An Investigation of Personality and Satisfaction in Collegiate Swimmers

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Cora Marie Powers
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ABSTRACT

Using the Big Five Factor model of personality, this study examined personality profiles of National Collegiate Athletics Association (NCAA) Division I (DI) collegiate swimmers. Such analysis can be beneficial in assessing the relative person-environment fit for these athletes as they matriculate through their sport career. The sample included 320 current NCAA DI swimmers. First, personality profiles of swimmers who compete in various distance groups (short, middle, and long) were compared. Results indicated no significant differences between distance groups, but identified conscientiousness, openness, agreeableness, optimism, and sense of identity as personality trait strengths by magnitude. Next, an examination of swimmers' personality in relation to athletic satisfaction, achievement, and aspirations was conducted. Results indicated a significant positive relationship between the Big Five and four narrow personality traits and athletic satisfaction, as well as positive relationships between the traits of emotional stability, sense of identity, and optimism for athletic aspirations and achievement. Practical implications for these findings are discussed.

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Chapter 1

Introduction

Sport is currently the most common extracurricular activity for youth in North America, with approximately six out of ten children participating in organized athletics programs (United States Census Bureau, 2014). High school athletic participation has increased consistently for the past 28 years and swimming and diving has emerged as one of the more popular high school sports, with over 309,000 total participants in the 2016-2017 academic year (NFHS, 2017). While many of these student-athletes have aspirations of continuing their athletic careers into college, only a fraction of the high school athletes in each sport are selected to compete in NCAA sponsored programs. In the sport of swimming alone, just over 7% of high school athletes continue their career at any level of NCAA competition, with just 2.8% of men and 3.3% of women competing at the Division I (DI) level (NCAA, 2017).

Those individuals who do pursue athletic goals into college and beyond face an array of demands that set them apart from the typical non-athlete college student. For example, to be successful in a college athletic program, student-athletes must be able to adapt to the pressures of living within a highly structured and demanding athletic environment while maintaining rigorous academic standards. Sports and teams differ widely in the types of demands placed on the student-athletes. Like other collegiate athletes, swimmers face a challenging set of physical, mental, and emotional demands, including elite competition, sport related travel, early morning practices, cross training, and limited in-practice communication due to being submerged in water.

Coaches, staff, and administration are interested in athletes that perform at their highest level of personal capability when representing their school. An athlete's ability to function

optimally within the contextual demands is key to competitive advantage. To better understand the factors that best facilitate athlete success within the NCAA DI swimming context, one goal of this study was to explore collegiate swimmers' personality traits, specifically as they relate to athletic satisfaction. The importance of the interaction between individual characteristics, such as personality, abilities, and interests and environmental characteristics, such as team climate and environmental demands, in predicting satisfaction and retention has been well-documented in a number of settings, and this emphasis on fit has been studied at various level of interaction (c.f., Jansen and Kristof-Brown, 2006). As such, it is important to note that within the sport of swimming, there are often significant differences in the demands placed on an athlete depending on his or her position, role, or category within the team. Personality traits are one aspect of individual difference, which influence athletes' interactions with and perceptions about their environments. Therefore, another goal of this study is to assess the ways in which personality profiles differ within collegiate swimmers based on their race distance category: short-, middle-, or long-distance.

For this study, I examined personality traits of collegiate swimmers, specified here as members of NCAA DI swim teams. The purpose of the study was twofold: (1) determine if the personality traits of collegiate swimmers are predictive of athletic satisfaction and (2) to determine the relationship between collegiate swimmers' personality profiles with their athletic aspiration and achievement. These questions are considered using the framework of Holland's (1997) vocational theory as well as models of person-environment fit (Lewin, 1936; Parsons, 1909). The present study sought to contribute to the current knowledge base in the psychology of personality within the athletic context as well as the importance of person-environment fit for collegiate athletics.

Chapter 2

Review of Literature

Personality

Despite coaches' and administrators' drive for the competitive edge in collegiate athletics, the role of personality has, at times, been overshadowed by other aspects of athlete characteristics, such as athletic talent and physical composition (Buttons, 2010). Cervone and Pervin (2009) define personality as the "psychological qualities that contribute to an individual's enduring and distinctive patterns of feeling, thinking and behaving" (p. 8). The trait approach to the study of personality dates back to the 1930's when researchers, most notably Gordon Allport (1936), sought to unravel the complexities involved in describing human behavior by identifying differences in characteristics, or traits. Since that time, modern personality researchers have utilized factor analysis to identify key trait factors that can be used broadly to understand and describe individuals of different ages, genders, and cultures (McCrae & Costa, 1987). The consensus of these studies is that five broad factors—Agreeableness, Conscientiousness, Emotional Stability, Extraversion, and Openness— best conceptualize the broad factors of personality. These five broad factors or the "Big Five" have been included in the empirically supported Five Factor Model of Personality (Costa & McCrae, 1992; McCrae & Costa, 1987, 2003). While personality traits are considered to be relatively stable, the Big Five traits are considered dimensional rather than categorical in nature, which allows for a more comprehensive approach to the study of personality than the use of bipolar extremes. Using this model, personality profiles of individuals in various vocational and academic settings have been developed and examined to better understand the personality styles of individuals and highlight those traits that contribute to optimal functioning within specific environments. In vocational

psychology literature, conscientiousness, extraversion, and openness to experience are consistently related to positive workplace outcomes, including achievement of job-related criteria and proficiency, across a variety of work domains (Barrick & Mount, 1991; Hurtz & Donovan, 2000). Similarly, a meta-analysis of the Big Five in post-secondary academic settings highlights positive relationships between conscientiousness and openness to experience with academic success and achievement (O'Connor & Paunonen, 2007).

In addition to the Big Five, researchers have also found domain specific narrow traits, such as optimism and sense of identity, to add incremental predictive validity when examining personality-environment interactions (Paunonen & Ashton, 2001). Historically these profiles have been used in these settings for performance enhancement and employment selection, and due to performance enhancement's central role in athletics, some personality research in this context has been applied in this context. For example, among college students and competitive athletes a few narrow traits, most notable optimism, self-directed learning, and work drive have been found to explain significant variance in satisfaction with collegiate major and athletic activity (Alexander, 2010; Levy & Lounsbury, 2011; Lounsbury, Saudargas, Gibson, & Leong, 2005).

Personality in Athletics

Inclusion of personality in the study of sport and performance began in the early 20th century with Coleman Griffith's attention to habits in understanding athletic success (1926, 1930). Between the 1930's and 1960's, the study of personality theory in athletics centered on the characteristics of successful athletes (Allen, Greenlees, & Jones, 2013). These early approaches to personality research and application in athletics often sought to predict athletic performance, which yielded no clear results (Beauchamp, Maclachlan, & Lothian, 2005). Despite

the correlations between personality traits and performance in other settings researchers in athlete personality have not been able to consistently identify similar trends. The questioned practice of utilizing personality measures for athlete selection and concerns about validity contributed to decreased study and use of personality theory in athletic domains for some time (Allen, Greenless, & Jones, 2013; Jackson, Dimmock, Gucciardi, & Grove, 2011). As the Big Five trait model of personality grew in popularity in the broader psychological community, research in athletic personality theories diminished (Allen et al., 2013). More recently, however, researchers have turned their attentions to understanding the moderating effects of personality on performance, utilizing personality theory for intervention and prevention in sport (Aidman & Schofield, 2004; Vealey, 1992, 2002; Jackson et al., 2011).

In continuing movement towards making personality research more approachable and applicable to performance focused settings, Levy and Lounsbury (2011) developed contextually appropriate definitions for each of the Big Five factors as viewed in a competitive environment, such as athletics:

Agreeableness: Being participative, helpful, cooperative, inclined to interact with others harmoniously, team oriented, and amenable to instructions from others.

Conscientiousness: Being reliable, trustworthy, orderly, dependable, and rule-following.

Emotional Stability: Overall level of adjustment and emotional resilience in the face of stress and pressure (conceptualized as the inverse of Neuroticism).

Extraversion: Tendency to be sociable, outgoing, gregarious, warmhearted, expressive, and talkative.

Openness: Receptivity and openness to change, innovation, new experience, and learning.

Component attributes or ‘narrow traits’ provide incremental validity to the Big Five personality traits (Ashton, 1998; Lounsbury, Sundstrom, Loveland, & Gibson, 2003). Life satisfaction has been related to the narrow traits of optimism, tough-mindedness, and work drive in college and adult populations (Cha, 2003; Lounsbury, Gibson, & Hamrick, 2004). The inclusion of the narrow traits of optimism, self-directed learning, sense of identity, and work drive in a study of collegiate swimmers, could provide additional acuity in understanding components of athlete personality as it relates to athletic satisfaction. Definitions of these four narrow traits, as applied to the Personal Styles Inventory questionnaire, are provided below (Lounsbury & Gibson, 1998):

Optimism: having an upbeat, hopeful outlook, especially concerning plans, prospects, people, and the future, even in the face of difficulty and adversity; a tendency to minimize problems and persist in the face of setbacks.

Sense of Identity: having strong sense of one’s purpose, goals, and directions in life; having a clear sense of self.

Self-Directed Learning: taking responsibility for conducting learning activities in an autonomous, self-reliant manner without direction or guidance from teachers, parents, or others.

Work Drive: being hard-working, industrious, and inclined to put in long hours and time and effort to achieve at a high level in school and other pursuits.

Studies of athlete personality style differences for athletes have provided mixed results. Much of the research has focused on differences between various athlete populations and non-athletes, with results typically supporting the claim that athletes demonstrate greater extraversion emotional stability, and openness to experience (Egan & Stelmack, 2003; Hughes, Case,

Stuempfle, & Evans, 2003; Kajtna, Tusak, Baric, & Burnik, 2004). Research comparing athletes across sports has demonstrated more substantial differences between athletes involved in team sports and those in individual sports than between specific sports, with team-sport athletes demonstrating higher levels of extraversion and lower levels of conscientiousness (Allen, Greenless, & Jones, 2011; Nia & Besharat, 2010; Eagleton, McKelvie, & De Man, 2007).

Historically, personality research in athletics has been contentious due to concerns about its use for selection. Misuse of personality profiling holds the potential for very capable athletes to be negatively affected by discrimination in selection bias, which would ultimately be to the detriment of athletes and college teams alike. Given the legitimacy of these concerns, it is important research and applications of personality theory in athletics are appropriately utilized, as a means of developing environments in which athletes can thrive and feel most satisfied with their athletic involvement. Developing personality profiles for college athletes provides useful information in identifying key characterological features of individuals who are thriving within the current structure and demands of the collegiate athletic domain and feeling most satisfied with their current athletic experience. This information is beneficial to athletes, parents, coaches, administration, and beyond for purposes of optimizing satisfaction and athletic and academic performance. Through identification and better understanding of certain personality profiles that exist among college athletes, environments and supportive structures can be developed to optimize each athlete's experience via individual and team preventions and interventions, including changes to coach behaviors and athletic social cultures (Bowes & Jones, 2006; Conroy & Coatsworth, 2006; Laurin, 2009; Orlick & Partington, 1988). Psychological skills training, such as goal mapping, addressing negative self-talk and developing resiliency, is one empirically supported means of addressing issues of fit for athletes (Morris, 2000; Schinke, Peterson, &

Couture, 2004). Therefore, while identifying personality profiles of individuals and groups of athletes provides a great deal of useful information about individual characteristics, it is also important to examine the features and effects of the environments in which college athletes live, train, learn, and compete. A great deal of attention has been given to the importance of person-environment fit in other performance-based settings, like academia and organizations, less focus has been placed on this relationship in the world of athletics (Deci & Ryan, 2002; Sheldon & Kasser, 1995; Vallerand, 1997). In many regards, the demands and structure of elite athlete participation parallel those of a full-time career job, and as such, are fitting with the foci of P-E fit research.

Person-Environment Fit

It is commonly understood that the environments in which we live, work, and compete have effects on our psychological health and well-being (Sheldon & Kasser, 1995; Vallerand, 1997). In addition, it is apparent that individuals have unique and personal reactions and experiences with these different types of environments and that these contexts also influence our psychological well-being (Deci & Ryan, 2002). Research indicates that individual differences in internal factors among athletes, including locus of control, mindfulness, self-restraint, and self-esteem, influence the interaction between person and environment, highlighting the advantages of intentional development of such internal traits as a means of coping with the stress of collegiate athletic participation (Denny & Steiner, 2008). The study of these interactions between individual's personality traits, experiences, and values with their academic, vocational, and athletic environments has been the basis for a growing body of literature on person-environment fit (P-E fit), which has been investigated for over a century (Holland, 1997; Lewin, 1936; Parsons, 1909). With deep roots in vocational and organizational psychology, P-E fit researchers

seek to explain the relationship between the perceived "fit" of environments, including academic, vocational, and athletic settings, with individual factors of personality (Holland, 1997). The term 'fit', as described by Levy and Ruggieri (in press), represents a status of suitability, resulting from the interactions of person and environment. Assessing person-environment fit directly poses a challenge due to the complexity and variety among and within organizations. Access to the in-depth and nuanced characteristics of an organization is often difficult to obtain. According to the Theory of Work Adjustment (TWA) views the individual's evaluation of satisfaction as a manifestation of a high level of fit between the individual and environment (Dawis & Lofquist, 1984; Rounds, Dawis, & Lofquist, 1987). As Holland asserts 'people flourish in their work environment when there is a good fit between their personality type and the characteristics of the environment' while the 'lack of congruence between personality and environment leads to dissatisfaction' (1997, p. 397). Models of the interaction between the individual and environmental characteristics, such as Holland's P-E fit, provide individuals with strategies for making personalized academic or career related decisions, with the intention of increasing life satisfaction based on perceived fitness with the environment (Holland, 1997). When, on the other hand, the level of congruence between the individual and environment is less than fitting, individuals experience strain, which leads to more negative outcomes and indicators of decreased satisfaction. These negative outcomes include psychological concerns like dissatisfaction and anxiety, physiological concerns such as high blood pressure and decreased immune functioning, and behavioral concerns including smoking and absenteeism (Edwards et al., 1998). Edwards and Cooper (1990) further describe the "lack of correspondence between the person and environment" as stress due to this misfit of characteristics (p. 293).

In addition to the overarching person-environment fit and the more global indicator of life satisfaction, Levy and Ruggieri (in press) discuss five additional subdomains of person-environment interactions. According to Jansen and Kristof-Brown (2006), these subdomains are hierarchically organized in the following order: person-vocation (P-V), person-organization (P-O), person-group (P-G), person-job (P-J), and person-person (P-P). While these subdomains have been studied primarily within vocational psychology, the person-environment interactions explained by each are relevant to the athletic context. Within the context of sport, Levy and Ruggieri (in press) provide the following definitions for each subdomain:

> *Person-vocation (P-V):* Traits that differentiate athletes from non-athletes, or athletes at different level of engagement (e.g., professional, Olympic, collegiate, high school, amateur, recreational).
>
> *Person-organization (P-O):* Athletes' fit with others and processes in the organization (e.g., college or university) rather than with their role or responsibilities on the team.
>
> *Person-group (P-G):* Fit between the individual athlete and his or her team on various interpersonal factors. P-G fit can involve similarity in terms of personality, values, and goals.
>
> *Person-job (P-J):* Fit between competitors' abilities and organization's needs with recruiting and developing athletes.
>
> *Person-person (P-P):* Fit between individuals in an organization. Within sport, the relationship between athlete and coach warrants particular attention.

In order that an athlete's congruence might be considered within each of these levels of fit, it is important to not only describe personality traits but also the specific demands that are unique to each context and the ways in which satisfaction outcomes could be affected by such

variety in environments. Collegiate swimmers experience and are involved in a number of different levels of interaction where models of fit can be applied. As all of these levels affect the swimmers' perception of congruence and the related outcome of satisfaction, each much be carefully considered.

Outcomes of Person-Environment Fit

Satisfaction with life is generally considered to be a primary indicator of an individual's overall well-being and has been studied in a range of contexts including career environments and higher education institutions (Bowman & Denson, 2014; Edwards & Waters, 1982, 1983; Hoffman & Woehr, 2006; Kristof-Brown, Zimmerman, & Johnson, 2005; Oakman & Wells, 2015). Additionally, life satisfaction is directly related to retention, a desirable and important factor for business, academic institutions, and athletic teams (Bowman & Denson, 2014; Oakman &Wells, 2015). Perceived congruence between an individual and her or his academic or work environment is positively related to increased life satisfaction, including better performance outcomes, increased stability, and higher rates of retention, while incongruence between individuals' and institutions values have been shown to contribute to drop out and quitting (Hoffman & Woehr, 2006; Kristof-Brown, Zimmerman, & Johnson, 2005; Spanjol, Tam, & Tam, 2015; Tinto, 1975). In higher education environments, for example, college students who are more satisfied with life and their chosen major, indicating a good perceived fit, are less likely to withdraw from the university (Edwards & Waters, 1982, 1983; Kowalski, 1982). In particular, studies in academic contexts have demonstrated a positive relationship between the personality trait of conscientiousness and overall success (Ozer & Benet- Martinez, 2006; Poropat, 2009). Bowman and Denson's (2014) study of "student-institution" fit illustrates that better perceived fit is directly associated with college satisfaction and indirectly with intention to persist. Research in

work settings has provided support of a link between satisfaction and retention and productivity (Levy & Lounsbury, 2011). Despite vast amounts of research supporting the positive outcomes of life and vocational satisfaction and its positive indication of fit, much less attention has been given to outcomes of athletic satisfaction specifically. Based on research of more global satisfaction, crafting environments congruent with individuals' values, characteristics, and interests may be one way to increase satisfaction, thereby making it a more conducive environment for long-term engagement and productivity and decreasing the occurrence of more negative health and behavioral outcomes.

Environment

When considering the varied environments in which collegiate swimmers live, work, and compete, there are many levels of interaction that must be considered. First, the interaction between the individual's personality and the environment of the college or university serves as an overarching context for both swimmers and non-athlete college students alike. Within this context, differences in personality traits, learning style preferences, and other characteristics interact with the demands that are specific to the collegiate environment to produce levels of person-environment fitness with the college or university as a whole. Next, the interaction between the environment of college athletics and an individual swimmer's personality characteristics adds another, person-vocation layer to the perception of fit for a student-athlete. A third layer emerges in the interaction between a swimmer's personality and the values, demands, and traits of the swim team itself, highlighting the person-group fit. Finally, the specific demands of an individual swimmer's role or position with the team interacts with his or her own personality style to produce person-job fit.

The Collegiate Environment

The first level of fit to be considered is that of person-environment. At this level, both swimmers and non-athlete college students are encountering similar environmental demands placed on them by their college or university. For most students, college is an individual's first time living independently from family, usually in a dormitory or other community living facility on campus. In addition to adjusting to new living arrangements, many students undergo transitions in relationships, with a much larger pool of peers than previously experienced. Full time undergraduate students are typically enrolled in 12 to 18 hours per semester. Typically, general education requirements are fulfilled within the first two years at a four-year institution, with the final two years focusing on higher-level and major specific coursework. Undergraduate courses may be structured in a less formal manner than the high school classes students are most familiar with. Students are faced with decisions regarding majors, internships, and careers, with more autonomy in decision making. Within higher education classrooms, there can be great variability in the methods and styles utilized to promote student learning. In addition to these demands that are common to most students enrolled in a college or university, collegiate swimmers must also contend with the demands and values placed upon them as a part of the collegiate athletic environment, which, in many aspects, sets student-athletes apart from their non-athlete peers. Student athletes report that athletic demands take up an average of 34 hours per week, with another 38.5 hours devoted to academics (NCAA, 2016).

In addition to the shared characteristics among higher education institutions, acknowledgement of the vast differences between individual colleges and universities is necessary. Wide variations with regard post- secondary academic institutions' to size, diversity,

area of focus, funding source, and geographical context are important considerations in understanding the unique attributes that make up each school's specific environment.

The Collegiate Athletic Environment

The second level of congruence to be considered is person-vocation fit, which differentiates swimmers from the non-athlete college student population. The National College Athletic Association (NCAA) is the largest governing body for collegiate athletics in the United States, with more than 480,000 student athletes (NCAA, 2016). The NCAA has three competitive divisions (D I, D II, and D III) which provide varying levels of competition and scholarship opportunities. While the opportunities, support, and demands vary between divisions, the environment of college athletics, as a whole, has its own unique characteristics. Student-athletes are often recruited to universities or colleges on the basis of their athletic achievements. Once on campus, they are held to high standards for both athletic and academic performance. Student athletes typically have a wide range of commitments both inside and outside of sport. In addition to maintaining a full academic load, student-athletes must attend up to 20 hours of weekly practice, weight lifting sessions, and tape review and many student athletes participate in additional voluntary training sessions. Students athletes may also be required to attend team and coaches' meetings, participate in team activities, compliance officers, and attend regular appointments with athletic trainers, physical therapists, team physicians, nutritionists, and other sports medicine personnel (NCAA, 2016). During the competitive season, student-athletes will likely travel multiple times each month and are expected to keep up with their professors' expectations for completed all assignments, projects, and exams while on the road.

Despite the heavy demands on student athletes' resources, many student athletes thrive in the opportunities to represent their schools and compete at an elite level. A certain comradery is

often formed within athletic departments based on shared demands, interests, and experiences. Many division I and division II athletes are given full or partial athletic scholarships which provide many individuals with necessary financial means in order to attend college. Student-athletes are typically provided with a number of other non-financial resources including sport psychology and nutrition services and other medical treatments, athletic-academic counselors, as well as academic tutoring and support (NCAA, 2016). While these factors are common to nearly all college student athletes, the demands placed on swimmers may be further differentiated based on the environment that is inherent to the sport of swimming itself.

The Environment of Collegiate Swimming Programs

Person-group fit is the third level of congruence to be considered. Participation in any collegiate sport comes with its own unique set of demands, and swimming is no different in this regard. There is a great deal of competition for the opportunity to continue the sport at this elite, collegiate level. According to the most recent statistics, just over seven percent of male and female swimmers will compete in the NCAA, with only around three percent competing at the DI level (NCAA, 2017). Before being recruited for collegiate participation, around 80% of swimmers who go on to compete in college were active participants on both a high school and club team, indicating high levels of commitment. Only two percent of women and one percent of men did not participate in either high school or club swimming before joining their NCAA affiliated team (NCAA, 2017).

In addition to being a highly competitive sport, swimming has a number of characteristics that contribute to its unique environment. First, similar to track and field, swimming is an individual team sport. At the collegiate level, teams often participate in dual or tri meets, wherein individual athlete's finishing place in events earns a set number of points toward the team total.

Although there are several relay events at the collegiate level, swimmers also participate in several individual events in most competitions. During those individual events, swimmers are competing against their own teammates in addition to competitors from the other teams. Team dynamics can be deeply affected by the rivalries that emerge within the group. Secondarily, the very nature of training and competing in the water prohibit a lot of conversation, feedback, and interaction between teammates that may be more typically of other sports. Finally, the culture of elite swimming is such that there is often very little decrease in training demands during the "off-season." Throughout a calendar year, swimmers at the most competitive levels may have a total of no more than two to three weeks off of training. According to the 2015 NCAA GOAL study, a majority of student athletes report spending "as much or more time" on athletics during the offseason as during the competitive season. In collegiate swimming, championship meets are typically scheduled in February and March. While the specific types of training may vary in focus, practice is fairly consistent throughout the year. Many coaches expect their swimmers to continue training and competition throughout the summer, during which time athletes typically participate in club level USA Swimming meets.

Distance-Group Environment

The final level of congruence to be discussed for swimmers is that of person-job, which refers to the swimmer's individual role within the team. Training also differs on the basis of the swimmers' specific events. Long distance swimmers often spend much more time in the water, completing longer, steady training intervals to prepare them for competing in events from 400 up to 1,650 yards. For this reason, distance group swimmers often have less interaction with their teammates while in the water and they spend much more of their time alone with their thoughts as they trace back and forth on the black line. Often times, however, a certain comradery

develops within the long-distance group based on shared experiences with long, grueling practices. On the opposite end of the spectrum, the sprinter groups' training often incorporates a wider variety of training tools and techniques, all of which focus on the explosive abilities that are necessary for very short duration events, which include 50 and 100-yard events. Practices tend to be shorter, with more rest between intervals, and therefore more communication between teammates during practices. Sprinters are typically involved in more short duration, maximal effort training methods. Conditioning for middle-distance swimmers varies greatly throughout the season. Training for the middle-distance swimmers often includes aspects of both the long distance and sprint programs, however they do not typically participate in the most "extreme" forms of training for either the distance or sprint groups. Middle-distance swimmers typically compete in 200 to 500-yard events.

Due to these environmental, vocational, group, and job level demands, values, and characteristics, college swimmers navigate interactions in a wide variety of contexts. To be successful athletes, college swimmers must be able to adapt and thrive within these multiple environments, all of which interact with their own individual personality characteristics and personal values and preferences. As we seek to understand personality, learning style, and satisfaction differences that exist between swimmers and non-athlete college students, it is necessary to keep these various and unique levels of context in mind.

Current Study

The present study contributes to the body of literature on person-environment fit within the athletic context. Specifically, this research focuses on the personality traits of DI swimmers as related to athletic satisfaction, aspirations, and achievement. Further investigation examines differences between subsets of the DI swimming population, based on race distance.

Research Questions

Research Question 1: Are there personality difference among swimmers who participate in different distance events?

Based on the person-job level demands associated with each of the three distance group levels, the following trends are hypothesized:

H1: There are significant differences between personality profiles of swimmers in the short-, middle-, and long-distance groups. Studies have shown differences in personality traits with individual sports demonstrating lower levels of extraversion and higher levels of conscientiousness (Allen, Greenless, & Jones, 2011; Nia & Besharat, 2010; Eagleton, McKelvie & De Man, 2007). Based on the person-job level of fit and the environmental attributes of short-, mid-, and long-distance groups, it is expected that swimmers in the long-distance group will have higher magnitude scores for conscientiousness and lower levels of extraversion as compared to short- and mid-distance swimmers.

H2: Swimmers will demonstrate highest magnitude scores for three of the Big Five traits, conscientiousness, extraversion, and emotional stability (Allen, Greenless, & Jones, 2011; Egan & Stelmack, 2003; Hughes, Case, Stuempfle, & Evans, 2003; Kajtna, Tusak, Baric, & Burnik, 2004, Nia & Basharat, 2010).

Research Question 2: How well do personality traits predict athletic satisfaction of NCAA DI swimmers?

H3: The linear combination of the Big Five traits will predict a significant amount of variance in athletic satisfaction (Levy & Lounsbury, 2011; Lounsbury, Smith, et al., 2009.)

H4: The narrow traits, optimism, sense of identity, self-directed learning, and work-drive, will add a significant amount of variance explained in athletic satisfaction, above that of the Big Five traits (Lounsbury, Smith, et al., 2009; Paunonen & Ashton, 2001).

H5: Based on theories of P-E fit, it is expected that when swimmers perceive that their personality traits are a good fit with the environment, athletic satisfaction will be greater (Bowman & Denson, 2014; Hoffman & Woehr, 2006; Spanjol, Tam, & Tam, 2015). Based on the highly structured and competitive attributes of the NCAA DI swimming environment, it is hypothesized that four of the Big Five traits, agreeableness, conscientiousness, emotional stability and extraversion, and the narrow traits, optimism and sense of identity, will best predict athletic satisfaction for swimmers (Levy & Lounsbury, 2011; Lounsbury, Saudargas, Gibson, & Leong, 2005; Ozer & Benet-Martinez, 2006; Poropat, 2009).

Research Question 3: How well do personality traits predict athletic aspiration and achievement of NCAA DI swimmers?

H6: It is hypothesized that the linear combination of the Big Five traits will predict a significant amount of variance in athletic aspiration and achievement.

H7: The four narrow traits, optimism, sense of identity, self-directed learning, and work drive will add a significant amount of variance explained in athletic aspiration and achievement, above that of the Big Five traits.

H8: While prediction of performance has yielded mixed results in previous studies, it is expected that swimmers who perceive a good fit between their own personality traits and the attributes of the environment, will be more likely to aspire to and achieve higher

levels of athletic success (Levy & Ruggieri, in press). Based on the highly structured and competitive attributes of the NCAA DI swimming environment, it is hypothesized that four of the Big Five traits, agreeableness, conscientiousness, emotional stability and extraversion, and the narrow traits, optimism and sense of identity, will be significantly related to athletic aspiration and achievement for swimmers (Levy & Lounsbury, 2011).

Chapter 3

Methods

Participants

Study participants were solicited from four-year universities with NCAA Division I sponsored swimming programs. A database of email addresses was created, collected from athletic department online staff directories. All NCAA DI universities with current swimming programs were included. Recruitment emails were sent to coaches, athletic department administrators, academic counselors, athletic training staff, and sport psychologists requesting that the survey link be forwarded to current swim team members. There was no email response request and data were not collected on referral source, therefore the response rate cannot be calculated. The study was open to all current NCAA DI swimmers who were at least 18 years old. No other demographic variables limited one's eligibility to participate, including, but not limited to, sex/gender, race/ethnicity, national origin, sexual orientation, or academic class status (e.g., Freshman, Sophomore, etc.). See Appendix for complete survey.

A total of 391 student-athletes voluntarily consented to participate in the study. However, 71 of those swimmers exited the survey prior to its completion and were, therefore, excluded from the analysis. Additionally, for some measures, not all participants completed all items and were therefore excluded from analysis for those specific measures. The sample for individual measures ranges from $n = 303$ to $n = 320$. Regarding gender, 66.5% ($n = 270$) identify as female, and 22.7% ($n = 92$) as male. With regard to distance group, approximately 29% of the participants identify as sprinters ($n = 93$), 52% identify as middle distance ($n = 166$), and 19% identify as long distance ($n = 61$). The study represents a national sample, with participants from 19 NCAA conferences included. See Table 1 for frequencies of swimmers by conference.

Measures

Demographic Questions. Participants responded to a set of demographic questions to gather information about their gender, athlete status, distance group (short-, middle-, and long-distance events). Information regarding swimmers' athletic aspirations and athletic achievement were based on the following questions:

Athletic Aspiration: "Do you have aspirations of qualifying for NCAA Nationals?" "Do you have aspirations of swimming in the Olympic Games?"

Athletic Achievement: "Have you qualified for NCAA Nationals?" "Were you a place winner (1^{st} – 8^{th}) at the NCAA National Meet?" "Have you competed in a previous Olympic Games?"

Personality: Personal Style Inventory (PSI; Lounsbury & Gibson, 2008) was used to measure the Big Five personality traits and several narrow traits. Scale development, norms, reliability and validity information for the PSI is available from Lounsbury, Tatum, et al. (2003) and Lounsbury and Gibson (2008). The PSI was initially developed for use in organizational settings and has been used primarily for career development and pre-employment screening, however the inclusion of several specific narrow personality traits, including optimism, sense of identity, self-directed learning, and work drive have demonstrated incremental validity in the profiling of college student development and success.

The Personal Style Inventory is a 58-item general personality inventory. Each item utilizes a 5-step scale with bipolar verbal anchors (i.e., "I prefer lively parties where there are lots of people" to "I prefer parties with just a few friends"). Participants are asked to choose the point on the scale closest to the way they see themselves. For each scale, an average score is

obtained by calculating the mean of the scores on the individual items, so that the lowest possible score in for each is 1.0 and the highest score is 5.0.

Big Five Personality Traits: *Agreeableness* is defined as being pleasant, equable, participative, cooperative, and inclined to interact with other harmoniously (Cronbach's alpha= .74). *Conscientiousness* is defined as being reliable, trustworthy, orderly, dependable, organized, and rule-following (Cronbach's alpha= .81). *Emotional stability* is defined as the overall level of adjustment and emotional resilience in the face of stress and pressure. This is conceptualized as the inverse of neuroticism (Cronbach's alpha= .71). *Extraversion* is defined as having a tendency to be sociable, outgoing, gregarious, warmhearted, expressive, and talkative (Cronbach's alpha= .86). *Openness* is defined as receptivity to learning, new experiences, novelty, and change (Cronbach's alpha= .77).

Narrow Personality Traits: *Optimism* is defined as having an upbeat, hopeful outlook, especially concerning plans, prospects, people, and the future, even in the face of difficulty and adversity; a tendency to minimize problems and persist in the face of setbacks (Cronbach's alpha= .81 for norm group; .83 for current sample). *Sense of Identity* is defined as having strong sense of one's purpose, goals, and directions in life; having a clear sense of self (Cronbach's alpha= .85; .76 for current sample). *Self-Directed Learning* is defined as taking responsibility for conducting learning activities in an autonomous, self-reliant manner without direction or guidance from teachers, parents, or others (Cronbach's alpha= .82; .75 for current sample). *Work Drive* is defined as being hard-working, industrious, and inclined to put in long hours and time and effort to achieve at a high level in school and other pursuits (Cronbach's alpha= .85; .78 for current sample).

Athletic Satisfaction. The Athletic Satisfaction Questionnaire (ASQ; Riemer & Chelladurai, 1998) was used to measure participant's satisfaction with his/her athletic experiences. The ASQ is a multidimensional questionnaire comprised of 56 items, with 15 sub-scales related to various aspects of the athletic experience. Riemer and Chelladurai provide sufficient construct validity for the scale's use with college students, demonstrating Cronbach's alpha coefficients ranging from 0.81 to 0.96 (1998) and was .97 for the current sample. For the purposes of this study, only the 11 subscales directly related to individual and team involvement were utilized, while the four subscales related to external support factors were not included in analyses. The resulting overall athletic satisfaction score is a measure of the salient aspects of athlete satisfaction, including performance, leadership, the team, the organization, and the individual (Riemer & Chelladurai, 1998). *Individual performance* measures an individual's satisfaction with his/her own performance (e.g. "I am satisfied with the degree to which I do (did) my best for the team"). *Team performance* measures an individual's satisfaction with his/her team's level of performance (e.g. "I am satisfied with the team's win/loss record this season"). *Ability Utilization* relates to how the coach uses and/or maximizes the individual athlete's talents and/or abilities (e.g. "I am satisfied with the degree to which my abilities were used"). *Strategy* measures individual's satisfaction with the strategic and tactical decisions made by the coach (e.g. "I am satisfied with the extent to which my role matches (matched) my potential"). *Personal Treatment* is a measure of satisfaction with those coaching behaviors which directly affect the individual, yet indirectly affect team development (e.g. "I am satisfied with the fairness of the coach towards me"). *Training and Instruction* refers to satisfaction with the training and instruction provided by the coach (e.g. "I am satisfied with recognition I receive (received) from the coach during the season"). *Team Task Contribution* measures satisfaction

with those actions by which the group serves as a substitute for leadership for the athlete (e.g. "I am satisfied with the guidance I receive (received) from my teammates"). *Team Social Contribution* describes the satisfaction with how teammates contribute to the athlete as a person (e.g. "I am satisfied with my social status on the team"). *Ethics* measures satisfaction with ethical positions of teammates (e.g. "I am satisfied with my teammates' sense of fair play"). *Team Integration* refers to athlete's satisfaction with the members' contributions and coordination of their efforts towards the team's task (e.g. "I am satisfied with how the team works (worked) to be the best"). *Personal Dedication* measures athlete's satisfaction with his/her own contribution to the team (e.g. "I am satisfied with the degree to which I do (did) my best for the team").

Procedure

After obtaining approval from the author's university's Institutional Review Board, participants were invited to complete an online survey, comprised of three measures of personality and satisfaction as well as a short demographic questionnaire. The internet survey was launched using a secure distribution website, managed by the UT Office of Information Technology. Solicitations for volunteer participation were distributed using university athletic department email listings for athletic directors, academic coordinators, coaches, and staff. Universities who agreed to allow their student-athletes to participate were then asked to distribute a standard email with a description of the study and a link sent via email (see appendix).

Data were collected for approximately two months and analyzed at the conclusion of the data collection period. Study participants were made aware of the general purpose of the study and asked to provide informed consent for voluntary participation by agreeing to the terms of the IRB approved form, which was included at the beginning of the study. Participants who did not

provide consent were not permitted to continue with the online survey. Participants were made aware the survey data will remain anonymous and that participation will not in any way affect athletic eligibility. At the completion of the study, all participants were given the opportunity to enter a random raffle for one of ten $25 Amazon gift cards. Compensation for athlete research participation is compliant with NCAA restrictions under bylaw 16.11.1.6.2, Institution-Based Research Studies (NCAA, 2014). At the completion of the survey, participants who wished to enter the raffle were redirected to a separate secure online survey that stored only an email address of their choice. Upon the completion of data collection, all participant email addresses were entered into the drawing, using SPSS to generate a random number. All winners have since been contacted via email and sent their electronic Amazon gift card. Dissertation support grant funding in the amount of $350 was granted by the University of Tennessee Psychology Department for the purpose of providing this compensation.

Chapter 4

Results

Research Question 1: Are there personality difference among swimmers who participate in different distance events?

A one-way multivariate analysis of variance (MANOVA) was conducted to determine the relationship between primary participation in three swimming distance groups (short-, middle-, and long-distance) on nine personality variables (Big Five and four narrow traits). No significant differences were found among the three distance groups on the personality measures, Wilk's $\Lambda = .94$, $F(18, 618) = 1.13$, $p = .32$, $\eta^2 = .03$. Table 2 contains the means and standard deviations on the personality variables for the three groups. Analyses of variances (ANOVA) on the personality variables were conducted as a follow-up to the MANOVA. Using the Dunnett's C method (which does not assume equal variance due to size differences among the distance groups), each ANOVA was test at the .006 level. Again, no significant differences were found.

On average, the Big Five trait with the strongest magnitude was conscientiousness (M = 3.94, range 1-5) followed by openness (M = 3.8), and agreeableness (M = 3.73). Among the narrow traits, sense of identify (M = 3.99) and optimism (M = 3.97) had the strongest magnitudes. Emotional stability (M = 3.06) had the lowest magnitude of all personality variables measured. See table 2 for complete results.

Research Question 2: How well do personality traits predict athletic satisfaction of NCAA DI swimmers?

A hierarchical multiple regression was conducted to predict athletic satisfaction of collegiate swimmers. On the first step, the Big Five were entered simultaneously; followed on

the second step by the narrow traits (also entered simultaneously) to assess for incremental variance explained beyond the Big Five. The linear combination of the Big Five personality variables was significantly related to athletic satisfaction, $F(5, 297) = 17.57$, $p < .001$. The sample multiple correlation coefficient was .48, indicating approximately 23% of the variance of athletic satisfaction can be accounted for by the linear combination of the Big Five. On the second step, the linear combination of the four narrow traits was also significant $F(9, 293) = 11.94$, $p < .001$, and produced as significant variance explained over and above the Big Five alone. Thus, the sample multiple correlation rose to .52, indicated approximately 27% of the variance of athletic satisfaction can be accounted for by the Big Five plus the four narrow traits.

In Table 3 details relative strength of the individual predictors. All of the bivariate correlations between the personality variables were positive and statistically significant ($p < .05$). The partial correlations of three personality variables (emotional stability, optimism, and agreeableness) were statistically significant ($p \leq .007$). These three variables individually accounted for approximately 12% of the variance explained in athletic satisfaction. See table 3 for complete results.

Research Question 3: How well do personality traits predict athletic aspiration and achievement of NCAA DI swimmers?

Research question three was addressed in two parts. First, a second hierarchical multiple regression was conducted to predict athletic aspirations collegiate swimmers. On the first step, the Big Five were entered simultaneously; followed on the second step by the narrow traits (also entered simultaneously) to assess for incremental variance explained beyond the Big Five. The linear combination of the Big Five personality variables was not significantly related to athletic

aspiration, $F(5, 316) = 1.59$, $p = .162$. The sample multiple correlation coefficient was .12, indicating approximately 2.5% of the variance of athletic aspiration can be accounted for by the linear combination of the Big Five. On step two, the linear combination of the four narrow traits was significant $F(9, 312) = 2.32$, $p < .05$, and produced as significant variance explained beyond the Big Five alone. The sample multiple correlation rose to .25, indicating approximately 6.3% of the variance of athletic aspiration can be accounted for by the Big Five plus the four narrow traits.

In Table 4 details relative strength of the individual predictors. The bivariate correlations between the personality variables of emotional stability, sense of identity, and optimism were positive and statistically significant ($p < .05$). The partial correlation of the narrow trait of optimism was statistically significant ($p \leq .006$). See table 4 for complete results.

To predict the athletic achievement of collegiate swimmers, a third hierarchical multiple regression was conducted. On the first step, the Big Five were entered simultaneously; followed on the second step by the narrow traits (also entered simultaneously) to assess for incremental variance explained beyond the Big Five. The linear combination of the Big Five personality variables was not significantly related to athletic achievement, $F(5, 316) = 1.95$, $p = .086$. The sample multiple correlation coefficient was .17, indicating approximately 3.9% of the variance of athletic achievement can be accounted for by the linear combination of the Big Five. On step two, the linear combination of the four narrow traits was also non-significant $F(9, 312) = 0.65$, $p = .213$. The sample correlation rose to .19, indicating approximately 3.7% of the variance of athletic achievement can be accounted for by the Big Five plus the four narrow traits.

In Table 5 details relative strength of the individual predictors. The bivariate correlations between the personality variables of emotional stability and optimism were positive and statistically significant ($p < .05$). See table 5 for complete results.

Chapter 5

Discussion and Conclusions

Theories of P-E fit maintain that the individuals thrive in settings in which they perceive a good fit between their own individual characteristics and those of the environments in which they exist (Holland, 1997; Sheldon & Kasser, 1995; Vallerand, 2997). In other research domains, congruence in fit, as indicated by workplace and school satisfaction, has been related to retention, and productivity, while incongruence is associated with dissatisfaction and increased levels of psychological and physiological stress (Edwards, et al., 1998; Holland, 1997; Levy & Ruggieri, in press). Additionally, individuals are most likely to remain involved when they are more satisfied with the perceived P-E fit (Edwards & Waters, 1982, 1983; Kowalski, 1982). The nesting environments of higher education, university athletic departments, and NCAA DI swim teams place many demands on athletes including athletic performance demands (e.g., practicing up to 20 hours per week, performing in high competition settings) in addition to non-performance demands (e.g., traveling for meets, attending mandated team meetings and events). Analysis of the prominent personality profiles of NCAA DI swimmers provides insight into traits that align well for a better 'fit' within such demanding and competitive environments.

Regarding the personality profiles of the DI swimmers in this study, no significant differences in personality profiles were found between distance groups, based on findings in other performance and vocational domains. Although research in other domains supports the presence of individual personality differences and specific jobs or roles, the results of this study did not yield any significant differences based on team role (Allen, Greenless, & Jones, 2011, Nia & Besharat, 2010; Eagleton, McKelvie, & De Man, 2007). This may be due, in part, to sampling limitations. Within NCAA collegiate swimming, the competitive events span from 50

to 1,650 yards. Nearly all collegiate swimmers compete in multiple events at each meet, requiring them to train for additional races beyond their primary event. It follows, therefore that a much larger proportion of the NCAA DI swimmer population would identify as a part of the middle-distance group as compared to either of the two extremes (sprint or distance), as was demonstrated in the present study. With more comparably sized samples for each distance group, trends in personality could emerge in a more notable manner. Due to the lack of significant differences between distance groups, the personality profiles of swimmers were considered as a whole sample in further analyses.

Regarding the personality characteristics of NCAA DI swimmers, it was hypothesized that the swimmers would demonstrate relative strengths by magnitude in conscientiousness, extraversion, and emotional stability. The personality profiles of participants in this study, as an entire group, can be described as having the highest in magnitudes of conscientiousness, openness, and agreeableness, while demonstrating the least magnitude in emotional stability. Personality research in vocational and academic settings has demonstration positive relationships between these same three traits—conscientiousness, openness to experience, and agreeableness— with positive outcomes, such as proficiency, success, and achievement (Barrick & Mount, 1991; Hurtz & Donovan, 2000; O'Connor & Paunonen, 2007). This view of swimmers' personality strengths and weaknesses by magnitude, provides a better understanding of the specific personality components that contribute to person-environment fit, as indicated by satisfaction, as well as related outcomes. It is useful to consider these personality traits within the framework of P-E fit, given the specific environmental features of NCAA DI swim teams. Swimmers' conscientiousness fits well with the highly demanding nature of DI athletic programs, as well as with the general structure of the university environment. Individuals who

are more conscientious are inclined to comply with the rules and are reliable and dependable as teammates. Additionally, in juggling the multiple, and sometimes conflicting, roles of being a student athlete, individuals with higher levels of conscientiousness are likely to be more adept at keeping up with deadlines and responsibilities across domains. In a similar vein, extraversion and agreeableness each speak to the comfort and ability of the individual to interact with others, which is a key component of teams. Extraverted individuals tend to be expressive and outgoing and are likely to thrive in environments that encourage supportiveness and warmth, which are attributes of healthy team dynamics. Emotional stability, which is conceptualized as the inverse of neuroticism, is indicative of individuals' overall adjustment and emotional resilience. As with most performance-based settings, swimmers experience a range of performance outcomes. The ability to demonstrate resilience in the face of disappointment is necessary for continued improvement and ongoing success. Additionally, as with conscientiousness, emotional stability speaks to student athletes' ability to deal with the complex stresses and pressures involved with academic, athletic, social, and personal demands in healthy and productive ways.

The narrow traits provide identification of additional component attributes of the Big Five personality traits. The traits of optimism, self-directed learning, sense of identity, and work drive were included to provide further acuity in understanding swimmer personalities and were specifically selected based on their relevance to the student athlete experience. Previous research has demonstrated the importance of including such narrow traits for the prediction of satisfaction with college students (Lounsbury, Gibson, & Hamrick, 2004). Of the narrow traits, the swimmers in this study demonstrated the highest magnitude for sense of identity and optimism. As with the Big Five traits, these two narrow traits align with the particular characteristics of the collegiate athletic environment. Having a strong sense of identity is closely associated with

focusing on one's purpose, goals, and directions, all of which are important to pursuing one's own athletic and academic aspirations. Likewise, optimism relates to individuals' ability to persist through difficulty and adversity with a hopeful outlook for the future. Both sense of identity and optimism relate to an individual's ability to pursue personal and team goals, even in the face of confusion or setbacks, which is often necessary in the world of highly competitive athletics.

Personality and Athletic Satisfaction

As discussed earlier, the multi-level environmental demands placed on student athletes are often quite stressful. From a P-E fit perspective, individuals are more likely to seek out contexts in which they perceive a fit between their own personal attributes and those of the environment. When such an alignment between person and environment is present, we expect to see a positive relationship between personality traits and satisfaction, with satisfaction thereby serving as an indicator of goodness of fit (Hoffman & Woehr, 2006; Kristof-Brown, Zimmerman, & Johnson, 2005; Spanjol, Tam, & Tam, 2015). As such, swimmers whose personality profiles are congruent with aspects of the athletic environment are more likely to feel more satisfied with their athletic involvement and experience. The results of the current study support the relevance of this fit between personality traits and environmental characteristics in predicting athletic satisfaction. These results suggest that the Big Five personality traits in combination with the four narrow traits, are significantly related to athletic satisfaction and explain roughly 27% of the overall variance in athletic satisfaction. Taken as a whole, the Big Five personality traits account for approximately 23% of the overall variance in athletic satisfaction, with the narrow traits explaining an additional 4% of variance beyond the broad factors. Satisfaction has been related to a variety of desirable outcomes, including retention and

productivity, which are important to the success of a collegiate athletic program, in addition to being beneficial to the individual athlete (Levy & Lounsbury, 2011). While numerous factors play a role in athletic satisfaction, this substantial finding highlights the value of incorporating personality theory within the athletic context. With such a large portion of the variance in satisfaction accounted for by personality, continued research and application of P-E fit theories within the athletic context can provide a greater depth of understanding of the effects of perceived fit between athletes and their environments and can inform prevention and intervention strategies to better meet the needs of athletes, coaches, and administrative staff.

In considering the traits alone through partial correlations, only the broad traits of agreeableness and emotional stability, and the narrow trait of optimism were found to uniquely predict athletic satisfaction. These results align with the magnitude strengths of agreeableness and optimism identified in the first analysis which indicates that, in general, swimmers who are agreeable, optimistic, and emotionally stable are more likely to be satisfied with their athletic experiences. While the swimmers sampled did demonstrate a strength by magnitude in agreeableness and optimism, emotional stability was the lowest scoring trait by magnitude. The analysis of its predictive significance for athletic satisfaction should not be overlooked. However, as a whole, NCAA DI swimmers do not demonstrate a strength in emotional stability, which highlights a potential area for prevention strategies and interventions targeting emotional regulation and coping skills as a means of bolstering swimmers' athletic satisfaction. Swimmers who are more emotionally stable are more likely to be satisfied with their athletic experience, indicating that it is a real, functional strength for swimmers to be well adjusted and possess emotional regulation skills, as will be discussed in greater detail.

Personality and Athletic Aspirations and Achievement

For the sampled population, NCAA DI swimmers, athletic aspirations and achievement were conceptualized by aspirations to qualify for and achievement of qualification for the NCAA National swim meet, respectively. As with athletic satisfaction, when a good fit is present between the individual and the environment, we expect to see a positive relationship between personality traits and athletic aspirations. Athletic aspirations are important to ongoing motivation and purpose in athletics, and therefore it is beneficial to athletes and coaches to identify strategies of optimizing the factors that contribute to their development and maintenance. Previous studies have indicated congruence between the individual and the environment is positively related to psychological and physiological well-being, intention to persist, and productivity (Edwards et al, 1998; Levy & Lounsbury, 2011; Levy & Ruggieri, in press). The results of the current study provide some support the relevance of this fit between three specific personality traits, emotional stability, sense of identity, and optimism, and environmental characteristics in predicting athletic aspirations. Taken as whole, the Big Five traits are not predictive of athletic aspiration alone, nor does the addition of the four narrow traits account for a significant amount of variance in athletic aspirations. Individually, however, the results show that three traits, emotional stability, sense of identity, and optimism, predict swimmers' aspirations of qualifying for the NCAA National meet. Although not statistically significant, it is worth mentioning that agreeableness is also highlighted as a predictor in the analysis. Athletic aspirations are largely related to individuals' goals as well as belief in their own abilities—factors which connect to each of the related personality traits. Emotional stability, sense of identity, and optimism all contain components of future oriented thinking and the ability to persist through difficulties, which are key to pursuing one's goals. As with athletic

satisfaction, there are a number of benefits to optimizing athletic environments to create contexts that are conducive to the development and pursuit of athletic aspirations. Although not all swimmers' will have the same athletic aspirations, a sense of purpose is key to ongoing performance improvement. Strategic interventions targeting the development of athletes' emotional stability, sense of identity, and optimism could include education and implementation of goal setting and future planning, personal inventories of resources, and assessment of individual priorities, all of which share the common focus of future orientation.

Assessing performance outcome variables as related to personality traits has been historically challenging. Although the prediction of performance based on personality has yielded mixed results, it is expected that there is also a relationship between P-E fit and athletic achievement, based on the positive performance related outcomes of fit in other domains (Bowman & Denson, 2014; Edwards & Waters, 1982, 1983; Hoffman & Woehr, 2006; Oakman & Wells, 2015). As with previous studies within the athletic context, the present data yielded few significant results. Similar to athletic aspirations, the Big Five and four narrow traits taken as a whole were not significantly related to athletic achievement as measured by qualification for the NCAA National meet. In considering the variables alone, the individual personality traits of emotional stability and optimism were each statistically significant in their relationships to athletic achievement in this context. It should be noted that the results of the analysis of athletic achievement are substantially affected by a range restriction due to the limited number of participants who report having qualified for NCAA nationals. Additionally, future research with broader measures of athletic performance (e.g., PR change during the season, coach evaluations, etc.) could provide more significant results in relation to personality profiles.

Although the study did not yield substantial support for personality as a predictor of athletic aspirations or achievement, the emergence of themes between the three analyses is key. In considering the analyses for athletic satisfaction, aspiration, and achievement, it is notable that the same personality traits surface as the strongest predictors in each—agreeableness, emotional stability, and optimism. Swimmers who possess strengths in these specific personality traits are more likely to be satisfied with their athletic experience, to have aspirations of qualifying for the NCAA National meet, and to have qualified for the NCAA National meet. Given the highly competitive nature of NCAA DI athletics, athlete satisfaction, aspirations, and achievement and important factors to be considered by athletes, coaches, and administrative staff. Attending to the factors that indicate good P-E fit for athletes is key to positive outcomes for swimmers and athletic programs alike. In the following section, the practical relevance of these findings will be discussed in further detail.

Practical Implications

The importance of research in personality within the context of athletics is grounded in is potential for useful application. In the big business of collegiate athletics, improvements athletes' satisfaction, aspirations for future performances, and athletic achievements are desirable outcomes for individual athletes, teams, coaches, and athletic staff. There are a variety of ways in which the results of the present study can be utilized for practical application in the support of student-athletes, as well as the facilitation of student-athlete and team success. Early use of personality profiling in athletics for prediction of performance led to unclear and inconsistent results (Beauchamp, Maclachlan, & Lothian, 2005). Concerns about the potential for selection-bias based on personality limited the research and utilization personality measures in athletic recruitment for some time, however more recently, appropriate usage of personality profiles in

the selection process has gained support (Levy & Ruggieri, in press). Each year, there are thousands of talented high school swimmers interested in continuing their athletic career at the collegiate level. In the context of recruitment, rather than being used to disqualify certain individuals on the basis of selection bias, personality testing can be integrated into the recruitment process to help coaches and staff in the process of determining fit between swimmer personalities and the characteristics of their particular university, athletic department, and team. Utilizing more formal measure of personality assessment can provide athletes, coaches, and administrators a more objective view of an individual personal characteristics. In turn, early prevention and intervention strategies can be implemented at various levels to optimize the goodness of fit between athletes and their environments. For instance, a student athlete with low conscientiousness might be set up with early interventions to develop organization and time management skills. Another, less extraverted athlete could be paired with an upperclassmen mentor to encourage interactions and bonding with teammates early in their collegiate career. In addition to providing prevention and early intervention opportunities, personality testing can also be used as a tool for developing preventative interventions to optimize opportunities for individual swimmer's success within a given environment.

While NCAA DI universities, athletic departments, and swim teams share a number of environmental characteristics, it is important to keep in mind the differences that may exist from program to program. For instance, even within the NCAA DI level, swim teams range in size, level of competition, and gender, and each team exists within the nesting environments of the specific athletic department and academic institution. In order to create facilitative environments for athlete success, it is first important that administrators, coaches, and athletic staff know the characteristics of their own environments well. Climate assessments and 360 evaluations could

provide useful data in understanding the specific attributes of a team from a variety of important stakeholder perspectives. A needs assessment could be utilized to uncover areas in which swimmers sense a lack of congruence with their own personal attributes. Within these contexts steps can be taken to create spaces that align with the personality traits of most collegiate swimmers to maintain experiences of P-E fit. For instance, if within a particular team, extraverted and agreeable athletes identify the need for improved team dynamics, team building activities, workshops, or retreats could be implemented. It is also important, however, to be mindful of the individual differences that exist within this population. Although swimmers across the three distance groups demonstrated almost identical personality profiles, athletes will vary in their personal characteristics as well as the expression of these traits. Although the swimmers sampled tend to show the highest magnitude in conscientiousness, openness, and agreeableness, not all swimmers will fit this profile. At times, it may be necessary to develop intervention strategies to address the needs of specific athletes, such as encouraging an introverted swimmer to engage in necessary self-care and alone time while still engaging in team activities.

In order to create an environment in which swimmers can thrive, coaches and athletic staff can utilize a number of tools to intervene in the case of a potential P-E misfit. For instance, the present study highlights agreeableness, emotional stability, and optimism as important factors in athletic satisfaction, aspirations, and achievement. A swimmer is identified as low in agreeableness and optimism could be encouraged to take part in a mental skills training program, that emphasizes the importance of positive self-talk, goal setting, and supportive team interactions (Morris, 2000; Orlick & Partington, 1988). The goal of these interventions is not to

attempt to change the swimmer's personality but instead to create an environmental space for improving the P-E fit.

Likewise, such interventions could take place on a larger level, as with a team. A key finding in the present study is the identification of emotional stability as a significant factor for athletic satisfaction, aspirations, and achievement. However, of the swimmers sampled, it was the lowest scoring trait by magnitude, indicating that NCAA DI swimmers as a whole may lack the emotional regulation and coping skills that could contribute to greater athletic satisfaction, higher aspirations, and better performance if bolstered. This difference highlights the potential for P-E misfit for swimmers and points to the benefits of developing interventions to increase swimmers' adjustment, emotional resiliency, and coping strategies. Based on this incongruence and the importance of emotional stability and optimism in satisfaction, aspirations, and achievement, many swimmers would likely benefit from intervention such as Seligman's (1991) "learned optimism", which holds that control is learned over time, and that optimism, like other types of control, can be acquired through intentional thought and habit forming. Application of learned optimism has been shown to contribute to productivity in business settings (Schulman, 1999). To address this specific need, Schinke, Peterson, and Couture (2004) developed a protocol for the development of resilience within the elite athlete population. Similarly, interventions specifically intended to address issues of P-E fit with regard to the traits of openness and agreeableness could be interwoven in to teambuilding activities, which can result in changes to athletic cultures. Coaching behaviors, too, can be closely examined in terms of P-E fit and adapted to create an environment that will optimize each athlete's satisfaction, goals, and performance (Bowes & Jones, 2006; Conroy & Coatsworth, 2006; Laurin, 2009). Both athletes and coaches could benefit from individual and group work with a psychologist or Certified

Mental Performance Consultant as a resource for development of these mental skills and healthy team dynamics.

Directions for Future Research

There are a number of areas for future research that could clarify and expand upon the results of the current study as well as the study of P-E fit within the athletic domain. Specifically, development and assessment of specific interventions for best practice with certain populations (i.e. by team, individual, etc.). Future research on personality as a predictor of performance outcomes in swimming could also attempt to acquire performance data from other outcomes, including coaches' evaluations, personal best times, and personal perceptions of mastery. In addition, future research could extend beyond the NCAA DI swimming population to address aspects of P-E fit within other NCAA divisions or in additional sports. Sport-by-sport comparisons of personality and satisfaction could also yield interesting results.

In the present study, gender differences were not analyzed, however abundant extant research have found significant personality differences between men and women, with men generally higher in assertiveness and risk taking and women generally showing elevations in neuroticism (Brody & Hall, 2000; Byrnes, Miller, & Schafer, 1999; Feingold, 1994; Kring & Gordon, 1998; Maccoby & Jacklin, 1974). Due to the unequivocal numbers of NCAA DI swimming programs for men and women, approximately three times as many women participated as men. As such, it is important to consider the results of the present study within these parameters. It is possible, that significant gender differences could emerge within the personality profiles of athletes, as well as within the relationships of these profiles with the outcome variables of satisfaction, aspirations, and achievement. Based on the gender differences present in non-athlete populations, further investigation of these trends within the athletic context

would likely yield similar results.

Limitations

The most significant limitation to the present study was the restricted range of NCAA qualified swimmers within the sample. In future research, similar analyses of personality and athletic achievement could yield significant results if a greater number of NCAA qualifiers participate. In the same vein, distance group differences in personality could emerge with larger, more equivalent numbers per group. With more equal group sizes in a sample, additional analyses could be run to assess for differential personality trait predictors of athletic satisfaction, aspirations, and achievement by distance group.

Additionally, broader assessment of athletic aspiration and achievement in future studies would provide greater depth and generalizability. In the present study, swimmers' athletic aspiration and achievement were each evaluated based on responses to a single question regarding qualification for the NCAA National meet. While the NCAA National meet does provide a common, objective standard of achievement within DI swimming, additional metrics of aspiration and achievement, such as performance in the conference championship meets, personal best times, goal setting and attainment, as well as coaches' and personal evaluations, could provide a deeper and more robust assessment for athletes at various levels of performance and competition within DI swimming.

Conclusions

The results of the present study were interpreted within the framework of Holland's person-environment fit (1997). This theory asserts that individuals seek out contexts where they perceive an alignment between their own personality traits, values, and strengths with the characteristics of the environments in which they work, learn, and compete. A perceived good fit

has been related to positive outcomes in a variety of domains including satisfaction, retention, and productivity (Edwards & Water, 1983; Kowalski, 1982; Levy & Lounsbury 2011). The findings of the present study suggest that swimmers tend to demonstrate relative elevations in conscientiousness, openness, agreeableness, optimism, and sense of identity. Further, swimmers who are emotionally stable, agreeable, and optimistic tend to be more satisfied with their athletic experiences and are more likely to aspire to and to have qualified for NCAA Nationals. These results could be relevant for practical use by coaches, administrators, and athletes in terms of considering potential P-E fit for incoming swimmers, developing performance enhancing interventions for individuals and teams, and adapting current athletic environments to create contexts in which swimmers can thrive. Personality assessment plays an integral role in identifying the specific areas in which strengths-based prevention and intervention strategies will be most useful in optimizing athletes' satisfaction, aspirations, and achievements.

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Appendix

Table 1. Frequencies of Swimmers by Conference

Conference	*N*	*Percentage of total*
America East Conference	14	3.9%
American Athletic Conference	9	2.5%
Atlantic 10 Conference	39	10.9%
Big 12 Conference	34	9.5%
Big South Conference	1	0.3%
Big Ten Conference	36	10.0%
Coastal Collegiate Sports Association	26	7.2%
Colonial Athletic Association	3	0.8%
Conference USA	19	5.3%
Mid-American Conference	8	2.2%
Missouri Valley Conference	24	6.7%
Mountain Pacific Sports Federation	22	6.1%
Mountain West Conference	22	6.1%
Pac – 12 Conference	6	1.7%
Patriot League	12	3.6%
Southeastern Conference	41	11.4%
The Ivy League	3	0.8%
The Summit League	13	3.6%
Western Athletic Conference	26	7.2%

Table 2. Means and Standard Deviations (N=320)

Variable	Distance Group	*M*	*SD*
Agreeableness	Short-	3.87	0.58
	Mid-	3.68	0.60
	Long-	3.68	0.69
	All Swimmers	3.73	0.62
Conscientiousness	Short-	4.04	0.60
	Mid-	3.88	0.63
	Long-	3.95	0.66
	All Swimmers	3.94	0.63
Emotional Stability	Short-	3.10	0.73
	Mid-	3.06	0.63
	Long-	2.99	0.68
	All Swimmers	3.06	0.67
Extraversion	Short-	3.72	0.66
	Mid-	3.52	0.73
	Long-	3.67	0.64
	All Swimmers	3.67	0.64
Openness	Short-	3.89	0.52
	Mid-	3.74	0.60
	Long-	3.84	0.57
	All Swimmers	3.80	0.58
Optimism	Short-	4.02	0.55
	Mid-	3.95	0.57
	Long-	3.92	0.60
	All Swimmers	3.95	0.57
Sense of Identity	Short-	4.05	0.53
	Mid-	3.94	0.65
	Long-	4.03	0.58
	All Swimmers	3.99	0.61
Self-directed Learning	Short-	3.75	0.57
	Mid-	3.67	0.59
	Long-	3.70	0.58
	All Swimmers	3.70	0.58
Work Drive	Short-	3.45	0.67
	Mid-	3.37	0.64
	Long-	3.47	0.83
	All Swimmers	3.40	0.69

Table 3. The Bivariate and Partial Correlations of the Predictors of Athletic Satisfaction

Predictors	Correlation between each predictor and satisfaction	Correlation between each predictor and satisfaction controlling for all other predictors
Agreeableness	0.20**	0.16**
Conscientiousness	0.18**	0.06
Emotional Stability	-0.45**	-0.25**
Extraversion	0.17**	-0.02
Openness	0.11*	-0.04
Optimism	0.42**	0.21**
Sense of Identity	0.21**	-0.03
Self-directed Learning	0.21**	0.05
Work Drive	0.10*	-0.02

** p< .05, ** p<.01*

Table 4. The Bivariate and Partial Correlations of the Predictors of Athletic Aspirations

Predictors	Correlation between each predictor and aspirations	Correlation between each predictor and aspirations controlling for all other predictors
Agreeableness	-0.03	-0.01
Conscientiousness	-0.01	0.02
Emotional Stability	-0.13**	0.03
Extraversion	-0.10	0.09
Openness	0.08	-0.08
Optimism	-0.20**	-0.15*
Sense of Identity	-0.12*	-0.07
Self-directed Learning	-0.01	0.00
Work Drive	0.00	0.03

** p< .05, ** p<.01*

Table 5. The Bivariate and Partial Correlations of the Predictors of Athletic Achievement

Predictors	Correlation between each predictor and achievement	Correlation between each predictor and achievement controlling for all other predictors
Agreeableness	-0.09	-0.08
Conscientiousness	0.04	0.06
Emotional Stability	0.13	0.08
Extraversion	0.01**	0.07
Openness	-0.02	-0.01
Optimism	-0.06*	-0.07
Sense of Identity	-0.10	-0.02
Self-directed Learning	0.01	0.03
Work Drive	0.04	0.03

** p< .05, ** p<.01*

Survey Materials

Swimmer Personalities

If you decide to participate in this study, you will complete a few short online surveys, which will take approximately 10 – 15 minutes. *Additionally, you will have the opportunity to enter a raffle for a chance to win one of ten $25 Amazon gifts cards. At the conclusion of the study, you will be directed to a separate screen where you can enter your email address for a chance to win.*

Remember, participation in this study is completely voluntary. You can choose to be in the study or not. If you have any questions about the study, I can be reached at (913)219-9900 or cpower17@vols.utk.edu.

Thank you for your time.

INFORMED CONSENT:
An Investigation of Personality and Satisfaction in Collegiate Swimmers

INTRODUCTION
If you are a current NCAA division I swimmer and are at least 18 years of age, you are invited to participate in a research project examining factors related to personality and satisfaction of collegiate swimmers. We are specifically interested in how personality characteristics relate to satisfaction. This research is being conducted by researchers in the Department of Psychology at the University of Tennessee.

INFORMATION ABOUT PARTICIPANTS' INVOLVEMENT IN THE STUDY
If you provide consent to participate in this study, you will be directed to a brief survey that will ask you to provide demographic information, and to answer questions regarding aspects of your personality and athletic experiences. The survey should take approximately 10-15 minutes to complete.

RISKS

The risks in this study are minimal and may include discomfort in answering questions about your experiences and personal characteristics. Partial responses to the survey will not be included in the study.

BENEFITS
There are no direct benefits to you specifically for participating in the research. Potential benefits, however, include a better understanding of the relationship between swimmers' personal characteristics and those the environment of collegiate swimming. Identifying key characterological features of NCAA Division I swimmers allows for the development,

maintenance, and adaptation of environments that will allow athletes to thrive.

CONFIDENTIALITY

Your data will be stored in a password-protected files on a computer in the laboratory of the PI. Should you choose to be entered into the raffle, you will be asked to provide an email address that will be entered in the raffle and through which you can be contacted, should you be selected. Your email address will be used solely for the purpose of contacting you. The raffle entries and survey are separate and not connected or linked in any way, and no attempts will be made to find a relationship between the entries and the questionnaire responses or IP addresses. Data will be stored securely and will be made available only to the researchers. Data will be used for aggregate (i.e., group-level) analyses only, and individuals will not be individually identifiable. No reference will be made in oral or written reports that could link participants to the study.

COMPENSATION

There is no monetary compensation for participating in the study, however you will be given the option to enter into a drawing for one of ten $25 Amazon.com gift cards. Entering this raffle is not contingent on completion of the survey, and participants can enter the raffle at the end of the online survey form without completing the rest of the survey. In order to be entered into the raffle, you will need to provide your email address. It will only be used for the purposes of selecting and notifying the winners of the raffle.

CONTACT INFORMATION

If you have questions at any time about the study or the procedures you may contact the researcher, Cora Powers (cpower17@vols.utk.edu) or Dr. Jacob Levy (jlevy4@utk.edu), at 410B Austin Peay. If you have questions about your rights as a participant, contact the IRB Compliance Officer at (865) 974-7697 or by email at utkirb@utk.edu.

Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty and without loss of benefits to which you are otherwise entitled.

Consent:

○ YES, I have read the above information. If I wish, I can print a copy of this form for my records. By choosing to complete and submit the survey, I am agreeing to participate in this study.

○ NO, I do not want to participate in this study.

Demographic Questions

What is your gender?
- Male
- Female

Are you a current NCAA Division I Swimmer?
- Yes
- No

In which NCAA conference do you compete?
- America East Conference
- American Athletic Conference
- Atlantic 10 Conference
- Atlantic Coast Conference
- Big 12 Conference
- Big East Conference
- Big South Conference
- Big Ten Conference
- Coastal Collegiate Sports Association
- Colonial Athletic Association
- Conference USA
- Horizon League
- Independent
- Metro Atlantic Athletic Conference
- Mid-American Conference
- Missouri Valley Conference
- Mountain Pacific Sports Federation
- Mountain West Conference
- Northeast Conference
- Pac-12 Conference
- Patriot League
- Southeastern Conference
- The Ivy League
- The Summit League
- Western Athletic Conference

Which category best describes your distance group?
- Sprint (50 - 100 yard races)
- Middle-distance (100 - 500 yard races)
- Long-distance (500 - 1,650 yard races)

Do you have aspirations for qualifying for NCAA Nationals?
- Yes
- Maybe
- No

Have you qualified for NCAA Nationals?

Yes
No

Were you a place winner (1st - 8th) at the NCAA National Meet?

Yes
No

Do you have aspirations of swimming in the Olympic Games?

Yes
Maybe
No

Have you competed in a previous Olympic Games?

Yes
No

	Read each sentence and select the answer that best describes you.				
	Strongly Disagree	Disagree	In-Between	Agree	Strongly Agree
I try to be nice and polite in every situation.	○	○	○	○	○
I always finish everything I start.	○	○	○	○	○
Sometimes I don't feel like I'm worth much.	○	○	○	○	○
I spend a lot of time talking to other people.	○	○	○	○	○
I have a definite sense of purpose in life.	○	○	○	○	○
I like to find out about new things that interest me, even though they are not required for any class.	○	○	○	○	○
I believe that everything will turn out fine for me in the next 5 years.	○	○	○	○	○
I always take personal responsibility for my own learning.	○	○	○	○	○

I always try to do more than I have when studying for class.	○	○	○	○	○
I sometimes say things just to make other people mad.	○	○	○	○	○
I try to be very neat and organized.	○	○	○	○	○
I sometimes feel like everything I do is wrong or turns out bad.	○	○	○	○	○
It is hard for me to make new friends.	○	○	○	○	○
I know what I want out of life.	○	○	○	○	○
I like to try new ways of doing things.	○	○	○	○	○
Even when something goes wrong for me, I know that it will always get better.	○	○	○	○	○
I am very good at finding out answers on my own for things my instructors do not explain well.	○	○	○	○	○
I have more energy for my studies than most students.	○	○	○	○	○

I am always polite to other people.	○	○	○	○	○
My teachers can always count on me to do what they ask.	○	○	○	○	○
I feel like I can't handle everything that is going on in my life.	○	○	○	○	○
I am very outgoing and talkative.	○	○	○	○	○
I have a clear set of personal values or moral standards.	○	○	○	○	○
I would like to keep learning new things for years to come.	○	○	○	○	○
I am sure I will be happy in 15 years.	○	○	○	○	○
If there is something I don't understand, I always find a way to learn it on my own.	○	○	○	○	○
Even if I won a million dollars, I would still work hard at school or my job.	○	○	○	○	○

I sometimes make fun of other people.	○	○	○	○	○
I like to keep everything I own in its proper place.	○	○	○	○	○
I sometimes feel like I'm going crazy.	○	○	○	○	○
I have a lot of energy when I am around other people.	○	○	○	○	○
I have specific personal goals for the future.	○	○	○	○	○
I like to read books on different subjects.	○	○	○	○	○
I believe that next year will be great for me.	○	○	○	○	○
If there is something I need to learn, I find a way to do so right away.	○	○	○	○	○
Being a good student means a lot to me.	○	○	○	○	○
If anybody says something mean to me, I say something mean right back to them.	○	○	○	○	○
It is hard for me to keep my bedroom neat and clean.	○	○	○	○	○

I would eventually like to work with other people, even if I don't agree with them.	○	○	○	○	○
I am a fairly quiet person in most group settings.	○	○	○	○	○
I have a clear sense of who I want to be when I am an adult.	○	○	○	○	○
I would like to learn how to read and speak a foreign language.	○	○	○	○	○
I think I will have a very good life when I am older.	○	○	○	○	○
I am better at learning things on my own than most students.	○	○	○	○	○
I study more than most students at my school.	○	○	○	○	○
I sometimes trick other people into doing what I want them to do.	○	○	○	○	○
I always clean up after I have made a mess.	○	○	○	○	○

I sometimes feel sad or blue.	○	○	○	○	○
I have a firm sense of who I am.	○	○	○	○	○
I find it fun to learn and develop new hobbies.	○	○	○	○	○
My friends say I study too much.	○	○	○	○	○
Sometimes I say things on purpose to hurt other people's feelings.	○	○	○	○	○
If I am in a group and no one says anything, I will say something first.	○	○	○	○	○
I like to find out how people live in other places in the world.	○	○	○	○	○
My friends would say I have a lot of curiosity about things in general.	○	○	○	○	○

	I am satisfied with …						
	1 (Not at all satisfied)	2	3	4 (Moderately satisfied)	5	6	7 (Extremely satisfied)
how the team works to be the best.	○	○	○	○	○	○	○
my social status on the team.	○	○	○	○	○	○	○
the coach's choices regarding meet event entries.	○	○	○	○	○	○	○
the competence of the medical personnel.	○	○	○	○	○	○	○
the degree to which I do my best for the team.	○	○	○	○	○	○	○
the degree to which I have reached my performance goals during the season.	○	○	○	○	○	○	○
the degree to which my abilities are used.	○	○	○	○	○	○	○
the extent to which all team members are ethical.	○	○	○	○	○	○	○
the extent to which teammates provide me with instruction.	○	○	○	○	○	○	○

the funding provided to my team.	○	○	○	○	○	○	○
the media's support of our program.	○	○	○	○	○	○	○
the recognition I receive from my coach.	○	○	○	○	○	○	○
the team's win/loss record this season.	○	○	○	○	○	○	○
the training I receive from the coach during the season.	○	○	○	○	○	○	○
the tutoring I receive.	○	○	○	○	○	○	○
my dedication during practices.	○	○	○	○	○	○	○
my teammates' sense of fair play.	○	○	○	○	○	○	○
the academic support services provided.	○	○	○	○	○	○	○
the amount of money spent on my team.	○	○	○	○	○	○	○
the degree to which teammates share the same goal.	○	○	○	○	○	○	○

the fairness with which the medical personnel treats all players,	○	○	○	○	○	○	○
the friendliness of the coach towards me.	○	○	○	○	○	○	○
the guidance I receive from my teammates.	○	○	○	○	○	○	○
the improvement in my performance over the previous season.	○	○	○	○	○	○	○
the instruction I have received from the coach this season.	○	○	○	○	○	○	○
the level to which my talents are employed.	○	○	○	○	○	○	○
the role I play in the social life of the team.	○	○	○	○	○	○	○
the support from the university community.	○	○	○	○	○	○	○
the tactics used during meets.	○	○	○	○	○	○	○

the team's overall performance this season.	○	○	○	○	○	○	○
coach's choice of strategies during games.	○	○	○	○	○	○	○
my enthusiasm during competitions.	○	○	○	○	○	○	○
my teammates' 'sportsmanlike' behavior.	○	○	○	○	○	○	○
team members' dedication to work together toward team goals.	○	○	○	○	○	○	○
the coach's teaching of the tactics and techniques of my event(s).	○	○	○	○	○	○	○
the constructive feedback I receive from my teammates.	○	○	○	○	○	○	○
the degree to which my teammates accept me on a social level.	○	○	○	○	○	○	○
the extent to which my role matches my potential.	○	○	○	○	○	○	○

the extent to which the team is meeting its goals for the season.	○	○	○	○	○	○	○
the fairness of the team's budget.	○	○	○	○	○	○	○
the improvement in my skill level.	○	○	○	○	○	○	○
the level of appreciation my coach shows when I do well.	○	○	○	○	○	○	○
the medical personnel's interest in the athletes.	○	○	○	○	○	○	○
the personnel of the academic support services.	○	○	○	○	○	○	○
the supportiveness of the fans.	○	○	○	○	○	○	○
how the coach makes adjustments during competitions.	○	○	○	○	○	○	○
my coach's loyalty towards me.	○	○	○	○	○	○	○
my commitment to the team.	○	○	○	○	○	○	○
my meet event entries.	○	○	○	○	○	○	○

the extent to which teammates work together as a team.	○	○	○	○	○	○	○
the local community's support.	○	○	○	○	○	○	○
the promptness of medical attention.	○	○	○	○	○	○	○
coach's meet plans.	○	○	○	○	○	○	○
the degree to which my role on the team matches my preferred role.	○	○	○	○	○	○	○
the extent to which the coach is behind me.	○	○	○	○	○	○	○
the manner in which coach combines the available talent.	○	○	○	○	○	○	○

Vita

Cora Marie Powers was born in Omaha, Nebraska to parents Dave and Jeanne Powers. She attended Olathe South High School in Olathe, KS. After graduation in 2009, she attended the University of Kansas where she obtained her bachelor's degree in Psychology, with a minor in Leadership Studies in 2013. Cora's experiences as a collegiate student-athlete at the University of Kansas contribute to her interests in leadership development as well as sport and performance psychology. Cora earned her master's degree in Counseling Psychology in 2016 from the University of Tennessee and is currently pursuing her Doctor of Philosophy degree in Counseling Psychology Doctoral Program at the University of Tennessee, Knoxville, where she is advised by Dr. Jacob Levy.