THE POWER OF PERSONALITY IN PREDICTING COACHING SUCCESS

by

BRIAN SCOTT BERGER

(Under the Direction of Paul Schempp)

ABSTRACT

Research indicates that personality plays a significant role in business (Judge & Bono, 2000), education (Rushton, Morgan, & Richard, 2007), and military (McCormack & Mellor, 2002) leadership. Since little research has investigated the role of personality in coaching (Frederick & Morrison, 1999; Hendry, 1974; Markland & Martinek, 1988; McCarthy, 1973), the purpose of this study was to assess the power of personality in predicting a coach's success. In addition, other variables that differentiate coaching success, such as age (Dimec & Kajtna, 2009), coaching experience (Schempp & McCullick, 2010), playing experience (Trudel & Gilbert, 2006), sport level (Jambor & Zhang, 1997), education level (Dae-Woo, Min-Haeng, & Young-Kum, 2005), and gender (Chelladurai & Carron, 1979) were identified and analyzed. The study addressed three research questions: a) was there a statistically significant relationship between personality and coaching success, b) was there a statistically significant relationship between personality and coaching differentiation variables, and c) which of the differentiation variables could be used in a regression formula to predict a coach's winning percentage? Participants were head high school and college coaches with at least 5 years of coaching experience. The NEO-FFI-3 inventory was administered to the participants. Multiple linear regression and correlation analyses were primarily used to analyze the relationship between the variables and

coaching success. The notable results revealed several findings: a) personality did not appear to have any predictive power on coaching success, b) head coaching experience was the only variable which reliably predicted coaching success, and c) female coaches were more agreeable than and as successful as male coaches. Future research should primarily focus on the extent to which a general personality profile correlates to specific behavior.

INDEX WORDS: Coaching (athletics), Personality, Experience, Gender

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CHAPTER 1

INTRODUCTION

The American Psychological Association (2013) defines personality as "individual differences in characteristic patterns of thinking, feeling, and behaving" (p.1). Piedmont (1998) claimed that personality is stable across time and situations. Even though Guion and Gottier (1965) questioned the general use of personality in making employment decisions about people (because many scenarios are situation specific), numerous studies have continued to assess whether an employees' personality could influence behaviors in a given profession (Barrick & Mount, 1991; Schmidt, Shaffer, & Oh, 2008; Tett, Jackson, & Rothstein, 1991). Some, such as Hurtz and Donovan (2000) or Le et al. (2011), argued that specific traits, conscientiousness or emotional stability, are important for job prediction and performance. Therefore, one of the critical questions surrounding personality is the following: can personality be used to predict job performance?

In order to predict performance, personality is often quantified through the use of different personality assessments measuring similar dimensions, such as those based on the Myers-Briggs Type Inventory (MBTI) or the Five Factor Model (FFM) (Favor, 2011; Tobacyk, Livingston, & Robbins, 2008). Research, using some of these assessments, supports the notion that personality plays a significant role in business (Balijepally, Mahapatra, & Nerur, 2006; Gardner & Martinko, 1996; Judge & Bono, 2000; Zhao & Seibert, 2006), education (Rushton, Morgan, & Richard, 2007), and military leadership (McCormack & Mellor, 2002). The literature sources found that, after analyzing these domains, personality was a significant factor, as

effective managers, teachers, and officers were found to have discernible personality traits that appeared to be stable across time and differed from less effective workers in similar positions. The following paragraphs will highlight some of these findings.

Gardner and Martinko's (1996) literature review analyzed the relationship between managers and personality, profiling the traits of managers at all levels, including top-level banking and hospital executives, executive educators, and small business managers. Each of the studies they analyzed used the MBTI to profile the traits of the managers in the business sector. Some of the important findings of their literature review suggested that intuitive managers, who are characterized by unconventional and creative behavior, and perceptual processes, undertake strategic planning activities more frequently and more effectively than sensing managers, who are characterized by conventional and established behaviors, and systematic processes. Further, they suggested that managers tend to rely more on logic than emotion, and adhere to structure and organization more strictly than members of the general population. Managers who based their decisions on logic were more assertive than emotion-based managers in resolving conflicts, while emotion-based managers placed a higher emphasis on cooperation.

Judge and Bono's (2000) study also analyzed the personality traits of leaders in business, particularly emphasizing agreeableness. In using the FFM to examine over 200 leaders in government and business fields, such as banking, insurance, financial services, they showed that agreeable businessmen, or those characterized as generous, charismatic, or concerned for others, tended to be the most transformational and effective leaders. Agreeable people in business led more effectively because they took a more developmental orientation toward their subordinates, mentored with increased empathy, were approachable, and served as roles models.

In addition to analyzing the thought processes and agreeableness of business leaders, research has shown that personalities marked by emotional instability can adversely affect performance effectiveness, especially in professional jobs that include teamwork and interpersonal relationships between employees (Balijepally, Mahapatra, & Nerur, 2006; Mount, Barrick, & Stewart, 1998). Further, Zhao and Seibert (2006) found that entrepreneurs had fewer problems with anxiety than managers, and more importantly that "personality variables appear to have a role in future theories of entrepreneurship" (p. 265). Therefore, effective business leaders appear to be logic-based thinkers, who have creative and stable personalities. Since certain personality traits or cognitive processes of business leaders were identified, it seemed necessary to explore other workforce domains.

In an educational study of personality by Rushton, Morgan, and Richard (2007) , the researchers sought to identify consistent personality traits among a sample of Florida teachers who were considered quality teachers. Potentially consistent personality traits of the quality teachers would then be compared to the traits of average teachers in Florida and the United States. Not only did the results indicate that they used innovation in instruction or discipline, but also that the quality teachers tended to have more extraverted and more flexible, adaptive personalities as compared to the majority of teachers in the United States who had personalities that "operate well when rules are clearly defined" and are "stabilizers, traditionalists, and guardians" (Rushton, et al., 2007, p. 439). In addition, the majority of the quality teachers in Florida can be characterized as extraverted leaders marked by "energy and enthusiasm" and whose students "usually feel that their teachers understand them and help them to deal with their personal problems" (Fairhurst, 1995, p. 63). Therefore, in education, as in business, personality

does seem to matter, but the personality traits of leaders in education, while similar in terms of creativity, are not necessarily the same as leaders in business.

There seems to be a relationship between personality and leadership effectiveness in the military as well. McCormack and Mellor's (2002) study analyzed 99 Australian Army commissioned officers using a personality assessment. To stratify the sample of officers into categories, the researchers labeled officers from the sample as effective if they had been selected to attend a leadership promotion course, which was viewed within the military as "indicative of an officer's effectiveness" (p. 179). There were two notable differences between the officers deemed effective versus those who were not. The effective officers scored higher on the personality measure of conscientiousness, which conveyed someone's degree of dependability, organization, goal accomplishment, hard work, achievement, etc. And, the effective officers possessed a personality which was characterized by openness, meaning that they tended to be open to new experiences and more "creative, innovative, imaginative, reflective, and untraditional" (Zhao & Seibert, 2006, p. 261).

According to McCormack and Mellor (2002), the benefits of having a military leader being open "may reside in the tendency of such individuals to inform themselves of issues and events beyond the scope of their employment demands coupled with an ability to grasp technical knowledge more readily than others" (p. 195). Further, they found that "openness emerged as a significant predictor of effectiveness amongst the senior leaders" (p. 192). So, similar to leaders in business and educational industries, leaders in the military seemed to be more creative and less conventional than others, while adhering to more organization, ultimately indicating that certain personality traits could predict leadership effectiveness. At the conclusion of their article, in

referring to leadership effectiveness, McCormack and Mellor stated that "future research should explore the degree to which this may apply in other leadership situations" (p. 196).

The coaching profession represents a leadership position in athletics that has been understudied in terms of personality (Duangkrai & Yusof, 2011; Heydarinejad & Adman, 2010; Horn, Bloom, Berglund, & Packard, 2011). Since coaches are leaders, it is plausible that there is a diversity of personalities found in the profession. Not only has little research analyzed the role of personality in coaching, but also, there does not seem to be a consensus about the role of personality in existing research. McCarthy's (1973) study of 52 high school coaches found no significant personality differences between highly successful, moderately successful, and unsuccessful basketball coaches. Further, Markland and Martinek's (1988) study suggested that there is "no stereotypic coaching personality or set of behaviours which leads to success in coaching" (p. 299).

Contrary to these studies, Hendry (1974), in his study of 63 of the best coaches in Great Britain, found significant differences in the personality traits of coaches involved in individual sports. Coaches of individual sports tended to be more isolated and introverted than team sports coaches. Malhotra and Khan (1984), in profiling 30 Indian coaches, found notable traits of experienced coaches, as they were suspicious, doubtful, introverted, and emotionally stable. Starkes and Ericsson (2003) seemed to imply the significance of anxiety in personality in sports, stating that "because experts are more capable of demonstrating superior performance than novices, they must be capable of dealing with affective states more appropriately than novices" (p. 36). Importantly, Frederick and Morrison's (1999) research raised two critical points Frederick and Morrison implied that certain personalities may be better for certain situations, stating that children's sports would benefit from a coach with high warmth and listens to ideas.

And, Frederick and Morrison cited a need to analyze coaches' personality more in-depth, noting that "not a great deal is known about the psychological characteristics of NCAA, Division I, and II coaches" (p. 222). Therefore, from reviewing the literature, there appears a need for studying the significance of personality to further explore the performance of coaches in sport.

However, in addition to studying the personality of coaches as related to job performance, the literature indicated that several other factors can affect a coaches' job performance, including age and coaching experience (Dimec & Kajtna, 2009; Schempp & McCullick, 2010), playing experience (Trudel & Gilbert, 2006), sport level (Jambor & Zhang, 1997), education level (Dae-Woo, et al., 2005), and gender (Millard, 1996). In terms of age, Dimec and Kajtna (2009) argued that younger coaches were more agreeable and more open to novelties than older coaches. Schempp and McCullick (2010) noted that coaches with more experience utilized intuitive decision making more often, allowing them to make decisions more quickly and successfully than novices. Trudel and Gilbert (2006) suggested that a minimum level of playing experience is needed for high-performance coaching. Jambor and Zhang (1997) found that the behaviors of coaches at various sport levels may significantly differ due to the organizational contexts, constraints, or required behaviors. And, Dae-Woo, Min-Haeng, and Young-Kum (2005) claimed that a BA degree in sport, exercise, or physical education was one of the most important qualifications for a person in the coaching profession.

Numerous studies have examined gender and found significant differences in the behaviors of males and females across various cultures. Maccoby, Jacklin, Laws, Vernon, and Johnson (1974) conducted one of the first major reviews of research (30 studies) on gender differences in cognition, temperament, and social behavior, concluding that men and women differed in several areas of personality (as cited in Costa, Jr., Terracciano, & McCrae, 2001). In

addition to reviewing literature from 1958-1992 about gender and personality, Feingold's (1994) meta-analysis of personality supported Maccoby and Jacklin's findings, which affirmed noteworthy sex differences in personality traits, such as trust or extraversion. More recently, in Schmitt et al.'s (2008) study of 17,637 people from 55 nations, the researchers found personality trait differences concerning neuroticism, extraversion, agreeableness, and conscientiousness, between men and women. Caccese and Mayerberg (1984) found that female coaches experiences more emotional exhaustion and less personal accomplishment than male coaches. Barber (1998), in her study of 102 female and 138 male coaches found gender differences in coaching competence, as women perceived themselves to be more competent when it came to teaching sport skills. Millard (1996) noted that female coaches were more likely to display general encouragement. Chelladurai, Kug, and O'Bryant (1999) indicated that females identified with teaching, while males identified more with coaching. And, Marback, Short, Short, and Sullivan (2005) showed that females possessed lower motivation and game strategy efficacy than males. Therefore, in reviewing the literature, gender, in addition to age, coaching experience, playing experience, sport level, and education level appear to be notable variables that could differentiate job performance in coaching.

Purpose of Study

The purpose of this study was, therefore, to assess the power of personality in predicting a coach's success. Specifically, this study addressed the following research questions:

1. Was there a statistically significant relationship between personality and coaching success?

2. Was there a statistically significant relationship between personality and coaching differentiation variables, specifically age, coaching experience, playing experience, sport level, education level, and gender?
3. Which of the differentiation variables, if any, could be used in a regression formula to predict a coach's winning percentage?

Definitions

1. Personality: "The individual differences in characteristic patterns of thinking, feeling, and behaving," and "personality can be simply defined as intrinsic organization of an individual's mental world that is stable across time and situations" (as cited inCaswell, Ambegaonkar, & Caswell, 2010, pp. 37-38).
2. Myers-Briggs Type Inventory (MBTI): A model/assessment based on Jung's theory of psychological type developed by Katherine Briggs and Isabel Myers, used widely to analyze personality (Pritchard, 2009).
3. Five Factor Model (FFM) of Personality: A prominent representation of the structure of personality traits comprised of the five factors, openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism (P. T. Costa & R. R. McCrae, 2010).
4. Coaching Success: Coaching success will be defined by winning percentage, as the use of a win-loss record appears to be one of the best performance criteria in evaluating the success of coaches (Gorney & Ness, 2000; Massengale, 1974).

CHAPTER 2

REVIEW OF LITERATURE

The purpose of this study was to assess the power of personality in predicting a coach's success. The main objectives of the study were to: a) summarize research on personality in professional fields, b) highlight the origins of personality theory and assessment, c) identify differentiating factors in determining successful coaching, and d) develop a model which utilizes personality and other factors to predict coaching success. Thus, the areas of knowledge pertaining to the purpose statement would include personality theory and assessment and factors relevant to differentiating success in coaching.

The purpose of this chapter was to present the findings from several literature reviews necessary to justify this study. These literature reviews highlighted the following areas: a) research on personality findings and the workplace, b) personality theories and assessments, and c) factors differentiating successful coaching. Sequentially, the first review of literature summarized research on personality in professional fields. In reviewing this literature on personality and professionals, some notable personality models were discovered. The second review of literature outlined the theoretical origins of the prominent personality models which correlated to particular behaviors in various professions. The last review of literature describes factors, in addition to personality, which may influence coaching success.

Research on Personality and the Workplace

Overview

McDougall (1932), in generating a theory to explain personality, defined character as "a stable organization that endures throughout all such temperamental variations." Even though prominent theories and models of personality (Allport, 1937; McDougall, 1932; Thurstone, 1934) began surfacing in the early 1900s, according to Jackson (2000), beginning in the 1970s, there was a "remarkable and widespread resurgence of research and interest in personality and individual differences" (p. 223). This resurgence of interest in personality has generated research suggesting that personality plays significant role in the attitudes, behaviors, and effectiveness of professionals (Gardner & Martinko, 1996).

Research has indicated discernible personality traits which influence job performance and success (Balijepally, et al., 2006; Judge & Bono, 2000). Seibert and Kraimer (2001) noted that extraversion is positively related to salary level, promotion, and career satisfaction. Similar to Seibert and Kraimer, Bono and Judge's (2004) meta-analysis of 26 independent studies found extraversion to the have strongest and most consistent correlation to leadership. Tett, Jackson, and Rothstein (1991), argued that personality could be correlated to job acquisition, as it has "a place in personnel selection research" (p. 732). Chen (2012) claimed that personality is an important predictor of career success. And, other literature sources found that, after analyzing a multitude of professions, personality is a significant factor to study because effective business managers, school teachers, or military officers were found to have discernible personality traits that appeared to be stable across time and differed from less effective workers at similar positions (McCormack & Mellor, 2002; Rushton, et al., 2007; Zhao & Seibert, 2006). Therefore, due to these findings, which suggest a link between personality and job performance, the next

subsection will more comprehensively explore personality's influence on career performance and success in professions, such as business, education, and the military.

Personality in the Workplace

Career success can be defined in a variety of ways; many researchers define career success in terms of the extrinsic and intrinsic dimensions (Judge, Kammeyer-Mueller, & Bretz, 2004; Rode, Arthaud-Day, Mooney, Near, & Baldwin, 2008). Job level, mobility, and salary would represent some of the extrinsic factors, while, job, life, and career satisfaction would represent some of the intrinsic factors. In their study of personality and career success among 20,000 business executives from the United States and Europe, using a personality assessment based on the Five Factor Model (FFM) of personality, Boudreau, Boswell, and Judge (2001) found that conscientiousness was largely unrelated to extrinsic success and inversely related to intrinsic success in both American and European executives. The results showed that extraversion was directly correlated to extrinsic and intrinsic career success for European executives, but only intrinsic career success for Americans. Neuroticism was negatively associated with both extrinsic and intrinsic success for American executives, while it was only negatively associated with intrinsic career success for European executives. Therefore, due to these results from a formidable sample size, it seems that the personality factors of conscientiousness, extraversion, and neuroticism can all have a significant, and potentially predictive, influence on career success.

Gardner and Martinko (1996) conducted a literature review of 33 studies, ranging from the late 1960s (Hay, 1966), the 1970s and 80s (Evered, 1977; Kilmann & Thomas, 1975; Mills, Robey, & Smith, 1985; Schweiger & Jago, 1982), to the 1990s (Brightman & Sayeed, 1990; Percival, Smitheram, & Kelly, 1992). These studies analyzed the relationship between managers

and personality, profiling the traits of managers at all levels, including top-level banking and hospital executives, executive educators, and small business managers. Each of the studies employed the Myers-Briggs Type Indicator (MBTI) to profile the traits of the managers in the business sector. The MBTI, as do most personality assessments, examines thought processes. Some of the important findings of their literature review show that intuitive managers, who are characterized by unconventional and creative behaviors, and perceptual processes, undertake strategic planning activities more frequently and more effectively than sensing managers, who are characterized by conventional and practice behaviors, and systematic processes. Further, they suggested that managers tend to rely more on logic than emotion, and strictly adhere to structure and organization more often than members of the general population. Managers who based their decisions on logic were more assertive than emotion-based managers in resolving conflicts, while emotion-based managers placed a higher emphasis on cooperation.

Judge and Bono's (2000) study also analyzed the personality traits of leaders in business, particularly emphasizing agreeableness. In using the FFM to examine over 200 leaders in government and business fields, such as banking, insurance, financial services, they showed that agreeable businessmen, or those characterized as generous, charismatic, or concerned for others, tended to be the most transformational and effective leaders. Agreeable business leaders led more effectively because they took a more developmental orientation toward their subordinates, mentored with increased empathy, were approachable, and served as roles models. Similar to Judge and Bono's findings, in a profile of the 11 CEOs from Collins's (2001) book, *Good to Great*, Hogan and Kaiser (2005) noted that they were modest and humble, as opposed to conceited or self-promoting. Such traits would be present in an agreeable business leader.

Lastly, concerning agreeableness, Aziz and Tronzo (2011) examined workaholics and determined that people who were agreeable were more involved in their work.

In addition to analyzing the thought processes and agreeableness of business leaders, personality research, based on the FFM, has shown that personalities marked by emotional instability can adversely affect performance effectiveness, especially in professional jobs that include interpersonal relationships and teamwork between employees (Balijepally, et al., 2006; Mount, et al., 1998). Further, Zhao and Seibert (2006) found that entrepreneurs had fewer problems with anxiety than managers, and more importantly that "personality variables appear to have a role in future theories of entrepreneurship" (p. 265). Therefore, based on the findings from the literature on personality and business, one could reasonably predict that effective business leaders appear to be logic-based thinkers, who have creative and stable personalities. Further, since certain personality traits or cognitive processes of business leaders were identified, it seemed necessary to explore other workforce domains.

In an educational study of personality by Sears and Kennedy (1997), using the MBTI, the researchers profiled the personalities of 886 college students at Ohio State University from 1977-1984 to identify discernible personality types of those that continued (as opposed to those that discontinued) their preparation to become teachers. Their results found that the "SFJ" profile - the sensing (perceive with five senses), feeling (appreciate sensitivities of relationships), and judging (prefer predictability and responsibility) types - remained in education significantly more after being exposed to the reality of teaching during their freshman year. Further, Sears and Kennedy claimed that the SFJ students were attracted to elementary education. But, perhaps, the most notable aspect of their study was the suggestion that one could predict certain personality

types which would be better suited for teaching in general, and more specifically at the elementary level.

Kent and Fisher (1997) found other interesting data in relation to education and teaching. In their sample of 108 teachers and 1,883 students from the eight government secondary schools in Australia, they discovered an association between teacher personality types (MBTI) and the perception of classroom environments. They found that extraverted teachers were associated with classrooms characterized with high student cohesion and that students often viewed SJ (realistic decision makers) teachers as task oriented with clear and well-organized activities. Kent and Fisher argued the implications of these findings, suggesting that the personality of the teacher "may be instrumental in the likely kinds of outcomes for students, other factors being equal" (p. 9). Therefore, once again, as in the study by Sears and Kennedy (1997), Kent and Fisher's (1997) findings raise the idea of using personality to predict outcomes in education.

Rushton, Morgan, and Richard (2007) expanded upon the findings of Sears and Kennedy (1997) and Kent and Fisher (1997) in regards to teachers and personality. They sought to identify consistent personality traits (using an MBTI instrument) among a sample of Florida teachers who were considered quality teachers, as measured by membership in the Florida league of teachers, which identifies the most effective teachers in FL. Potentially consistent personality traits of the quality teachers would then be compared to the traits of average teachers in Florida and the United States. More specifically, the 58 quality teachers were compared to the personality profiles of 804 national school teachers and 189 Florida teachers.

Not only did the results indicate that they used innovation in instruction or discipline, but also that the quality teachers tended to have more extraverted and more flexible, adaptive personalities as compared to the majority of teachers in the United States who had personalities

that “operate well when rules are clearly defined” and are “stabilizers, traditionalists, and guardians” (Hirsh, 1997; Rushton, et al., 2007, p. 439). In addition, the majority of the quality teachers in Florida can be characterized as extraverted leaders marked by “energy and enthusiasm” and whose students “usually feel that their teachers understand them and help them to deal with their personal problems” (Fairhurst, 1995, p. 63).

Lastly, other research has indicated ways in which personality can predict successful academic performance and educational outcomes. Poropat (2009) argued that conscientiousness has the strongest and most significant association with academic performance. Further, Bragtm, Bakx, Bergen, and Croon (2011) found conscientiousness to be a significant predictor of people continuing their education. And, Cheng and Furnham (2012) reported that education level and certain personality traits (extraversion, conscientiousness, and openness) played significant roles in the upgrading of occupational attainment. Therefore, in education, as in business, personality does seem to matter and could possibly be used in the prediction of outcomes, but the personality traits of those who are successful and lead in education, while similar in terms of creativity, are not necessarily the same as successful leaders in business.

There seems to be a relationship between personality and leadership effectiveness in the military as well. Bradley, Nicol, Charbonneau, and Meyer (2002) found that several studies recommended that successful military leaders have “strong” personalities, suggesting that strong personalities could predict successful leadership in the military. Thus, a primary goal of Bradley et al.’s study was to see if the use of “personality measures in the selection process (of officer candidates) could contribute to developing a more comprehensive description of applicants and be a useful predictor of leadership” (p. 98). In order to accomplish their study, they evaluated the ability of Canadian Forces Recruiting Centres to develop leadership in the military. Their

findings revealed that dominance, energy level, and internal control predicted some of the criteria for successful military leadership, with dominance predicting the most. These results were consistent with the findings of Rueb, Erskine, and Foti (2008), whose analyses showed differences between leaders and nonleaders for dominance, with leaders showing assertiveness across a variety of populations. But, more importantly, Bradley et al.'s findings indicated "that measures of personality were associated with leadership development in the military" (p. 93). Therefore, as in business and education, this study illustrates that there is a correlation between personality and leadership.

Using an instrument based on the FFM, Johnson and Hill (2009) profiled 57 officers from the Army National Guard with an average of 11 years in the military to see if personality predicted effective leadership. House and Aditya's (1997) definition of effective leadership, which stated that it is "the ability of an individual to influence, motivate, and enable others to contribute toward the effectiveness and success of the organization of which they are members," was utilized by Johnson and Hill to classify leaders in the military as effective (p. 411). Results of the study indicated significant differences between effective and ineffective leaders on each of the five factors of personality. Effective leaders scored lower on neuroticism and higher on extraversion, openness to experience, agreeableness, and consciousness than the ineffective leaders. And, notably, effective leaders scored lower than ineffective leaders on all facets of neuroticism (lower score is better), including anxiety, angry hostility, depression, self-consciousness, impulsivity, and vulnerability. Therefore, as in business, scoring low on neuroticism seems to be essential for successful performance.

In an earlier study, McCormack and Mellor's (2002) research analyzed 99 Australian Army commissioned officers using a personality assessment based on the FFM and described

similar findings to those of Johnson and Hill (2009) on conscientiousness and openness to experience. To stratify the sample of officers into categories, the researchers labeled officers from the sample as effective if they had been selected to attend a leadership promotion course, which was viewed within the military as "indicative of an officer's effectiveness" (p. 179). There were two notable differences between the officers who were deemed effective and those who were not. The effective officers scored higher on the personality measure of conscientiousness, which conveyed someone's degree of dependability, organization, goal accomplishment, hard work, achievement, etc. And, the effective officers possessed a personality which was characterized by openness, meaning that they tended to be open to new experiences and more "creative, innovative, imaginative, reflective, and untraditional" (Zhao & Seibert, 2006, p. 261).

According to McCormack and Mellor (2002), the benefits of having a military leader being open "may reside in the tendency of such individuals to inform themselves of issues and events beyond the scope of their employment demands coupled with an ability to grasp technical knowledge more readily than others" (p. 195). More significantly, they found that "openness emerged as a significant predictor of effectiveness amongst the senior leaders" (p. 192). So, similar to leaders in the business and educational industries, leaders in the military seemed to be more creative and less conventional than the others, while adhering to more organization, ultimately indicating that certain personality traits could predict leadership effectiveness. At the conclusion of their article, in referring to leadership effectiveness, McCormack and Mellor stated that "future research should explore the degree to which this may apply in other leadership situations" (p. 196).

The coaching profession represents a leadership position in athletics (Duangkrai & Yusof, 2011; Heydarinejad & Adman, 2010; Horn, et al., 2011). Since coaches are leaders, it is plausible that there is a diversity of personalities found in the profession. Past research has focused on personality in athletic performance, stating that neuroticism was a negative predictor of motivation level among athletes (Brannon, 2010) and that both neuroticism and conscientiousness were the most relevant variables (Piedmont, Hill, & Blanco, 1999). However, the focus of past research concentrated minimally on personality and coaching performance. And, not only has little research analyzed the role of personality in coaching, but also, there does not seem to be a consensus about the role of personality in existing research. McCarthy's (1973) study of 52 high school coaches found no significant personality differences between highly successful, moderately successful, and unsuccessful basketball coaches. Further, Markland and Martinek's (1988) study suggested that there is "no stereotypic coaching personality or set of behaviours which leads to success in coaching" (p. 299).

However, despite these studies, which found personality to be insignificant in coaching, Hendry (1974), in his study of 63 of the best coaches in Great Britain, found significant differences in the personality traits of coaches involved in individual sports, stating that they were more individualistic than team sports coaches. Malhotra and Khan (1984), in profiling 30 Indian coaches, found notable traits of experienced coaches, as they were suspicious, doubtful, introverted, and emotionally stable. Starkes and Ericsson (2003) seemed to imply the significance of anxiety in personality in sports, stating that "because experts are more capable of demonstrating superior performance than novices, they must be cable of dealing with affective states more appropriately than novices" (p. 36). Bloom and Salmela (2000) interviewed 16 expert Canadian coaches and learned that experts worked harder than others, communicated

effectively, and empathized with their athletes. In their analysis of the coach-athlete relationship, Jowett, Yang, and Lorimer (2012) stated that agreeableness represented the only personality factor which related to the quality of the relationship. And, importantly, Frederick and Morrison (1999) cited a need to analyze coaches' personality more in-depth, nothing that "not a great deal is known about the psychological characteristics of NCAA, Division I, and II coaches" (p. 222).

In conjunction with these findings, suggesting that personality in coaching should be further explored, more specifically, the predictive ability of personality in coaching needs to be analyzed because personality has predicted outcomes in other professions. In addition to the studies (Gardner & Martinko, 1996; Kent & Fisher, 1997; McCormack & Mellor, 2002; Rushton, et al., 2007; Sears & Kennedy, 1997; Tett, et al., 1991; Zhao & Seibert, 2006) already mentioned, which found a correlation between personality and leadership effectiveness, Sutin, Costa, Miech, and Eaton's (2009) conducted a study linking personality and career success. Their study had 731 participants, who were a cohort of household residents in East Baltimore, completed a personality assessment based on the FFM over the span of several years. Their analyses revealed that emotionally stable and conscientious people had higher incomes and job satisfaction, the variables defining career success.

In the coaching literature, as related to the prediction of outcomes, the findings of Lafrenière, Jowett, Vallerand, and Carbonneau (2011) indicated that "coaches' obsessive passion positively predicted controlling behaviors towards their athletes" and that "harmonious passion indirectly predicted high quality coach-athlete relationships" (p. 150). The notion of obsessive passion would most closely relate to the personality factor of conscientiousness, where Costa and McCrae (2010) claim that highly conscientious individuals lead to compulsive and workaholic behaviors. And, the notion of harmonious passion would relate to the personality factor of

agreeableness, where Costa and McCrae (2010) assert that highly agreeable individuals are altruistic, sympathetic, and cooperative. Therefore, from reviewing the literature on personality in other domains, such as business, education, or the military, and the coaching literature, it seems worth studying the significance of personality to further explore the behaviors of coaches in sport and ultimately to predict coaching success.

Section Summary

This section reviewed the literature on personality and the workplace. Several important findings warrant further investigating personality's impact in other professions. After analyzing personality's influence on professions, such as business, education, and the military, neuroticism was universally found to be negatively correlated with career success (Balijepally, et al., 2006; Boudreau, et al., 2001; Johnson & Hill, 2009). Other important findings suggested that intuitive business leaders utilized more strategic decision-making (Gardner & Martinko, 1996), that more agreeable and open-minded leaders were more transformational in their leadership (Judge & Bono, 2000; McCormack & Mellor, 2002), and that extraverted educators were more likely to help students cope with issues (Rushton, et al., 2007). Further, while a few studies have examined personality in the coaching profession (Frederick & Morrison, 1999; Hendry, 1974; Malhotra & Khan, 1984), the results seemed to be limited and inconclusive, regarding personality's influence on successful coaching. Therefore, due to the correlation of leadership behaviors and personality in business, education, and the military and the limited amount of information about personality and coaching, personality should be further studied in the coaching profession.

Personality Theory and Assessment

Overview

In the previous section, concerning personality and the workplace, numerous descriptors, such as intuitive, neurotic, or extraverted, were used to describe the personalities of leaders. These descriptions of characteristics, while similar, can vary slightly in how they are categorized in a personality assessment, depending on the model of personality utilized in a study. Thus, one of the challenges in researching the literature on personality and the workplace was attempting to reconcile potential differences in the orientation of personality, as defined by the Myers-Briggs Type Inventory (MBTI) or the Five Factor Model (FFM) of personality. These models of personality appeared most frequently because they are considered to be the most widely used in current research (Furnham, Dissou, Sloan, & Chamorro-Premuzic, 2007). The theoretical bases for both the MBTI and FFM help explain their similarities and differences. The following subsection will briefly highlight the history of personality, explain the theoretical basis for each prominent model of assessment, and note which one represents the best model for the current study.

Theoretical Frameworks for Prominent Personality Models

Even though personality theories became prominent in the early 1900s, Butcher (2010) stated that the idea of personality dates back to stories in Old Testament when Gideon observed fear behaviors when selecting men to be soldiers. Butcher noted that Roman and Greek physicians used personality assessment and observation to understand the thinking of behavior of those with mental health problems. But, more importantly, "the first formal use of a questionnaire to study personal qualities" was not employed until the 1900s, and this questionnaire "involved the use of a structured rating scale for studying human character"

(Butcher, 2010, p. 4). The following paragraphs will explore personality theories which underlie and are responsible for the creation of modern personality assessments and research.

Lombardo and Foschi (2002) argued that 1937 was the birth of personality psychology with Gordon Allport, the most important psychologist of the time. According to Allport (1937), "personality is the dynamic organization within the individual of those psychophysical systems that determine his unique adjustments to his environment"(p. 48). In addition, Allport justified the need to study personality and claimed that "personality may represent a general law that may be a law that tells how uniqueness comes about" and that "without the co-ordinating concept of person, it is impossible to account for, or even to depict the interaction of mental processes upon one another" unless it is viewed as "taking place in a definite framework" (pp. 558, 550-551).

However, others prior to Allport, such as Carl G. Jung, searched for general laws of personality as well. Jung, a Swiss psychologist, was responsible for the theory of psychological type and "was concerned mainly with conscious elements of the personality" (McCaulley, 1974, p. 1). Jung represented one of the most notable pioneers in the development of personality theory. In 1923, Jung's *Psychological Types* was translated into English by H. Godwyn Baynes. In *Psychological Types*, Jung (1923) developed two psychological types, which he termed extraverted and introverted, differentiating them by stating "the introverted is distinguished from the extraverted type by the fact that, unlike the latter, who is prevailingly orientated by the object and objective data, he is governed by subjective factors" (p. 31). More importantly, Jung noted that these classification types of people "do not merely concern the individual case but are questions of typical attitudes with a universality far greater than a limited psychological experience would at first assume" (p. 2). Thus, Jung's assertion that there is universality of typical attitudes seemed to suggest the presence of various traits (extraversion/introversion)

common to humans, which may be worth analyzing. Jung's assertion also validated Allport's (1937) later claims about personality representing a general law.

McCaulley (1990) noted that it was Jung's model of extraversion and introversion that caused Isabel Myers and Katharine Briggs to develop an indicator model beginning in WWII through the 1950s in which people could describe themselves in Jung's model. Notably, Myers and Briggs utilized their indicator model during the 1950s to predict type differences among high school students in aptitude scores and grades. Their model of personality, which will be discussed more in depth in Chapter 3, would become known as the Myers-Briggs Type Indicator (MBTI), and by the late 1960s, and early 1970s, the MBTI was being used in dissertations and by career counselors (McCaulley, 1990). However, while Jung, Myers, and Briggs represented a pivotal figure in the foundation of psychological types and personality analysis today, others during the same era found personality to be a complex enterprise which required the analysis of many factors.

During the early part of the 20th Century, other models in addition to the MBTI were being developed and differed from Jungian psychology. In McDougall's (1929) piece, "The chemical theory of temperament applied to introversion and extroversion," importantly, he stated that "so far all the theories of personality types seem to be at fault" because "they seem to assume that certain types of personality of significance for psychiatry may be distinguished and defined on a single basis, without any prior analysis of the chief classes of constituent factors" (p. 293). In 1929, McDougall also suggested at least five great classes of factors of personality and that "all personalities can be arranged in a single linear scale according to the degree to which this factor is present in their constitutions" (p. 297). A few years later, McDougall (1932) stated that a person's character was "a stable organization that endures throughout all such

temperamental variations" (p. 15). However, for McDougall, character was merely a part of personality, and that personality "may with advantage be broadly analyzed into five distinguishable, but inseparable factors, namely intellect, character, temperament, disposition, and temper" (p. 15). Therefore, in contrast to Jung's extraverted and introverted types, McDougall believed there should be more classes of factors to analyze personality. So did others.

Shortly after McDougall's (1932) findings, Thurstone (1934) analyzed 60 adjectives of traits, generated from 1300 raters that noted adjectives in common use for describing people. Thurstone divided these adjectives into different categories, and like McDougall, felt that five factors were sufficient to account for personality. It was McDougall and Thurstone that Costa and Widiger (2002) credited for the creation of the Five Factor Model of personality (FFM).

Costa and Widiger (2002) noted that during the 1960s and 1970s, the FFM was largely ignored for other models of personality, such as those of Eysenck (3 factors) or Cattell (16 factors). However, since the 1980s, the FFM has experienced a resurgence, as some, such as Costa and McCrae (2010), have developed instruments (NEO-PI-R, NEO-FFI-3) to effectively assess personality, using the FFM. In fact, Costa and Widiger claimed that the FFM is now the most appropriate model for personality as other models, such as Eysenck, Cattell, or MBTI, "can be either subsumed by the FFM or interpreted in terms of it" (p. 5). And, in its current form, Costa and Widiger stated that the FFM is a "hierarchical model of the structure of personality traits, which are defined as enduring dimensions of individual differences in tendencies to show consistent patterns of thoughts, feelings, and actions" (p. 5). Therefore, since the FFM seems to be more comprehensive and includes the measures of the MBTI, the FFM appears to be the most appropriate personality model to utilize in conducting this study.

Section Summary

This section outlined the origins of the MBTI and FFM, two prominent models of personality. The MBTI was rooted in Jungian psychology and was developed into personality assessment by Myers and Briggs. The FFM originated with McDougall and Thurstone and evolved into personality assessments developed by Costa and McCrae. While Jung's typology of personalities represents a decent model for analyzing personality, clearly, the hierarchical and multi-factored nature of the FFM seems to be more effective for academic research (Balijepally, et al., 2006). Chapter 3 will further compare and contrast the MBTI and FFM and justify the use of a specific FFM instrument to most appropriately measure personality.

Differentiating Factors in Coaching

Introduction

The purpose of this study was to assess the power of personality in predicting a coach's success. While it is possible that personality may play a role in predicting the success of a head coach, research has indicated that there are other factors, such as age (Dimec & Kajtna, 2009), experience (Schempp & McCullick, 2010), sport level (Trudel & Gilbert, 2006), education (Zakrajsek, Martin, & Zizzi, 2011), and gender (Cassidy, Jones, & Potrac, 2009), which may influence a coach's success as well. Thus, it is critical to examine what the research has found about these factors' influence on coaching.

However, before discussing these other factors, it is important to establish what defines a successful head coach. According to research, experts represent the most successful coaches, and expert coaches have generated the best winning percentage by consistently outperforming their peers over time (Schempp & McCullick, 2010; Tan, 1997). And, more specifically, the use of a win-loss record (winning percentage) appears to be one of the best performance criteria in

evaluating the success of coaches (Gorney & Ness, 2000; Massengale, 1974). Therefore, in this study, success in coaching is defined by winning percentage. The remainder of this section will highlight other factors which differentiate coaches and could possibly predict coaching success. These factors are the following: a) age and coaching experience, b) playing experience, c) sport level, d) education level, and e) gender.

Age and Coaching Experience

There are several studies and theories supporting age as a possible explanatory or predictive factor of coaching success. In Dimec and Kajtna's (2009) study of younger and older coaches, they identified several psychologists that created life stage theories or eras in which humans chronologically develop according to age. For example, according to Daniel J. Levinson (1986), one of the psychologists they identified, humans pass through four eras with multiple stages of personal and professional development during each era. For Levinson, the *preadulthood* era, which lasts from birth until roughly age 22, represents the formative years in which a person transforms from being highly dependent to a more responsible and independent adult. During the *adult transition* era, which constitutes a person's life from 17 until 45, Levinson noted that people undergo the greatest energy, abundance, contradiction, and stress. Levinson claimed that the *middle adulthood* era exists for people between the ages of 40 to 65, an era in which human biological capacities are inferior to those in the *early adulthood* era, but sufficient for and energetic, satisfying, and socially valuable life. And, the *late adulthood* era begins around age 60, and is often characterized by retirement from professional work.

Dimec and Kajtna (2009) used development theories, such as Levinson's, to justify analyzing coaches at different ages, arguing that "since coaching is a stressful occupation, we believe that the stress will affect people differently according to the stages of their development

and that it might also lead to changes in the psychological characteristics of coaches" (p. 174). In terms of results, in their personality study of 275 Slovene coaches, they found that the younger coaches (under 35) were more accurate, more open to novelties, more conscious, more agreeable, and managed their emotions better than older coaches (over 35). Ironically, Dimec and Kajtna concluded that older coaches were characterized by both more democratic and more autocratic behavior than younger coaches. Recall that Starkes and Ericsson (2003) suggested that experts were better at handling affective states than novices. Thus, if Dimec and Kajtna's findings suggested that younger coaches may more effectively manage their emotions, then perhaps age represents a plausible factor to analyze in the prediction of success.

In Zakrajsek, Martin, and Zizzi's (2011) study of 235 American high-school football coaches' attitudes toward sport psychology consultation, they found differences in the attitudes of coaches younger than 30. Even though Coatsworth and Conroy (2006) have shown that training younger coaches in psychosocial and behavioral principles enhances the coach-athlete relationship, interestingly, Zakrajsek et al.'s findings indicated that younger coaches were the least willing to be involved with sport psychology consultation or training. So, if younger coaches did not value psychological training principles, then the likelihood of an enhanced coach-athlete relationship would decrease due to adverse coaching behaviors, ultimately affecting the potential for success (Erickson, Côté, Hollenstein, & Deakin, 2011). Further, Zakrajsek et al. believed younger coaches were less willing to be involved with sport psychology consulting because "they were unaware of how little they knew, whereas experienced coaches with proficiency and expertise in the skills and strategies of the game had a better understanding of their limits related to their knowledge and skill" (p. 471). Therefore, in addition to age, experience seems to be relevant factor in predicting success.

K. Anders Ericsson, a Swedish psychologist and one of the most prominent researchers on expertise, conducted studies in the 1990s on musicians and claimed that experience was one of the most important factors in differentiating expert performers (highly successful) from novices (less successful). In Ericsson, Krampe, and Tesch-Römer's (1993) initial assessment of musicians, they found that expert performance resulted from intense practice for a minimum of 10 years. And, in further exploring musicians, Ericsson and Charness (1999) noted that, by age 20, the top violinists had practiced more than 10,000 total hours as opposed to the less successful violinists practicing around 5,000 total hours. Even though Ericsson's findings were in a musical context, the notion that more experience can lead to expert performance could transfer to coaching because "experience has been shown to predict performance criteria across a variety of criteria and settings" (Waldman & Korbar, 2004, p. 157). In an athletic context, Trudel and Gilbert's (2006) findings about coaches further support Ericsson's claims about experience, stating that elite developmental coaches average almost 13 years of experience. But, let it be noted that experience alone does not guarantee expert performance, as "it is deliberate, systematic and continual change that brings about the improvements leading to expert performance" (Schempp & McCullick, 2010, p. 9773). Therefore, due to Trudel and Gilbert's findings in sport, it seems that Ericsson's theory, linking experience and expert performance, could be transferable to other contexts, such as coaching.

Schempp and McCullick (2010) further illustrated how Ericsson's findings, concerning experience and expert performance in musicians, has applied to expert performance in coaching as well. Schempp and McCullick highlighted discernible characteristics associated with experienced and successful coaches, stating that these coaches are better at making decisions intuitively, planning, and communicating. More specifically, they claimed that years of

experience and extensive knowledge (in part from years of experience) generate intuitive decision making, or gut feelings, which allow an expert coach to act more quickly and more successfully than the novice. Vergeer and Lyle's (2009) analysis of the relationship between experience and decision making would relate to Schempp and McCullick's notion of intuitive decision making. Vergeer and Lyle stated that more experienced coaches accounted for a number of factors in making decisions, possessed more cognitive complexity, and placed problems in broader contexts with previously determined solutions. Therefore, based on these findings, if coaches accounted for a greater number of factors placed problems in broader contexts, it would mean these coaches were more experienced and had more extensive knowledge, two hallmarks of intuitive decision making.

In their qualitative study of 10 experienced and 10 inexperienced coaches, Ahlgren, Housner, and Jones's (1998) findings supported other notions from Schempp and McCullick (2010), notably concerning planning and communication. According to Ahlgren et al., experienced coaches planned more effectively, as their practices were marked by progressive lessons with tasks specifically linked to the objectives of the lesson, while inexperienced coaches often had athletes perform tasks unrelated to the objectives of the lesson. Further, the experienced coaches provided specific and accurate feedback about their athletes' performance and would not allow them to continue incorrect movements, without providing feedback or communicating the need to correct these movements.

Jones, Housner, and Kornspan (1997) emphasized other characteristics of experienced coaching, discovering that experienced coaches provided more frequent, technical instruction, while inexperienced coaches had higher rates of silent observation. As previously stated, inexperienced rates of silent observation could lead to more instances of athletes incorrectly

performing movements in the absences of corrective feedback, ultimately hindering progress and success. Further, these findings, which indicated that experienced coaches provide increased instruction, correlate to success, as Claxton (1988) argued that more successful coaches asked a significantly greater number of questions to their players, developing understanding. Thus, relating Jones et al.'s findings to Claxton, inexperienced coaches, characterized by higher rates of silent observation, would be less likely to ask questions than experienced coaches, ultimately decreasing the probability of success. In addition, Cassidy, Jones, and Potrac (2009), when asking 200 students to compile a list of characteristics that described a good and successful coach, discovered that it was important for coaches to establish fruitful relationships with their athletes. If inexperienced coaches are distinguished by higher rates of silent observation, then it seems less likely for them to establish fruitful relationships with their athletes as well. Therefore, after reviewing several prominent literature sources, it appears that experience differentiates coaches and could serve as a valid predictor of success, as experienced coaches are more successful because they plan more effectively, make decisions more intuitively, and communicate more frequently and effectively.

Playing Experience

Ericsson et al. (1993) argued that, in a competitive world, a minimum level of experience was necessary to achieve top-level, or expert performance. However, in coaching, experience represents a multi-faceted notion that is not limited to merely coaching experience. In addition to coaching experience, there is a dimension of playing experience that seems plausible to consider as a contributor to expert performance in coaching. In a qualitative study of 11, expert LPGA (Ladies Professional Golf Association) instructors, Schempp, You, and Clark (1999) found the instructors had early and sustained playing experiences in golf prior to becoming

teachers. Further, Schempp et al. (1999) concluded that "playing the game of golf is an important antecedent to becoming an expert teacher of golf" (p. 290). A possible explanation for why the playing experiences of the LPGA instructors informed their expert coaching is that they may have been exposed to good coaching practices as an athlete, which influenced the way they coach (Rodgers, Reade, & Hall, 2007). Therefore, since playing experience held a vital role in the instruction of expert LPGA coaches, it is reasonable to conclude that playing experience represents a viable factor in predicting the success of coaches in other sports.

Several studies appear to further support the notion that playing experience may be a factor in differentiating coaches. Trudel and Gilbert (2006) found that those who are elite sport coaches are characterized by high levels of commitment, involvement, and intensive preparation, while coaching in contexts at the national, Olympic, or professional level. Further, they identified developmental sport coaches as those who adhere to a formal and competitive structure, who engage in relatively high levels of commitment, and who coach in the context of high school varsity athletics or regional sport clubs. In comparing these two types of coaches, Trudel and Gilbert found that over 90% of elite sport coaches were competitive athletes in the sport they coached, while over 75% of developmental sport coaches were competitive athletes in the sport they coached.

While being an elite coach does not guarantee that a particular coach will be more successful at the professional level than a developmental coach at the varsity level, it is reasonable to conclude that an elite level coach has either more ambition or more career success than and developmental coach to reach the elite level. Given this assumption, Trudel and Gilbert's findings that a higher proportion of elite coaches (compared to developmental coaches) were competitive athletes in the sport they coached may suggest that a minimum level of playing

experience is needed for high-performance coaching (Mallett, 2010). Even though Schempp, McCullick, Grant, Foo, and Wieser (2010) studied professional coaches and found that professional playing experience did not lead to professional coaching success, Mallett (2010) and Jones, Armour, and Potrac (2003) argued that individuals who have a participation background in the sport they coach may contribute to their understanding of the technical, tactical, and cultural aspects of the sport. Further, Allen, Greenlees, and Jones (2011), in arguing the importance of coping strategies in athletic performance, noted that extraverted athletes reported a greater use of problem-focused coping strategies; these learned strategies and experiences may benefit any of these athletes who proceed into the coaching profession. Therefore, due to the evidence that sport participation may have a significant impact on the practice of coaches, playing experience will be used as a potential predictor for coaching success.

Sport Level

Trudel and Gilbert (2006) identified three levels of sport coaching, which are recreational sport coaching, developmental sport coaching, and elite sport coaching. The recreational sport contexts emphasize participation over competition, as coaches at this level would be teaching young children or adults in recreational leagues or clubs. The developmental sport coach would encompass a formal competitive structure, such as a coach teaching those at the high school or regional club level. And, coaches of elite sport would be coaching athletes competing at the national or professional level, characterized by high levels of commitment, preparation, and involvement of both athletes and coaches at this level. At each of these levels, there are some demographic differences between the coaches. For example, coaches at the recreational level were typically in their mid-30s with an average of 6 years of coaching experience, as compared to coaches averaging 36 years of age and 9 years of coaching experience at the developmental

level and 40 years of age and 13 years of coaching experience at the elite level (Trudel & Gilbert, 2006). Importantly, from the previous discussion on age and years of coaching experience, recall that the literature found differences in coaching behavior, based on age and experience. Therefore, if Trudel and Gilbert's levels of sport coaching have different demographics represented at each level, then the behavior and success of coaches at these levels may vary.

Jambor and Zhang's (1997) findings support the notion that the behavior of coaches at various sport levels may significantly vary. Their study of 162 coaches at the college, high school, and junior high school levels utilized the Revised Leadership Scale for Sport to measure leadership behaviors pertaining to six categories of instruction, which included: 1. training and instruction (planning practice and evaluating performance), 2. democratic (encouraging involvement and admitting mistakes), 3. autocratic (using commands and punishment), 4. social support (helping athletes with personal problems and making sport enjoyable), 5. positive feedback (encouraging athletes and correcting behavior without blaming), and 6. situation confrontation (setting goals and differentiating instruction by skill level).

According to Jambor and Zhang (1997), coaches differed on three of the levels, noting that high school coaches exerted significantly more democratic behavior than college coaches and that junior high school coaches demonstrated less training and instruction and social support than high school and college coaches. A possible explanation for these discrepancies in coaching behavior at the different levels would be that the organizational contexts, constraints, or required behaviors, for coaches at the junior, high school, and college levels would differ, creating different leadership approaches (Chelladurai & Carron, 1979). But, more importantly, the implications of the variances in coaching behavior at each level could ultimately relate to the

success of the coach. According to Schempp and McCullick (2010), in their definitions of expert coaches, not only do successful coaches plan better and reflect more extensively (training and instruction), but they also communicate in ways that empathize with the players' understanding level and utilize strategies to make the sport relatable to the athlete (social support). If Jambor and Zhang found that coaches at certain levels were modeling behaviors that are linked to expert performance, then sport level seems to be a significant variable to analyze. Therefore, based on the notion that various sport levels represent different contexts in which coaches exhibit a diversity of behaviors, sport level should be included as a variable that could potentially predict coaching success.

Education Level

Several business studies have stressed the importance of education in predicting career success. In their analysis of 194 successful managers in California, Gattiker and Larwood (1989) suggested that demographic factors, such as education (often an undergraduate degree), represent a minimum requirement for many employers in hiring candidates or for upward mobility. In reviewing the literature, Tharenou (1997) found that education level (and years of work experience) was related "to managerial levels and pay" and "to the most consistent relative importance of individual, interpersonal, and organizational factors for managerial career advancement" (pp.21-22). Burke and Attridge (2011) profiled 106 business professionals who had a graduate level education and earned a minimum of $100,00 , with 60% being millionaires or multimillionaires, implicating the importance of education. And, in the study of 121 Canadian and Chinese managers, technology, operator, and other service personnel, Chen (2012) identified education as one of the most important predictors of career success, stating that employees with

more education experience gained higher salaries than those with less education. Therefore, in business, education level appeared to predict and correspond with success.

In terms of sport, education level seems to serve as a predictor for success as well. According to Schempp and McCullick (2010), "a greater diversity of coaching experiences offers even more benefits" and "different experiences represent opportunities to apply skills and knowledge in unique and untested ways" (locations 9760-9762). Educational experiences could be characterized as coaching experiences, as they constitute an important foundational learning experience for coaches to gain knowledge and experiment with skills in an academic setting. In analyzing 93 youth sport coaches in South Korea, Dae-Woo, Min-Haeng, and Young-Kum (2005) argued that a BA degree in sport, exercise, or physical education was one of the most important qualifications a coach should have because having a formal education is "necessary to study, analyse, compare and experiment with every aspect of a sport setting" (p. 20). Therefore, a college degree, in a field related to coaching, appears to embody an important coaching experience that offers a unique way for coaches to test and apply skills and knowledge.

Other studies noted the importance of education in successful coaching. In Schempp et al.'s (1999) study of expert 11 LPGA instructors, 8 of them had at least a bachelor's degree and 1 of them possessed a master's degree. Trudel and Gilbert (2006) recognized that "typically 100% of elite development coaches in the United States have a college degree" (p. 524). Thus, clearly, coaches who are considered expert or elite often seem to have a college degree or higher. Further, dos Santos, Mesquita, dos Santos Graca and Rosado (2010) claimed that coaches' characteristics, such as degrees in higher education, influenced their perceptions about the value of sport-specific knowledge, with more educated coaches ascribing more importance to sport-specific knowledge than less educated coaches. It is important for coaches to recognize the value

of sport-specific knowledge, or content knowledge, as content knowledge is an aspect that differentiates experts from novices (Schempp & McCullick, 2010). And, Zakrajsek et al. (2011) stated that coaches with graduate degrees were more open to sport psychology consultation than less educated coaches. Being more open to sport psychology consultation is important because this type of consultation fosters the development of effective coach-athlete relationships needed for success.

Higher education, in the form of coach education, has been found to benefit the personal and professional development of coaches. Malete and Feltz (2000) discussed the importance of coach education, stating that their sample of Michigan coaches who went through a coach education program had higher perceived efficacy levels compared to the control group. Coaches with higher efficacy levels were generally better with technique and strategy, likely generating more success. Erikson, Bruner, MacDonald, and Côté (2008) concluded that coach education was an important learning experience, especially for coaches planning to stay at the current level or pursue coaching at a higher level. And, some of the critical aspects of the coach education learning experience could include coaches being educated on how to prevent injuries (Brooks & Kemp, 2008; Carter & Muller, 2008; Hendricks & Lambert, 2010), how to communicate and teach effectively (Jin, 2010; Sand, Fasting, Chroni, & Knorre, 2011; Schempp & McCullick, 2010), and how to cope with stress (Nicolas, Gaudreau, & Franche, 2011; Olusoga, Butt, Maynard, & Hays, 2010). Learning these aspects of coaching would be important because an injured athlete, a discouraged player, or overly stressed coach could embody the presence of factors which decrease the probability of success. But, more importantly, a degree in higher education should open a coach's mind, allowing him to apply his diverse knowledge in a variety of ways. Collins, Barber, Moore, and Laws (2011) highlighted this notion, mentioning that

coach education allows pre-service coaches to challenge their beliefs and find mechanisms for implementation. Therefore, education level will be used as a predictor for success in coaching, as the literature seems to indicate that more educated coaches have a greater chance to succeed.

Gender

Cassidy et al. (2009) noted that "traditionally, in most Western countries, masculinity has been principally associated with the notions of independence, decisiveness, aggression, toughness, strength, and power," while "femininity has been characterized by qualities such as fragility, sensitivity, and dependency on men" (p. 99). These cultural differences in the perception of gender, as pointed out by Cassidy et al., likely influence the behaviors and personalities of males and females. Numerous studies have examined gender and found significant differences in the behaviors of males and females across various situations and cultures. Maccoby, Jacklin, Laws, Vernon, and Johnson (1974) conducted one of the first major reviews of research (30 studies) on gender differences in cognition, temperament, and social behavior, concluding that men and women differed in several areas of personality (as cited inP. Costa, Jr., et al., 2001). Feingold's (1994) meta-analysis of personality justified Maccoby and Jacklin's findings in addition to other literature from 1958-1992 about gender and personality and asserted that there were noteworthy sex differences in personality traits, such as trust or extraversion. More recently, in Schmitt et al.'s (2008) study of 17,637 people from 55 nations, the researchers found personality trait differences concerning neuroticism, extraversion, agreeableness, and conscientiousness, between men and women. These differences in gender behavior may influence career success and mobility.

Job mobility and income can serve as extrinsic indicators of career success; those with higher positions and incomes are more successful than those with lower incomes (Heslin, 2005;

Judge, Klinger, & Simon, 2010). Since Lipman-Blumen (1992) mentioned that males have consistently created stereotypes for women, asserting that they are less competitive, it often results in "less competitive females" being "bypassed for promotion to senior managerial positions" (p. 201). In addition, studies have indicated that males receive higher incomes than females, even though the perceived performance differences between males and females are socially created, not biologically informed (Dingel & Sprague, 2010; Lorber, Hess, & Ferree, 1999). In their study of 6,323 males and females from the National Council of University Research Administrators (NCURA), Shambrook, Roberts, and Triscari (2011) published that males had significantly higher salaries than females. Koeske and Krowinski (2004) surveyed 359 Pennsylvania social workers and reported that male social workers, on average, made $3,665 more than female social workers. And, in athletics, Parks, Russell, Wood, Robertson, and Shewokis (1995) assessed 1,072 athletic administrators at NCAA Division 1-A institutions and discovered that males' salaries were, on average, $6,000 higher than females' salaries. Therefore, even though there is no basis to support the notion that males are superior in any way to females, they seem to be perceived as more capable, as evidenced by their higher positions and salaries.

In sport, due to the stereotypes of males and females, there appear to be internal and external boundaries for females to succeed in coaching performance as well, despite no behavioral evidence to maintain these boundaries. Li, Harrison, and Solmon (2004) argued that females' "lifetime exposure to gender stereotypes about their inferior ability in sport may have weakened their belief in the efficacy of effort to improve performance in sport" (p. 300). Chelladurai, Kug, and O'Bryant (1999), indicated that females identified with teaching, while males identified more with coaching. And, Caccese and Mayerberg (1984) found that female

coaches experienced more emotional exhaustion and less personal accomplishment than male coaches, while Marback, Short, Short, and Sullivan (2005) showed that females possessed lower motivation and game strategy efficacy than males. Each of these studies identified internal struggles females encounter in sport. But, more importantly, females may face external boundaries which appear more difficult to overcome. According to Knoppers, Meyer, Ewing, and Forrest (1989), since athletic directors are mostly male and since they hire coaches, they often "act as gatekeepers to the occupation of coaching," resulting in women being highly misrepresented in sport settings and that "salary parity is difficult to achieve" (pp. 358-359).

Although females are misrepresented and underpaid in coaching, in terms of coaching behavior, there is no evidence to suggest females could not be successful coaches. Millard (1996) noted that male coaches prioritized keeping control and providing technical instruction, but that female coaches were more likely to display general encouragement. Further, Barber (1998), in her study of 102 female and 138 male coaches found gender differences in coaching competence, as women perceived themselves to be more competent when it came to teaching sport skills. Millard and Barber's findings seem to suggest that females may engage in beneficial coaching practices as much as males, despite receiving lower incomes. Thus, even though females seem fully capable of coaching successfully, unfortunately, socially deep-rooted stereotypes still exist and create barriers, which may hinder the success of female coaches, making gender a possible explanatory variable in the prediction of coaching success.

Summary

This chapter reviewed the literature pertaining to the purpose of the current study, which was to assess the power of personality in predicting a coach's success. The literature review specifically highlighted several areas of research: a) research on personality findings and the

workplace, b) personality theories and assessments, and c) factors differentiating successful coaching. The literature justified the notion that personality can play a role in predicting the success of leaders in business, education, and the military. While personality's predictive power has been minimally studied in coaching, several studies from the review warrant the need to further analyze personality's place predicting coaching success. However, several other factors, including age, coaching experience, playing experience, sport level, education level, and gender were found to impact coaching success as well. Therefore, from the literature review, the current study has a substantial argument for assessing the predictive power of personality in coaching in conjunction with other potential explanatory variables, which seem to influence successful coaching.

CHAPTER 3

METHODS AND PROCEDURES

The purpose of this study was to assess the power of personality in predicting a coach's success. In addition to exploring the theoretical development and current models of personality, chapter two identified six other explanatory variables, the coaching differentiation variables of age, coaching experience, playing experience, sport level, education level, and gender, that could influence coaching success. Coaching success is commonly determined by winning percentage; coaches with higher winning percentages are deemed more successful than coaches with lower winning percentages (Gorney & Ness, 2000; Massengale, 1974). The purpose of this chapter was to describe the methods and procedures utilized to analyze the relationship between the explanatory variables and coaching success. The methods and procedures were organized in the following manner: (a) study design, (b) participant selection, (c) data collection, and (d) data analysis.

Study Design

Specifically, the primary purpose of this study was to assess personality in sport to generate a broader picture and better explain successful coaching, as defined by winning percentage. However, according to Pedhazur (1997), "to study a construct or a variable scientifically, we must be able to identify the sources of its variation" (p. 2). Therefore, as Pedhazur noted, to more thoroughly examine coaching success, variables, in addition to personality, were identified to better illustrate potential variations in coaching success. Research has identified age, coaching experience, playing experience, sport level, education level, gender,

and personality as all potential explanatory variables of coaching success (Dimec & Kajtna, 2009; Ericsson & Charness, 1999; Jambor & Zhang, 1997; Schempp, et al., 1999). Thus, the intention of this study was to identify consistent personality traits among coaches that are correlated with and will potentially predict success in coaching.

The data collection techniques used for assessing the relationship between the explanatory variables and coaching success included a background questionnaire and personality assessment instrument. The background questionnaire and personality instrument asked the participants to provide numerical data, such as years of coaching experience, years of playing experience, or a personality score, to be analyzed statistically. Therefore, since this research study involved prediction and "the collection of numerical data in order to investigate relationships between variables," a quantitative research design was employed (Baumgartner & Hensley, 2006, p. 17).

Participant Selection and Recruitment

The sample for this study was approximately 200 head high school or college coaches in the United States with either college or graduate degrees. Baseball, basketball, football, softball, track, volleyball, and wrestling coaches were included to represent multiple sports. Female and male head coaches were both included because previous research reveals gender to represent a variable that can differentiate performance in coaching success (Caccese & Mayerberg, 1984; Li, et al., 2004). More specifically, the inclusion criteria were that the participants must be or have been a head coach at a college or high school in the United States for at least five years. The exclusion criteria pertained to coaches who did not meet the minimum requirement of five years of head coaching experience at a high school or college in the United States. Coaches needed to be head coaches with at least five years of previous head coaching experience in the same sport;

coaches without prior experience do not have a winning percentage representative of their coaching ability. Those who were not head coaches were excluded because assistant coaches do not have winning percentages. And, both high school and college coaches were included to analyze the influence of sport level on coaching success. Therefore, purposive sampling was utilized to select "participants who possess certain characteristics or satisfy certain criteria that the researcher sets" (Baumgartner & Hensley, 2006, p. 124).

Bonett and Wright (2011) argued that "sample planning is one of the most important issues in the design of a study" (p. 822). Baumgartner and Hensley (2006) stated that determining the sample size is critical to allow the researcher to make inferences from the sample to the population; the sample size must be appropriate in size to be representative of the population. Pedhazur (1997) noted several factors, such as effect size, power, and number of independent variables to consider when determining the appropriate sample size. The sample size for this study was determined to be approximately 200 participants, based on Bonett and Wright's formula for approximating a sample size in multiple regression, accounting for effect size and the number of explanatory variables.

A significant amount of quantitative research has recruited participants and collected data using internet and mail-in surveys (Barber, 1998; Baumgartner & Hensley, 2006; Favor, 2011; Frederick & Morrison, 1999; Gigliotti, 2011; Lee, Koenigsberg, Davidson, & Beto, 2010; Marback, et al., 2005). According to Costa and McCrae (2010), the personality instrument used in this study does not have to be administered in person. So, the mail-in method could have been appropriate for this study. However, while these represent prominent forms of recruiting participants and collecting data, often, the response rate seems to be less than 50% for both internet and mail-in surveys (Frederick & Morrison, 1999; Gigliotti, 2011; Marback, et al.,

2005). In considering the response rate and cost of postage, a different method of data collection was chosen.

The background and personality data on head high school and college coaches were collected over a 6-month period at public facilities, such as high school gymnasium, offices, hotels, or convention centers, and occasionally at the workplace of the participant. Participants were initially contacted in groups, based on their high school or college of affiliation, via electronic communication (e-mail) sent to the participants' official school e-mail address (see Appendix B). These participants were sought due to the convenience and proximity of their school location. Upon the participants' response and consent, for efficiency, the researcher often administered the personality test to groups in environments that "were comfortable, free of distractions, and had adequate lighting" (Costa & R. McCrae, 2010, p. 7). If coaches could not meet at a coordinated time, the researcher met individually with the participants to collect data. However, due to the cumbersome nature of individually trying to contact coaches at nearby schools, the researcher also recruited participants at tournaments, conventions, or coaching clinics (Vargas-Tonsing, 2007; Zakrajsek, et al., 2011). The researcher sought permission from school counties/districts, coaching clinics, and tournaments prior to contact with the coaches. Several of these clinics were attended and are outlined in the following paragraphs.

The American Volleyball Coaches Association (AVCA) held their annual meeting at the Final Four in Louisville, KY, from December 16 – December 20, 2012. This convention was comprised of roughly 6,000 high school and college volleyball coaches. The director gave the investigator permission to solicit coaches at the convention for participation in the study. In addition to giving the investigator permission to set up an exhibit at the meeting, the director of

the AVCA generated alerts on the mobile application for the convention, urging coaches to participate in the study.

In January of 2013, the investigator was given permission to attend a softball clinic, which attracts speakers and coaches from a diversity of levels and areas. The National Sports Clinic held their annual clinic for advanced softball coaches in Charlotte, NC, from January 25-26, 2013. In addition to permitting the investigator to attend the clinic, a clinic director provided exhibit space to maximize the potential of gaining participants. Further, the onsite clinic director made an announcement about the study at the beginning of the softball clinic to encourage coaches' participation. Fellow exhibitors with coaching experience were also sought for participation in the study.

Data were collected at several football clinics as well in early 2013. The Nike Coach of the Year Football Clinic was held in Atlanta, GA, from January 25-27, 2013. The Nike Coach of the Year clinics feature college football coaches speaking to over 13,000 high school coaches across the county. At the Nike Coach of the Year Football Clinic, an investigator explained the purpose of the study to the director, and the director networked with coaches at the clinic to help the investigator find participants. Two separate Glazier football clinics were held in Atlanta, GA, on February 8-10, 2013, and March 8-10, 2013. The investigator contacted the Glazier corporate office and was given season passes and permission to solicit coaches at any clinic. At these clinics, the investigator recruited participants from lobbies or other congregated meeting areas, where coaches rested in between clinics.

And, finally, the investigator gained permission from the director of the National Association of Basketball Coaches (NABC) to collect data from college basketball coaches at their annual convention at the NCAA Final Four in Atlanta, GA, from April 4-8, 2013.

Thousands of high school and college coaches from around the country attend the convention. The investigator was provided a table in a main gathering area of the exhibit floor, adjacent to basketball court setup for coaching sessions on various basketball strategies or skills. Note that all participants willing to participate read and signed an IRB approved informed consent (see Appendix A) prior to completing the background questionnaire and personality test.

Data Collection

Instruments

Two instruments were used for data collection, a background questionnaire and a personality instrument/psychometric instrument. The background questionnaire (see Appendix C) asked the coaches to list their years of coaching experience, years of playing experience, education level, sport level, and winning percentage. Gender and age were included on the personality instrument. This background information was generated for the analysis of the explanatory variables.

There are several psychometric instruments based on different theories of personality currently being utilized in studies to measure personality, with the most notable ones grounding their prompts on the Myers-Briggs Type Indicator (MBTI) or the Five-Factor Model of Personality (FFM) (Furnham, et al., 2007). The MBTI assessments are personality tests based on Jungian theory, and are some of the world's most widely used assessments in the consultancy and training professions (Furnham, 1996). There are four different personality dimensions which the MBTI tests: extraversion/introversion, sensing/intuition, thinking/feeling, and judgment/perception (Gardner & Martinko, 1996). One of the common criticisms of the MBTI is that it does not contain a measure for neuroticism or pathology, which means that sane, or normal, people could have the same personality profile as a schizophrenic (Coe, 1992).

Since the 1980s, Five Factor Model (FFM), which tests neuroticism, has been one of the most heavily used measures in the academic profession for research on the systematic and comprehensive description of normal personality (Furnham, 1996; Langer, 2011). The FFM suggests that the basic structure of someone's personality can be defined by the five traits of the acronym OCEAN, which stands for openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism (Caswell, et al., 2010). According to Balijepally et al. (2006), "research literature in personality psychology and group behavior suggests that the FFM not only provides better measures for all factors that are measured by MBTI, but it also allows us to assess Neuroticism, an important personality trait that is of interest to researcher studying work groups, such as the agile development team" (p. 2). Therefore, since the FFM seems better suited for academic research and measures neuroticism, an instrument based on the FFM appeared best suited to address the purposes of this study.

Judge and Bono (2002) determined that instruments, based on the FFM, were valid and reliable measures of personality, as they reported the following reliability averages of all of the FFM instruments: openness to experience (.81), conscientiousness (.84), extraversion (.85), agreeableness (.78), and neuroticism (.88). Table 3.1 (see Appendix E) provides a more in-depth description of each factor, as defined by Costa and McCrae (2010). However, while instruments based on the FFM represent valid and reliable measures of personality, the investigator had to decide which FFM instrument would be the most appropriate to employ.

Since the early 1990s, Costa and McCrae have developed many psychometric instruments based on the FFM, including the NEO-FFI, NEO-FFI-R, NEO-FFI-3, NEO-PI, NEO-PI-R, and NEO-PI-3 (as cited inEdmundson, Lynam, Miller, Gore, & Widiger, 2011). Most of these instruments provide short statements, prompts, or items, such as "I am not a

worrier" or "I have a lot of intellectual curiosity" and then ask the participant to indicate the degree in which s/he agrees with the prompt, based on a likert scale that ranges from *strongly agree* to *strongly disagree* (Bowler, Bowler, & Phillips, 2009). And, depending on which version of the NEO instrument is employed, an equal number of prompts profile a participant on each factor of the FFM. For example, if the NEO-FFI-3 (a 60 item test) is used, 12 questions would test a person's openness to experience, 12 questions would test conscientiousness, 12 would test extraversion, and so forth.

It seems that the most widely used versions today are the full, 240 item version, called the NEO-PI-3, and the condensed, 60 item version, the NEO-FFI-3. Costa and McCrae (2011) suggest that participants need 35-40 minutes to complete the NEO-PI-3, and 15-20 min to complete the NEO-FFI-3. Even though the NEO-PI-3 would likely provide a more comprehensive portrayal of a participant's personality than the NEO-FFI-3, the researcher felt that the NEO-PI-3's 240 items and time commitment of 35-40 minutes could be inconvenient to administer to coaches, especially for those coaches whose sport is "in season." When examining the NEO-FFI-3 more thoroughly, even though the NEO-FFI-3 scales have slightly lower validity than the NEO-PI-3 due to their reduction in items, "the NEO-FFI-3 scales are good approximations of the full domain scales" (Costa & R. McCrae, 2010, p. 83). Further, Robins, Fraley, Roberts, and Trzesniewski (2001) proved that the condensed NEO-FFI is reliable, reporting the following reliability correlations: openness to experience (.88), conscientiousness (.90), extraversion (.86), agreeableness (.86), and neuroticism (.89). Therefore, due to the convenience and acceptable reliability and validity levels, the NEO-FFI-3 (see Appendix D) was chosen as the appropriate FFM instrument to analyze potential differences between the personalities of male and female head coaches.

Procedures

After signing informed consent and completing the background questionnaire, the participants answered the 60-item personality instrument (NEO-FFI-3), which usually took less than 15 minutes. Total time for data collection averaged 15-30 minutes, which included reviewing and signing informed consent, completing the background questionnaire, and taking the personality instrument. The researcher ensured that the participants had sharpened pencils and flat surfaces to answer the hand-scorable personality instrument (Costa & R. McCrae, 2010). The personality instrument requires the participants to provide demographic information prior to responding to the items comprising the instrument. In addition, the researcher asked the participants to identify the sport they coached. Each participant was given a unique identifier to maintain anonymity during data analysis. Males were given numbered identifiers (1, 2, 3, etc.), and females were given letter identifiers (A, B, C, etc.) in order for the researcher to distinguish the participants. Before answering the prompts on the instrument, the researcher asked the participants if they had any questions and allowed them to proceed if they did not need clarification. After the participants completed the personality instrument, they were asked three questions at the end of the instrument: (a) have you responded to all of the statements? (b) have you entered your responses across the rows? (c) have you responded accurately and honestly? The purpose of these three questions was to check for validity. If the participant responded "no" to questions (b) or (c), the investigator was instructed, on the inside of the instrument, not to score and analyze the participants' results (Costa & R. McCrae, 2010).

After all data were collected, the researcher corresponded each of the participants' item (prompt) responses to a score, and then analyzed their scores in relation to the five factors of personality (OCEAN). The hand-scorable answer sheet of the NEO-FFI-3 has a perforated stub

at the top of the answer sheet that is torn off. After tearing off the top layer of the answer sheet, the researcher noted scores that corresponded to each item and factor of personality. As an example, suppose participant X marked *strongly agree* to item #2 pertaining to extraversion. Depending on the pre-determined values (set by Costa and McCrae) for each response, male participant X may receive a "3" for that item. If the same participant marked *agree* to another extraversion item, #9, they may receive a "5." If items #2 and #9 were the only two questions in the series of extraversion items, then participant x would have an extraversion total of "8." The NEO-FFI-3 personality test balances the scores for each factor's prompt to control for the effects of acquiescence, or situations in which participants, who "endorse an excessive number of *agree* or *strongly agree* responses, tend to receive average scores instead of extreme" (the same happens to control for the effects of nay-saying) (Costa & R. McCrae, 2010, p. 9).

The researcher added up the 12 scores which corresponded to the items testing extraversion to generate a composite extraversion score. The composite scores from each participant were statistically analyzed in comparison to the composite scores from other participants. Further, the composite extraversion score was compared to T scores from the general population, ranging from *very low* to *very high* based on normative samples of males and females. The researcher followed the same procedure on the other five factors of personality.

Data Analysis

Three research questions were presented in the introduction. The first question assessed whether there was a statistically significant relationship between personality and coaching success. The null hypothesis was that there is no relationship between winning percentage and any of the five factors of personality. Multiple linear regression analysis was selected as the appropriate method to fit a linear model to describe and assess the relationship between 1

response variable (winning percentage) and 2 or more explanatory variables (the five factors of personality). Pedhazur's (1997) text on multiple regression in behavioral research was consulted as the primary guide for data analysis.

The second question addressed whether there was a significant relationship between personality and the coaching differentiation variables, specifically age, coaching experience, playing experience, sport level, education level, and gender. The null hypothesis was that there are no relationships between personality and any of the other variables, which differentiate coaches. The 6 high school degrees were removed from the education level variable, since that number was not robust enough for statistical analysis. Correlation analysis was first used to examine the relationship between each variable and the five factors of personality. If a significant correlation was found between an explanatory variable and any of the five factors of personality, then simple linear regression or analysis of variance (ANOVA, if applicable) was employed to further assess the significance of the relationship. For example, to analyze the significance of the relationship between age and personality, a correlation analysis was first performed to assess age's correlation to each personality factor. If there was significant correlation between age and any of the personality factors, then simple linear regression analysis was applied to elaborate on the relationship between age and a given factor.

The third question analyzed which variables, if any, could be used in a regression formula to predict a coach's winning percentage. The inclusion of the personality as an explanatory variable depended upon the significance of the relationships found in the original multiple linear regression analysis of personality and winning percentage. Thus, the null hypothesis was that none of the personality factors or variables that differentiate coaches could reliably predict a coach's winning percentage. Several of the explanatory variables, such as age, coaching

experience, and playing experience were quantitative in nature, as they were expressed by interval or ratio terms. However, three of the explanatory variables, sport level, education level, and gender were categorical in nature, as they are expressed in nominal or ordinal terms. While multiple regression models typically deal with variables which are interval or ratio level, Pedhazur (1997) outlines methods in SPSS and other statistical software in which categorical variables can be included in regression analysis, using dummy coding and fitting an ANOVA model (for the categorical variables) using the general linear model program in SPSS. Therefore, since multiple regression deals with prediction, the full model for this research question incorporated 1 response variable (winning percentage) and up to 11 explanatory variables (five factors of personality, age, coaching experience, playing experience, sport level, education level, and gender.

Since the full model included a significant number of variables, partial and semi-partial correlation analysis was performed to obtain the partial and semi-partial correlations among variables. After conducting partial/semi-partial correlation and outlier analyses (using box plots, scatterplots, residuals, and Cook's D), stepwise selection was utilized in the multiple linear regression analysis to identify the most useful variables in the restricted model. If there was more than one significant variable present in the restricted model, then the extra sum of squares test would be applied for three reasons: (a) to check for collinearity, (b) to test the significance of one or more of the explanatory variables that differed between the full model and a restricted model, and (c) to obtain the increment of additional variance explained by those variables. The final step was to generate a regression formula that could predict a coach's winning percentage, based on the significant explanatory variables in the restricted model.

Summary

The purpose of this study was to assess the power of personality in predicting a coach's success. The NEO-FFI-3 was found to be the most reliable, valid, and convenient instrument to collect personality data from the participants. A background questionnaire was employed to obtain information on variables, which were potentially relevant to coaching success. Since there were numerous other variables, besides personality, which could differentiate coaches, correlation and multiple linear regression analyses were utilized to most appropriately analyze the data and to yield a regression formula, which could predict a coach's winning percentage.

CHAPTER 4

RESULTS

The purpose of this study was to assess the power of personality in predicting a coach's success. This chapter reports the findings in regard to each of the three research questions stated in the introduction. Specifically, this study addressed the following research questions:

1. Was there a statistically significant relationship between personality and coaching success?
2. Was there a statistically significant relationship between personality and coaching differentiation variables, specifically age, coaching experience, playing experience, sport level, education level, and gender?
3. Which of the differentiation variables, if any, could be used in a regression formula to predict a coach's winning percentage?

Findings for Research Question #1

The first research question asked if there was a statistically significant relationship between personality and coaching success. The null hypothesis was that there were no statistically significant relationships between winning percentage and any of the five factors of personality. Multiple linear regression was selected to analyze the relationship between the five explanatory variables of personality and the response variable of winning percentage. This section will provide results in the following manner: a) descriptive statistics of each variable, b) statistics from the multiple regression analysis, and c) the decision to reject or fail to reject the null hypothesis.

Table 4.1 (see Appendix E) contains descriptive statistics from the five factors of personality (explanatory variable) and winning percentage (response variable). For comparison purposes, listed in parentheses for each personality factor are the means and standard deviations from a normative, general population of participants who have taken the NEO-FFI-3. Interestingly, coaches scored higher than the general population on openness to experience, conscientiousness, and extraversion, but scored lower on agreeableness and neuroticism, indicating the sample of coaches are less agreeable (more competitive) and less anxious than those in the general population.

The findings from the multiple linear regression analysis provided no evidence to conclude that any of the explanatory variables reliably predicted the winning percentage at the $\alpha = .05$ level, $F(5,190) = .023$, $p = 1.00$. In addition, an R Square value of 0.001 demonstrated that the personality factors explained 0.1% of the variation in winning percentage, which means the predictive power of personality in determining winning percentage is close to zero. Thus, since personality had insignificant power in predicting coaching success, or winning percentage, the null hypothesis was accepted. Table 4.2 provides relevant statistics from the multiple regression model, further illustrating the relationship between each personality factor and winning percentage and indicating that personality cannot reliably predict winning percentage.

Findings for Research Question #2

The second research question asked if there was a statistically significant relationship between personality and coaching differentiation variables, specifically age, coaching experience, playing experience, sport level, education level, and gender. The null hypothesis was that there were no statistically significant relationships between personality and any of the other variables, which differentiate coaches. Correlation analysis was first used to examine the

relationship between each variable and the five factors of personality. If a significant correlation was found between an explanatory variable and any of the five factors of personality, then simple linear regression or ANOVA (if applicable) was employed to further assess the significance of the relationship. This section provides the results as follows: a) descriptive statistics of each variable, b) statistics from the correlation analysis and subsequent regression or ANOVA analyses, and c) the decision to reject or accept the null hypothesis.

Table 4.3 contains descriptive statistics from the ratio level variables (expressed in years), age, coaching experience, and playing experience, while Table 4.4 contains descriptive data from the nominal and ordinal level variables, sport level, education level (degree), and gender. Notably, most coaches were middle-aged, had a decent amount of coaching and playing experience, and held graduate degrees. Convenience and time restraints made it more challenging to seek college level coaches, but the number of college coaches seemed sufficiently representative for this study. The 6 high school degrees were removed from the education level variable, since that number was not robust enough for statistical analysis. The number of females appeared to be adequate. Female coaches were highly sought after for this study, but due to the male-dominated nature profession (Norman, 2012) and underrepresentation of females in coaching (Reade, Rodgers, & Norman, 2009), it was difficult to gain more female participants.

Table 4.5 lists the Pearson correlation coefficient for each coach differentiator and factor of personality. Several significant correlations were found. For age, there was a significant correlation with neuroticism. Coaching experience was significantly correlated to openness to experience and agreeableness. A significant correlation was found between playing experience and extraversion. Neither sport level nor education level had significant correlations with any of

the personality factors, and gender was significantly correlated with agreeableness. Further analysis proved necessary to explore and better understand these relationships.

For the ratio level coaching differentiators, separate simple linear regression analyses were performed for each coaching differentiator and personality factor, which significantly correlated. Analysis of variance (ANOVA) was executed for the nominal and ordinal level coach differentiators (gender and education level), which significantly correlated to a personality factor. Table 4.6 highlights some of the interesting findings from the regression and ANOVA analyses. More specifically, there was an inverse relationship between age and neuroticism; as coaches became older, they became less neurotic. Other significant findings concerned coaching experience and openness to experience and agreeableness; more experienced coaches were less open to new ideas and more cooperative than less experienced coaches. In terms of playing experience, the coaches who played longer were more extraverted than those who had shorter playing careers. From the ANOVA analysis of education level and conscientiousness, coaches with more advanced degrees were more coaches with less advanced degrees. Finally, female coaches were found to be more agreeable than male coaches. Thus, the null hypothesis was rejected in part, as there were significant relationships between several coaching differentiators and personality, represented by age and neuroticism, coaching experience and openness and agreeableness, playing experience and extraversion, education level and conscientiousness, and gender and agreeableness.

Findings for Research Question #3

The third research question asked which of the variables, if any, could be used in a regression formula to predict a coach's winning percentage. Since personality did not significantly correlate to or predict coaching success, personality was removed from

consideration in the model for this section. Therefore, the null hypothesis was that none of the variables, which differentiate coaches can reliably predict a coach's winning percentage. Multiple linear regression was selected to analyze the relationship between the six explanatory variables of coaching differentiation and the response variable of winning percentage. This section will provide results in the following manner: a) statistics from the multiple regression analysis, b) the decision to reject or accept the null hypothesis, and c) if applicable, predicated values from significant variables.

The results of the multiple linear regression analysis, which included the full model of explanatory variables, suggested statistically significant relationships between the six coaching differentiators and winning percentage at the $\alpha = .05$ level, $F(6,185) = 2.77$, $p = .013$. However, when further analyzing the output, coaching experience was the only explanatory variable that denoted a significant relationship with winning percentage. Table 4.7 supports this conclusion with relevant statistics from the full multiple regression model. Therefore, since coaching experience was the only variable that was significantly related to winning percentage, the stepwise method was employed in SPSS to form a restricted model, removing insignificant explanatory variables from the full model.

After the stepwise method was applied, the regression analysis displayed an even more significant relationship between coaching experience and winning percentage at the $\alpha = .05$ level, $F(1,190) = 12.50$, $p = .001$. Table 4.8 and Figure 4.1 (see Appendix F) provide more information to better describe the relationship between coaching experience and winning percentage. Importantly, Table 9 indicates that, in the restricted model, the predictive influence of coaching experience on winning percentage increases, and Figure 1 illustrates a positive (direction) relationship between coaching experience and winning percentage. This positive

relationship connotes that as coaches become more experienced, they should become more successful or the successful coaches remain in the coaching profession longer. Therefore, there is evidence to reject the null hypothesis that none of the explanatory variables can reliably predict a coach's winning percentage, as coaching experience explained 6.2% of the variation in winning percentage.

Since there was a significant relationship between coaching experience and winning percentage, demonstrating that years of coaching experience can reliably predict winning percentage to some degree, the last part of this section will present predicted values from the regression model. Table 4.9 provides predicted values for various years of coaching experience, based on the formula where $y = 0.561 + 0.004x$. Note that winning percentages range from .566 for a coach with 1 year of coaching experience to .755 for a coach with 50 years of coaching experience. As an example to interpret the confidence interval limits, it is predicted that an individual with 10 years of coaching experience would have a winning percentage of .601, and one can be 95% confident that this mean predicted value falls between .579 and .622. Therefore, from the analysis of coaching experience and winning percentage, clearly, there was a statistically significant relationship between the two variables and worth further exploration.

Summary

Three research questions were addressed in this section, as related to the purpose statement of assessing the power of personality in predicting a coach's success. No personality factors reliably predicted success for the coaches in this study. In fact, the personality factors were highly insignificant in their relationship to coaching success. Coaching experience was the only variable to reliably predict coaching success, as the more experienced coaches correlated to higher winning percentages. And, tertiary to the central thesis of this study, several of the

coaching differentiator variables were significantly related to personality factors; older coaches were less neurotic, more experienced coaches were less open and more agreeable, coaches with more playing experience were more extraverted, coaches with graduate degrees were more conscientious, and female coaches were more agreeable than males.

CHAPTER 5

DISCUSSION

The purpose of this study was to assess the power of personality in predicting a coach's success. Specifically, this study addressed the following research questions:

1. Was there a statistically significant relationship between personality and coaching success?
2. Was there a statistically significant relationship between personality and coaching differentiation variables, specifically age, coaching experience, playing experience, sport level, education level, and gender?
3. Which of the differentiation variables, if any, could be used in a regression formula to predict a coach's winning percentage?

The remainder of this chapter discusses the results drawn from the research study. The chapter consists of three major sections. Section one highlights the descriptive statistics from the study, section two discusses the findings in relation to each research question, and section three provides a summary of the study, areas for future research, and applications of the findings.

Descriptive Information

Frederick and Morrison (1999) notably identified a need to analyze coaches personality in-depth, as minimal research has focused on coaches' psychological profile. One strategy to analyzing coaches' personalities is to compare them to personalities found in the general population. In comparing the personality trait 'openness to experience,' coaches in this study were slighter more open than the generally population and scored in the *average* range of the

NEO-FFI-3 scale (the NEO-FFI-3 scales contain T scores that range from *very low* to *very high*). This difference did not seem large enough to discern why coaches were marginally more open to experience.

The coaches in this study also appeared to be significantly more conscientious than the general population, and scored in the *high* range of the NEO-FFI-3 scale on this trait. Since a sizeable proportion of the sampled coaches possessed graduate school degrees, it may be speculated that coaches were more conscientious than the general population due to a higher level of educational achievement. Research has indicated that conscientiousness is often associated with academic success and people continuing their education (Bragt, Bakx, Bergen, & Croon, 2011; Poropat, 2009). Therefore, it would make sense for educated coaches to score higher on conscientiousness than the general population.

The coaches in this study seemed to be significantly more extraverted than the general population and scored in the *high* range of the NEO-FFI-3 scale. Bono and Judge's (2004) meta-analysis of 26 studies on personality and leadership may offer insight on why coaches in the study were more extraverted. Specifically, from their meta-analysis, they found extraversion had the strongest and most consistent correlation to leadership. Thus, it would logically follow that coaches were more extraverted than the general population, as coaching represents a leadership position in athletics (Duangkrai & Yusof, 2011; Heydarinejad & Adman, 2010; Horn, Bloom, Berglund, & Packard, 2011).

The coaches were also slightly less agreeable than the general population and scored in the *average* range of the NEO-FFI-3 scale. Costa and McCrae's (2010) definition of agreeableness states that those who are less agreeable tend to be more competitive. It is conceivable to understand that coaches in this study would be slightly less agreeable than the

general population, since, ultimately, the standard of success in coaching is winning during competition. A competitive atmosphere would seem to warrant having coaches with more competitive, or less agreeable, personalities.

Finally, these coaches were noticeably less neurotic than the general population and scored in the *low* range of the NEO-FFI-3 scale. This finding would support Balijepally, Mahapatra, and Nerur's (2006) research which indicated personalities marked by anxiety can affect performance effectiveness in jobs that include interpersonal relations. Since coaching involves interpersonal relations between coach and athlete and since coaches in the sample had a minimum of five years of head coaching experience, it is not surprising that coaches were less neurotic than those in the general population; it seems unlikely that neurotic coaches would last more than five years as a head coach due to the interpersonal skills needed to succeed. Therefore, in reflecting upon the descriptive data from the study, the coaches in this study appeared to be notably different from the general population in conscientiousness, extraversion, and neuroticism, while differing slightly in openness and agreeableness.

Discussion of Research Questions

The first research question examined the relationship between personality and coaching success, as defined by winning percentage. There was no statistically significant relationship between personality and winning percentage, signifying that personality had no power in predicting winning percentage. These findings differ from previous studies, which used personality to stratify success or effectiveness in the workplace. Balijepally, Mahapatra, and Nerur (2006) argued that neuroticism may adversely affect performance effectiveness. Judge and Bono (2000) stated that more successful business leaders were more agreeable. Rushton, Morgan, and Richard (2007) found that quality teachers were more extraverted, and Poropat

(2009) linked conscientiousness with successful academic performance. McCormack and Mellor (2002) noted that senior military officers were more open to experience. Thus, even though neuroticism, agreeableness, extraversion, conscientiousness, and openness had some level of predicting success and distinguishing success or effectiveness in business, education, and the military, these traits did not appear to predict success in coaching.

Although the current findings differ from previous studies concerning the workplace, they provide updated evidence to support older studies on personality and coaching. McCarthy's (1973) study found no significant personality differences between highly successful, moderately successful, and unsuccessful basketball coaches. And, Markland and Martinek (1988) suggested that there are no stereotypic coaching personalities or behaviors which lead to success. Since none of the personality factors significantly correlated with success, then there do not seem to be stereotypic coaching personalities that lead to success. Therefore, from the findings of the current study, an array of personalities may be suited for successful coaching since there were no discernible traits that correlated to success. However, despite personality's short-comings in predicting success, personality's relationship to other pertinent variables may influence situational success.

The second research question assessed the relationship between personality and the coaching differentiation variables, which included age, coaching experience, playing experience, sport level, education level, and gender. Several notable findings emerged from data analysis. In analyzing age and personality, older coaches were found to be less neurotic than younger coaches. So, if older coaches are, in fact, less neurotic, then they could be beneficial in highly stressful game situations, such as implementing strategy at the end of a close game or controlling emotions after a questionable call from the referees. Some, such as Dimec and Kajtna (2009)

argued that coaching is a stressful occupation and that coaches at different life stages may respond to stress differently (Dimec & Kajtna, 2009). Thus, one possible explanation for older coaches being less neurotic is because they are at a different life stage, where stress is approached differently. However, Dimec and Kajtna (2009) also claimed that younger coaches (under 35) in their study managed their emotions better than older coaches. Since neuroticism represents the personality factor most associated with managing emotions, the current study's findings appear to deviate from the those of Dimec and Kajtna (2009). Therefore, future research may need to expand on the relationship between coaches' age and neuroticism.

Another possible reason why older coaches in the current study were less neurotic is because they increase and diversify their experiences with age. Experienced coaches have a greater and more diversified number of experiences to draw from in making quick, intuitive decisions (Schempp & McCullick, 2010). It seems plausible that increased exposure to numerous experiences would generate a greater knowledge, decreasing potential anxiety caused by indecisiveness or a lack of knowledge. Vergeer and Lyle's (2009) findings support these claims, stating that more experienced coaches place current problems in broader contexts with previously determined solutions. Further, Malhotra and Khan (1984) noted experienced coaches to be more emotionally stable. And, Starkes and Ericsson (2003) suggested that experts, or those with more experience, were better at handling affective states than novices. Therefore, perhaps, experience, not age, is the more critical predictor of anxiety in coaching.

In addition to past research that linked experience and neuroticism, this study yielded significant correlations between coaching experience and the personality factors, agreeableness and openness to experience. More experienced coaches were less open to new ideas, but more agreeable, than less experienced coaches. It seems reasonable to hypothesize that more

experienced coaches were more agreeable because, over time, they realize the value of fostering a cooperative environment to accomplish goals. This hypothesis would be consistent with Judge and Bono's (2000) views on transformational business leaders. Judge and Bono argued transformational business leaders were more agreeable and effective because they took a more developmental orientation toward their subordinates, mentored with empathy, were approachable, and served as role models. The experienced coaches may have personified these agreeable attributes more than less experienced coaches.

More experienced coaches were less open to new ideas. Experienced coaches in this study were possibly less open to new ideas because if they were successful, they would likely strongly adhere to the processes and methods, which yielded success. In contrast, Zakrajsek, Martin, and Zizzi's (2011) study of football coaches indicated that younger coaches were the least willing to be involved with sport psychology consultation or training. This finding seems to suggest that the younger participants in Zakrajsek et al.'s study were less open to new ideas. These discrepancies in findings may be attributed to potential differences in the personalities of football coaches, as compared to coaches of other sports.

In terms of playing experience, coaches with more playing experience were more extraverted than coaches with less playing experience. Costa and McCrae (2010) noted that extraverted individuals tend to be more sociable and prefer large groups and gatherings. It seems logical for coaches with more playing experience to more extraverted for a couple of reasons. They would have increased exposure to a team environment (large group), and they may possess a heightened understanding of the social aspects and culture of the sport. Jones, Armour, and Potrac (2003) argued that individuals who have a participation background in the sport they coach may contribute to their understanding of the cultural aspects of the sport. This cultural

understanding may allow coaches with playing experience to feel more comfortable and social in a team setting, as they are more immersed in the values and norms of the sport. Further, Allen, Greenlees, and Jones (2011) noted that extraverted athletes used problem-focused coping strategies and that these learned strategies and experiences could benefit athletes proceeding into the coaching profession. Thus, it is plausible to conclude that some of these extraverted athletes were attracted to the profession and remained extraverted as coaches.

Despite previous findings on sport level and personality, insignificant differences were found between the personalities of high school and college coaches in the current study. Jambor and Zhang (1997) noted that high school coaches exerted significantly more democratic behavior than college coaches. Chelladurai and Carron (1979) stated that the organizational contexts, constraints, or required behaviors at different levels would differ and require different leadership approaches. Therefore, the current study seems to imply that personality does not necessarily correlate to contrasting behaviors or leadership approaches at different sport levels. A larger and more homogenous sample of coaches at each level, including the professional level, may be necessary to explore this relationship more in-depth.

Coaches with graduate school degrees were found to be more conscientious than coaches with undergraduate degrees. These findings are not surprising, as individuals scoring in the high ranges of conscientiousness are associated with academic achievement due to their purposeful, strong-willed, and determined nature (Costa & McCrae, 2010). In fact, Poropat (2009) argued that conscientiousness has the strongest and most significant association with academic performance. And, if students are more successful in an academic setting, then it would likely encourage them to obtain higher degrees. Research supports this notion, as Bragtm, Bakx,

Bergen, and Croon (2011) found conscientiousness to be a significant predictor of people continuing their education.

Female coaches were more agreeable than male coaches in this study. Potentially, female coaches were more agreeable than male coaches due to cultural differences in the perception of gender. Males are generally raised to be competitive and aggressive, while females are generally socialized to be more cooperative and sensitive. Cassidy, Jones, and Potrac (2009) echoed these notions, stating that in traditional Western countries, males are associated with independence, aggression, and power, while females are characterized by fragility, sensitivity, and dependency on men. Lipman-Blumen (1992) mentioned that males have consistently created stereotypes for women, asserting that they are less competitive, often resulting in male hirings for senior positions. Further, due to the male-dominated nature profession (Norman, 2012) and underrepresentation of females in coaching (Reade, Rodgers, & Norman, 2009), when hired, females may feel the need to take a more cooperative stance than males. In addition, the finding that female coaches were more agreeable than male coaches expands a previous study of coaching and personality. In an exploratory study of male and female head varsity coaches, Berger, Schempp, and White (2013) found that female coaches were more extraverted and agreeable than male coaches. The current study questions the link between extraversion and gender, and it further strengthens the argument that female coaches are more agreeable than male coaches.

In summary, from analyzing the coaching differentiators and personality, age, coaching experience, playing experience, education level, and gender formed statistically significant relationships with personality. Older coaches were less neurotic than younger coaches. More experienced coaches were less open and more agreeable than less experienced coaches. Coaches

with more playing experience were more extraverted than those with less playing experience. Coaches with more education were more conscientious than less educated coaches. And, females were more agreeable than males. Sport level represented the only variable that did not correlate to a personality factor. Therefore, in contrast to the statistically insignificant relationship of personality and coaching success addressed in research question one, research question two yielded significant correlations between personality and most of the coaching differentiators. The reasons for these relationships need further exploration before definitive conclusions can be reached.

The third research question analyzed the power of the coaching differentiators in predicting coaching success. Head coaching experience represented the only differentiator that predicted winning percentage. This finding supports previous research on experience, expertise, and success. Ericsson, Krampe, and Tesch-Römer (1993) argued that experience has been shown to predict performance criteria and that a minimum number of hours and years was necessary to achieve expertise, or sustained success. Trudel and Gilbert (2006) agreed with Ericsson et al. and stated that elite developmental coaches averaged almost 13 years of experience. Therefore, the current finding that more experienced coaches had increased success further supports previous research, and continues to reinforce the value of experience.

However, experience alone did not guarantee success for the coaches in this study. The coaches who were more successful must have consistently made better decisions and reflected on their performance to a greater degree than their less experienced counterparts. Schempp and McCullick (2010) noted that deliberate, systematic, and continual change led to improvements and eventually expert performance, and that experts are better at making decisions intuitively, planning, and communicating. And, deliberate, systematic, and continual change seems to

require some level of reflection on performance. Vergeer and Lyle (2009) claimed that more experienced coaches accounted for a number of factors in making decisions, possessed more cognitive complexity, and placed problems in broader contexts with previously determined solutions. This ability for coaches to place problems in broader contexts with previously determined solutions certainly echoes the findings of Schempp and McCullick, concerning experienced coaches and intuitive decision-making. Therefore, it may be speculated that the more experienced coaches in the current study systematically enacted changes leading to success, made intuitive decisions, planned, and were more cognitively complex than the less experienced coaches. Another possible explanation for the more experienced coaches being more successful relates to job security. If coaches are more successful, then it seems logical for a coach to generate more years of coaching experiences; for, if coaches are unsuccessful, they may seek other professions.

Playing experience was found to be insignificant in predicting coaching success. This finding challenges some of the past research. Even though Schempp, McCullick, Grant, Foo, and Wieser (2010) determined that professional playing experience did not lead to professional coaching success, others, such as Mallett (2010) and Trudel and Gilbert (2006), suggested a minimum level of playing experience necessary for high-performance coaching. Since the current study included only high school and college coaches, it seems to expand upon the findings of Schempp et al., as playing experience did not necessarily lead to coaching success at the high school or college level. Thus, the results of this study raise the question, what does a minimum level of playing experience entail? That is, what level (youth, recreation, junior high school, etc.) constitutes a minimum level of playing experience? And, would recreational levels of sport participation prove insignificant in predicting successful coaching as well? These

findings should also benefit those considering hiring coaches based on playing experience, as there appears to be a sufficient amount of research refuting the notion that playing experience leads to expert coaching.

Data analysis indicated that education level and gender were not significant predictors of coaching success. Dae-Woo, Min-Haeng, and Young-Kum (2005) argued that a BA degree in sport, exercise, or physical education was one of the most important qualifications a coach. Since the current study did not ask participants the discipline of their degree, future research may need to address this issue to assess the significance of education in predicting success. Further, even though LaForge, Sullivan, and Bloom (2012) recently noted that youth sport coaches exhibited similar behaviors, regardless of coaching education/certification level, others (Brooks & Kemp, 2008; Carter & Muller, 2008; Hendricks & Lambert, 2010; Malete & Feltz, 2000) stressed the importance of coach education. Therefore, future research may need to identify whether participants had any form of coaching education and analyze education's relationship to personality and behavior.

Concerning gender, since neither male nor female coaches in this sample were more successful than the other, it continues to suggest that females' underrepresentation in coaching could be caused by gender stereotypes (Li, Harrison, & Solmon, 2004) and male "gatekeeping" (Knoppers, Meyer, Ewing, & Forrest, 1989) rather than a lack of females' success in coaching. So, even though coaching experience was the only significant variable in predicting coaching success, the findings of insignificant relationships are also important. Playing experience does not seem to correlate to coaching success, female coaches appear to be as successful as male coaches, and the type and level of coaches' education needs further exploration.

Future Research

This study contributed several findings concerning personality and coaching to the literature. The first among these were that coaches were more open, conscientious, and extraverted than the general population, while being less agreeable and neurotic. Secondly, it appears that personality possesses no power in predicting coaching success. Thirdly, several of the coach differentiation variables formed significant relationships with personality; older coaches were less neurotic, more experienced coaches were less open and more agreeable, coaches were playing experiences were more extraverted, more educated coaches were more conscientious, and females were more agreeable. Finally, coaching experience was the only variable which reliably predicted coaching success, as more experienced coaches had higher winning percentages. These findings provide several pathways for future research.

In Zakrajsek, Martin, and Zizzi's (2011) study of football coaches, younger coaches were less open to new ideas than older coaches. One of the main relationships presented in Zakrajsek et al.'s study appeared to be between personality and age, but another relationship, involving team and individual sports, may have been present. Do coaches of different sports have different personalities? Further, do coaches at different levels have different personalities? And, do coaches of team sports have different personalities than coaches of individual sports? Hendry's (1974) study seems to support this notion. Hendry found significant differences in the personality traits of coaches involved in individual sports, stating that they were more individualistic than team sports coaches. Further research may be necessary to examine these differences in personalities across sports.

An important question arose frequently from participants during the data collection portion of this study. Despite the fact that personality has been theorized to be stable across time

and situations (Piedmont, 1998), participants often asked if they should answer the NEO-FFI-3 based on their coaching personality, or their personality outside of coaching. Based on an academic definition of personality, which accounts for individual differences in behavior and alleges stability across time and situations, it should not have mattered how participants answered the NEO-FFI-3. However, the participants raise several important discussion points that should be addressed in future research. More specifically, is personality truly stable across time and situations? And, does a general personality profile account for situation specific behaviors? For example, during a game situation, would an introverted coach respond to a player's mistake the same way as an extraverted coach?

Guion and Gottier (1965) questioned the general use of personality due to potential situational differences as well. More recent research seems to suggest that personality may not be stable across time, as there are differences between younger and older adults (Sneed & Pimontel, 2012; Specht, Egloff, & Schmukle, 2011). Therefore, it may be beneficial for future research to measure the following critical aspects of personality and coaching: a) the extent to which a general personality profile matches specific behavior, b) the extent to which a self-reported personality test deviates from third party observation of behavior, c) the extent to which a coach's personality changes over time, and d) the extent to which events or education alter personality/behavior.

If future research can address whether personality matches specific behavior, Frederick and Morrison (1999) mentioned that certain personalities may be better for certain situations, stating that children's sports would benefit from a coach with high warmth and listens to ideas. If it can be proven that a coach's personality matches behavior, then hiring a coach who is highly extraverted (correlated with playing experience) and agreeable (correlated with coaching

experience and gender) may be desirable at the youth sport level. Thus, since females were shown to be more agreeable than males, then, perhaps gender and coaching effectiveness can be studied at multiple levels of sport, including youth sport, high school, college, etc.

Therefore, in terms of future research, the most pressing issue seems to revolve around personality and behavior. Assessing the extent to which personality matches behavior is critical, especially for those trying to predict outcomes or make hiring decisions. Since personality assessments represent a way to quantify peoples' personalities, they are an attractive way for administrators to distinguish potential candidates for a job. But, if it cannot be proven that general personality traits reliably predict situational behaviors, then it would seem to diminish the importance of personality assessment. Thus, future research should focus on whether a coach's general personality correlates to situation specific behaviors. Would a more conscientious personality exhibit behaviors that represent more effective planning, such as writing out goals at the beginning of a season, structuring practices, and reflecting upon performance? It would certainly be interesting to find out.

Summary

Not only did the current study expand the literature on coaching and personality, but it also challenged ideas, notably pertaining to experience and gender. No stereotypical personality was found to predict coaching success in this study. Once again, head coaching experience was identified as one of the critical predictors of success. However, this study continues to challenge the notion that a minimum level of playing experience is necessary for successful head coaching, as there did not appear to be any correlation between playing experience and coaching success. And, importantly, no differences were found between male and female coaches in terms of success, suggesting that the propensity to succeed is no different between male and female

coaches. These findings, especially concerning experience and gender, will hopefully generate further research and influence those making hiring decisions.

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APPENDIX A

HUMAN SUBJECTS

CONSENT FORM

I, _____, agree to participate in a research study titled "The Power of Personality in Predicting Coaching Success," conducted by Brian Berger from the Department of Kinesiology at the University of Georgia (542-4210) under the direction of Dr. Paul Schempp, Department of Kinesiology, University of Georgia (542-4379). I understand that my participation is voluntary. I can refuse to participate or stop taking part at anytime without giving any reason, and without penalty or loss of benefits to which I am otherwise entitled. If I decide to stop or withdraw from the study, the information/data collected from or about me up to the point of my withdrawal will be kept as part of the study and may continue to be analyzed, unless I make a written request to remove, return, or destroy the data that can be identified with me.

The purpose of this study is to assess the power of personality in predicting a coach's success. If I volunteer to take part in this study, I will be asked to do the following things:

1) Complete the NEO™-FFI-3 personality instrument and a background questionnaire, which should take, on average, 30-45 min to complete in conjunction with completing informed consent.
2) Someone from the study may call me to clarify my information

In terms of risk, participants' personality traits and winning percentage will be noted. It is not anticipated that this information, when shared with the individual, will represent a risk or cause discomfort. Investigators will discuss participating coaches' individual personality traits or winning percentage only with each individual coach. No identifying information will be released connecting participants with the data or data analysis. This information will allow participants to possess a greater awareness of the strengths and weaknesses of their personality, increasing their understanding of which traits lead to success and helping them to better set goals and assess potential limitations. Ultimately, this project will benefit society by identifying consistent personality traits among coaches that could potentially be linked with and predict success in coaching. This information should prove helpful to individuals considering a career in coaching.

The individually-identifiable data about me, or provided by me during the research will not be shared with others without my written permission unless required by law. I will be assigned an identifying number and this number will be used on all of the questionnaires I fill out. Information that can be used to link me to my data will be removed after data collection is complete. The investigator will answer any further questions about the research, now or during the course of the project.

I understand that I am agreeing by my signature on this form to take part in this research project and understand that I will receive a signed copy of this consent form for my records.

Brian Berger	_____	_____
Name of Researcher	Signature	Date

Telephone: (706) 352-9062
Email: bergerbs@uga.edu

_____	_____	_____
Name of Participant	Signature	Date

Please sign both copies, keep one and return one to the researcher.

Additional questions or problems regarding your rights as a research participant should be addressed to The Chairperson, Institutional Review Board, University of Georgia, 629 Boyd Graduate Studies Research Center, Athens, Georgia 30602; Telephone (706) 542-3199; E-Mail Address IRB@uga.edu.

APPENDIX B

RECRUITMENT E-MAIL

Greetings,

My name is Brian Berger, and I am a doctoral student in the Kinesiology program at the University of Georgia under the direction of Dr. Paul Schempp. I am currently conducting a dissertation study that is analyzing the link between personality and coaching.

More specifically, *the purpose of this study is to assess the power of personality in predicting a coach's success.* Numerous studies completed in other fields have assessed the significance of personality in leadership, teaching, or professional performance. However, little or no research has been conducted in the realm of sport to profile personalities in head coaching.

Would you be willing to participate in this study? Your participation, which includes reading and signing informed consent, completing a short background questionnaire, and taking a personality test, will take no longer than 30-45 minutes and can be completed at your convenience at your workplace. Please respond if you would be interested or willing to participate.

Thanks for your consideration,

Brian Berger

APPENDIX C

BACKGROUND QUESTIONNAIRE

Assessing the Power of Personality in Predicting Coaching Success

Background Questionnaire

1. _____ How many years have you been a head coach (of same sport, include HS or College Levels)?
2. _____ How many years did you play in the sport in which you coach?
3. _____What is your highest education level attained? (HS, some college, college, graduate school)
4. At what level do you currently coach? ____ High School ____ College
5. _____ What is your combined won-loss record as a head coach (of same sport, HS or college)?

APPENDIX D

NEO-FFI-3 (PERSONALITY INSTRUMENT)

NEO™-FFI-3

NEO Five-Factor Inventory-3

Paul T. Costa, Jr., PhD and Robert R. McCrae, PhD

Item Booklet | **Form S–Adult**

SELF-REPORT

Instructions

Write only where indicated in this Item Booklet. Carefully read all of the instructions before beginning. This questionnaire contains 60 statements. Read each statement carefully. For each statement, fill in the circle with the response that best represents your opinion. Make sure that your answer is in the correct box.

Fill in (SD) if you *strongly disagree* or the statement is definitely false.

Fill in (D) if you *disagree* or the statement is mostly false.

Fill in (N) if you are *neutral* on the statement, if you cannot decide, or if the statement is about equally true and false.

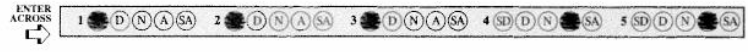
Fill in (A) if you *agree* or the statement is mostly true.

Fill in (SA) if you *strongly agree* or the statement is definitely true.

Note that the responses are numbered in ***rows***.

Example

First five responses from an individual who strongly disagrees with items 1, 2, and 3, and agrees with items 4 and 5.



Fill in only one response for each statement. Respond to all of the statements, making sure that you fill in the correct response. **DO NOT ERASE**! If you need to change an answer, make an "**X**" through the incorrect response and then fill in the correct response.

Before responding to the statements, turn to the inside of this Item Booklet and enter your name, age, sex, ID number (if any), and today's date.

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ID# _____

Name _____ Age _____ Sex _____ Today's date _____

1. I am not a worrier.
2. I like to have a lot of people around me.
3. I enjoy concentrating on a fantasy or daydream and exploring all its possibilities, letting it grow and develop.
4. I try to be courteous to everyone I meet.
5. I keep my belongings neat and clean.
6. At times I have felt bitter and resentful.
7. I laugh easily.
8. I think it's interesting to learn and develop new hobbies.
9. At times I bully or flatter people into doing what I want them to.
10. I'm pretty good about pacing myself so as to get things done on time.
11. When I'm under a great deal of stress, sometimes I feel like I'm going to pieces.
12. I prefer jobs that let me work alone without being bothered by other people.
13. I am intrigued by the patterns I find in art and nature.
14. Some people think I'm selfish and egotistical.
15. I often come into situations without being fully prepared.
16. I rarely feel lonely or blue.
17. I really enjoy talking to people.
18. I believe letting students hear controversial speakers can only confuse and mislead them.
19. If someone starts a fight, I'm ready to fight back.
20. I try to perform all the tasks assigned to me conscientiously.
21. I often feel tense and jittery.
22. I like to be where the action is.
23. Poetry has little or no effect on me.
24. I'm better than most people, and I know it.
25. I have a clear set of goals and work toward them in an orderly fashion.
26. Sometimes I feel completely worthless.
27. I shy away from crowds of people.
28. I would have difficulty just letting my mind wander without control or guidance.
29. When I've been insulted, I just try to forgive and forget.
30. I waste a lot of time before settling down to work.
31. I rarely feel fearful or anxious.
32. I often feel as if I'm bursting with energy.
33. I seldom notice the moods or feelings that different environments produce.
34. I tend to assume the best about people.
35. I work hard to accomplish my goals.
36. I often get angry at the way people treat me.
37. I am a cheerful, high-spirited person.
38. I experience a wide range of emotions or feelings.
39. Some people think of me as cold and calculating.
40. When I make a commitment, I can always be counted on to follow through.

41. Too often, when things go wrong, I get discouraged and feel like giving up.
42. I don't get much pleasure from chatting with people.
43. Sometimes when I am reading poetry or looking at a work of art, I feel a chill or wave of excitement.
44. I have no sympathy for beggars.
45. Sometimes I'm not as dependable or reliable as I should be.

46. I am seldom sad or depressed.
47. My life is fast-paced.
48. I have little interest in speculating on the nature of the universe or the human condition.
49. I generally try to be thoughtful and considerate.
50. I am a productive person who always gets the job done.

51. I often feel helpless and want someone else to solve my problems.
52. I am a very active person.
53. I have a lot of intellectual curiosity.
54. If I don't like people, I let them know it.
55. I never seem to be able to get organized.

56. At times I have been so ashamed I just wanted to hide.
57. I would rather go my own way than be a leader of others.
58. I often enjoy playing with theories or abstract ideas.
59. If necessary, I am willing to manipulate people to get what I want.
60. I strive for excellence in everything I do.

Enter your responses here—remember to enter responses *ACROSS* the rows.

SD = *Strongly Disagree*; D = *Disagree*; N = *Neutral*; A = *Agree*; SA = *Strongly Agree*

NTER ROSS ⇨

1 (SD)(D)(N)(A)(SA)	2 (SD)(D)(N)(A)(SA)	3 (SD)(D)(N)(A)(SA)	4 (SD)(D)(N)(A)(SA)	5 (SD)(D)(N)(A)(SA)
6 (SD)(D)(N)(A)(SA)	7 (SD)(D)(N)(A)(SA)	8 (SD)(D)(N)(A)(SA)	9 (SD)(D)(N)(A)(SA)	10 (SD)(D)(N)(A)(SA)
11 (SD)(D)(N)(A)(SA)	12 (SD)(D)(N)(A)(SA)	13 (SD)(D)(N)(A)(SA)	14 (SD)(D)(N)(A)(SA)	15 (SD)(D)(N)(A)(SA)
16 (SD)(D)(N)(A)(SA)	17 (SD)(D)(N)(A)(SA)	18 (SD)(D)(N)(A)(SA)	19 (SD)(D)(N)(A)(SA)	20 (SD)(D)(N)(A)(SA)
21 (SD)(D)(N)(A)(SA)	22 (SD)(D)(N)(A)(SA)	23 (SD)(D)(N)(A)(SA)	24 (SD)(D)(N)(A)(SA)	25 (SD)(D)(N)(A)(SA)
26 (SD)(D)(N)(A)(SA)	27 (SD)(D)(N)(A)(SA)	28 (SD)(D)(N)(A)(SA)	29 (SD)(D)(N)(A)(SA)	30 (SD)(D)(N)(A)(SA)
31 (SD)(D)(N)(A)(SA)	32 (SD)(D)(N)(A)(SA)	33 (SD)(D)(N)(A)(SA)	34 (SD)(D)(N)(A)(SA)	35 (SD)(D)(N)(A)(SA)
36 (SD)(D)(N)(A)(SA)	37 (SD)(D)(N)(A)(SA)	38 (SD)(D)(N)(A)(SA)	39 (SD)(D)(N)(A)(SA)	40 (SD)(D)(N)(A)(SA)
41 (SD)(D)(N)(A)(SA)	42 (SD)(D)(N)(A)(SA)	43 (SD)(D)(N)(A)(SA)	44 (SD)(D)(N)(A)(SA)	45 (SD)(D)(N)(A)(SA)
46 (SD)(D)(N)(A)(SA)	47 (SD)(D)(N)(A)(SA)	48 (SD)(D)(N)(A)(SA)	49 (SD)(D)(N)(A)(SA)	50 (SD)(D)(N)(A)(SA)
51 (SD)(D)(N)(A)(SA)	52 (SD)(D)(N)(A)(SA)	53 (SD)(D)(N)(A)(SA)	54 (SD)(D)(N)(A)(SA)	55 (SD)(D)(N)(A)(SA)
56 (SD)(D)(N)(A)(SA)	57 (SD)(D)(N)(A)(SA)	58 (SD)(D)(N)(A)(SA)	59 (SD)(D)(N)(A)(SA)	60 (SD)(D)(N)(A)(SA)

Now answer the three questions labeled A, B, and C below.

A. Have you responded to all of the statements? _____ Yes _____ No

B. Have you entered your responses across the rows? _____ Yes _____ No

C. Have you responded accurately and honestly? _____ Yes _____ No

APPENDIX E

DATA TABLES

Table 3.1

Factor Descriptions

Factors	Descriptions
Openness to Experience (O)	The open individual is curious about both inner and outer worlds, and their lives are experientially richer than those of closed individuals. They are willing to entertain novel ideas and unconventional values and they experience both positive and negative emotions more keenly than do closed individuals. Low levels of this trait are associated with conventional behavior and a conservative outlook
Conscientiousness (C)	The conscientious individual is purposeful, strong-willed, and determined, and probably few people become great musicians without a reasonably high level of this trait. High levels are associated with academic and occupational achievement, but also may lead to annoying fastidiousness, compulsive neatness, or workaholic behavior.
Extraversion (E)	The extravert individual is sociable, assertive, active, talkative, and prefer large groups and gatherings. They like excitement and stimulation and tend to be cheerful in disposition. Salespeople represent the prototypic extraverts in our culture and high levels are strongly correlated with interest in enterprising occupations.
Agreeableness (A)	The agreeable individual is fundamentally altruistic, sympathetic to others and eager to help them with the belief that others will be equally helpful in return. Low levels indicate disagreeable or antagonistic people who are egocentric, skeptical of others' intentions, and competitive rather than cooperative.

Neuroticism (N)	The neurotic individual has a tendency to experience negative effects such as fear, sadness, embarrassment, anger, guilt, and disgust. Individuals who score low are emotionally stable, usually calm, even-tempered, relaxed, and they are able to face stressful situations without becoming upset or rattled

Note. Adapted from *NEO Inventories for the NEO Five Factor Instrument-3 (NEO-FFI-3)* by Costa, P. T., & Jr, McCrae, Robert R., Copyright 2010.

Table 4.1

Descriptive Statistics among Personality Factors (N=197)

Variable	*M*	*SD*
Openness	29.31 (28.4)	6.59 (6.3)
Conscientiousness	37.61 (32.5)	6.37 (6.3)
Extraversion	34.17 (28.2)	6.15 (6.2)
Agreeableness	31.89 (32.1)	6.14 (6.0)
Neuroticism	16.54 (20.8)	6.85 (7.7)
Winning Percentage	0.617	0.145

Note. M = sample mean; *SD*= standard deviation
Means and standard deviations of general population in parentheses

Table 4.2

Multiple Linear Regression Analysis of Personality Factors and Winning Percentage (N=197)

Explanatory Variable	*Beta*	*t*	*Sig.*
Openness	-.002	-.020	.984
Conscientiousness	.008	.101	.920
Extraversion	-.024	-.304	.762
Agreeableness	.009	.126	.900
Neuroticism	.000	-.004	.997

Table 4.3

Descriptive Statistics among ratio level Coach Differentiators (N=197)

Variable	*M*	*SD*	*Range*
Age	47.87	10.61	28-75
Coaching Experience	14.08	9.23	5-50
Playing Experience	11.28	8.04	0-40

Note. M = sample mean; *SD*= standard deviation

Table 4.4

Descriptives among nominal and ordinal level Coach Differentiators

Variable	*Total*
Sport Level	197
College	52
High School	145
Education Level	197
High School	6
College	61
Graduate School	130
Gender	197
Female	51
Male	146

Table 4.5

Pearson Correlations between Coach Differentiators and Personality (N=197)

Coach Differentiator	*O*	*C*	*E*	*A*	*N*
Age	-.038	.111	.047	.114	-.169*
Coaching Experience	-.144*	.098	-.021	.184*	-.073
Playing Experience	.126	.027	.176*	.043	-.041
Sport Level	.017	-.023	.074	-.011	.054
Education Level	.071	.168*	.009	-.020	-.113
Gender	-.069	-.109	-.124	-.229*	.059

*Indicates significance at the α=.05 level;
O=Openness to Experience; C=Conscientiousness; E=Extraversion; A=Agreeableness; N=Neuroticism

Table 4.6

Regression and ANOVA Analyses of Coach Differentiators and Personality Factors (N=197)

Variables	*M*	*SD*	*F*	*Beta*	*Sig.*
Regression					
Age					
Neuroticism	16.54	6.85	5.77	-.169	.017
Coaching Experience					
Openness	29.31	6.59	4.12	-.144	.044
Agreeableness	31.88	6.14	6.82	.184	.010
Playing Experience					
Extraversion	34.17	6.15	6.27	.176	.013
ANOVA					
Education Level			5.47	.168*	.020
Conscientious (College)	36.05	5.86			
Conscientious (Grad)	38.35	6.54			
Gender			10.80	-.229*	.001
Agreeableness (F)	34.25	5.48			
Agreeableness (M)	31.05	6.15			

Note. M = sample mean; *SD*= standard deviation; *F*= F value
* From Simple Linear Regression Model with Education/Gender Dummy Coded

Table 4.7

Multiple Linear Regression Analysis of Coach Differentiators and Winning Percentage (N=191)

Explanatory Variable	*Beta*	*t*	*Sig.*
Age	-.071	-.779	.437
Coaching Experience	.276	3.03	.003
Playing Experience	.024	.318	.751
Sport Level	-.051	-.717	.474
Education Level	.096	1.342	.181
Gender	-.058	-.783	.435

Table 4.8

Linear Regression Analysis of Coaching Experience and Winning Percentage (N=191)

Explanatory Variable	R^2	*Beta*	*t*	*Sig.*
Coaching Experience	.062	.248	3.54	.001

Table 4.9

Predicted Winning Percentages by Years of Coaching Experience (95% CI)

Coaching Experience (yrs)	*Value*	*LCI*	*UCI*
1	.566	.532	.600
5	.581	.554	.609
10	.601	.579	.622
25	.659	.628	.689
50	.755	.675	.835

Note. LCI= Lower Confidence Interval Limit; *UCI*= Upper Confidence Interval Limit

APPENDIX F

DATA FIGURES

Figure 4.1

Scatterplot Assessing the Relationship of Coaching Experience and Winning Percentage