing intellectual and social development (Schweinhart et al., 2005). From 1962-1967, disadvantaged children were randomly assigned to an intervention group, which was provided a high-quality, hands-on, active learning classroom with home interventions, or a second control group, which was not provided the intervention (Schweinhart et al., 2005). Heckman states, "…the initial program was designed to boost the IQ of disadvantaged children" and "…by the age of

10, there was little difference in how the two groups performed on a test of cognitive ability" (National Public Radio, 2019).

The difference between the two groups became more apparent as participants in the intervention group demonstrated more success in education and employment and were less likely to commit a crime in later life (Schweinhart et al., 2005). The longitudinal findings of the Perry Project early childhood interventions and enhancements in adult outcomes of the same subjects reveal how malleable non-cognitive skills are over one's lifetime versus the short-term impact of academic scores. Consequently, the results of past research, such as the Perry Project, demonstrated the significance of an early hands-on interactive approach with education and family, which improves social-emotional skills and supports professional achievement into adulthood.

As exhibited by data gathered on employment outcomes and earning of young adults, more recent evidence indicates that social skills, such as teamwork and perseverance, have become increasingly desirable in the job market (Deming, 2015). Deming (2015) also produced evidence that the job market has recently seen an increase in jobs requiring social skills and a slight decrease in the importance of cognitive abilities. Non-cognitive skills are viewed as a desirable factor in economics, education, and psychology. They are also viewed as being important for social conformity and physical well-being, which is relevant to transferring social, emotional, and behavior skills through leadership (Andrews & Higson, 2008; Borghans et al., 2008; Duckworth & Yeager, 2015).

Non-Cognitive Skills and Coaching

An enhancement of the coach's role from a humanistic perspective, which inwardly develops the quality of mind, may determine the extent of how well coaching interventions improve the coach's ability to foster positive social interactions and learning situations (Jones et al., 2011; Potrac et al., 2000). Mello (2003) contended that early studies on leaders' traits and characteristics were largely inconclusive whether or not an individual could produce personality traits or develop effective leadership abilities. Ultimately, the ambiguous results steered researchers to explore different paradigms focused on coaches' behavior and how athletes perceive or respond to leadership (Menlo, 2003). Although research indicates the significance of non-cognitive skills and how they transfer through coach-athlete social interactions, Brown and Moshavi (2005) suggested focusing on improving the coaches' capabilities and effectiveness in the leadership role.

Coaching strategies, which play an active role in fostering positive interventions, create an environment promoting coach-athlete and peer interactions (Smith & Smoll, 1997). Gilbert and Trudel (1999) express the importance of effective training programs and intervention strategies, resulting in the coaches' improvement in many areas, such as developing coach-athlete relationships. Recent attention to the development and improvements in non-cognitive skills appear germane to the advancements of training programs like efforts to improve social, emotional, and affective skills for college and career success (Savitz-Romer & Bouffard 2012). In comparison, Garcia (2014) explains that the advancement of teachers' behavioral characteristics and qualities will influence and contribute to the development of their non-cognitive skills. Garcia (2014) further explained that when a teacher's experience from interactions with students increases,

there is a positive influence on students' non-cognitive skills. Like teachers, the nurturing and improvement of the coach's experience interacting with athletes may directly lead to improved skills and effectiveness within the athletes.

Coaches and athletes may similarly benefit from programs that promote the development of non-cognitive skills because of the association with individual success and favorable societal outcomes (Garcia, 2014). Smith et al. (1979) emphasized the salient nature of advancing methods to develop cognitive-behavior change by designing more applicable intervention programs "to modify coaching attitudes, goals, and behaviors in desirable ways" (p. 60). Coaches' educational and developmental programs are central to the improvement of amateur coaches and the overall influence on the young athletes in their charge (Gilbert & Trudel, 1999). Jones et al. (2011) suggests developing the coach's quality of mind to understand the necessity of positive social interactions and supporting an athlete's holistic growth and achievement. Inevitably, the need to improve the coach's role and enhance the coach's non-cognitive skills may help transform and contribute to outcomes that lead to more effective coaching behaviors, improving their athletes' social and psychological well-being.

Summary

Developing coaches' non-cognitive skills requires coaching education and developmental programs, which intentionally support the coaching experience. Coaching development programs that influence the coaching role through transformational-based learning opportunities may improve their quality of mind to foster and improve interactions and define coaching roles. Coaching development programs can lead to a more effective and improved coaching role, quality coaching behaviors, holistic support,

and athletes' well-being, and provide meaningful experiences to enhance non-cognitive skills. Discovering strategies to develop the coach's role by improving their behaviors, emotions, and thought patterns might equip coaches with the knowledge and skills to more effectively lead to a more positive and impressionable coaching experience.

CHAPTER THREE: PROJECT METHODS

Introduction

The purpose of this study was to examine the influence of a transformational-based coaching development program on coaches' non-cognitive skills. The literature in the first two chapters describes coaching development factors and a review of recent literature involving non-cognitive skills and how people's behaviors, emotions, and thought patterns facilitate individuals' success into adulthood. This conclusion is based on research examining the influence of environmental factors responsible for changes, such as social interactions and stable social roles (Borghans et al., 2008).

My study sought to explore the relationship of the 3-Dimensional Coaching (3-D Coaching) education program on coaches' non-cognitive skills that guide and promote high performance and effectiveness as well as the transformation of young athletes' inward capacity and acquisition of skills. The study was focused on a sample of graduate-level coaches who completed a self-report assessment. The following chapter delineates the action plan used for data collection and procedures to explore the relationship between the 3-D Coaching program and the fundamental elements of non-cognitive skills, which drive performance and achievement, such as self-control, resilience, and integrity.

Research Question and Hypothesis

The growing interest in holistic awareness (Potrac et al., 2000) and cultivating young athletes' intangibles or mental toughness (Wadey, 2008) suggests that coaching education programming should shift more toward identifying, promoting, and improving the non-cognitive characteristics of coaches. Such qualities encompass a broad scope of

skills categorized as behavioral, interpersonal, and intrapersonal (Camire et al., 2012). Understandably, in social and economic settings, Green (2011) asserts that such skills produce value and can be advanced through social interactions and training. Further, Gilbert and Trudel (2004) argue that coaches have little guidance in developing a more holistic approach to student-athlete development – focusing on social and emotional development.

The goal of this study was to examine the impact of a specific coaching development program on coaches' non-cognitive skills.

The research question that guided this study:

RQ: To what extent may the 3-D Coaching program influence coaches' non-cognitive skills?

The following research and null hypotheses were investigated in this study:

H_1: The non-cognitive skills of coaches will significantly increase after completing the 3-D Coaching development training.

H_o: The 3-D Coaching development training will result in no changes to coaches' non-cognitive skills.

Research Design

This study applied a quantitative quasi-experimental design to explore the 3-D Coaching program's influence on coaches' non-cognitive skills. The experimental procedure used for this study was a "one-group pre-/post-test design" that examined a single group through pre-test measures, followed by a treatment and a posttest (Creswell & Creswell, 2018, p. 168). Using an experimental method, I investigated the coaches' treatment group in either 5- or 15-weeks of coaches training. The effects of the action

were administered with the MindVue Profile assessment. The research question called for a quantitative quasi-experimental design. The design helped examine the influence that a coaches' training course (independent variable) has on the coaches' non-cognitive skills (dependent variable) and did not assign groups or manipulate the training course.

Participants, Data Sources, and Recruitment

The study relied on the availability of sports coaches using a convenience sample. This research study participants were a population of graduate-students from three Midwestern NCAA-sanctioned universities who completed the MindVue Profile during the fall and summer sessions in the 2019-2020 academic year. The people I researched were coaches who voluntarily elected to enroll in the graduate-level 3-D Coaching program. An initial electronic mailing was sent to the respondents explaining the study's purpose and instructions for completing the survey (see Appendix A). Once permission was obtained through an electronic agreement, the respondent gained access to the instrument. The MindVue Profile captured, stored, and displayed students' scores and demographic information in a password-protected dashboard.

When designing an informative experiment, a significant issue is having a sample size to ensure sufficient statistical power. Bryant (2004) explains that those who choose the quantitative methodology may face one of the most common issues in research design, which is gathering enough "good data" (p. 102). In this case, good data help describe and make inferences about the coaching population and the influence the 3-D program has on coaches' non-cognitive skills, which, in turn, helps inform the research question.

Data Collection Tool

The purpose of this study was to determine whether there was a difference in coaches' non-cognitive skills upon completion of the 3-D Coaching program. The instrument used to measure the coaches' non-cognitive skills was the MindVue Profile, which the 3-D Institute administered to university graduate students and archived the data for future research. The proprietary research-based self-report assessment tool is comprised of 120 items with a 5-point Likert-like response scale. The responses were coded as: very much like me = 5, mostly like me = 4, somewhat like me = 3, not much like me = 2, and not like me at all = 1. The instrument's initial section gathered demographic data on the coach, including gender, years of experience, how respondents felt about the importance of coaching development, level of coaching, and ethnicity.

The assessment measures the non-cognitive factors found in research to be related to numerous positive life outcomes. More specifically, the measure determined whether a person is feeling self-motivated, disciplined, perseverant, and can rebound from adversity while maintaining a sense of integrity (Davidson et al., 2018). The MindVue Profile measured a total of 13 non-cognitive skills, as seen in Table 2. These constructs are characterized by a theoretical representation in three major categories: intrinsic fire (e.g., self-motivation), intrinsic discipline (e.g., discipline and perseverance), and intrinsic control (e.g., resilience). Integrity, which is not categorized in the table, is a construct that stands alone. Each major category captures four non-cognitive subscales. Research indicates that these subscales predict successful life outcomes, such as academics (Duckworth & Carlson, 2013).

Table 2

MindVue Profile Categories and Subscales (Davidson et al., 2018)

Major Categories	Subscales (non-cognitive skills)	Definition
Intrinsic Fire	a. Self-Awareness	Possessing an accurate understanding of your strengths and overall sense of identity.
	b. Growth Mindset	Holding the belief that your potential can be cultivated through effort.
	c. Self-Efficacy	Believing in your ability to accomplish goals.
	d. Self-Determination	Having and pursuing self-generated and very meaningful goals and a strong sense of purpose.
Intrinsic Discipline	a. Grit	Having the passion and perseverance to achieve your long-term goals.
	b. Conscientiousness	Being organized, careful, and dependable in the completion of your work.
	c. Self-Control	Maintaining the ability to control your impulses and delay gratification for a larger reward in the future.
	d. Self-Discipline	Possessing the willingness and ability to do work most others are not willing to do.
Intrinsic Control	a. Adaptability	Possessing the ability to acclimate to the changing environment.
	b. Hope	Possessing the ability to navigate around obstacles while in pursuit of your goals.
	c. Internal Locus Control	Believing that your success is determined by hard work and effort versus luck and external factors.
	d. Resilience	Having the ability to bounce back from setbacks and emerge from adversity stronger than before.
	* Integrity	Possessing honesty, integrity, and acting in an ethical manner.

*Construct stands alone

The Fire category is comprised of self-awareness, growth mindset, self-efficacy, and self-determination. The second category, Discipline, contains grit, conscientiousness, self-discipline, self-control, and adaptability. The final group, Control, accounts for adaptability, hope, internal locus of control, and resilience. Integrity is a higher-order construct assessed separately and considered a stand-alone construct (Davidson et al., 2018). The validation process confirmed positive relationships of construct scores in academic performance, student-athlete success, and coaching performance (Davidson et al., 2018).

Instrument Validation and Reliability

For this study, I adopted the MindVue Profile, a psychometric assessment, to measure the coaches' non-cognitive skills. The validation process began with a laborious, multi-year examination and review of the literature to assess related theoretical constructs and previously validated measures (Davidson et al., 2018). The extensive validation process, which included an initial reliability analysis to examine internal consistency and explore criterion-related validity, helped identify items with low internal consistency. Preliminary studies reduced the initial pool of 206 items down to 195 items (Davidson et al., 2018). The refined survey was utilized to measure and examine 1,400 coaches from 23 different countries to determine the personal characteristics that predict coaching success. The MindVue Profile gathered data to explore the coaches' non-cognitive skills and decide whether or not they are positively correlated with factors that contribute to high coaching performance, such as having a strong sense of purpose or cultivating positive relationships. The research conclusively determined that coaches who possess

the highest non-cognitive skill levels positively correlate with underlying coaching characteristics that predict coaching success (Davidson, 2018).

Psychological assessments are an essential part of experimental research. According to Creswell and Creswell (2018), a comprehensive validation process establishes the validity of data from an instrument's past use, such as whether the survey measured the content it was intended to measure. The researchers maintain that continual testing will support the MindVue Profile's validity, which was designed to measure constructs in scale to explain the affective domain, such as how a person is thinking and feeling. (Davidson et al., 2018).

Exploratory Factor Analysis

First, to better comprehend the instrument's internal structure, the researchers conducted an exploratory factor analysis to examine the data's underlying structure and relationship. The exploratory factor analysis is a complex and multi-step process that helps reduce data to determine sets of measured constructs based on underlying latent variables (Costello & Osborne, 2005). The exploratory factor analysis results, combined with theoretical knowledge of non-cognitive skills, led to the formation of constructs, which were then examined using confirmatory factor analysis.

Confirmatory Factor Analysis

The confirmatory factor analysis measured the constructs' internal validity and appropriate fit levels to determine whether the theoretical model held together. As shown in Table 3, the goodness-of-fit indices summarize the results of the confirmatory factor analysis. An assessment of the sampling examined each construct's internal validity to verify appropriate levels of fit based on the statistical models' criterion, as outlined in

Table 3 (Davidson et al., 2018). The difference between the statistical models and the actual data reflects the absolute goodness-of-fit, supporting the tool's validity (Maydeu-Olivares & Garcia-Forero, 2010).

Table 3

Criterion Reference Measures for Factor Analysis Interpretation (Davidson et al., 2018)

Goodness-of-Fit Index	Criterion
Chi-square/degrees of freedom (cmin/df)	< 3 = good, 3-5 = acceptable
Standardized Root Mean Square Residual (SRMSR)	< .09 = acceptable
Adjusted Goodness to Fit Index (AGFI)	> .90 = excellent, .80 - .90 = acceptable
Comparative Fit Index (CFI)	>. 95 = great, > .90 = good
Root Mean Square Error of Approximate (RMSEA)	< .05 = excellent, .05 - .08 = good
Probability of Close Fit (PCLOSE)	> .05 = acceptable

The goodness-of-fit index summarizes the results of the confirmatory factor analysis tests, as seen in Table 4. The goodness-to-fit tests (fit indices) establish whether the constructs sample data fits a particular probability distribution in "agreement between model predictions (A priori) and actual outcomes" (Warner, 2008, p. 1013).

Table 4

Fit Indicies: MindVue Profile Multiple Goodness-of-Fit (Davidson et al., 2018)

Construct	Chi-Square/df	SRMR	AGFI	CFI	RMSEA	PCLOSE
Self-Awareness	1.796	0.0228	0.975	0.996	0.036	0.880
Growth Mindset	1.605	0.0179	0.982	0.994	0.031	0.830
Self-Efficacy	1.633	0.0169	0.982	0.996	0.032	0.838
Self-Determination	1.790	0.0168	0.984	0.995	0.035	0.696
Grit	2.693	0.0238	0.969	0.985	0.051	0.446
Conscientiousness	1.359	0.0192	0.978	0.995	0.023	0.998
Self-Control	3.899	0.0402	0.960	0.984	0.066	0.120
Self-Discipline	1.515	0.0162	0.984	0.996	0.028	0.892
Adaptability	3.722	0.0349	0.954	0.981	0.066	0.085
Hope	1.763	0.0172	0.980	0.995	0.035	0.793
Internal Locus Control	1.362	0.0165	0.985	0.997	0.024	0.881
Resilience	3.054	0.0386	0.957	0.983	0.057	0.231
Integrity	2.116	0.0286	0.958	0.983	0.041	0.928

Factor Analysis Item Loading

Third, measures for confirmatory factor analysis were computed by researchers using AMOS. The standardized item loading assessed the correlation (strength of the relationship) between measured variables. The researchers reported the loading range, as seen in Table 5. Combining the evidence from the goodness-of-fit and item loading suggests that each factor's internal structure is strong, confirming the instruments' internal validity (Davidson et al., 2018).

Table 5

Individual Standardized Item Loading Results (Davidson et al., 2018)

Non-Cognitive Skills	Loading Range	Average (mean)
Self-Awarness	0.54 – 0.84	0.70
Growth Mindset	0.61 – 0.80	0.71
Self-Efficacy	0.63 – 0.75	0.69
Self-Determination	0.64 – 0.69	0.67
Grit	0.55 – 0.74	0.62
Conscientiousness	0.61 – 0.81	0.68
Self-Control	0.61 – 0.86	0.77
Self-Discipline	0.63 – 0.71	0.74
Adaptability	0.57 – 0.88	0.76
Hope	0.51 – 0.82	0.70
Internal Locus of Contrl	0.49 – 0.65	0.61
Resilience	0.65 – 0.85	0.73

Fourth, an assessment of the MindVue Profile also included an examination of intercorrelations between constructs. Specifically, the researchers conducted a convergent validity test to determine if there is a correlation between the factors highlighting the relationship between constructs. Convergent validity results demonstrated a positive correlation among the factors (Davidson et al., 2018).

Cronbach's Alpha Coefficient Coefficient Reliability Test

Last, the researchers also assessed the instrument's reliability using Cronbach's

alpha coefficient to examine self-report items and "the degree to which responses are consistent across a set of multiple measures of the same construct" (Warner, 2008, p. 1005). Coefficient alpha values are cited regularly in social science research; however, Taber (2017) indicates that authors seldom provide an in-depth explanation or interpretation for an acceptable or optimal value. The Cronbach alpha coefficient expresses the scale's internal consistency ranging from 0.0 to 1.0. Creswell and Creswell (2018) reports an appropriate level of reliability should range from 0.70 to 0.90. The optimal threshold, which exceeds 0.70, indicates how well the test measures what it purports to measure (Creswell & Creswell, 2018). The reported coefficient alpha levels suggest the reliability of the constructs are closely related, with a majority of the alpha levels well over 0.70, as noted in Table 6.

In developing the MindVue Profile, the researchers established internal and construct validity by facilitating a rigorous validation process to ensure the instrument accurately measured what it intended to measure and the degree to which the tool yielded consistent, reliable results (Davidson et al., 2018). The positive interrelations between the factors suggest the MindVue Profile measures "similar, yet different, constructs that are related to one another" (Davidson et al., 2018).

Table 6

Internal Consistencies of the Constructs Composing the MindVue Profile

Non-Cognitive Skill	Cronbach's Alpha Coefficient Level
Self-Awareness	.849
Growth Mindset	.722
Self-Efficacy	.847
Self-Determination	.798
Grit	.822
Conscientiousness	.839
Self-Discipline	.803
Self-control	.839
Adaptability	.829
Hope	.842
Internal Locus of Control	.772
Resilience	.845
Integrity	.903

Data Collection Procedures

Formal approval to conduct the analysis was obtained through the university's Institutional Review Board. Upon receipt of this approval (see Appendix B), archived data for the dependent variable (coaches' non-cognitive skills) were retrieved from the 3D Institute's dashboard. The dependent variables included 13 non-cognitive subscales and one stand-alone construct measured by the MindVue Profile (see Appendix C for

permission to use archival data for graduate student's percentile scores). The 3-D Institute anonymized the data by removing the users' names and email addresses. The MindVue Profile measurement system utilized methods to prevent incomplete or missing data by ensuring participants completed each question before moving on to the subsequent sections (Davidson et al., 2018). Additional data scanning to determine successful survey completion was employed to detect incomplete information.

Data collection procedures were conducted in two phases. The first phase (pre-test) of data collection began on the first day of the course. The survey was sent from MindVue, and the results were populated, stored, and viewed on a dashboard. Customization of the dashboard included an initial priming statement to gather individuals' responses to demographic variables and participant scores on the assessment's non-cognitive skills measure. The purpose of using the online pre-/post-test data collection process was for the simplicity of accessing all participants simultaneously, limiting expenses, and making responses readily available and easier to analyze (Creswell & Creswell, 2018). The research protocol ensured that all respondents received an email from MindVue. The initial email provided each respondent with a username, password, and link to access the survey. The MindVue Profile is a psychometric survey in which all rights of use are copyrighted. To observe the laws and ensure confidentiality, the coaches used their username and password to access their accounts and complete a new user profile. Before login, the coaches agreed to the privacy policy and the terms and conditions of the survey. Access was granted after clickwrap consent and agreement to participate in the study. Upon login, instructions led participants through the survey.

The second phase (post-test) was conducted at the conclusion of coaches' training. Coaches received an email link to access the self-assessment questionnaire. The final email reminded participants of the study's purpose, provided closing remarks, and thanked them for their participation.

Data Analysis

In this study, Likert-like data were collected and converted to percentile scores for each subscale construct. For proprietary reasons, access was limited to item-level or raw data scores. To determine whether there were differences between the independent variable (3-D Coaching program) and dependent variables (coaches' non-cognitive skills), a frequency analysis, Wilcoxon signed rank test, and effect analysis were conducted to assess the null hypothesis. Upon converting the MindVue Profile data into an Excel format, the data were then compiled and downloaded into the Statistical Package for the Social Sciences (SPSS 27) for relevant data analysis.

An initial frequency analysis examined data to ensure that the necessary assumption of symmetry was met for the non-parametric Wilcoxon signed rank test. When the assumptions of symmetrical distribution fail, the power of the test may incorrectly affect how to interpret the probability of the hypothesis. Percentile rank data does not meet the parametric test assumption and does not follow a normal distribution (Warner, 2008). As a result, ordinal data supported the use of the non-parametric Wilcoxon signed rank test. The Wilcoxon test was conducted to investigate the mean rank scores, the sum of ranks, and the statistical significance ($p < 0.05$) of coaches' non-cognitive skills recorded from the pre-test and post-test.

Although the distinction of statistical significance is useful and suggested that the outcomes result from random chance, the result "may be too small to have much real-world value" or practical significance (Warner, 2008, p.103). For this study, practical significance refers to the effect size or magnitude of difference. McCartney and Rosenthal (2000) contend that evaluation of effect size helps judge the association between variables or the intervention's extent between the pre-/post-test scores. Further, in-depth work at the item-level may ensure more valid and reliable measurements.

Ethical Considerations

The Institutional Review Board's (IRB) approval for oversight of research protocols ensured adherence to research participants' ethical standards and safety. Participants in this study were required to give consent to participate. Participation was voluntary. The online survey instrument provided a private username and password access to the individual coach's results but protected and ensured all participants' confidentiality. Additional supplemental questions helped gather identifying data and other demographic variables, such as the participants' names and years of coaching experience. The research protocol provided participants with the option to decline participation or the opportunity to opt-out and no longer participate in the study. Respondents were not compensated for their participation, and all data remained confidential with a password-protected log-in. The database was maintained throughout the research process.

Limitations, Delimitations, and Bias

To better understand and determine optimal ways of developing coaches' non-cognitive skills, the study examined the influence a transformational-based coaching

education program has on coaches. Isolating the field of participants to coaches enrolled in university certification training courses delimited the assessment to coaches who sought out training. The acquisition of coaching knowledge related to pedagogical practices and sport science results from personal interpretations of various experiences, such as participation or observation in formal coaching classes or non-formal coaching experiences (Cushion et al., 2003; Koh et al., 2014).

Graduate-level coaches may be more easily influenced by course content, which acknowledges transformational information and practices. Coaches with limited experience may have been more malleable versus veteran coaches (10 or more years), who are likely to resist change or be set in their ways. If coaching experience significantly shapes, develops, and impacts the way coaches coach, regardless of competency, the influence of formal coaching courses may be a less impactful endeavor for some coaches. Similarly, coaches, who had developed desirable coaching attributes from elite playing-levels, may have influenced how coaches developed knowledge of skills and expertise or the lack thereof (Crickard et al., 2020). According to Cushion et al. (2003), formative experiences extend and influence coaches' perspectives, beliefs, and behaviors. Thus, instructional interventions affect and change cognitive and non-cognitive skills differently for certain skills and peoples' ages (Heckman et al., 2019).

Beyond the participant's involvement in the study, there may have been external or psychological factors in their lives that accumulated, influenced, or altered their non-cognitive skills (Funder & Ozer, 2019). Any changes in the coaches' non-cognitive skills may not have been attributed to the training intervention. Rather, changes in an individual's life, such as issues related to social interactions, physical health, financial

concerns, or personal relationships, may have had implications on an individuals' thoughts and feelings (Funder & Ozer, 2019).

Although randomization of the study group helps minimize bias, the convenience sampling of coaches, who had varying degrees of experience and came from different schools, rendered more participants. Randomization procedures differ based on the research design of an experiment. As a result, the findings may not have applied to coaches in various sports types/levels or geographical locations or be representative of the total coaching population.

Additional limitations include self-reporting and limited access to item-level data. When constructing measures of non-cognitive skills, Heckman et al. (2019) explain that self-reports can be misleading in social science research, suggesting that a quality analysis of a single human skill is best depicted by performance on tasks. In this study, participants were required to complete the 3-D Coaching program to earn credit to fulfill an academic requirement. Subsequently, performance on completing the survey may depend on the incentive motivating participants to complete the course requirements and obtain certification. Furthermore, due to the measuring tool's proprietary nature, the absence of item-level responses limits the examination of the test's internal consistency or underlying structure relative to the multivariate statistics. Similarly, factor analysis, at the item-level, would have examined correlations patterns between factors and measured variables to assess the construct validity of scores on individual test items (Warner, 2008). Lastly, as a former collegiate athletic coach, the author's involvement in the coaching profession may have contributed to an explicit bias toward improving and advancing coaching development.

Summary

Generic coaching education programs lacking content focused on coaches' personal development and needs may not adequately prepare coaches for the complexities of coaching sports. The present study used a quantitative quasi-experimental pre-/post-test design utilizing the MindVue Profile self-assessment survey to measure the extent a transformational leadership-based program has on coaches' non-cognitive skills. The tool has been designed and validated to measure thirteen crucial non-cognitive factors, which research suggests being predictive of positive life outcomes. Evidence from extensive validation processes and criterion-related validity studies supports the tool's ability to capture a set of human characteristics that can predict performance outcomes.

Results of the nonparametric Wilcoxon signed rank analysis examined the variance of the repeated measure. Post hoc analysis and application of Rosenthal described the effect size to determine the usefulness of the test scores (McCartney & Rosenthal, 2000). Due to the nature of the percentile or ordinal data, which naturally force middle scores away from one another, small differences are reflected as relatively larger changes in rank. Similarly, the non-parametric Wilcoxon sign rank test compared the two scores while computing the effect size to determine the magnitude of the difference found in the test scores.

CHAPTER FOUR: FINDINGS

Introduction

This study intended to evaluate whether the 3-D Coaching program would influence coaches' non-cognitive skills conducive to favorable life outcomes. I investigated coaches' perceptions of performance related to their motivation, discipline, perseverance, and ability to rebound from adversity. The study's goal was to examine a transformational coaching development program to determine changes in coaches' non-cognitive skills that may enhance their personal and professional lives.

The findings of this study are organized into the following sections: 1) a statement of the problem; 2) a review of the research question; 3) review of the instrument's reliability; 4) overview of data collection and instrument; 5) participants' demographics, and 6) and findings of the research question. To conclude the chapter, I have provided a summary.

Statement of Problem

Little is known if coaching education programs reinforce or enhance coaches' non-cognitive skills. Coaches are important and influential adult figures in the lives of athletes. Often, untrained and inexperienced coaches, who are not focused on the athlete's well-being, growth, development, and display explicitly poor coaching behaviors, tend to lead to a negative experience for their athletes (Stewart, 2013). Stewart (2013) found that the most frequently occurring concern is the coach's personality related to cognition, emotions, and behaviors. Gearity and Murray (2011) concluded that there is a need to change and improve coaches' behaviors. Consequently, regardless of sport

level, coaching education programs may better serve and prepare future coaches by designing programs focused on the coach's role and personal development.

Research Question

My study employed a pre-/post-test survey design of a convenience sampling of coaches enrolled in college credit 3-D Coaching development courses. This study's results are tabulated from established statistical analysis procedures and present an overview of the data and the results related to the research question and the null hypothesis.

The overarching research question is: To what extent may the 3-D Coaching program influence coaches' non-cognitive skills?

Null Hypothesis: The 3-D Coaching development training will result in no changes to coaches' non-cognitive skills. There will be no difference in pre-test and post-test scores.

The tabulation of study data was derived from non-parametric methods examing the difference or changes in median scores. The coaches' responses to the MindVue Profile questionnaire were automatically compared to national norms and converted into percentile rank scores. Descriptive statistics, such as the mean and standard deviation, lose value because the ordinal data naturally follow the non-normal distribution. Percentile rank data create a distribution that is too flat and uniform to be considered normally distributed because the data forces middle scores away from one another. For scores to be normally distributed, the data would likely cluster in higher density around the mean. As a result, percentile ranks would not be expected to be normally distributed;

however, they ought to be symmetrical to meet the Wilcoxon sign rank nonparametric test's assumption.

Study Participants

Initially, 157 coaches, who enrolled in the graduate courses, were solicited with electronic correspondence. Eleven respondents were not included in the data analysis for various reasons. Those reasons include line-by-line proofreading revealing inconsistencies with submissions tallying eight partially completed questionnaires (no posttest) and three with careless responses (recorded the same answer for all 120-items).

As presented in Table 7, viable data were collected on $N = 146$ respondents, with a participation rate of 93%. All participants were graduate-level students at their respective universities.

Table 7

Participant Demographics

Factors	Descriptors	Frequency (*n*)	Percentage (%)
Gender	Male	103	70.5
	Female	43	29.5
Race/Ethnicity	White or Caucasian	103	91.8
	Black or African American	11	7.5
	Latino/Hispanic	0	0.0
	Asian	0	0.0
	Middle Eastern	0	0.0
	Pacific Islander	0	0.0
	Native American	0	0.0
Coaching Experience (Years)	0-2	40	27.4
	3-5	42	28.8
	6-10	32	21.9
	11-15	22	15.1
	16 or more	7	4.8
Coaching Level	Recreation	23	15.8
	Club	15	10.3

	Middle School	16	11.0
	High School	55	37.7
	College	37	25.3

N = 146

Overview of Data Collection and Instrument

The quantitative pre-/post-test experimental approach was used in this research study to examine the 3D-Coaching program taught by online modules. The study's overall goal was to explore the influence of the 3D-Coaching program on thirteen of the coaches' non-cognitive skills, which studies indicate are predictive of successful gains in life (Jackson, 2012). One hundred and fifty-seven graduate students from three universities initially agreed to participate in the study. Of the 157 students, 146 completed the questionnaire correctly. The final research sample was comprised of 146 of the 157 students (93%) enrolled in the 3D-Coaching program.

The quasi-experimental design was used to determine whether the 3D-Coaching program, using transformational content and strategies to fulfill higher-level needs, such as identity, character, significance, self-worth, value, and purpose, would influence coaches' non-cognitive skills. The independent variable for this study was the 3D-Coaching program. The dependent variables were the thirteen non-cognitive skills. I examined the relationship between the variables involving the coaching education intervention and the coaches' sense of motivation, discipline, perseverance, and ability to cope with adversity while upholding integrity.

The pre-/post-test scores informed the null hypothesis indicated by changes in the coaches' non-cognitive skills determined by their scores on the MindVue Profile survey. The MindVue Profile transposed the participants' item-level data to percentile rank measures upon survey completion. The percentile is an ordinal measure of participants'

perception of their coaching performance, tabulated relative to an extensive global data set. For example, if a coach receives a raw survey score of 50 and a percentile rank of 75, the raw score of 50 is higher than 75% of the comparison group.

The percentile rank scores of coaches' non-cognitive skills directly compared each coach to a normative sample. Ordinal data cannot yield mean values because the differences in scores cannot be assumed to be equal. As a result, the mean of a series of scores (scale data) cannot be presumed to be the median with percentile rank data. Data, such as ordinal level measurements, fail to meet parametric statistics requirements because the dependent variable must be continuous (Warner, 2008). In this case, preliminary data screening helped assess parametric and non-parametric statistics parameters and how well assumptions were satisfied or violated by the data.

Reliability of Measurement

For this study's purposes, the MindVue Profile (Davidson et al., 2018) survey was used. The survey withstood a validation process assessing the instrument's validity and the tool's reliability (Davidson et al., 2018). The assessment's internal consistency demonstrated appropriate levels of reliability within each construct, revealing similar common characteristics with Cronbach alpha levels exceeding 0.70 for all thirteen constructs, as presented in Table 6. The MindVue Profile captures item-level scores, which are computed and converted into percentile ranks compared to an extensive global data set (Davidson et al., 2018).

Findings

According to Harris et al. (2008), parametric statistical tests "…have assumptions about the data that must be met in order for the tests to apply effectively" (p. 1488). More

specifically, parametric tests, such as the paired samples *t*-test, has the fundamental assumptions that (1) the data measures in continuous ratio or interval scale, (2) the sample is random from its population, (3) the data are normally distributed, and (4) the sample size is significant (Kim & Park, 2019). In this study, violation of parametric tests' assumptions is evident with ordinal data (percentile rank), which naturally creates non-normal distribution (Harris et al. 2008). Although the data violates parametric test assumptions, normality is an underlying assumption that is often not met (Harris et al., 2008).

Blanca et al. (2013) explain that data from social science research is often not normally distributed as it takes on different shapes and degrees of skewness and kurtosis. The median scores are the best measure of central tendency for extreme values and skewness of ordinal data (Harris et al., 2008). For this study, percentile rank scoring necessitates non-parametric tests.

Non-Parametric Analysis

A non-parametric analysis of the coaches' responses, using the Wilcoxon sign rank test, the sum of ranks test, and measure of effect size, was used to analyze the median and rank scores before and after the program intervention and the magnitude of the effect on coaches' non-cognitive skills. According to Harris et al. (2008), non-parametric tests have advantages. The testing does not rely on normality and does not depend on descriptive statistics such as mean, standard deviation, and variance, which is a good option for ordinal data. Furthermore, Hunter and May (1993) add that paired samples are random and independent, and the distribution of the difference between groups must be symmetrical. Thas et al. (2005) acknowledge, "Although the one-sample

Wilcoxon rank test was originally proposed as a location test for symmetric distribution, it can just as well be a test for symmetry around a known median" (p. 958). Thus, I utilized a frequency analysis of skewness to examine the non-normal ordinal data's asymmetric variance.

Table 8

Pre-/Post-test Assessment of Symmetry

Subscale	Test Condition	M	Skw	Std. Err.	Skw Stat.
Self-Awareness	pre	33.00	.256	.201	1.274
	post	40.00	.253	.201	1.259
Growth Mindset	pre	28.00	.471	.201	2.343
	post	38.00	.237	.201	1.179
Self-Efficacy	pre	40.00	.058	.201	.289
	post	40.00	.011	.201	.055
Self-Determination	pre	52.00	-.069	.201	-.343
	post	52.00	-.316	.201	-1.572
Grit	pre	39.00	-.056	.201	-.279
	post	52.00	-.104	.201	-.517
Conscientiousness	pre	40.00	.322	.201	1.602
	post	40.00	.260	.201	1.294
Self-Control	pre	38.00	.298	.201	1.483
	post	38.00	.352	.201	1.751
Self-Discipline	pre	27.00	.326	.201	1.621
	post	42.00	.168	.201	.836
Adaptability	pre	35.00	.486	.201	2.418
	post	47.00	.116	.201	.577
Hope	pre	25.00	.377	.201	1.876
	post	37.00	.192	.201	.955
Internal Locus Control	pre	31.00	.527	.201	2.622
	post	40.00	.321	.201	1.597
Resilience	pre	36.00	.476	.201	1.597
	post	45.00	.114	.201	.567
Integrity	pre	35.00	.544	.201	2.706
	post	40.00	.163	.201	.811

N = 146

Frequency Analysis

Table 8 provides information regarding skewness, standard error of skewness, and skewness statistic for the dependent variables. The frequency analysis examines the data's symmetry or lack thereof. The skewness statistic measures if the distribution is skewed left or right of the center (zero). The differences between pre-/post-test intervention confirm the differences are symmetrical, as presented in Figure 1.

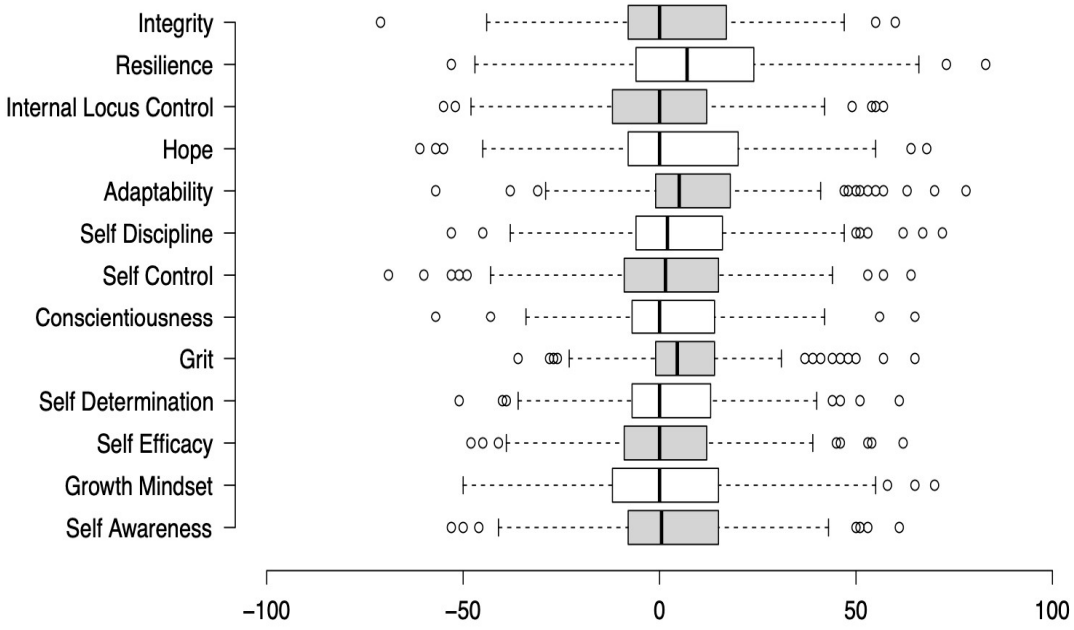

Figure 1. Box plots of the non-cognitive distributions of the skewness statistics. Measuring the pre-/post-test difference as a result of the 3-Coaching Program intervention. Symmetric data should have skewness near zero.

Graphically, the box-whisker plots create a visual of each construct, demonstrating the distribution of the differences between pre-/post-test to determine the appropriateness of the Wilcoxon signed rank test. The skewness statistic range for the pre-test was .289 to 2.706, and the post-test was .055 to 1.751. With a skewness balance of nearly zero (Sk < 2.00), the subscale data consistently demonstrate normal symmetry. Strong skewness was seen in pre-test subscales growth mindset 2.343, adaptability 2.418,

internal locus of control 2.622, and integrity at 2.706, which indicates the data are not normal. Although the ratio for these four pre-test scores is greater than 2.00, the overall frequency analysis of 13 non-cognitive constructs confirms symmetry was met consistently. The slight skewness of the pre-test results does not warrant transformation.

Wilcoxon Rank Sum Test

When the assumptions of parametric tests are not met, such as ordinal data and lack of normal distribution, the Wilcoxon rank-sum test assesses the distribution of observations between independent samples (Warner, 2008). Essentially, the ranked values assist in determining if the results are distributed evenly or not. This study compares the ranking of coaches' non-cognitive skills with percentile scores before and after the 3-D Coaching intervention.

The Wilcoxon rank-sum test's overall results confirmed the specific number of cases for each construct where the coaches' scores increased, decreased, or remained the same, as presented in Table 9. For example, of the $N = 146$ total participants, the coaches' scores on self-awareness after the intervention revealed 46 cases decreased, 73 cases increased, and 27 remained the same. Furthermore, when comparing the mean rank and sum of ranks, coaches' scores were consistently higher post-intervention signifying an improvement in most coaches' non-cognitive skills.

Table 9

Participants' Ranks Between Observations of Coaches' Non-Cognitive Skills

Non-Cognitive Skills		*N*	Mean Rank	Sum of Ranks
Self-Awareness	Negative Ranks	46	55.89	2571.00
	Positive Ranks	73	62.59	4569.00
	Ties	27		
	Total	146		
Growth Mindset	Negative Ranks	59	56.47	3332.00
	Positive Ranks	66	68.83	4543.00
	Ties	21		
	Total	146		
Self-Efficacy	Negative Ranks	46	54.74	2518.00
	Positive Ranks	63	55.19	3477.00
	Ties	37		
	Total	146		
Self-Determination	Negative Ranks	39	43.95	1714.00
	Positive Ranks	57	51.61	2942.00
	Ties	50		
	Total	146		
Grit	Negative Ranks	37	55.73	2062.00
	Positive Ranks	80	60.51	4841.00
	Ties	29		
	Total	146		
Conscientiousness	Negative Ranks	54	54.89	2964.00
	Positive Ranks	68	66.75	4539.00
	Ties	24		
	Total	146		
Self-Control	Negative Ranks	50	63.78	3189.00
	Positive Ranks	74	61.64	4561.00
	Ties	22		
	Total	146		
Self-Discipline	Negative Ranks	43	50.93	2190.00
	Positive Ranks	74	63.69	4713.00
	Ties	29		
	Total	146		
Adaptability	Negative Ranks	37	51.04	1888.50
	Positive Ranks	83	64.72	5371.50
	Ties	26		
	Total	146		
Hope	Negative Ranks	42	52.00	2184.00
	Positive Ranks	68	57.66	3921.00
	Ties	36		

	Total	146		
Internal Locus Control	Negative Ranks	59	58.54	3454.00
	Positive Ranks	60	61.43	3686.00
	Ties	27		
	Total	146		
Resilience	Negative Ranks	42	54.44	2286.50
	Positive Ranks	86	69.41	5969.50
	Ties	18		
	Total	146		
Integrity	Negative Ranks	61	50.29	3067.50
	Positive Ranks	62	73.52	4558.50
	Ties	23		
	Total	146		

Note: N, Negative Ranks - number of cases where post-test scores were lower than the pre-test scores. Positive Ranks – number of cases where post-test scores were higher than the pretest scores. Ties – same score on both pre-/post-test scores.

Most of the mean ranks' and sum of ranks' results indicate that coaches' non-cognitive skills after participation in the 3-D Coaching program are mostly higher than before the program. This implies that a significant number of the coaches' non-cognitive skills have improved after they participated in the program.

Wilcoxon Signed Rank Test

The Wilcoxon signed rank test compared percentile rank values within the group to determine if the thirteen non-cognitive skills changed overall from pre-test to post-test, as presented in Table 10.

Table 10

Pre-/Post-Test Non-Parametric Results for the Effectiveness of the Coaching Intervention

Subscale	*z*	*p*	*r*
Self-Awareness	2.651	.008	.22
Growth Mindset	1.493	.136	.12
Self-Efficacy	1.451	.147	.12
Self-Determination	2.246	.025	.19
Grit	3.781	.000	.31
Conscientiousness	2.013	.044	.17
Self-Control	1.712	.087	.14
Self-Discipline	3.433	.001	.28
Adaptability	4.562	.000	.38
Hope	2.591	.010	.21
Internal Locus Control	0.308	.758	.02
Resilience	4.380	.000	.36
Integrity	1.882	.060	.16

$N = 146$, $p > 0.05$ 2-tailed.

The Wilcoxon signed rank test indicated that the median difference between post-test scores were statistically significantly higher than the median pre-test scores for self-awareness ($p = .008$, $p > 0.05$), self-determination ($p = .025$, $p > 0.05$), grit ($p = .000$, $p > 0.05$), conscientiousness ($p = .044$, $p > 0.05$), self-discipline ($p = .001$, $p > 0.05$), adaptability ($p = .000$, $p > 0.05$), hope ($p = .010$, $p > 0.05$), and resilience ($p = .000$, $p > 0.05$).

Generally, the 3-D Coaching intervention may contribute to some aspect of eight of the coaches' non-cognitive skills. Therefore, the null hypothesis stating that there will be no difference in coaches' non-cognitive skills should be rejected for eight of the thirteen constructs. Conversely, five subscales, including growth mindset, self-efficacy, self-control, internal locus of control, and integrity, were not statistically significant.

The effect size (*r*) of statistically significant constructs ranged from .17 to .38. The extent of the differences between the constructs is provided by the effect size (ES) statistics, and not just whether these differences could have occurred by chance.

The effect size is widely interpreted, with attempts to setting *d/r/g* value thresholds, such as Cohen's *d* or Hedges' *g* = .20, .50, and .80 for small, medium, and large effects, respectively (Brydges, 2019). Funder and Ozer (2019) explain that in social psychology that a range in effect size *r* = .40 is "the purported ceiling for effects of personality" (p. 159). Similarly, Hattie (2015) examined higher education teachers' influence on student learning, demonstrating significant gains when implementing a new program. The effect-sizes in an educational context were interpreted as .10 - .20 small, .21 - .33 intermediate, and .34 - .45 large effect (Hattie, 2015).

Effect size estimates the magnitude of the difference between two means/medians. Funder and Ozer's (2019) review and comparison of social and personality psychology studies to establish benchmarks and better understand effect size determined that "a researcher who obtains an *r* = .21 in a new study can be fairly confident that this is a larger effect than typically found" (p. 159). Gignac and Szodorai (2016) also recently conducted a meta-analysis on published research correlations and found that the average effect size was *r* = .19, suggesting that Cohen's *d* threshold for effect strength should be re-casted using marks of .10, .20, and .30 representing small, typical, and relatively large.

For this study, the calculation for the strength of association (*r*) using the standardized test statistic (*z*) applied the following equation.

$$r = \frac{\mathrm{Z}}{\sqrt{\mathrm{N}}}$$

Nearly eight subscale constructs demonstrated a typical and relatively large effect, supporting the magnitude's median differences of self-awareness (r =.22), self-determination (r = .19), grit (r = .31), conscientiousness (r = .17), self-discipline (r = .28), adaptability (r = .38), hope (r = .21), resilience (r = .36). The magnitude of significance between the experimental pre-/post-test scores provides further evidence to reject the null hypothesis. Similarly, although not statistically significant, growth mindset (r =.12), self-efficacy (r =.12), self-control (r =.14), and integrity (r =.16) reveals small differences in the effect.

Analysis and Synthesis of Findings

This study had a sufficient sample size (N = 146) and was designed to measure each participant twice: pre-test and post-test after the coaching development intervention. The parametric testing assumptions were not met, including the use of percentile rank or ordinal data and the assumption of normality. A frequency analysis measure of skewness revealed consistent symmetry overall. The Wilcoxon signed rank test compared the pre-test and the post-test median to determine if the two measurements differ significantly. Although the median difference between pairs of observations equals zero, the p-value indicates evidence against the null hypothesis. In this study, eight of the thirteen non-cognitive constructs' results were statistically significant ($p < 0.05$), signifying that the test hypothesis is false and should be rejected.

Discussion

The results of this study indicate that the 3-D Coaching Program may influence coaches' non-cognitive skills. The Wilcoxon rank of sum test demonstrated the value of its analysis, which depicts the percentage of coaches' non-cognitive scores that improved

after the intervention. Table 11 presents the percentage of coaches who scored higher on the post-test and the percentage increase for each non-cognitive factor.

Table 11

Percentage change in coaches and increase in non-cognitive scores

Scale	Coaches with Higher Post-Test Scores (%)	Increase for Each Non-Cognitive Scale (%)
Self-Awareness	50.0	9.1
Growth Mindset	45.2	10.3
Self-Efficacy	43.2	6.7
Self-Determination	39.0	8.6
Grit	54.8	16.2
Conscientiousness	46.6	8.6
Self-Control	50.0	6.9
Self-Discipline	50.7	17.2
Adaptability	56.8	24.1
Hope	46.6	12.5
Internal Locus Control	41.1	2.9
Resilience	59.0	24.6
Integrity	42.5	7.4

$N = 146$

The overall effects support Heckman et al. (2019), who indicated, "Interventions to improve skills are effective to different degrees for different skills at different ages" (p. 4). The noticeable effects of the intervention from the pre-/post-test demonstrate that these skills have changed. Although the pre-/post-test differences may not be directly attributed to the programming, the evidence of change in coaches' non-cognitive skills may result from activating the coaches' motivation or desire to improve their coaching role. According to Ryan and Deci (2000), intrinsic motivation releases an intense passion and increases persistence, enhancing performance and facilitating growth. The self-determination theory assumes such improvements due to people's inherent nature being self-motivated, focused, and hopeful of succeeding because the outcome is often

fulfilling (Deci & Ryan, 2008). Consequently, more significant changes and magnitude of the effect seen in grit, adaptability, resilience, self-awareness, self-discipline, and hope may have been evoked by the coaches' inner motivation, which has enhanced internal processes, such as passion, perseverance, and tenacity.

Although this study provides preliminary evidence of how the 3-D Coaching development program may influence coaches' non-cognitive skills, some limitations need to be addressed. First, external and psychological factors outside of the study can alter non-cognitive skills, such as work pressures or relationship problems. Any changes that occurred to the coaches' non-cognitive skills may not be a result of the intervention. This study did not utilize a randomized control group. Thus, the results cannot confirm whether the improvement in scores results from the intervention or external factors. Second, the quasi-experimental design did not include a random selection of coaches. The coaches' group was a convenience sample of graduate students enrolled in the 3-D Coaches course at three universities. The findings may not be representative of the total coaching population. Third, self-reporting measures can exhibit reference bias and "relevant for constructing measures of non-cognitive skills" because different groups have different reference points (Heckman et al., 2019, p. 11). Fourth, I did not have access to item-level or raw data. The items were automatically converted into percentile rank or ordinal data during preliminary data handling. Percentile rank data does not meet the assumptions of parametric tests. Nonparametric data are considered slightly less powerful because it does not rely on data distribution (Warner, 2008). Thus, descriptive statistics, such as mean and standard deviation, are not useful for calculating parametric data, such as correlations. Lastly, as a collegiate athletics director and former collegiate

athletic coach, my coaching profession involvement may lend to an explicit bias toward advancing a coaching development program.

Conversely, this study has its strengths. First, when parametric test assumptions have been violated, nonparametric tests have more statistical power (Warner, 2008). In this study, violations were evident by the distribution of normality and the use of ordinal or categorical data. Second, to yield reasonable results with non-normal or skewed data, it is more desirable to have a large sample size when using the Wilcoxon signed rank test. A smaller sample size could change the outcome's nature by removing a single outlier (Warner, 2008). Third, an advantage of a quasi-experimental one-group pre-/post-test design is that a comparison can be made between pre-test and post-test scores. Although the study design allows for comparing the difference in test subjects before and after the intervention, the study did not utilize a control group to maintain internal validity. In this case, the quasi-experiment design does not involve comparing a treatment group and a control group to avoid confounding variables and ensure that there is no systematic bias or error (Warner, 2008). Lastly, the data analysis results suggest a statistically significant difference with moderate to relatively large magnitude for social science research in eight of thirteen coaches' non-cognitive skills. The results establish precedence that coaches' training and program design may effectively improve the coaches' role by enhancing their non-cognitive skills.

This study's results have many implications for those interested and needing to educate and develop coaches. First, this study is an experimental exploration into how the 3-D Coaching program may influence coaches' non-cognitive skills. The results may provide insight into the relevancy of designing and implementing coaching education

programs focused on advancing coaches by developing their mindset. Essential to this assessment of a coaching development program are organizations and institutions interested in coaches, coaching education, and the advancement of the coach's role as a primary influence in their athletes' lives.

The results may also suggest the significance of engaging and equipping coaches with transformational leadership strategies to teach athletes the mental side of sport and improve coach-athlete relationships. Additionally, essential to the 3-D training, the program may address coaching education efforts to improve how coaches relate to their athletes and transfer strong non-cognitive skills to team members. As a result, understanding the importance of enhancing coaches' non-cognitive skills may emphasize a holistic approach that elevates the coach's mind and contributes to positive coaching attributes.

Summary of Findings

For this study, 93% of the population enrolled in the 3-D Coaching development program participated ($N = 146$) by completing a 120-item survey. Data described, statistically analyzed, and presented in Chapter 4 were gathered from graduate students at three NCAA-sanctioned universities during the 2019-2020 academic year using the MindVue Profile. Of the 146 participants, levels of coaching were represented by 23 in recreation, 15 in club sports, 16 in middle school, 55 in high school, and 37 in college.

This chapter presented the results of a study conducted with coaches who completed the 3-D Coaching program. The research question concerned the extent of the 3-D Coaching program's influence on coaches' non-cognitive skills. To examine the program's impact on the coaches, I utilized a frequency analysis test and the non-

parametric Wilcoxon signed-rank test to analyze the data. The results indicate that the coaching intervention, through a 25-model online program, may have positively impacted eight of thirteen coaches' non-cognitive skills. After training, the coaches' scores showed increases from pre-test to post-test in self-awareness, self-determination, grit, conscientiousness, self-discipline, hope, adaptability, and resilience. The findings were not significantly different in the growth mindset scores, self-efficacy, internal locus of control, and integrity. Thus, the null hypothesis for four of the constructs is accepted.

Statistical analysis revealed modest differences in the measurable constructs, demonstrating an effect in coaches' non-cognitive skills from the coaching intervention. These findings may contribute to the 3-D Coaching program and provide evidence and insight and serve as a foundation for determining best practices to enhance coaches.

CHAPTER FIVE: PROPOSED SOLUTION AND IMPLICATIONS

Introduction

This research sought to initiate an understanding of the need to improve the coaches' role by focusing on the personal development of coaches. It aimed to investigate the influence a transformational-based coaches training program has on coaches' non-cognitive skills, such as self-control and resilience, and the implications of developing the coaches' mindset or internal capacity. As a result, the research strived to demonstrate how that understanding might inform coach education and the broader practice of coaching development and program design. A discussion of the results will present the research's aim and findings by recommending a proposed solution, describing procedures for implementation, and discussing practical, research- and leadership-related implications. Lastly, the chapter ends with thoughts and a conceptualization linking the literature, research findings, and future research implications.

Aim Statement

This study aimed to use empirical data measured by the MindVue Profile psychometric assessment to inform organizations and institutions that sponsor athletic programs about the influence and implications of the 3-D Coaching transformational-based program on coaches' non-cognitive skills. The aim is to increase school and club administrators' understanding and awareness of the importance of consistently supporting the coach's role and approach to developing coaches' mindset.

Recommendation

Much debate and research have explored coaching process theories on instructional methods, conceptual models of coaching, and the coaching process, such as

mentoring and reflection practices. These and other related bodies of knowledge have further broadened and established a comprehensive perspective of effective coaching, examing a vast number of topics such as coaches' behaviors (Stewart, 2013), learning (Erickson et al., 2008), and competency (Kao & Tsai, 2016).

The need to evaluate coaching education programs or forms of personal and professional development has recently shifted from a long-established focus on what coaches "should do" to be more effective – toward a growing scholarship examining the importance of coaches' non-cognitive skills. Hodgson et al. (2017) established new insight into psychological attributes extrapolating themes or evidence of coaches' transformative power. More specifically, Hodgson et al. (2017) narrowed the analysis to coaching characteristics reflective of coaches' effectiveness, such as attitude, resilience, focus, and emotional awareness.

This study's results build on recent works providing novel insights into examining changes resulting from a transformational-based training program on thirteen non-cognitive skills. Potrac et al. (2000) conclude that coaching education should emphasize "a sharper focus on the person, by illuminating the complex micro-level interactions that represent the everyday and complex reality of the dynamic coaching process" (p. 195). In this case, the interaction may benefit both the coach and the athlete when placing priority on a dualistic approach to developing the athlete's mind and connection to physical performance and a holistic approach when connecting with athletes relationally on personal traits such as identity, character, and purpose (Duke & Bonham, 2014).

In summary, the data drive my general observation, conclusion, and recommendation about the 3-D Coaching transformational-based framework. Eight of the

thirteen non-cognitive skills demonstrated statistically significant ($p < .05$) improvements, with a modest to relatively large effect size (r) for social science research (Gignac & Szodorai, 2016). Those include grit ($p = .000$, $r = .31$), adaptability ($p = .000$, $r = .38$), resilience ($p = .000$, $r = .36$), self-awareness ($p = .008$, $r = .22$), self-discipline ($p = .001$, $r = .28$), hope ($p = .010$, $r = .21$), self-determination ($p = .025$, $r = .19$) and conscientiousness ($p = .044$, $r = .17$). Additionally, the Wilcoxon rank of sum test indicated that twelve of the thirteen non-cognitive skills increased participant scores from the pre-test to post-test. More specifically, the positive rank scores revealed that more participants scored higher on the post-test than the pre-test. Negative rank scores saw fewer participants score lower on the post-test than the pre-test. The fact that coaches' mean rank cases were higher on the post-test than the pre-test might infer there is a difference in coaches' non-cognitive skills from pre-test to post-test. These initial results suggest that the coaches' scores improved from pre-/post-test, which may provide evidence for the 3-D Coaching program's effectiveness.

The intent of this study is to increase understanding and awareness of the importance of supporting the overall development of the coaches' role and effectiveness. Surveying and gathering data on coaches' non-cognitive skills may help advance programming design due to understanding coaches' needs based on their strengths and weaknesses. Research demonstrates the value of employing various sources to educate and train coaches, such as transformational leadership-based strategies (Duke & Bonham, 2014), observing other coaches (Cushion et al., 2003), or mentoring (Werthner & Trudel, 2006). In planning a course of action that makes non-cognitive testing applicable to coaching development in institutions, I recommend utilizing an interactive model to

guide an implementation process. Using non-cognitive testing may advance programming by capitalizing on the knowledge gained in addressing and improving coaches' thoughts, feelings, and behaviors to enhance their effectiveness.

The resulting solution involves a comprehensive approach to implement an interactive model with layers of action and assessment within institutions that sponsor athletic programs, such as interscholastic athletics. The process includes several detailed tasks that may be applied in any order or combination in planning (Caffarella & Daffron, 2013). These tasks include gathering and understanding coaches' non-cognitive skills, assessing the program's context, identifying and prioritizing ideas and needs, developing goals and objectives, designing transformational-based instruction, devising learning transfer, and building a support base formulating plans for evaluation. The intent is to create various learning opportunities that contribute to coaches' effectiveness by enhancing their non-cognitive skills.

Interactive Model of Program Planning

The study aims to understand better how a transformational-based coaching development program influences coaches' non-cognitive skills. This solution employs The Interactive Model of Program Planning (see Caffarella & Daffron, 2013) as an interactive process to guide program planning, as presented in Figure 2. Although this model may not ensure a successful outcome, careful and pragmatic planning will examine the model components to navigate the content and delivery of coaching development for an athletic program (Caffarella & Daffron, 2013).

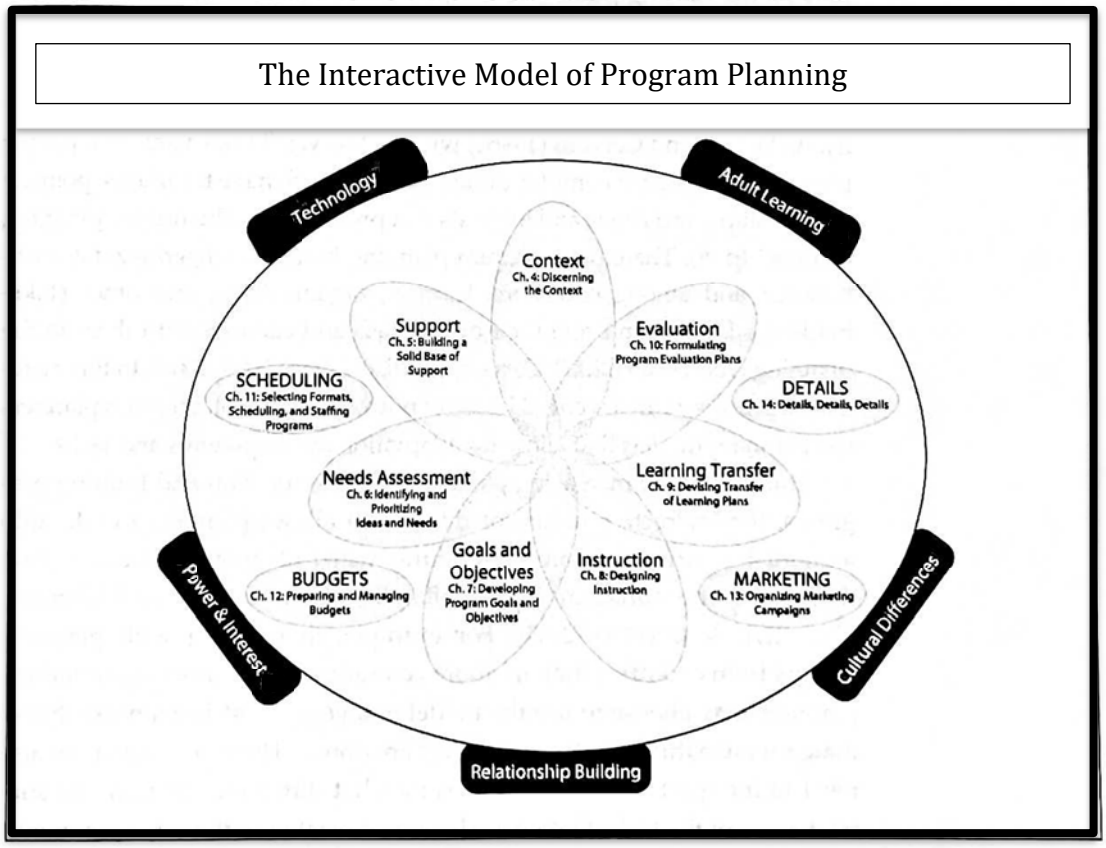

Figure 2. The Interactive Model of Program Planning (Caffarella & Daffron, 2013)

Task 1: Understanding Coaches' Non-Cognitive Skills

The initial task in the proposed model is to survey coaches to establish measures of non-cognitive skills. The intent is to develop a baseline or reference to examine the effects of programming on coaches. The coaches' non-cognitive levels can be ascertained by the MindVue Profile psychometric assessment that measures research-based non-cognitive constructs (Davidson et al., 2018).

In related research and theory on non-cognitive constructs, the psychological and economics literature demonstrates evidence of positive outcomes (Heckman et al., 2006; Jackson, 2012). Knowing the coaches' non-cognitive skills levels is the starting point for exploring individual coaching needs and programming changes that potentially leads to

an improvement in the coaches' effectiveness. Regular assessments examining coaches' non-cognitive levels may guide and inform program interventions or strategies embedded within a curriculum to address coaches' needs. Such interventions might include improving conflict resolution, attaining greater self-control, or managing emotions.

Regular data collection supports an interactive process, such as scaffolding, where collaboration with peer coaches or mentors provides a structure, supporting different learning situations and additional guidance to reflect and evaluate practices (Allen & Reid, 2019). The data can inform program planning because non-cognitive skills can be shaped or changed over time (Heckman et al., 2019). A longitudinal approach to examining coaches' non-cognitive skills is central to program effectiveness that informs program content and guidance to coaches' learning and development.

Task 2: Assessing Program's Context

In discerning the context for planning a coaching development program, structural evidence reveals the need to obtain support from coaches in an environment that may lack the promotion and commitment to professional growth and development. The deficiency in support may be realized with varying experience levels from novice (0-3 years) to extensively experienced and established elite-level coaches (15-plus years). Institutions' administration may demonstrate scant regard to coaching development, expecting coaches to create learning situations based on their discretion and approach to what they consider best practices (Werthner & Trudel, 2006). Coaches typically rely on annual attendance at state- or national-level conventions for professional development. Although conventions provide coaches with opportunities to learn and network, Cushion et al. (2003) explain that professional development is not merely delivered or shared with

a coach. Instead, a coach's experiences and opportunities to work with other experienced coaches are essential to molding the coach's fundamental beliefs and dispositions, guiding decisions and behaviors, and emotions. Such habitus may be improved with years of practice and experience through socially-constructed interactions within the sport (Cassidy, 2010; Stodter & Cushion, 2019). Furthermore, coaches may choose to contest or avoid the possibility of changing practices resulting from one's longevity or deeply-rooted ways. Consequently, no single pedagogical coaching program is proven to be an exact science or encompasses the vast and ever-evolving field of sports.

Athletic administration may hold a tacit assumption that coaches have acquired a high degree of experience from previous participation or observation (Crickard et al., 2020). As a result, institutions often rely upon former athletes to fill coaching positions. Many of these coaches lack institutional support to educate and improve coaches' knowledge and practices. Despite traditional coaching education programs receiving mixed reviews as to whether the content is relevant or transferable to actual coaching scenarios, results indicate that conventional programming, such as isolated seminars, has little impact on coaches (Koh et al., 2014)

Improvements in coaching education may be better served moving beyond traditional conventions with a new holistic shift in direction, such as transformational-based programming combined with a blending of mentoring and coaching roles (Hollywood et al., 2016), critical reflection of observations (Knowles et al., 2006), or dialogue with peer coaches. Thus, significant effort to design and implement a coaching education program for an educational institution may create a culture steeped in exploring

practices together, harnessing others' influence, and providing maximum growth and benefit to enhancing coaches' non-cognitive skills.

Task 3: Program Assessment: Identifying and Prioritizing Ideas and Needs

The source of identifying program content and coaches' needs should reflect the specific dilemmas and circumstances coaches encounter in order to address and discover clarity and solutions (Caffarella & Daffron, 2013). As noted previously, the program's fundamental purpose is to engage coaches in meaningful and practical content relevant to their current circumstances and conditions. Opportunities for coaches to fully understand their coaching purpose and apply it to relevant topics that help guide their program may be unique and address the coaches' needs (Duke & Bonham, 2014).

The plan would be to generate ideas from an online survey, observations, and group sessions. Gathering information from coaches using a questionnaire will be less time-consuming for coaches. Moreover, questionnaires help collect the desired information on the coach's perceptions and opinions to target specific content relevant to the coaching population (Caffarella & Daffron, 2013). From the best practices and task-oriented perspective, structured and unstructured observations generate ideas for topics related to coaches' behaviors and habitus (Caffarella & Daffron, 2013). Facilitating discussions with a small group or face-to-face sessions may be the most time-consuming method to generate ideas; however, group sessions allow for better collaboration and dialogue about specific coaching topics (Milistetd et al., 2018). Techniques such as group sessions may lead to future discussions and provide coaches with a chance to reflect on and examine their behaviors, beliefs, and practices (Cushion et al., 2003).

Task 4: Building Support within the Program

By obtaining input from coaches and seeking out their opinions on important matters, and conveying a greater sense of support from their supervisor to promote professional growth and development may increase buy-in for implementing a new program. Incorporating other support sources for the coach's personal and professional development may be seen as investing in their personal growth (Cushion et al., 2003). Coaches may view such an investment in their time as a practical, worthwhile, and useful means to build relationships and an opportunity to increase their knowledge through reexamination, reflection, and questioning their coaching philosophies.

Additionally, if few opportunities exist for coaching development outside of conventions or other means, professional development progress within the department setting may be well-received. Further utilization of coaches as a resource for one another, such as mentors or experts on specific practices, strategies, or dealing with any circumstance, may enhance the experience for even the most veteran coach throughout the programming process (Koh et al., 2014). Consequently, coaching education programs should attempt to engage and encourage all coaches, through institutional support to "…stand back and reflect upon the construction and application of their professional knowledge, in essence, to get them to understand why they coach as they do" and share that expertise with fellow coaches (Cushion et al., 2013, p. 223-224). Knowing that the program should help benefit coaches' growth and development by identifying and addressing coaches' needs, it is essential to determine the precise actions and measurable steps that the program can take to achieve a desirable outcome for the coaches.

Task 5: Developing Program Goals and Objectives

The program's goals and objectives reflect the current state of coaching development or the lack thereof. Accordingly, a coaching development program's design will hinge on developing the program goals, supporting the program, and learning objectives that result in the desired learning outcomes. Although learning objectives may need to be carefully chosen, Caffarella and Daffron (2013) explain the importance of knowing what participants want to learn from participating in the program. The goal is to establish a culture committed to helping coaches learn "…how to get better at what they are doing" (Hollywood et al., 2016, p. 33) and ensure coaches have the means for consistent training, support, and growth. The basis for this first set of objectives is a starting point to address common themes or topics in the coaching development domain utilizing the 3-D Coaching framework as a foundation to guide coaches' learnings. Each objective expresses a clear and specific statement of what the coaches will do as a result (outcome) of the program. Thus, the purpose of the performance objectives is to provide the program planner with direction and a foundation for designing lesson content to demonstrate what coaches will learn. The participants will:

- Develop a transformational purpose (coaching philosophy) to guide and inform coaching decisions and interactions.
- Analyze the prominent characteristics of outstanding coaches.
- Identify common mistakes of new coaches and address how to avoid them.
- Analyze ways to increase trust and encourage players to take the initiative.
- Analyze the impact of a coach's body language, tone of voice, and use of words.

- Identify issues related to athletic-related behavior and examine appropriate holistic strategies to influence higher-level needs, such as social, emotional, and spiritual well-being.
- Examine strategies for external relations and how to use them to enhance the student-coach interpersonal relationship.

Task 6: Designing Content and Instruction

A variety of instructional strategies and content may enhance the scope of the learning experience. For instance, the program design might incorporate the 3-D Coaching framework to influence sports programs' development and results. Emphasis on transformational-based programming may be essential for effective transformational leadership behaviors. Stenling and Tafvelin (2014) share evidence of effective transformational leadership that enhances athlete motivation and well-being, performance, and team cohesion. Furthermore, Vallee and Bloom (2005) conclude that elite coaches who foster and strive to develop the whole athlete result from transformational leaders' characteristics. Their research suggests ideal outcomes occur by improving coaches' attributes, individual growth, organizational skills, and vision.

Similarly, these categories resemble works on transformational leadership, which they deem as a "superior leadership style" (Vallee & Bloom, 2005, p. 192). Those categories include higher-order features presented in seminal work on transformational leadership, such as inspirational motivation, idealized influence, intellectual stimulation, and individualized consideration (Bass, 1990). Consequently, the 3-D Coaching curriculum and framework are designed to enhance coaches' mindsets and roles by

intentionally engaging and equipping them with meaningful and practical strategies to instruct athletes and meet higher-level sensibilities.

Additionally, coaching practices and strategies are easily transferable across sports, coaching levels, and years of experience. Veteran coaches, who have extensive experience, may be encouraged to support the program if allowed the opportunity to participate in a supportive role, such as by serving as a mentor or facilitating discussions. Ensuring support of the more elite coach may be a crucial factor in achieving program success. Thus, some of the more impactful instructional techniques will come from interacting with other seasoned practitioners. Such methods include, but are not limited to, face-to-face small-group discussions, one-on-one mentoring, guest speakers, inspirational and motivational video clips, informal observation, and reflection practices that extend beyond the training or competition environment (Knowles et al., 2006).

Of all the prescribed instructional techniques and formats, the most salient involves utilizing experienced coaches' influence in a mentoring capacity. Coaches need guidance and educational support to make effective decisions in a rapidly changing and complex profession. Formalized mentoring programs occur when a relationship exists between mentor and mentee and when the coach invests time in guiding another coach (Bloom et al., 1998). Mentoring is an instructional format that promotes professional and personal growth and nurtures a culture central to a productive institution where learning becomes a fundamental indoctrination of how coaches improve (Caffarella & Daffron, 2013). The mentor/mentee relationship's positive benefits outweigh the culture that does not value such a practice. Thus, implementing a program where experienced coaches guide less-experienced coaches seems imperative in enabling a cultural transmission

reflective of expectations and interactions that support the program at all levels (Cavalli-Sforza et al., 1982).

Coaching development programs would be wise to draw upon the knowledge and experience of expert coaches, even though Cushion et al. (2003) contend that coaching development "cannot be left to experience alone" (p. 225). Instead, mentorship creates an opportunity for supervisorial experience and establishing experiential knowledge, reflective practices, and supportive dialogue as cornerstones to transforming coaches and their ability to discern best practices (Cushion et al., 2003). Furthermore, programs engaging coaches more relationally establishes and asserts more focus on building a learning culture through formalized mentoring (Koh et al., 2014). As a result, coaches working together have the propensity to transform the present circumstances while focusing on the future (Cushion et al., 2003).

Task 7: Devising Transference of Learning

The transmission of behaviors, values, and attitudes is often acquired through experiential teaching and active learning opportunities (Cavalli-Sforza et al., 1982). Cushion et al. (2003) expound on the significance of active learning to include opportunities for coaches to mentor interdependently, engage in critical reflection practices, and encourage dialogue to transfer knowledge and experience from one coach to another. The combination of methods, such as mentoring and reflective practices, provides coaches with a mirror that reflects how to develop new techniques and strategies and see their programs developing (Cushion et al., 2003). Similarly, the advantages of reflective practices support a coach's ability to understand how to evaluate and enhance an individual or team, which informs what the coach should do (Knowles et al., 2006).

Moreover, such acts of observing, reflecting, and critical thinking are examples of training activities in formalized programs that aid in the transfer of learning.

The transfer of learning must be central to how the department operates and how excellence may be achieved through transformational coaching practices. Although the reflection process may help coaches make sense of experiences or particular circumstances, the reflection-in-action approach is the most preferred reflective technique, which occurs during coaching (Knowles et al., 2006). Subsequently, the method creates learning opportunities for coaches in reflective action, such as reviewing coaching issues or strategies (Nelson & Cushion, 2006).

Task 8: Formulating Program Evaluation Plans

Finally, although a coaching development program will inform the program evaluation process with empirical evidence, such as student-athlete success, improved work habits, or program success, the evaluation plan incorporates a multifaceted approach to assessing the coaches' needs. Such tools will establish a process to determine the necessary changes to improve the program and enhance coaches' performance. Therefore, the initial and ongoing MindVue Profile assessment will capture non-cognitive elements essential for high-performance outcomes (Davidson et al., 2018).

Even though the coaching profession is complex and dynamic, some non-cognitive skills are more malleable and sensitive to environmental influences, like financial or health challenges (Broghans et al., 2008), or unique contextual circumstances resulting from technology or societal pressures (Cote & Gilbert, 2009). Such effects may negatively alter a coach's mindset, impacting the coach's relationships and ability to function appropriately (Koonce, 2016).

Furthermore, the evaluation methods may differ between institutions based on logistical or practical aspects of data collection. The evaluation plan will utilize a number of techniques for data collection, such as observations, dialogue, performance reviews, and small group work, to gather information and make informed decisions to implement changes based on the coaches' ideas and needs.

Solution

This study provides preliminary evidence of how a coaching development program may influence coaches' non-cognitive skills. This solution, informed by the 3-D Coaching development program, offers theory-based action items and a programmatic approach to enhance coaches' non-cognitive skills, leading to positive coach-athlete outcomes.

The interactive program model was recommended to plan and guide an implementation process. Caffarella and Daffron (2013) emphasize four key advantages of the interactive program framework. First, the model creates a sustainable and ongoing approach with no beginning or endpoints. Instead, the program design begins where coaches' minds are captured. Second, the model relies on coaches' collaborative effort to plan, share, and expound on each others' experiences. Collaborative efforts create valuable interactions that tap into a reciprocating influence and provides a platform to enhance the coach. Third, the program's interactive nature accounts for coaches' differences, such as experience and philosophy. Coaches learning from a community in practice perspective where coaches learn through social interactions "…deepens their knowledge and expertise" (Culver et al., 2009, p. 366). In this case, the 3-D Coaching curriculum is utilized to initiate learning by applying transformational-based content.

Lastly, the model is practical and applicable to any institution structure. Accordingly, the model's framework is tailored to incorporate various coaching education theories or concepts while pursuing individual, team, or program objectives and goals.

The following outline of program planning within the model identifies specific conventions as a guide to influence coaches' non-cognitive skills.

Program Plans:

1. Communicate plans and objectives to implement an interactive coaching development program.
2. Survey and collect non-cognitive scores from all coaches—plan to survey and evaluate coaches annually to determine strengths and weaknesses.
3. Utilize data to assess individual needs to target growth and development benchmarks—survey coaches at the beginning of each academic year.
4. Gather data to develop goals to gauge a coaches' mindset and factors related to positive coaching outcomes.
5. Mediate and enhance coaching interactions with regularly scheduled instructional sessions or individual or small group work.
6. Educate the coaching staff about transformational-based strategies that enhance coaches' non-cognitive skills.
7. Establish constructive evaluation progress and analyze program effectiveness with empirical and anecdotal evidence.
8. Share a vision to influence coaches' non-cognitive skills and enhance the coaches' performance, including interpersonal relationships.

Coaching education is a dynamic process. Nash and Collins (2006) conclude that coaching education needs to begin "…embracing more interactive methods" to actively engage coaches in problem-solving and decision-making practices (p. 471). Moreover, Cushion et al. (2003) explain that coaching education lacks experiential opportunities to interact with and observe veteran coaches in action. Such interactions require institutions to make professional development a priority. Coaching education is essential to the ongoing development of coaches' knowledge and practices. Although designing and implementing a coaching development program may produce some unbeknownst challenges through the initial planning phase, proper planning and preparation utilizing the Interactive Model of Program Planning can assist with a more pragmatic approach (Caffarella & Daffron, 2013).

Evidence that Supports the Solution

The recommended program's goal is to equip and meet coaches' needs, develop a culture that embraces continuous learning and growth, and achieve desired results based on the program's goals and objectives. The interactive process of planning the coaching model helps examine the program's content and delivery and administrative components that is a two-way process influenced by the coaches' suggestions, ideas, needs, and feedback. Subsequently, institutional support may collectively reinforce and invest in opportunities to transform the coaches' non-cognitive skills and learning through intentional reciprocating interactions as coaches work together to tackle sports' most challenging issues.

As mentioned previously, the conceptualization of coaching education and process theories has and continues to be explored to help coaches prepare and adapt to

sport contexts' complexities. Despite compelling arguments and differences of coaching development, conclusive evidence indicates that an effective coach's role is contingent upon the contexts and quality of the coach-athlete interactions and relationships (Cranmer et al., 2018; Cushion et al., 2003; Hodgson et al., 2017; Vella et al., 2011). The proposed interactive model aims to communicate, collect and analyze data, and develop plans to influence coaches' non-cognitive skills. The solution begins by sharing a clear vision and strategies to foster buy-in to a process where the coaches support each other. Kotter and Cohen (2002) contend that communication elicits a level of understanding and commitment that creates a necessary synergy within-group membership that encourages a level of openness and camaraderie needed to tackle challenging issues. Communication is essential to the program because social interactions provide potential opportunities for coaches to learn and change their behavior (Stoszkowski & Collins, 2012).

A program's culture forms through socially-constructed interactions between athletes and coaches. Social interactions transfer coaches' non-cognitive skills to their athletes. It is recommended to collect measures on coaches' non-cognitive skills at the beginning of the academic year because institutions have the opportunity to create experiential programming that influences them throughout the competitive season. Subsequent surveying and evaluations annually are essential to individual development.

The data will inform and guide instruction and strategies that can be used to develop coaches' non-cognitive skills. Programming should be dynamic, fluid, and continuously address and readdress complexities and intricacies to develop coaches' competencies (Turner et al., 2012). Knowing that coaching expertise is developed through a reoccurring and contextually integrated process, it is recommended that

programs implement strategies to build coaches' non-cognitive competencies. Plans may include approaches such as reflection-on practice, which is a constructive tool for an in-depth inquiry into topics by gathering facts and information through reading, peer discussions, observing others, or coping with one's own emotions. As noted, other aspects of the program might include a focus on life skills, mentoring, building interpersonal relationships, the art of coaching, or the impact of transformation-based content.

Implementing a variety of features may help influence non-cognitive skills, which increases coaches' chances of experiencing positive coaching outcomes. Similarly, this research supports this concept by demonstrating a statistically significant improvement in eight of the coaches' non-cognitive factors. This improvement from pre-test to post-test may have been influenced by the 3-D Coaching development program. Determining new and innovative ways to help coaches' improve non-cognitive skills can directly impact coaching effectiveness and also have an indirect effect on the team's culture and transmission of social, emotional, relational, and spiritual needs.

Intentional effort to promote coaching interactions is intended to harness the "power and influence of experience, and other influential coaches, to work toward sound coach development objectives" (Cushion et al., 2003, p. 222). Supportive roles enhance coaching interactions. The direct and personal impact of experienced mentors benefits coach development, motivating more experienced or veteran coaches (Cushion, 2003). This finding is consistent with the Self-Determination Theory (SDT) (Deci & Ryan, 2008). Deci and Ryan (2008) contend that social environments, which support interactions between people, are more naturally satisfying and motivating. The program design recommends mediating and eliciting coaches' interactions to create a social setting

that encourages curiosity, interest, and active involvement. Coaches' motivation may have been produced by the 3-D Coaches training as indicated by the statistically significant improvement in certain non-cognitive skills measured in coaches. Promoting coaches' interactions may improve the social setting supportive of coaches' development.

The program's method should include transformational-based content, affecting the course of action, delivery, and outcome. As presented earlier, coaches can learn and acquire transformational leadership characteristics (Bass, 1990). Coaches' non-cognitive skills can also be influenced by or more sensitive to change due to environmental factors (Kautz et al., 2014). Although non-cognitive skills are malleable and may be affected by any outside variables, a consistent coaching development process allows for ways to help guide content and delivery. The 3-D Coaching program recognizes the significance of constructing a foundation (transformational purpose statement or coaching philosophy) that informs and guides the decision-making process. Duke and Dunham (2014) describe this holistic and relational approach to coaching as purpose-driven leadership aligning beliefs and values toward one mission, vision, and shared purpose.

An institution's effort to administer consistent instruction should be mindful of evaluating and providing constructive feedback. Providing coaches with practical feedback can be challenging without a plan to address areas that need improvement. Program effectiveness can rely on a variety of optimal strategies to engage coaches constructively. Koh et al. (2014) suggest the many benefits of establishing mentoring roles and creating meaningful and relational roles within the institution to facilitate structured feedback and guidance. Engaging coaches in a mentor-mentee dyad motivates them based on their desire to seek new ideas to solve problems, giving them a

competitive advantage (Reade et al., 2008). Additionally, Sawiuk et al. (2017) recognize the importance of developmental networks that create a wide range of support, resources, a sense of interrelatedness among coaches (e.g., emotional closeness) that mutually benefits the mentors.

Upon gathering coaches' non-cognitive scores, the results can be interpreted and analyzed to delineate a coach's mindset as it relates to other high-performing coaches. The MindVue Profile provides "insights" that examine how coaches think and feel to gauge and enhance a person's sense of motivation, discipline, and perseverance. The analysis provides recommendations on how each mindset skill can be developed. Tracking and monitoring coaches' progress is critical for assessing activities and program planning. The assessments' results will drive the planning process so that the evaluation strategy is interwoven in a layered approach that includes understanding the context, identifying coaches' needs, developing goals and objectives, and deciding on instructional design and resources (Caffarella & Daffron, 2013). The model allows for flexibility and adjustments due to achieving goals or objectives or ideas that lead to changes in instruction or strategies.

Ultimately, the recommended program is an interactive model with a changeable process to meet coaches' individual needs while infusing and guiding instructional methodology to transform coaches' mindset to keep pace with the ever-changing, dynamic coaching landscape. Although coaches are a primary influencer in athletes' lives, it should not be assumed that coaches understand or identify the need for self-improvement or are motivated to change. Coaches in this study provided substantive evidence that a transformational-based coaching development program may influence

coaches' non-cognitive skills. Coaches who completed the 3-D Coaching intervention showed a statistically significant difference in eight non-cognitive skills with low to moderately large magnitude in effect. Knowledge of improved non-cognitive scores can help enhance the coaches' mindset and help administrators identify coaches deficient in areas that need improvement. Addressing coaches' mindset is pivotal and potentially essential to coaching development. Though not extensively researched in the coaching profession, this study explores and combines programmatic strategies, coaching methodology, and empirical evidence with the intention to transform coaches more effectively.

Evidence Challenging the Proposed Solution

Implementing a new program is challenging for administrators, posing various barriers that can be worked through over time yet can benefit coaches' personal development and contribute to their skill set directly. Although the benefits may directly impact coaches' development, administrators should consider dealing with any obstacle hindering or interfering with the program's aim. Thus, department leaders may have to decide on the best course of action to address any challenges.

First, analyzing coaches' non-cognitive skills by assessing metrics based on performance, such as consistency, is a unique approach to determining coaches' potential to improve their ability to perform effectively. Exploring the significance of coaches' non-cognitive skills, which are predictive of human potential, has received little attention in coaching education. Although this study contributes to understanding how coaching development may influence coaches' non-cognitive skills, the concept may be intimidating or challenging for coaches who have difficulty expressing their emotions or

connecting relationally. Research examining the emotional nature of coaching indicates that coaches believe they would benefit from training that explores their emotions earlier in their careers (Hodgson et al., 2017).

Second, as noted earlier, coaches' time is valuable. If coaches are not faculty, many of them work outside of the institution. Coaches' occupations and lives beyond sport often impact their obligations based on priorities and availability. Institutions and administrators could experience indifferent or uninterested coaches, depending on their responsibilities. The success of an interactive program that supports coaches' learnings is dependent on the quality of interactions resulting from high levels of participation. Coaches need to know that their time and effort have been spent productively on educational programming that enhances their ability to perform more effectively. Participation may be dependent upon understanding and gauging the value and advantage of the training experience. Thus, regular meetings and educational activities could provide useful information for administrators and peer coaches to influence their performance and development.

Considerations for Planning and Implementation

The proposed solution of implementing the interactive program model will require special consideration and planning before commencing operations. Efforts to integrate the new program into the existing department structure will require greater attention to coaching development planning. Smaller institutions are often understaffed and overworked. Successful implementation of an interactive program should address issues that may be disruptive, time-consuming, or interfere with coaches' typical

coaching duties. Instead, the program should be strategically integrated to provide consistent and ongoing interactions as part of the department's routine.

First, an abrupt change or mandatory participation in the program may create opposition from veteran coaches. Encouraging coaches to further their development, which gives them a competitive advantage or improves their human capital, should be carefully considered. Moreover, the coaches' time is valuable. Incorporating participation early in the process, such as the subtle merging of coaching development content into coaches' meetings, may motivate and determine their involvement level. Intentional efforts to establish a culture of growth and development through regular coaches' interactions may affect buy-in, accountability, and the desire to learn.

Second, administrators must consider budget allocations based on the number of coaches and external resources needed to accommodate the program's versatility. The resource most critical to moving forward is the MindVue Profile psychometric measure, which gathers the coaches' non-cognitive scores. The interactive program offers flexibility to utilize coaches' expertise within the group; however, external resources can supplement content depending on funding dedicated to coaching development. Those external resources might include books, leadership training, professional membership-based subscriptions, or guest speakers. External resources' availability may not be essential for institutions focused on using coaches as mentors or networking. Institutions would need to assess the value of adding additional resources beyond what coaches can offer each other.

Lastly, it is necessary to evaluate the interactive program's effectiveness to determine if revisions or modifications are needed, justify resource allocations, or

confirm whether goals or objectives were achieved. According to Caffarella and Daffron (2013), practical evaluations are an integral part of the planning and delivery process. Although various strategies may be applied to assist in the learning process, administrators must consider actions, such as performance reviews, observations, or self-assessments, to determine how programs can be improved. Program planners may not have the skills or knowledge of specific evaluation tools; however, resurveying coaches annually will provide a snapshot of the coaches' development in relation to the program's goals and objectives.

Stakeholders Related to the Implementation of the Solution

Key stakeholders whose support and participation are necessary may benefit from this research, especially those who supervise organizations or institutions sponsoring teams that participate competitively or for leisure. Those involved with sports may find the recommendation useful, and ultimately, contribute to their holistic development. First, institutional administrators assign or hire coaches responsible for organizing, planning, and delivering appropriate activities and strategies to the individual student-athlete or the whole team. Administrators are responsible for guiding and ensuring coaches are knowledgeable and equipped with the necessary resources to fulfill their duties effectively. Furthermore, given the physical nature of the activity, organizations' and institutions' leaders must be concerned about risk management and the athletes' safety. Doing so would likely help stakeholders benefit from taking proactive steps to ensure coaches effectively manage all aspects of team activities, such as inspecting equipment or focusing on the athlete's development and well-being.

Additionally, supervisors could utilize data to drive efforts to institute programming that addresses weaknesses in coaches' non-cognitive skills. The recommended interactive model approach does not have a standardized format to address traditional coaching challenges, and thus such training may be met with resistance. Some coaches may consider it a poor use of their time, or others may not recognize their counterproductive behaviors or the negative effect on athletes (Stewart, 2013). Conversely, the interactive model is a comprehensive approach to programming intended to support coaches and invest in their long-term personal development. Regardless of the coaching level, administrators need to be well-informed about providing options to prepare and equip coaches for the profession's demands.

Second, institutions should plan or provide resources and opportunities for continuing education credits (CEC) to enhance coaches' human capital. Those efforts might involve budgeting funds for coaches to attend conventions or seminars or host guest speakers to supplement a department program. Integrated efforts to improve the programming quality may employ others' services, such as the use of outside groups or technology supporting the coaches. A collaborative approach to incorporate external stakeholders may enhance learning opportunities and develop relationships with individuals or groups that add additional value to the coaches' development.

Support staff on campuses also plays an instrumental role in coaches achieving their goals and objectives. Caffarella and Daffron (2013) suggest that key people need to assist coaches in their daily duties, such as their work roles or life situations. Those individuals may include assistant or graduate assistants, strength and conditioning coaches, equipment managers, athletic trainers, or anyone assisting with player

development. Coaches look to support staff for their expertise in areas that require specialized skills and help the program run more productively and efficiently. Support staff can directly affect coaches and their ability to manage a team.

Lastly, the teams and athletes will be directly impacted by coaches' non-cognitive skills. The transfer of beliefs, emotions, and behaviors will greatly influence aspects like the team's culture, coach-athlete relationship, athletes' performance, and satisfaction. Most importantly, the social interactions will also allow for vertical transmission of non-cognitive skills from the coach to the athlete, thus improving the quality of an athletes' experience resulting from the enhancement of coaches' non-cognitive skills.

Implementation

It is recommended that the implementation of the proposed solution undergo proper planning and preparation. Upon collecting data on the coaches, the institution's administration should utilize the interactive program model to begin the planning process and guide implementation. The model is tailored to respond to and address issues presented by coaches. Administrative oversight and programming decisions will largely depend on coaches' regular participation, institutional resources, and effective programming that stimulates coaches' interests. Other determinants to consider include those factors related to the implementation of the program, leadership roles, timeline for implementation, as well as the process to evaluate the program's effectiveness. It is important to note that varying degrees of implementation and execution of programming will be dictated by the institution's academic level, administrators' commitment, follow-through, and program's overall extent.

Factors to Consider Related to Implementation

Implementing a new program requires attention to several factors that may be problematic. Such factors include institutional support, availability of resources, process, and team dynamics. Proactive planning can overcome challenges by addressing these concerns and advocating for the support necessary to administer a program effectively. First, it is essential to have leaders committed to implementing a coaching development program. As mentioned previously, decisions about resources such as coaches' time and level of commitment are instrumental in program effectiveness and sustainability. Leadership must effectively communicate the process and the methodology's significance in addition to explaining the benefits of working with staff and coaches to further personal development and understand the value of the program. The administration and staff, including coaches within the athletic department, must be open and willing to participate in a collaborative, shared approach. Institutions that take a more traditional approach or those that do not value coaching development would need to deviate from current practices and rely on coaches' non-cognitive data to drive content and delivery. Integrating changes in ideology and training techniques will create new challenges. On the other hand, the opportunity to assist in coaching development with various methods and strategies may support the coach's ability to comprehend and effectively manage sport's emotional contexts.

Second, resources for private and publicly-funded institutions are not always ideal or sufficient. In this case, the initial conversations should include decisions to support the method of surveying coaches, analyzing data, developing curriculum, and tracking results. Long-term investment in a sustainable and integrative model will require annual

data collection to evaluate progress and necessary changes. As noted previously, improvements or necessary adjustments may include the addition of external resources that supplement curricular topics, such as guest speakers. Institutional support may not be adequate; however, an initial investment in gathering data is paramount in developing a program predicated on influencing coaches' non-cognitive skills.

Third, the development of a coach is a process. It is not a one-time evaluation nor something that is done after attending a convention. The scope and flexibility of an integrative program are limitless. Determining the best course of action based on coaches' non-cognitive profiles should lead the decision-making process when it comes to program planning and design, such as individualized or group instruction. The process should engage and influence participants in a manner that improves their mindset to perform better. The interactive program process should analyze data to prioritize specific coaches' needs and determine the highest impact opportunities for improvement, set goals and objectives, develop plans to engage and encourage participants, evaluate and document coaches' progress, and provide follow-up support when necessary.

Finally, favorable interdisciplinary team dynamics and the integration of strategies are essential for constructive teamwork and program coordination that enhance the implementation process. Peer coaches play a vital role in the learning process of an interactive program approach, moving the learner from passive to active. Additionally, facilitators should know their team. As someone who guides the group's development, leaders must be present and engage coaches in strategies that strengthen team dynamics. Culver and Trudel (2008) address essential elements of collaborative learning in communities of practice, concluding that "…learning involves social participation" (p. 3).

Active participation is crucial for gaining internal support. Simply put, if team dynamics are supportive and positive, coaches are more likely to work well together.

Leadership Role in Implementation

Leaders can help make all the difference in the implementation process. Successful implementation and execution of the interactive program model benefit from administrators' overt involvement throughout the training efforts. Buy-in and direct participation from the athletic department's administration exert considerable influence over coaches. Leaders help ensure effective planning, management, and evaluation processes, which lead to worthwhile coaches' educational and training efforts. Oversight in key areas will positively reinforce various leadership roles, such as facilitator, change agent, strategist, influencer, or decision-maker. Regardless of the position, without dedicated resources and direct involvement from leadership, the program's sustainability may be short-lived.

Moreover, the promotion and acceptance of programmatic strategies and shifting emphasis to utilize coaches' non-cognitive scores to direct content and delivery will benefit from leadership involvement. Hodgson et al. (2017) indicate that coaches identify various coaching experiences within the competitive environment that collectively contributed to enhancing non-cognitive skills, including reflective practice and constructive criticism about coaching performance. As leadership brings credibility to exploring and strengthening the coaches' non-cognitive skills, more emphasis may be placed on program design integrating non-cognitive data in the strategic planning process. Additionally, coaches' acceptance and realization of its value may be fully understood with more diverse and integrated learning opportunities.

Timeline for Implementation

An appropriate timeline for implementing the interactive program model would be at the beginning of the fall term of an academic calendar. Caffarella and Daffron (2013) indicate that program implementation is versatile, leaving decisions about the start time and which components to use up to the "professional judgment" of the leadership (p. 36). The fall term is also an appropriate time to start as coaches will begin meeting more regularly with their student-athletes and begin regular in-season or out-of-season practice schedules. The timing provides an opportunity for initial online data collection to commence before coaches arrive at the institution. Upon capturing the data, an initial assessment can formulate plans to address deficiencies individually as well as to look for commonalities to form small focus groups or whole-group activities.

Furthermore, because non-cognitive skills are malleable, institutions should consider taking a longitudinal approach to gathering coaches' data, if feasible. This timeline establishes a baseline assessment that can be repeated on a year-to-year basis and utilized to evaluate changes in coaches' non-cognitive skills. As previously mentioned, due to the malleable nature of coaches' inner psychological attributes, distressing external factors may impact results. When conducting an annual assessment, program leadership should be cautiously aware of potential issues related to external environmental factors that may negatively influence their non-cognitive levels.

An undetermined amount of time will be required to formulate plans, secure outside resources, and communicate expectations based on coaches' non-cognitive profiles. With the initial survey taking place before the start of the academic school year, the program's structure and framework can be established early in the process, leaving

more time to interject supplemental activities or programming spontaneously. Throughout the academic year and sports' seasons, program leadership will need to make necessary adjustments and decisions based on the regular assessment of coaches' needs or hot topics. A final collaborative programmatic review is recommended to establish overall effectiveness.

Evaluating the Outcome of Implementing the Solution

Regular and continuous assessment is instrumental in determining program effectiveness. Evaluations capture data that are an essential part of the planning process. An integrative program of this breadth involves an institutional commitment to capture data and create meaningful instructional delivery. In this case, institutional commitment includes the resources allocated to support the program's planning. If this program's goal centers around improving the coaches' emotions, thoughts, and behaviors that transfer and permeate the team's culture, the transmission may be relevant to the institution's enrollment management, marketing, and admissions. Longitudinal assessment may positively influence areas of campus concerned with retention, academic excellence, and athletic success. The realization of the program's success may be detected campus-wide due to a broad or more comprehensive evaluation and data collection process. Gathering and reporting results to the administration ensure greater accountability and provide a more in-depth rationale for program effectiveness and continuation.

Any number of evaluation techniques (e.g., observations or surveys) can be used to capture information that determines program design and delivery effectiveness or if intended outcomes were met. Choosing the most useful data collection techniques will depend on the operational and informative purpose based on the program's goals and

objectives. In this case, the program goal refers to the educational training purpose, and the learning objectives will inform the instructional design process (Caffarella & Daffron, 2013). The goals and objectives should be realistic and clearly defined at the onset of the program. This clarity will provide a foundation to guide programming and decisions effectively. Implementing regular assessments will strategically and tactically inform future actions and long-term aims, and an annual coaches' survey will provide useful baseline information regarding the coaches' mindsets. At this point, the program will begin to take form. Ultimately, the structure will guide programming decisions, and evaluations will provide feedback to shape instruction accordingly.

Implications

This research aims to inform the broader coaching education profession, including organizations and institutions that sponsor sports and focused on personal and professional development and training coaches effectively. The recommended solution is intended to positively influence coaches' non-cognitive skills to effectively enhance performance and serve individual athletes and teams. This study has practical implications, implications for future research, and implications for leadership theory and practice.

Practical Implications

Research on coaching has become increasingly prevalent, exploring a gamut of topics due to concerns within the profession, such as the effects of substandard coaching behavior, the role and impact of various leadership styles, the inconsistencies in coaching education practices, or the necessary attributes needed to coach effectively. As stated previously, the conceptualization of coaching education and process theories has been

thoroughly investigated to determine a logical approach to help coaches prepare and adapt to a dynamic profession. Despite coaching education programs receiving mixed reviews about whether the content is relevant or transferable to actual coaching scenarios, research indicates that conventional programming has little impact on coaches (Koh et al., 2014).

The focus on non-cognitive skills and contributions to the advancement in education, psychology, and economics have led organizations and institutions to explore the impact of environmental indicators, such as stressors or specialized instruction, and the implications for predicting success. The significance of identifying personal traits, characteristics, attitudes, and motivations indicative of high-functioning leaders has led psychologists to create competency models to aid organizations in training and development that drive outstanding performance (Goleman, 2015). Furthermore, a closer examination of the emotional intelligence theory reveals that leaders' moods, behavior, and emotions affect those around them in the same way (Goleman, 2015). Consequently, if organizations utilize tools that capture personal capabilities, such as self-awareness, to plan and design training, why not evaluate coaches' non-cognitive skills and create coaching development programs based on the same theoretic premise?

Instead of searching for a blanket approach or addressing issues with intensity to educate coaches on best practices, this study assessed how a transformational-based program influences coaches' non-cognitive skills. The aim is to inform and encourage institutions to develop programming that addresses coaches' thoughts, emotions, and behaviors, which affects the coaches' role positively. More specifically, institutions should consider assessing and utilizing the information to plan and guide an interactive

model intended to strengthen and enhance coaches' non-cognitive attributes. The intention to develop a coaching education model designed to transform and influence coaches' inner capabilities is practical. Ultimately, this may help better serve coaches and their development by creating a humanistic shift that focuses on a coach's thoughts, feelings, and behaviors.

Implications for Future Research

The literature and findings of this study reinforce the significance and value of coaching development. This study utilized a quasi-experimental design exploring the 3-D Coaching transformational-based program's impact on coaches' non-cognitive skills with non-parametric tests. Results concluded that pre-/post-test analysis demonstrated a statistically significant improvement in eight of the thirteen non-cognitive skills, suggesting that the program training may have contributed to the positive development of coaches. Further post hoc analysis of effect size detected a small to moderately large effect, indicating that something enhanced the coaches' non-cognitive skills.

The need to engage coaches with training that strengthens personal non-cognitive skills is a relatively new concept in the coaching profession. While this study is a starting point for examining existing coaching development programs, providing input for programmatic design, or exploring its influence on coaches' non-cognitive skills, researchers could expand on the findings. First, possibilities include collecting and analyzing item-level data. In this case, the limitations of having access to ordinal or categorical data tend to skew the distribution of data away from the mean. Additionally, ordinal data does not meet the parametric tests' assumptions. Although non-parametric tests tend to be more robust functioning with fewer conditions of validity, such as the test

of normality, examining item-level responses from the survey would provide interval data and the opportunity to explore the mean difference of pre-/post-test scores. Parametric tests tend to have more statistical power. Therefore, analyzing descriptive statistics to measure standard deviation, mean, and variance may be more useful. It is recommended that the study be repeated with item-level data.

Second, few higher education institutions offer coaching education or training beyond a minor degree, which many obtain later to fulfill CEU requirements. As a result, many middle and high school teachers/coaches have little to no formal coaching training before graduating college. Graduate-level coaches with zero to sixteen years of experience completed the 3-D Coaching program for this study. Furthermore, recent research indicates that experienced coaches believe they would have benefited earlier in their careers from exploring coaching's emotional aspects (Hodgson, 2017). For these reasons, novice coaches may benefit from training grounded in transformational content during the formative years as they begin developing their coaching philosophy and processes.

Lastly, institutions that offer coaching education for diverse populations may provide future research opportunities focused on factors related to participants' demographics, such as gender, race/ethnicity, or coaching levels. Exploring such differences could demonstrate how the transformational-based 3-D Coaching program influences and benefits coaches at different levels, such as the recreation level versus the collegiate level. Additionally, the exploration of differences may also benefit program planning, determining how to enhance and build coaches' non-cognitive skills more effectively regardless of their background.

Implications for Leadership Theory and Practice

Coaches have emerged as one of the most prominent leadership roles in a dynamic and complex sports world. Just as the world is continually evolving, so must leaders by learning to adapt. The ability to adapt requires a shift in mindset for leaders to value and focus on long-term performance. Similar to the transformation of Jesuit recruits, who were guided through spiritual exercises, coaching development may benefit from leadership training aimed at "knowing oneself" from thoughtful introspection that is centuries old (Lowney, 2003). Within the Jesuit tradition of preparing recruits for their leadership role, they were tasked with hardships (practices), training them to look inward and become self-aware of their strengths and weaknesses (Lowney, 2003). Self-development techniques, such as self-assessment and reflection activities, were the foundation for developing the propensity for continuous learning.

Implementing transformational-based coaching development programming to explore techniques and strategies that influence coaches' non-cognitive skills will require a transformational leader's mindset. Transformational leaders are inspirational and supportive role models and serve as mentors focused on encouraging and motivating others to move together toward a common purpose (Johnson, 2015). Effective implementation of the interactive model intended to incorporate various transformational leadership elements, such as mentoring, may productively influence coaches' personal growth for future success. Most notably, creating a motivational and social learning environment should move coaches to behave, think, and develop feelings of competence, autonomy, and relatedness, which can facilitate optimal motivation levels (Deci & Ryan,

2008). As a result, autonomy-supportive leaders can positively affect coaches' curiosity and interest by motivating them to participate in coaching development.

Like parenting, coaching development will not fully prepare coaches for the myriad of contextual factors; however, existing programming can supplement transformational-based content to move coaches toward developing sound practices and acquiring strategies, which transform "both the leader and the led" (Bass & Steidlmeier, 1999, p. 186). An essential part of leadership is to influence the people you lead. According to Bass (1990), transformational leaders' effects provide followers with meaningful and engaging attributes that meet their emotional needs, inspire them to be confident, set higher standards, consider individual needs and stimulate intellectual growth. In this context, developing one's inner self is critical for leaders to model and transfer non-cognitive skills to positively influence others.

Summary of the Dissertation in Practice

As mentioned previously, coaches' profound role in sports has become accentuated and elevated to new heights with the prevalence of participation. To address the challenges associated with poor coaching behavior and athlete withdrawal from sport, institutions and organizations must continue developing relevant programming to resolve problem areas and ensure that athletes receive quality coaching instruction and guidance. Unfortunately, institutions may not value or have the resources to support coaching development, which exacerbates ineffective coaching practices.

In addressing the coaches' role through a more novel approach, this study examined the influence of a transformational-based coaching program on coaches' non-cognitive skills. The significance of exploring coaches' non-cognitive skills shifts the

focus from a more traditional approach addressing the sport's managerial or technical aspects to improving coaches' inwardly. Based on transformational theory, the function of educating coaches and integrating effective transformational practices places greater significance on developing coaches' mindset and planning more innovative training programs to equip coaches to overcome problems related to the coaching role (Hodgson et al., 2017). Accordingly, transformational coaches have a vision for the future, provide model behavior, foster the team's acceptance, and impart individualized attention (Yusof & Shah, 2008). Such practices change fundamental values, beliefs, and attitudes, inspiring others to perform beyond expectations and achieve higher goals (Bass, 1985).

The outcome of this quantitative experiment aims to inform organizations and institutions that sponsor athletic programs about the impact and implications of the 3-D Coaching transformational-based program. The study investigated 146 graduate-level coaches enrolled in the 3-D Coaching program, assessing a transformational-based program's influence on the coaches' non-cognitive skills. Coaches' data were collected utilizing the MindVue Profile psychometric assessment to examine the coaches' non-cognitive skills. The study utilized a pre-/post-test design to evaluate the changes in coaches' non-cognitive skills over time. The item-level responses were automatically converted into percentile rank scores derived from a normative global data set. Because ordinal data does not meet the parametric tests' assumptions, these data were analyzed using various methodologies, including frequency analysis, non-parametric Wilcoxon signed rank and rank sum tests, as well as effect analysis.

The results indicated statistical changes in eight of the thirteen coaches' non-cognitive skills with small to moderately large effect sizes, suggesting that the

intervention may have influenced coaches' non-cognitive skills. The findings support the recommendation to employ an Interactive Model of Program Planning to plan and guide coaching development in institutions that sponsor sports (Caffarella & Daffron, 2013). The interactive model's versatile approach to programming allows program leaders to formulate and structure content based on coaches' initial non-cognitive scores. Furthermore, the program's strength utilizes the coaches' experience as an ongoing resource to mentor peer coaches. The open and interactive solution permits implementing a broad range of transformational strategies that impact the coaches' development.

With the intent to extrapolate transformational content and attention to developing an interactive model, the solution provides considerations to guide the programming decisions to develop more effective coaches. First, institutions and coaches' must buy-in to the program. This must be established by communicating plans and objectives to implement an interactive coaching development program. Access to resources and interest in participation is crucial for the program's success and sustainability. Second, collecting baseline scores on coaches' non-cognitive skills at the start of the academic calendar will reveal strengths and weaknesses used to inform programming. These data will assist program leaders in developing plans that target growth areas from the onset.

Moreover, coaches will collaboratively establish goals and objectives that create a supportive culture to produce positive coaching outcomes. Regularly scheduled instructional sessions may lead to more significant results because coaches have more opportunities to interact consistently. Lastly, the program leader must educate the coaching staff about the benefits of transformational coaching, develop a constructive

evaluation process, and create a vision to help coaches understand the value of taking risks, reflecting on the outcome, and learning from others to enhance their mindsets.

The proposed recommendation and practical solution expand on an emerging coaching development concept – the significance of identifying and strengthening coaches' non-cognitive attributes. Findings from this study's exploration of a 3-D Coaching transformational-based program, which may have contributed to the improvement of participants' non-cognitive skills, will contribute to further research regarding coaching development and role success. This study also augments research that could inform best practice models for enhancing non-cognitive skills in the context of coaching education. Ultimately, this shift toward exploring advancements in improving the coaches' mindset may advance coaches more effectively.

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Appendix A – Invitation to Participate

Dear _____,

3D Institute would like you to take the MindVue Profile to learn more about you.

Please complete the entire survey **at one time**, which will take approximately 15-20 minutes. Be sure to read the directions carefully, and answer the questions as they best describe you.

When completing the MindVue Profile, please know that there are no incorrect answers on this survey. The MindVue Profile is designed to measure non-cognitive skills relating to various positive workplace and life outcomes. It is not a medical test used to identify clinical disorders nor abnormal behavior. Instead, the survey is designed to better understand the attitudes, beliefs, and behaviors people hold.

If you wish to proceed in taking the MindVue Profile, please click here to login to your account.

Your user name is: {M_EMAIL}

Your password is: {M_PASSWD}

It is recommended to utilize Chrome or Firefox as your web browser when completing the survey. Should you have any difficulties accessing or completing the MindVue Profile, please see the directions below or call us at 319-321-4108 for technical support. Thank you for your assistance in completing this survey.

Sincerely,

The Intrinsic Institute

Dr. Brian Davidson

Founder and President

Intrinsic Institute

www.intrinsicinstitute.com

Appendix B – Institutional Review Board Consent

Creighton UNIVERSITY

Office of the Provost
Research Compliance

DATE:	22-Nov-2019
TO:	Bauer, Marc
FROM:	Social / Behavioral IRB Board
PROJECT TITLE:	Coaching Development: Examining the impact on Coaches' Non-cognitive Skills
REFERENCE #:	2000550
SUBMISSION TYPE:	Initial Application
REVIEW TYPE	Exempt
ACTION:	APPROVED EFFECTIVE DATE: 22-Nov-2019

Thank you for your Initial Application submission materials for this project. The following items were reviewed with this submission:

- Creighton University HS eForm~

This project has been determined to be exempt from Federal Policy for Protection of Human Subjects as per 45CFR46.101 (b) 4.

All protocol amendments and changes are to be submitted to the IRB and may not be implemented until approved by the IRB. Please use the modification form when submitting changes.

If you have any questions, please contact the IRB Office at 402-280-2126 or irb@creighton.edu. Please include your project title and number in all correspondence with this committee.

Institutional Review Board
т 402.280.2126 | т 402.280.3200
Dr. C.C. and Mabel L. Criss Health Sciences Complex I
2500 California Plaza Omaha, NE 68178

creighton.edu
creighton.edu/researchservices/rcocommittees/irb

Appendix C – Requestion to Access Archived Data

MindVue Profile - Permission to use archived data.

Marc & Elizabeth Bauer <mebauer6@gmail.com> Fri, Mar 27, 2020 at 2:55 PM

To: Wes Simmons <wsimmons@3dinstitute.com>

Wes,

I am continuing to prepare a dissertation manuscript that examines the influence of the 3D Coaching program on coaches' non-cognitive skills. I appreciate that you have taken the time to discuss this study over the past couple of years and how the information could be used to inform organizations and institutions that sponsor athletic programs, such as schools and clubs. The data could be useful for administrators and their awareness of supporting the development of the coach's role and approach to developing youth athletes' non-cognitive skills.

As we discussed early last fall, the focus of my study is whether efforts to develop coaches' non-cognitive skills require coaching development programs that support the coaching experience intentionally. It would be valuable to know if coaching development programs influence the coaching role through transformational learning opportunities and if they help improve coaches' quality of mind to foster positive interactions and define coaching roles better.

I know that graduate-student MindVue Profile scores were collected for the 3D Coaching program at the University of Southern Georgia, Clemson University, and Emporia State University to help understand the influence of 3D Coaching better. Therefore, I am asking for your permission and approval to access archival data from the Intrinsic Institute's dashboard to conduct this quantitative study and, ultimately, provide insight to your organization regarding the study's outcome.

I appreciate your review of this request and look forward to sharing the results with you.

Thank you in advance for your consideration.

Sincerely,
Marc Bauer

Appendix D – Consent to Access Archived Data

Wes Simmons <wsimmons@3dinstitute.com> Fri, Mar 27, 2020 at 3:00 PM

To: Marc & Elizabeth Bauer <mebauer6@gmail.com>

Marc,

Thank you for the note. We would be honored if you used our data to conduct your research. In exchange for the use of the data, we would like to have access to your findings once you are through analyzing it. Is this permissible in some way? We would also like to potentially share some of those findings with the coaches and administrators who we work with as applicable. Do you foresee any issues with either of these requests?

Regardless, you are free to use our data to conduct your research. Thank you for allowing us to be a part of furthering coaches' education.

Partners in Purpose

Wes Simmons
3D Institute – CEO

Work: 816.535.0440
Cell: 816.805.2041

www.3dinstitute.com