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When addressing the unique challenges faced by college student-athletes, counselors should take a holistic approach, with attention given to the potential benefits of sport, rather than working only from a deficit model. This study examines the relationships among athletic identity, sport commitment, time participating in sport, and social support, life satisfaction, holistic wellness for college student-athletes.

Using Pearson Product Moment correlations, two separate Multivariate Analysis of Variance (MANOVA), and Step-wise Regression analyses, respectively, several variables had significant statistical and practical relationships. There were differences among the study variables based on each of the demographic variables (i.e., gender, ethnicity, seasonal status, year-in-school, playing status, and division level) and in holistic wellness variables based on other study variables. Only life satisfaction, sport commitment, and social support satisfaction accounted for a significant portion of variance in holistic wellness (23%).

AN EXAMINATION OF ATHLETIC IDENTITY, SPORT COMMITMENT, TIME IN
SPORT, SOCIAL SUPPORT, LIFE SATISFACTION, AND HOLISTIC WELLNESS
IN COLLEGE STUDENT-ATHLETES

by

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CHAPTER I

INTRODUCTION

According to the National Collegiate Athletic Association (NCAA), 1,032,518 college students graduated in 2006 (http://www.ncaa.org/grad_rates/2006/) and 2.73 %, ($n = 28,177$) of these students were student-athletes. These included students who attended institutions classified as Division I, II, and III, based on the number of gender-specific sports offered, capability of hosting a specified number of competitions at a home facility, the average attendance at the home sport facilities, financial awards offered to athletic programs, and other specific requirements (http://www.ncaa.org/about/div_criteria.html). With the additional challenges and scheduling demands that student-athletes have to face, one might expect student-athletes to have lower graduation rates than their non-athlete peers. When comparing the graduation rates of college non-athlete students with those of college student-athletes in 2006, however, college student-athletes graduated at higher rates than non-athlete students at the Division I and Division II levels, 63% to 61%, 55% to 46%, respectively (http://www.ncaa.org/grad_rates/2006/d1_d2_school_data.html). At the Division III level, non-athlete students traditionally have a higher graduation rate than student-athletes (e.g., 63% to 57% in 2006; 62% to 54% in 2003) (http://www.ncaa.org/grad_rates/2006/d2_d3_school_data.html), but these results might be misleading. Many student-athletes at the Division III level are counted as non-athlete students because the graduation rates of student-athletes are calculated only for

students who receive athletic aid, and athletic aid is given to only a small number of students in Division III institutions (http://www.ncaa.org/grad_rates/2006/d2_d3_school_data.html).

Petitpas and Buntrock (1995) found that student-athletes are faced with many challenges, including identity conflicts, academic and career issues, burnout, social isolation, alcohol and drug use, and eating disordered behaviors. Although many of these issues are no different from the issues faced by all college students, time commitment in sport participation may make dealing with these issues more challenging (Parham, 1993). In treating these issues, counselors should consider the student-athlete within a holistic framework, with attention given to the potential benefits of sport participation rather than working from a deficit model only. Scholars have considered psychological well-being (Marten-DiBartolo & Shaffer, 2002), emotional well-being (Ryska & Yin, 1999), and physical well-being (Seggar, Pedersen, Hawkes, & McGown, 1997) of student-athletes, but few have examined the overall well-being of student-athletes (Miller & Kerr, 2002a; Settles, Sellers, & Damas, 2002). Overall well-being refers to overall health and is an indicator of the overall functioning of student-athletes while considering holistic development and what student-athletes learn through their sport (Miller & Kerr).

Although college student-athletes often are portrayed negatively in the media (Edwards, 1992) and scholarly literature (e.g., Pearson & Petitpas, 1990), some researchers have considered the benefits of sport participation. Some of the rewards of sport participation include physical health, psychological enhancement, increased mental well-being, positive self-concept, social improvements (Koivula, 1999a), enjoyment, and

fun (Cash, Novey, & Grant, 1994). Although these benefits have been documented in the professional literature, these benefits have not been considered in light of meeting the needs of student-athletes holistically. A holistic view of student-athletes might lead counselors and other helping professionals to consider factors that impact student-athletes' functioning, including athletic identity, sport commitment, time in sport, and social isolation (Goldberg, 1991) more constructively. The importance of each of these variables will be addressed in the following sections.

To date, it is empirically unknown how athletic identity, commitment to sport, time participating in sport, and social isolation from non-athlete students may impact life satisfaction and overall wellness for student-athletes. This study considered these relationships and provided insight for counselors and counselor educators on how to assess and counsel college student-athletes.

A statement of the problem, the purpose of the study, and the research questions that drive this investigation follow. Then, the significance of the study and definitions of the terms used in the study are provided. Finally, the organization of the study is provided.

Rationale for the Study and Introduction of Study Variables

Often, the college experience is different for student-athletes than for non-athlete students. Because of their dual role as student and athlete, student-athletes need support to help them successfully resolve developmental tasks (Hinkle, 1994). To help student-athletes increase personal, academic, and overall development, many colleges and universities have created life skills programs to meet the holistic needs of student-

athletes. The motivation behind beginning many of these programs came, however, from viewing the unique factors associated with student-athletes as problematic issues (Wooten & Hinkle, 1994). Goldberg (1991) identified athletic identity, sport commitment, and aspects of the structure of athletics, such as sport participation time and social isolation, as factors that influence the overall development of student-athletes beginning in their high school years. Factors such as a high athletic identity, high sport commitment, time spent in sport-related activities, and social isolation all have the potential to be detrimental to the overall well-being of student-athletes. They also, however, have the potential to be advantageous to the student-athlete's life satisfaction and overall well-being. A brief overview of these constructs here provides a context for this study.

Athletic Identity

Identity formation is one of the most significant issues faced during late adolescence (Miller & Kerr, 2003). Among student-athletes, identity is formed by social relations, interactions, and roles (Miller & Kerr), and many athletes identify with their role as athlete more than their role as student (Hinkle, 1994). Many believe that a strong athletic identity may have a negative effect on overall self-identity and that this may be problematic (e.g., Blinde & Greendorfer, 1985; Pearson & Petipas, 1990), especially when transitioning out of competitive sports (Sparkes, 1998). Interestingly, more favorable conclusions have been made. For example, Settles et al. (2002) found a high athletic identity to be correlated with positive psychological well-being.

It is important here to accentuate the potentially positive aspects of a high athletic identity. Students with high athletic identity may be recognized as top performers in their sport, may become more committed to being more successful in their sport, and may increase their social network within and outside of their sport (Horton & Mack, 2000). In many ways, a high athletic identity has convincing implications for college student-athletes beyond their sport participation. Athlete self-identities have helped college student-athletes develop the appropriate behaviors and appropriate ways of expressing their attitudes and beliefs in other social arenas (Gatz & Messner, 2002). Athletic identity appears to be an important factor in life satisfaction and wellness for college athletes.

Research is needed, though, to understand in more detail how athletic identity affects the life satisfaction and overall wellness of student-athletes. In examining the reactions that former athletes had towards retiring from their sport, Webb, Nasco, Riley, and Headrick (1998) found no negative relationship between athletic identity and life satisfaction. It has not yet been determined empirically, however, if this is the case for college student-athletes still competing in their sport. Also, because differences have been found in the effect that an athletic identity has on student-athletes based on gender (e.g., Lantz & Schroeder, 1999; Murphy, Petitpas, & Brewer, 1996; Wiechman & Williams, 1997) and ethnicity (e.g., Wiechman & Williams), athletic identity may have differential influences on wellness among these various subgroups.

Sport Commitment

A high athletic identity may lead to a high sport commitment (Horton & Mack, 2000), defined as “a psychological construct representing the desire and resolve to

continue sport participation” (Scanlan, Carpenter, Schmidt, Simons, & Keeler, 1993, p. 6). An overcommitment to sport participation may lead some athletes to unhealthy practices within their sport and neglect of development in areas outside of sport (Horton & Mack). A high athletic identity does not necessarily lead, however, to an unhealthy commitment to sport participation (Brown & Hartley, 1998), nor does over-commitment always lead to a negative outcome. Several researchers have reported that a high commitment to sports goals (Wrosch, Scheier, Carver, & Schulz, 2003) and an athletic career (Holt & Dunn, 2004) can have benefits for the student-athlete.

An important predictor of sport commitment is sport enjoyment (Scanlan et al., 1993), which is an indicator of pleasure derived from sport participation (Carpenter, Scanlan, Jeffery, & Marci, 1993) and satisfaction. High commitment athletes tend to have more self-confidence and less anxiety than low commitment athletes (Hanton, Evans, & Neil, 2003). Thus, a high sport commitment might be beneficial for some college student-athletes’ overall well-being.

Time in Sport

Often, a high athletic identity corresponds to an increase in the amount of time spent in sport training (Schmid & Seiler, 2003). Student-athletes spend a significant amount of time, both in season and during the off-season, involved in athletic activities (Person, Benson-Quaziana, & Rogers, 2001). College student-athletes spend a great deal of time in activities such as practice, competition, sports-related travel, athletic study hall, mandatory team and individual position meetings, strength and conditioning sessions, and mandatory psychoeducational sessions. Time is committed to these activities in addition

to the other academic and social activities that other non-athlete college students commit. Also, it should be noted that as sport participation time increases, sport commitment also may increase (Scanlan, Russell, Beals, & Scanlan, 2003).

If college student-athletes spend a great deal of time in their sport, they may spend less time in other activities that enhance their wellness. Brown, Glastetter-Fender, and Shelton (2000) found that college student-athletes who spent more time participating in their sport had lower self-efficacy for career decision-making tasks. More specifically, spending 20-30 hours per week participating in a sport was inversely related to career self-efficacy for college student-athletes (Brown et al.). Although there may be some career-related concerns with an increase in time of sport participation, increased sport participation may lead to benefits in other aspects of the lives of student-athletes.

Spending time in sport-related activities provides a buffer for stress and tends to enhance individual health and well-being (Kimball & Freysinger, 2003). Thus, student-athletes who spend a great deal of time in sport-related activities may be taking the necessary steps to benefit their overall functioning through sport participation and increase their life satisfaction. This study will consider further the question of whether time in sport participation influences life satisfaction and overall wellness.

Social Support

A high athletic identity has been associated with an expanded social network that can provide student-athletes with support (Horton & Mack, 2000). For some student-athletes, however, much of their social contact is with coaches, athletic staff, and other student-athletes, and they may find themselves isolated from other students (Martens &

Lee, 1998). This type of social isolation may encourage student-athletes to neglect developmental activities that lead to personal competence, such as academic studying and social and academic integration activities (Person, Benson-Quaziana, & Rogers, 2001). If student-athletes are overlooking important developmental activities, then it is possible that overall wellness may suffer, though this is an empirical question that is as yet unanswered.

It is possible that satisfaction with social support might be more important than the level, type, or number of supports that student-athletes receive. It appears that a person's satisfaction with social support is related to increased emotional and physical well-being (Rosenfeld & Richman, 1997). For example, athletes' satisfaction with their social support has been associated with lower levels of mood disturbance (Green & Weinberg, 2001). Additionally, resources such as acceptance, confidence, outlet for self-disclosure, and problem-solving ability gained from student-athletes' support systems can lead to life satisfaction (Simons, Aysan, Thompson, Hamarat, & Steele, 2002). Further, increased social support can lead to less physical and emotional exhaustion, which may have a positive effect on overall functioning (Hardy, Jones, & Gould, 1996). As a result, the social support that student-athletes receive from other athletes, their coaches, athletic staff, and even parents might be positive for their overall well-being when they consider the support to be at a satisfactory level.

Life Satisfaction

Life satisfaction is a "global cognitive judgment of one's life" (Simons et al., 2002, p. 131) indicating one's happiness or contentment with the quality of her or his life.

People who are satisfied with life have shown lower levels of stress and more optimism (Chang, 1998), and have exhibited the ability to cope effectively (Hamarat, Thompson, Zabrocky, & Steele, 2001). In addition, life satisfaction has been shown by researchers to correlate with other constructs, such as personality (McCrae & Costa, 1991), social interaction (Gibson, 1986), and health (Willets & Crider, 1988).

More specifically for student-athletes, however, limited data are available on the relationship of life satisfaction to other constructs of interest, such as athletic identity, sport commitment, time in sport, social support, and wellness. Life satisfaction may have favorable or unfavorable associations with these constructs, directly or indirectly. This study provided additional empirical information about the relationships between life satisfaction and other constructs of interest among college student-athletes.

Wellness

A holistic wellness approach in counseling provides a framework for improving the quality of life and overall development of college students (Hermon & Hazler, 1999). Wellness is defined as “a way of life oriented toward optimal health and well-being in which mind, body, and spirit are integrated by the individual to live life more fully with the human and natural community” (Myers, Sweeney, & Witmer, 2000, p. 252). With a focus on optimal human functioning and life satisfaction, wellness counseling can help individuals use their strengths in order to prevent diminished functioning. Although coaches and other athletic staff have become more concerned with the physical, psychological, and emotional well-being of student-athletes (Miller & Wooten, 1995),

researchers have not considered the relationship between the unique characteristics of student-athletes and overall well-being.

Researchers have demonstrated how athletic identity relates to psychological well-being (Miller & Kerr, 2003); sport commitment relates to emotional well-being (Hanton et al., 2003); time in sport relates to career-related well-being (Brown et al., 2000), and social support relates to emotional well-being (Manuel, Shilt, Curl, Smith, DuRant, Lester, & Sinal, 2002), social well-being (Green, & Weinberg, 2001), and physical well-being (Rosenfeld, & Richman, 1997). Researchers have not considered, however, how all of these factors considered together might impact the overall wellness of the student-athlete. By considering each of these together, research may be able to provide additional insight concerning the personal development of college student-athletes.

Although many models of wellness have been developed, the Indivisible Self Wellness Model (Sweeney & Myers, 2003) will be used in the current study because of the strength of empirical support and provision of direct implications for counseling. This model appears to be the best model to provide a framework to help counselors address the unique attributes of college student-athletes. More specifically, by examining these characteristics (i.e., level of athletic identity, level of sport commitment, amount of time spent in sport, level of social support, and life satisfaction), a more complete understanding of the individual aspects of wellness and overall or holistic wellness of student-athletes will fill existing gaps in the literature.

Statement of the Problem

Student-athletes experience the same developmental challenges as other non-athlete students during their college years. With the additional challenges faced by student-athletes, however, their overall development may be affected either positively or negatively by their sport participation. Although some researchers have presented benefits of sport participation, most have portrayed the unique challenges of role identification, sport commitment, time spent participating in sport, and social isolation as having a negative effect on the emotional and psychological well-being of student-athletes. Although some researchers have found that these negative expectations have been overgeneralized, none have explored how these unique challenges might influence overall wellness.

Purpose of the Study

Understanding the personal, social, educational, vocational, and other developmental needs of student-athletes has become important (Maniar, Curry, Sommers-Flanagan, & Walsh, 2001). In addressing these needs, one must take into account the unique challenges faced by this group. Although researchers have examined these needs, no researcher to date has examined the effect of these unique challenges (i.e., athletic identity, sport commitment, time in sport, and social support) on life satisfaction and overall wellness, along with other aspects of wellness (e.g., physical well-being, spiritual well-being, emotional well-being, psychological well-being, vocational well-being, and social well-being). The purpose of this study, then, is to examine the relationships between athletic identity, sport commitment, time participating in sport,

social support, life satisfaction, and holistic wellness and other aspects of wellness. Further, the relationships among these variables will be examined based on gender, ethnicity, seasonal status, year-in-school, and playing status to determine differences that may exist with regard to these factors. This study builds on previous research that has identified the listed study variables as important in the lives of college student-athletes.

Research Questions

In examining the relationship between study variables, the following research questions will be addressed:

1. What are the relationships between athletic identity, sport commitment, time in sport, social support, life satisfaction, holistic wellness, and wellness factors?
2. Are there significant mean differences in athletic identity, sport commitment, time in sport, social support, life satisfaction, holistic wellness, and wellness factors based on gender, ethnicity, seasonal status, year-in-school, playing status, and division?
3. What amount of variance in holistic wellness can be accounted for by athletic identity, sport commitment, time in sport, social support, and life satisfaction?
4. Are there significant mean differences in holistic wellness based on athletic identity, sport commitment, time in sport, social support, and life satisfaction?

Significance of the Study

The college student-athlete faces many challenges unique to her or his role as both student and athlete that impact psychological, emotional, physical, occupational, spiritual, social, and overall wellness. Counselors responding to these needs must be

aware of the complexities of these needs (Chartrand & Lent, 1987) and how they relate to overall functioning. It is recommended that counselors not only concentrate on intervention strategies for problems, but also on prevention strategies and helping the student-athlete develop as a person (Danish & Hale, 1981).

An understanding of the effects of these unique challenges will provide a framework for better meeting the needs of college student-athletes in a preventive and holistic manner. A wellness framework will help to maximize overall functioning of the cognitive, physical, spiritual, interpersonal, and emotional needs of the college student-athlete. More specifically, the results of this study will provide a better understanding of the relationship between athletic identity, sport commitment, time in sport, social support, life satisfaction, overall wellness, and other factors of wellness of college student-athletes to inform effective prevention efforts and counseling for this population. Finally, results of the study will inform counselor educators on the training needs (e.g., consultation practices that help connect student-athletes with academic and student life offices on college campuses) of students who plan to work in college and university settings with student-athletes.

Definition of Key Terms

The following terms are defined as they will be used in the current study.

College Student-Athletes are undergraduate college or university students who are participating in intercollegiate athletics (Miller & Kerr, 2003).

Athletic Identity is defined as “the degree to which an individual identifies with the athlete role” (Brewer et al., 1993, p. 237) as measured by the Athletic Identity Measurement Scale (AIMS; Brewer et al.).

Sport Commitment is the “desire and resolve to continue participation in a sport over time” (Scanlan, Carpenter et al., 1993, p. 7) as measured by the Sport Commitment Scale (SCS) of the Athletes’ Opinion Survey (AOS; Scanlan, Simons et al., 1993).

Time in Sport is the number of hours that college student-athletes spend participating in sport-related activities (Person et al., 2001), including practice, competition, sports-related travel, athletic study hall, mandatory team and individual position meetings, strength and conditioning sessions, tape review, and mandatory psycho-educational sessions. Time in Sport will be measured by the Time in Sport Questionnaire (Williams, 2005) asking the number of hours and minutes college student-athletes spend participating in each of these activities. Participants will be asked to report the amount of time that they participate in these activities during their current seasonal status (i.e., in-season or out-of-season).

Seasonal Status relates to the current status of the sport season. Seasonal Status can either be *in-season* (the time in which student-athletes are formally competing in games or matches) or *out-of-season* (the time in which student-athletes are not formally competing in games or matches). This indication will be made by responding to a single item on the Time in Sport Questionnaire.

Social Support is defined as “the support and encouragement the athlete perceives that significant others provide for his or her involvement in sport” (Carpenter, 1993, p.

59), as measured by the Multi-Dimensional Support Scale (MDSS; Winefield, Winefield, & Tiggemann, 1992).

Life Satisfaction is defined as a “global cognitive judgment of one’s life” (Simons et al., 2002, p. 131), indicating one’s happiness or contentment with the quality of her or his life. Life satisfaction will be measured by the Satisfaction with Life Scale (SWLS; (Diener, Emmons, Larsen, & Griffin, 1985).

Wellness is defined as “ a way of life oriented toward optimal health and well-being in which body, mind, and spirit are integrated by the individual to live more fully within the human and natural community” (Myers et al., 2000, p. 252), as measured by the Five Factor Wel Inventory (5F-Wel; Myers & Sweeney, 1999).

Organization of the Study

The rationale for the study of athletic identity, sport commitment, time in sport, social support, life satisfaction, and holistic wellness for college student-athletes was provided in this chapter. In addition, the statement of the problem and purpose of the study were presented. Also, the research questions for this study were presented. Finally, the significance of the study and the definitions of key terms were provided. In Chapter II, a review of the literature is provided, including a review of college student-athletes and their unique challenges and empirical findings related to the study variables. Chapter III provides a description of the methodology of the study, including the participants, instrumentation, procedures, the data analysis procedures to be used, and methodological limitations of the study. Chapter IV presents the results of the study. Finally, the results

are discussed in Chapter V, along with the limitations of the study and implications for counseling, counselor education, and further research.

CHAPTER II

REVIEW OF THE LITERATURE

The rationale for the study of the relationship between athletic identity, sport commitment, time in sport, social support, life satisfaction, and holistic wellness was presented in Chapter I. In this chapter, existing literature supporting the study is presented. The student-athlete population is defined, and the challenges faced by student-athletes are summarized. An overview of identity theory and role identity theory are given as they relate to the college student population. Next, the literature involving athletic identity, sport commitment, time in sport, social support, life satisfaction, and holistic wellness is reviewed. Then, wellness is defined, and holistic models of wellness are examined. The Indivisible Self model of wellness (Myers & Sweeney, 2005) and its relation to student-athletes are discussed. The chapter concludes with a summary of the presented literature and a discussion of the need for the study of the relationship between athletic identity, sport commitment, time in sport, social support, life satisfaction, and holistic wellness among college student-athletes.

College Student-athletes

At first glance, many in the public associate college student-athletes with their role as athlete more than their role as student. Just as other non-athlete college students, though, student-athletes are developing the skills needed for adulthood and strengthening their identities (Miller & Kerr, 2002a). College student-athletes are working to develop

age-specific student competencies while at the same time dealing with the challenges they face as athletes. Balancing the student role and the athlete role may lead to additional challenges and needs that are unique to this group (Settles et al., 2002).

College athletes are students whose enrollment was solicited by a member of the athletic staff or other representative of athletic interests with a view towards the students' ultimate participation in an intercollegiate athletics program, or when any other student reports for an intercollegiate squad that is under the jurisdiction of the athletics department (NCAA Manual, 2005). Athletes must be progressing successfully towards graduation. Most student-athletes are limited to 20 hours per week of involvement in athletic-related activities during their playing season (i.e., practice and competition season) and eight hours per week in their off-season. In addition, student-athletes are required to carry a full-time (at least 12 hours) academic load while participating.

Most would recognize, however, that academic achievement or receiving a degree is not the only important aspect of college. As students go through their college years, they develop in areas that help them prepare for life after college, or in student-athletes' case, life after college and life after competitive sports. Thus, athletic and academic affairs are not the only responsibilities that student-athletes must manage; they also are faced with the unique challenges of the social aspects of college life and resolving role identity conflicts (Parham, 1993). Petitpas and Buntrock (1995) summed up these challenges as academic and career challenges, substance use and abuse, eating disorders, social isolation, burnout, and identity conflicts. The following sections will focus on the

academic challenges, social development challenges, and identity conflicts faced by student athletes.

Academic Challenges

College student-athletes are not unlike other students in that they have to remain in good academic standing as defined by their respective institution. Thus, they must consider both their athletic and academic pursuits as important. The emphasis that some student-athletes place on academic success may be associated with how engulfed they are in their athletic role (Adler & Adler, 1991). This presents a challenge for student-athletes to learn how to balance their athletic and academic progress (Pinkney, 1991; Streaan, 1994).

The importance placed on academics by student-athletes, their coaches, and other academic staff presents other challenges. Although not the case in most Division II and III athletic programs, many Division I student-athletes perceive that their coaches consider academics important only in light of eligibility standards for programs that are run more like a business than a program conducted within the structure of the goals of higher education (Streaan, 1994). Regardless of how much importance others place on academic achievement, however, student-athletes ultimately have to decide for themselves the importance they place on academics. Greendoefer and Blinde (1986) found that academics became more of a priority for student-athletes as they progressed from their freshman to their senior year in school. Throughout their academic careers, though, student-athletes are challenged with balancing athletic and academic goals.

Social Challenges

The time spent working towards athletic and academic goals may limit the time student-athletes spend in social activities (Nelson, 1983). This may present challenges in social development for student-athletes, as spending time in athletic and academic affairs may lessen the amount of time that student-athletes use to develop social relationships and participate in activities outside of sport and academics.

Social development for all college students occurs through personal and professional relationships (Chickering & Reisser, 1993). Because of the structure of many athletic programs, social development for many student-athletes occurs primarily through relationships with other student-athletes and athletic staff (Martens & Lee, 1998). Social isolation from non-athlete students can hamper social development by limiting the number and type of social development activities in which student-athletes may be involved (Person et al., 2001). Learning how to expand their social networks, while staying committed to athletic and academic pursuits, can present a challenge for college student-athletes.

Identity Challenges

The academic and social challenges faced by college student-athletes seem to stem largely from the identity challenges they face. As student-athletes identify more with their role as athlete, academic development and social interaction may suffer (Miller & Kerr, 2003). The role conflict that athletic participation can cause may be increased by the experiences that student-athletes have with those associated with sport.

Many collegiate athletes have been praised for their athletic performance since their high school participation years (Nelson, 1983). The expressions of gratitude and admiration student-athletes receive from institutional, community, and family members may increase their identification with the athlete role. In addition, pressure from coaches and other athletes to improve athletic performance and make improvement in athletic development may perpetuate identification with the athlete role. These influences from coaches, other athletes, fans, and others may create an identity/role conflict for student-athletes as they attempt to be successful as both an athlete and a student.

Role conflicts for student-athletes may cause challenges in areas of life other than athletic, academic, and social arenas. A high identification with their role as athlete may have a negative influence on student-athletes' self-esteem (Green & Weinberg, 2001), career decision-making (Kornspan & Etzel, 2001), emotional development (Grove, Lavalley, & Gordon, 1997), and self-identification process (Spark, 1998). The role identification conflict that student-athletes face is a normal developmental issue for college students (Miller & Kerr, 2003). The importance placed on their role as athlete may impact additional developmental issues, including career maturity and career decision-making (Meeker, Stankovich, & Mays, 2000). The process of determining the amount of importance to place on the athlete role may influence the behavioral choices that impact development.

Theoretical Framework for the Study

College-aged students are faced with solving the developmental conflict of identity versus identity confusion (Chickering & Reisser, 1993). In this process,

adolescent students are attempting to discover who they are in life (Santrock, 2003), and how that relates to the choices they make about their future. During this age period, many students begin to take on different roles, such as employee, boyfriend or girlfriend, and even spouse or parent in some cases. How individuals define themselves is based on the amount of importance they place on the different roles with which they identify. After a brief discussion of college student roles, the primary theoretical foundations for this study, Stryker's Identity Theory (1991) and Chickering and Reisser's (1993) Vector Theory, will be discussed.

Roles

Roles are "the behavioral expectations that are associated with, and emerge from, identifiable positions in social structure" (Callero, 1994, p. 229). For instance, the role of student is defined by many by the behavioral expectations of a student (i.e., attend class, do homework, and study for exams). In the same manner, athletes are expected to practice, compete, and train. In some instances, there are social expectations that athletes behave as "dumb jocks" (Nelson, 1983), and act aggressively (Visek & Watson, 2005) or violently (O'Toole, 1997). Though these expectations may influence the behaviors of those individuals who hold positions within a social structure, individuals also may choose to behave in a manner that is more suited to their unique personality within the parameters of that social structure (Piliavin, Grube, & Callero, 2002). In fact, individuals can use aspects of certain roles as a resource for their individual behavior to meet their needs or to benefit others (Piliavin et al.).

Self Identities and Identity Theory

According to Stryker and Burke (2000), identity theory is associated with “how social structures affect self and how self affects social behaviors” (p. 285). More specifically, identity theory can be defined by how institutions, programs, organizations, or associations affect individuals’ construction of their sense of self and how that sense of self affects their social behaviors. Again, this concept does not treat the individual as someone without any sense of self outside of societal structures. Unique individual identities are fashioned by the same patterns of relationships that form social structures (Piliavin et al., 2002).

Individuals may have as many identities as they do networks of relationships in which they have a position (Stryker, 1980). For example, individuals may have different networks associated with their family, school, occupation, and athletic team. In each of these networks, individuals may have a different set of relationships and expectations of behaviors (Piliavin et al., 2002); this may be described as a multi-dimensional structure of self. The concept of multiplicity of selves or self structured as multiple aspects of self is consistent with the identity theory of many contemporary theorists (e.g., McCall & Simmons, 1978; Stryker, 1980; Turner, 1978), and accepts the notion that individuals have as many selves as they have others or groups of others with whom they relate (James, 1890, as cited in Stryker & Serpe, 1994). Identities are viewed as cognitive schemas (i.e., identity schemas) or “internal organizations of stored information and meanings operating as frameworks for interpreting experience” (Stryker & Serpe, p. 18).

With the view of self with multiple parts, one might see self as a fragmented self. One might think of this view as multiple selves as an organized structure of multiple parts organized within one whole self to guard against the notion of one having many differing selves. Self should be viewed, however, as both multiple and singular (Stryker & Serpe, 1994). It is these different parts of self that most experts classify as identities (Stryker, 1980).

Role Identity Theory

Identity also can be explained as different internalized roles that relate to one another, and these internalized roles can be termed as role identities (Stryker & Serpe, 1994). According to McCall and Simmons (1978), it is not until an individual adopts a set of behaviors as a component of self that a role identity is established. A role identity develops from the agent's perception of others' expectations of behavior for that role, the agent's past experiences related to that role, models of others participating in that role, and continued participation in that role by the agent (Piliavin & Callero, 1991), as well as having friends related to that role (Callero, Howard, & Piliavin, 1987). These seem to influence the continuance of behaviors related to that role.

The structure of the organization in which a role is carried out also is important in influencing one's role identity (Grube & Piliavin, 2000). For example, the strength of an individual's athlete role identity may be influenced by the structure of that individual's particular athletic program. Programs that encourage the idea that athletes become better players if they spend additional time viewing game film, for example, may foster a higher athlete role identity than programs that do not. The prestige of an institution or program

also may cultivate a specific role identity (Grube & Piliavin). These organizational influences can increase network ties that can strengthen or weaken certain role identities (Stryker, 1980).

Organizational influences may lead to conflicting identities in any given network. For example, Grube and Piliavin (2000) found that individuals with both a general volunteer identity and a specific volunteer identity, that is, an identity as an American Cancer Society (ACS) volunteer, may be conflicted about the number of hours they donate to volunteering in general and those they donate specifically to the ACS. Similarly, student-athletes may have a conflict with their role as athlete and their role as student. When student-athletes are expected to spend additional time (outside of required time) in sport-related activities in order to become a better athlete, many with stronger athlete identities may spend fewer hours in academic or student-related activities. Thus, within their respective programs, student-athletes must determine how committed they are to both their role as athlete and their role as student. Concepts of Stryker's (1980, 1991) role and identity theories will be used to help explain how commitments to role identities are determined.

Multiple identities of self are organized in a hierarchy such that one identity may have more of one characteristic than another identity (Stryker & Serpe, 1994). Further, according to McCall and Simmons (1978), the hierarchy in which relating identities are structured depends on the degree of commitment or investment in an identity, the support provided for that identity, and the satisfaction associated with that identity. Hierarchies of identities can be structured based on individuals' needs for support and satisfaction, as

well as the benefits of enacting that identity and amount of importance given to that identity by individuals and others. In McCall and Simmons's view, role identities are ordered higher on an individual's hierarchy based on perceived importance of that identity. Stryker's (1968, 1980, 1991) view is slightly different, in that he asserts that identities are structured in a hierarchy that orders identities based on the probability of that identity being invoked in a given situation, which he refers to as identity salience (Stryker & Serpe). Regardless of the view, each uses a hierarchical organization of identities or role identity saliences, theoretically explaining which identity will be enacted to take responsibility of a self-relevant outcome (Stryker & Serpe). Further explanation of Stryker's view can help explain how some college athletes can enact both an athletic identity and a student identity.

Stryker's Identity Theory

College student-athletes have both the athletic and student identity available to influence their behavior. According to Stryker's (1980, 1991) identity theory, behaviors are chosen based on the relative salience or degree of commitment to the role with which that identity is associated (Stryker & Serpe, 1994). Individuals with the same role identities may differ in terms of relative degree of commitment to a particular role identity (Piliavin et al., 2002). Thus, student-athletes with high athletic identities may differ in behavioral choices based on their degree of commitment to roles (i.e., behavioral expectations) that are associated with the athletic identity. Understanding this might explain how one student-athlete might chose to spend additional time in physical training during exam period, while another might spend more time at the library studying.

Stryker (1980) defined *commitment* based on the personal and social costs of not meeting the behavioral expectations for a particular identity. Costs are determined with respect to the strength of emotional and interactional bonds that hold individuals to the social networks related to a particular identity (Stryker & Serpe, 1994), such as student-athletes' commitment to the role of athlete as a function of the emotional and interrelating ties they have to those in their social network. The costs of losing these ties may influence student-athletes' commitment to the athlete role.

The salience or probability of student-athletes invoking the athlete identity over the student identity is determined by individuals' sensibility to the internal and external cues for the behaviors associated with the identity, their ability to easily call up information and behaviors associated to that identity, and readiness to act out the meaning attached to that identity (Serpe, 1991). As individuals become more capable of invoking one identity over another, it becomes more likely that they invoke this identity in and across all the situations in which they interact (Stryker & Serpe, 1994). Gecas (1982) called this *centrality* or *importance*, stating that individuals may invoke one identity over another based on the self-ascribed importance or value placed on that identity. Though Stryker and Serpe agree that salience and centrality are both important and are related in determining how identity is formed, they believe that the two terms are different.

In a study designed to assess individuals' commitment (i.e., affective commitment and interactional commitment) to roles, the identity salience (i.e., probability of invoking) attached to multiple identities, the psychological centrality (i.e., degree of importance) of

these identities to the individuals, and the amount of time individuals spend in certain roles (i.e., role choice), Stryker and Serpe (1994) analyzed the relation of salience and centrality and the degree in which each serves as a mediator between commitment and role choice. Undergraduate students were asked to provide information in relation to five roles and identities related to their position as student: academic, athletic/recreational, extracurricular, personal involvement, and dating. Data were reported on four roles, excluding dating because of its strict compatibility with the other roles.

Students reported spending more time in the academic role. For the athletic/recreational and extracurricular roles, the zero-order correlations for identity salience and centrality were moderately strong (.601 and .574, respectively, for males and .617 and .536, respectively, for females), arguing that identity salience and centrality overlap but are slightly different for the athletic/recreational and extracurricular roles. For academic and personal involvement, zero-order correlations for identity salience and centrality were minimally correlated (.090 and .154, respectively, for males and .070 and .136, respectively, for females). These correlations infer that salience and centrality overlap in some roles and are essentially independent in other roles. Through path analysis, the researchers found support that salience and centrality serve as mediators between commitment and behaviors of a particular role choice across all roles, with salience being a more consistent mediator. They found support for their hypothesis that higher commitment, identity salience, and psychological centrality correspond to a higher frequency of behaviors associated with particular roles.

Stryker and Student-athletes

According to the theory presented above, student-athletes may spend more time carrying out behaviors consistent with their athlete role or the student or academic role based on the level of affective and interactional commitment they have to those roles, the probability of invoking the behaviors of that role (i.e., identity salience), and the self-ascribed importance they attach to that role. In Stryker and Serpe's (1982) model, higher commitment to the athlete role in comparison with the student role would lead to an increased probability of invoking an athletic identity and an increased value placed on the athlete identity, which likely would result in more time spent in role behaviors associated with being an athlete. Stryker and Serpe's model does not imply that more time spent in role behaviors associated in one identity over the other would lessen behaviors associated with another identity. This supports the notion that individuals can have more than one identity.

Chickering and Reisser

Although Stryker's theory frames the formation of identity, Chickering and Reisser (1993) provided an understanding of how identity and overall psychosocial development forms in college students. The 1993 revision of Chickering's (1969) theory still focused on identity as the goal of development, but it addressed development in a more diverse college population than that of the 1969 theory. Chickering and Reisser introduced seven vectors that build on each other to form identity (Evans, Forney, & Guido-DiBrito, 1998).

Chickering and Reisser's (1993) fifth vector, *Establishing Identity*, builds on development that occurs through vectors one through four (Evans et al., 1998). Vector one, *Developing Competence*, the development of intellectual, physical, and interpersonal competence, is the developmental process that occurs while college student-athletes are being challenged intellectually by new ways of thinking, preoccupied with physical appearance and stressors related to physical activity, and developing the interpersonal skills of appropriate communication (Harris, 2003). In vector two, *Managing Emotions*, college student-athletes encounter situations that spark emotions of happiness, joy, love, fear, guilt, depression, and others, and begin to become aware of the different emotions and how to appropriately channel those emotions (Chickering & Reisser). As students move through vector three, *Moving through Autonomy towards Independence*, they begin to experiment with different value systems and behaviors related to different identities (Harris). It is in this stage that college student-athletes develop emotional independence by separating from parents and increasingly relying on peers and authorities in the college setting (Harris), instrumental independence by becoming more self-sufficient and gaining the ability to function effectively in new environments (Chickering & Reisser), and interdependence by learning to be self-responsible and understanding when to ask for help (Harris). In vector 4, *Developing Mature Interpersonal Relationships*, college student-athletes develop the capacity to be intimate with others and the tolerance and appreciation for differences (Harris). These vectors set the foundation for identity development.

Vector five, *Establishing Identity*, is the process whereby students discover who they are (Chickering & Reisser, 1993; Parham, 1993). Although vectors one through four do not have to occur in order, two tasks must take place in route to identity formation. First, students must encounter a life-changing experience or crisis in which they respond in a manner that produces growth, and second, students must make a commitment in terms of values (e.g., sexual values or vocational plans) or beliefs (e.g., religious beliefs) (Harris, 2003). An example of this would be a student-athlete who commits to a new career path after experiencing the death of a loved one. Individuals who establish a healthy self-identity will be able to identify self as having multiple roles, such as athlete, student, friend, and others (Harris). With this establishment, student-athletes can begin to recognize a life of purpose with or without athletics (Brown & Hartley, 1998).

Developing Purpose, vector 6, is the process through which college students begin to make plans for their future by integrating interpersonal and family commitments and personal interest with vocational aspirations and plans (Chickering & Reisser, 1993). Some students may attain a sense of purpose while they are still in college while others may only lay the foundations of attaining purpose (Harris, 2003). *Developing Integrity*, vector 7, is the process in which a true self becomes known as students develop more tolerance for political, racial, and social differences and begin to personalize and defend a set a values that are congruent with the way they live (Chickering & Reisser).

Identity theory (i.e., Stryker, 1980; Stryker & Serpe, 1994) and vector theory (Chickering & Reisser, 1993) together promote an understanding of identity development among college student-athletes. Although Stryker provided an understanding of identity

development that occurs in general, Chickering and Reisser furthered the understanding of that developmental process for college-age student-athletes. As college student-athletes develop intellectual and physical competence, learn to manage their emotions, become independent and more interdependent, and develop mature intimate relationships and a tolerance for differences, they are capable of developing an identity or multiple identities or roles with commitments to particular values and beliefs. According to Stryker and Serpe, student-athletes become emotionally bound and/or interactionally bound to commitments. Based on the degree of importance (centrality) or probability of invoking (salience) certain identities, student-athletes carry out behaviors related to those identities. According to Stryker, student-athletes spend more time in identity-related behaviors that are more salient, although centrality is instrumental in predicting the amount of time spent in role behaviors (Stryker & Serpe). Through this process, student-athletes can then begin to develop a sense of purpose and begin to live a life of integrity, one consistent with their true self.

As student-athletes face challenges by identifying with both their athlete role and their student role, self-identification may come through a process of developing competency, emotional management, autonomy and interdependence, and mature relationships. Once student-athletes become committed to the athlete or the student role, they choose the behaviors associated with that identity. That identity becomes healthy when student-athletes are able to recognize different behaviors associated with that role. How one defines the behaviors of certain roles or identities are based on others' expectations of that role. Thus, if a student-athlete identifies more as an athlete but is

expected to fulfill the behaviors of an athlete (e.g., train, practice, and compete) and a student (e.g., attend study hall, classes, and use the library), a healthy athletic identity can emerge.

Unique Factors Associated with Student-athletes

In addition to the developmental challenges faced by all students, student-athletes also must deal with unique situations. Goldberg (1991) introduced athletic identity and aspects related to the structure of athletics, such as sport commitment, time in sport, and social isolation and social support, as factors that make the lives of student-athletes unique. The previous section introduced the process through which student-athletes develop some degree of an athletic identity when defining self. The literature discussed in this section presents the relationship between athletic identity, sport commitment, time in sport, social support, life satisfaction, and holistic wellness. The literature introducing the relationship between these unique factors and the lifestyles of student-athletes also is reviewed.

Athletic Identity

Student-athletes identify themselves as both students and athletes (Hinkle, 1994). The degree to which they self-identify with one or the other has an effect on the behaviors they choose associated with that identity (Stryker & Serpe, 1994). Many believe that athletic identity holds a unique position above other identities because it is formed early in individuals' lives (Webb et al., 1998). Because of the expectations of others and self, individuals who identify as *athlete* may carry out the behaviors associated with an athlete. The strength of that identity is further increased by the support that

individuals give to that identity (McCall & Simmons, 1978). A strong athletic identity may have both negative costs and potential benefits (Brewer et al., 1993). Athletic identity has been associated with burnout (Baysden, Brewer, Petitpas, & Van Raalte, 1997; Gould, Udry, Tuffey, & Loehr, 1996), career maturity (Murphy, Petitpas, & Brewer, 1996), injury (Brewer, 1993), social behaviors (Gatz & Messner, 2002), and sport termination (Grove, Lavalle, & Gordon, 1997; Sparkes, 1998; Webb et al.). Although empirical studies linking self-identity, athletic identity, and sport are limited, many of the few studies that do exist help explain the costs and benefits of having a strong athletic identity.

Career

One of the greatest threats to those who have a strong athletic identity is *identity foreclosure* (Marcia, 1966) in which an athlete strongly commits to the athlete role while not exploring other social roles (Brewer et al., 1993). Athletes who exclusively commit to athletics as a career option may set themselves up for career-related difficulty. In a study involving 259 student-athletes in junior colleges, Kornspan and Etzel (2001) found that athletic identity foreclosure can restrict the time that athletes devote to career development. It is unclear, though, how results of this study might generalize to college student-athletes at Division I, II, or III schools. Murphy et al. (1996) conducted a study examining identity foreclosure, athletic identity, and career maturity in 124 Division I college student-athletes. They found that scores in identity foreclosure correlated negatively with scores of career maturity. ($r = -.36, p < .005$) and athletic identity ($r = -.31, p < .005$) Brown and Hartley (1998) found no significant relationship between

career exploration, career decision-making, career planning, knowledge of the world-of-work and certain occupations, and athletic identity in 114 male college student-athletes from Division I and II schools. These contradictory findings prompted other researchers to examine the relationship between athletic identity and career-related issues.

Career decision-making tasks seem to be one of the most important issues facing college student-athletes (Brown et al., 2000). It is possible that career decision-making self-efficacy is hampered because student-athletes lack the time to develop career decision-making skills (Kennedy & Dimick, 1987). In a study involving 189 male and female student-athletes across five sports (baseball, football, soccer, swimming, track/cross country, and volleyball), Brown et al. (2000) examined the relationship between athletic identity, identity foreclosure, and career decision-making self-efficacy. They hypothesized that student-athletes with strong athletic identities would demonstrate a low self-efficacy for career decision-making tasks, but they found no significant relationship between the two variables. They did find support, however, for their hypothesis that athlete identity foreclosure would be inversely related to career decision-making self-efficacy ($r = -.317, p < .001$). These results suggest that it is identity foreclosure, rather than athletic identity, that may lead to negative career decision-making self-efficacy among student-athletes.

Injury

Transition from sport is another area that researchers have deemed important to consider in relation to athletic identity. College athletes can be forced to terminate their athletic career early through injury, or termination may occur naturally as their college

experiences end without any opportunity to continue their sport career through the professional ranks (Pearson & Petitpas, 1990). Scholars (e.g., Lazarus & Folkman, 1984; Pyszczynski & Greenberg, 1987) hypothesized that strong athlete role identification places an athlete at risk for emotional disturbance following an injury, and a number of researchers have tested this hypothesis empirically. Brewer (1993) found a significant relationship between athletic identity and depressive symptoms following injury. In one study involving 121 injured athletes, he found that athletes who reported higher athletic identities reported more severe depression when compared to athletes with less strong athletic identities. In another study of 90 collegiate football players, of which 15 were injured, Brewer found that depression was positively related to athletic identity only in student-athletes who were injured. These results have implications for risks of mood disturbance in student-athletes who have strong athletic identities and sustain an injury.

Sport Retirement

Student-athletes also terminate their sport careers when they retire through college graduation without plans of continuing their sport into the professional ranks. Although many have speculated that a high athletic identity may lead to post-retirement difficulties in adjusting to life outside of sports (Blinde & Greendorfer, 1985; McPherson, 1980; Ogilvie & Howe, 1986; Werthner & Orlick, 1986), there is little empirical support demonstrating this relationship. In a study involving 43 male collegiate athletes and 33 non-athlete male students, Perna, Zaichkowsky, and Bocknek (1996) examined the relationship between mentoring and psychosocial development at the termination of their college careers. They found that student-athletes were more advanced developmentally,

including identity development, than the non-athlete students. These results should be considered with caution, however, because of the sampling limitations in the study.

Sport Commitment

Sport commitment is a general psychological state of commitment to persist in organized sport because one has to or because one wants to (Scanlan, Carpenter et al., 1993). More specifically, sport commitment is defined as “a psychological construct representing the desire and resolve to continue sport participation” (Scanlan, Carpenter et al., p. 6). According to Scanlan, Carpenter et al., sport commitment is determined by attraction to continue playing a sport (sport enjoyment), the attractiveness of other alternatives to playing that sport (involvement alternatives), and the barriers or restraining forces keeping individuals from terminating their sport play (personal investments, social constraints, and involvement opportunities). Through structural equation modeling (Carpenter et al., 1993) and psychometric examination (Scanlan, Simons et al., 1993), researchers have determined that involvement alternatives do not appear to be a significant determinant of sport commitment. Sport enjoyment ($\beta = .222$), personal investments ($\beta = .189$), social constraints ($\beta = -.069$), and involvement opportunities ($\beta = .578$) significantly predict higher sport commitment. Thus, increased sport commitment appears to be related to how much athletes enjoy participating in their sport, how much they have invested in playing their sport, social expectations to continue playing, and anticipated opportunities to continue to play (Carpenter et al.).

As Stryker and Serpe (1994) argued that an increased salience of a particular self-identity increases individuals' commitment to behaviors consistent with that identity, so

might a high athletic identity increase individuals' commitment to the sport in which they participate. In a study investigating the relationship between athletic identity and sport commitment of 236 male and female marathon runners, Horton and Mack (2000) found a significant positive relationship ($r = .47, p < .001$) between athletic identity and commitment to running. These researchers provided evidence supporting the relationship between athletic identity and sport commitment. These results do not provide a direct link to college student-athletes, however, as the mean age for the sample in this study was 40.81, with ages ranging from 19 to 72 (Horton & Mack). Thus, additional research is needed to examine the relationship between these variables among college student-athletes.

Most empirical studies conducted to date on sport commitment sample pre-college adolescents (Carpenter et al., 1993; Scanlan, Simons, et al., 1993; Scanlan, Carpenter, et al., 1993) or elite athletes (Scanlan, Russell, Beals, & Scanlan, 2003; Scanlan, Russell, Wilson, & Scanlan, 2003). Few have focused directly on examining sport commitment with college student-athletes. Those scholars who have focused on the level of sport commitment of college student-athletes have only theorized about the relationship of a high sport commitment and life outcomes in college student-athletes. For instance, Chartrand and Lent (1987) hypothesized that a high sport commitment may cloud athletes' perception of the availability of available career options other than playing sports. Similarly, Pearson and Petitpas (1990) hypothesized that athletes with a high sport commitment may have less time to dedicate to academic and career development.

To examine these theories, Martens and Cox (2000) tested the hypothesis that level of athletic identity and sport commitment would be associated with athletes' career development. In a study involving 131 varsity student-athletes and 95 non-athlete students, they found no significant relationship between sport commitment and career development. Based on how career development was operationalized in the study, high sport commitment was not significantly associated with student-athletes' level of "awareness of and ability to specify one's own interests, personality characteristics, strengths, and goals as they relate to career choices" (i.e., vocational identity), "perceived need for vocational information" (i.e., occupational information), and "perceived obstacles in choosing a career" (i.e., barriers) (Martens & Cox, p. 174). Based on these results, it does not appear that sport commitment has a systematic negative impact on career development. In fact, it remains possible that sport commitment may be beneficial for student-athletes, as some have theorized (Raedeke, 1997).

Time in Sport

Athletic identity has been shown to have a positive and significant relationship with the amount of time student-athletes spend in their sport ($r = .23, p < .001$) (Schmid & Seiler, 2003). Though the NCAA limits the amount of time per week that college student-athletes may be involved in mandatory athletic activities to 20 hours during the competition season and 8 hours during the off-season (NCAA Manual, 2005), many student-athletes spend more time in sport-related activities on their own or in small groups on a non-mandatory basis. This non-mandatory participation, although not

directed by coaches and athletic staff, may be encouraged by those who hold an evaluative and superior position over them.

Brown et al. (2000) found that 42% of 189 female and male Division I student-athletes report spending 30 or more hours per week in their sport. This is far more than the 20 hours per week time limit for athletically related activities during the competition season. Further, only 2% percent of respondents reported spending less than 20 hours per week. Thus, it appears that a strong majority of student-athletes spend additional time in their sport on a voluntary basis. These findings were true for those who had career expectations of continuing their sport at the professional level (19%), those who did not (39%), and those who were uncertain (42%) (Brown et al.).

Wooten and Hinkle (1994) hypothesized that increased participation in sport-related activities may be detrimental to career development and other developmentally appropriate activities in college student-athletes. Consistent with this, Brown et al. (2000) found an inverse relationship between hours of weekly sport participation and career decision-making self-efficacy ($r = -.32, p < .001$). These findings suggest that student-athletes who spend more hours participating in their sport may spend less time in career decision-making tasks.

Although the time demands of sport participation may present career development concerns, it is not clear that the time demands are negative in other areas of development. In a qualitative study by Kimball and Freysinger (2003), a female student-athlete reported that "... I think that if I balance basketball with academics I can do anything" (p. 12), in response to a question about what she had learned through the time demands of sport

participation. Thus, the skills learned through athletic participation may generalize into other areas of life. Further sport participation has been found to have a positive benefit on many aspects of life for athletes in general, such as buffering stress (Coleman & Iso-Ahola, 1993), providing a source of enjoyment (Cash et al., 1994), and enhancing physical health and social improvements (Koivula, 1999). The empirical relationship between these benefits and the amount of time invested in sport specifically for college student-athletes is not yet known.

In one study examining the predictors of sport commitment, Scanlan, Simons, et al. (1993) found that the amount of time invested in sport by 140 adolescent (i.e., pre-college) athletes was important to understand why individuals commit to sport. In examining the personal investment construct, which is described by the amount of time, effort, and money invested in participating sport, they found, using a five-point scale, that “little” money was invested ($M = 2.33$), but “reasonably high” amounts of time ($M = 3.92$) and effort ($M = 4.03$) were invested. In further study using structural equation modeling of the sport commitment model and its predictors, Carpenter et al. (1993) found that personal investments significantly predicted ($\beta = .189$) greater commitment in a sample of 1342 male and female athletes ages 10 to 19. Based on these findings, it can be tentatively concluded that time invested in sport is related to higher sport commitment, although more robust empirical proof is still needed for population of college student-athletes.

There may be a significant relationship between individuals’ participation in structured extracurricular activities (e.g., athletics) and life satisfaction for college

student-athletes (Gilman, 2001). Maton (1990) reported that pregnant female adolescents who participated in structured extracurricular activities were more satisfied with their lives in the school environment than those who had no participation in extracurricular activities. Additional research is needed to determine if this relationship holds true for college student-athletes. In the same manner, although sport participation has been found to be beneficial to self-esteem (Erkut & Tracy, 2002; Tracy & Erkut, 2002), psychological well-being (Marten DiBartolo & Shaffer, 2002; Pate, 1995), and in the emotional and social arenas (Silvestri, 1997), further examination is needed to determine the relationship between the amount of time spent in sport participation and holistic well-being.

Social Support

Researchers (Person et al., 2001) have found that student-athletes' limited social interaction with individuals not associated with athletics could be detrimental to their development and that this may be disadvantageous to student-athletes. Other researchers (Wilson & Pritchard, 2005), however, have reported that non-athlete students reported more stress than student-athletes related to social isolation. One possible explanation for contradictory findings is that researchers typically assess level of social interactions only and do not take satisfaction into account. Thus, it is possible that limits to social interactions with non-athletes may not be a concern as long as the support received is perceived as satisfactory.

Further, the support that student-athletes receive has been found to be beneficial. For example, athletic injury can be one of the most disturbing incidents of student-

athletes' college careers (Brewer et al., 2000; Green & Weinberg, 2001; Webb et al., 1998). After a career-hindering or career-ending injury, athletes may go through the process of denial, anger, and depression; most are able to accept their injury and continue to function physically and psychologically at a level of pre-injury state when there is a strong social support network present (Harris, 2003).

Similarly, Manual et al. (2002) found that adolescent athletes who received increased social support exhibited less depressive symptomology following an athletic injury. These findings, however, are difficult to interpret because the authors do not explain fully how social support was measured. Using the Social Support Questionnaire (SSQ; Sarason, Levine, Basham, & Sarason, 1983), which measures the number of social supports individuals have and their satisfaction with that support, Green and Weinberg (2001) found that the number of persons within a support network were not significantly associated with a negative psychological response (i.e., tension, anger, depression, confusion, and fatigue), but that the athletes' satisfaction with that support was significantly associated. That is, persons who were less satisfied with the social support they were receiving had higher levels of negative psychological reaction. Since the study participants were athletes ranging from 19 to 70 years of age, further research is needed to examine this relationship among the college athlete population specifically. Although some collegiate student-athletes report missing out on the social experiences of non-athlete students as a result of the limited number of social supports and interactions attributable to their sport participation, several student-athletes report that having coaches, teammates, and friends who are involved with sport helps them make friends,

cope with stress, and enhance their mood by giving them someone to communicate with who can identify with their lives (Kimball & Freysinger, 2003).

Life Satisfaction

Life satisfaction is an individuals' cognitive assessment of the quality of her or his life (Simons et al., 2002). Life satisfaction has been described as the cognitive aspect of subjective well-being (Andrews & Withey, 1976) or individuals' judgment of their lives based on their own system of measurement (Shin & Johnson, 1978). Therefore, individuals' life satisfaction is dependent on their perception of how they have lived up to the standards they have set for themselves (Pavot & Diener, 1993). Further, it is important to understand that life satisfaction reflects individuals' judgment of their life overall rather than certain aspects of their life (Pavot & Diener). In understanding individuals' satisfaction with their lives, then, it is important to understand how the different domains of their lives affect their judgment of their overall lives.

As different domains (e.g., athletic identity, sport commitment, time in sport, social support) of the lives of student-athletes are examined, further understanding of how each of these are associated with life satisfaction can be discovered. For example, sport participation has been associated with an increased quality of life (Jacobs, Roswal, Horaut, & Gorman, 1990). In one study examining the relationship between athletic identity and life satisfaction, Tasiemski, Kennedy, Gardner, and Blaikley (2004) found no relationship between athletic identity and life satisfaction for 985 people with spinal cord injuries. These researchers examined the relationship between athletic identity and life satisfaction in persons who may or may not identify as an athlete in most instances, but

who self-identified as someone who competes in a sport for the benefits that sport provide after a life changing injury. Thus, it is difficult to generalize these findings to college student-athletes who participate under distinctly different circumstances. Based on the idea that a strong athletic identity might have a negative effect on transitioning from a sport, Webb et al. (1998) hypothesized that there would be a negative correlation between athletic identity and life satisfaction for athletes who have retired from sport. In examining this relationship among 51 current college students and 41 alumni, they found no significant relationship between athletic identity and life satisfaction. Thus, it remains unclear whether an athletic identity leads to greater or diminished life satisfaction in athletes who are currently participating in their sport.

To date, no reported empirical study of the relationship between sport commitment and life satisfaction has been reported. Thus, the study examines the role that commitment to sport plays in satisfaction with overall life, seeking to support the hypothesis that individuals committed to their sport can lead a rewarding and satisfying life (Harris & Cameron, 2005). It is possible that one such benefit is simply the benefit of exercise. Burnham and Wilcox (2002) examined the effects of exercise on quality of life in 21 cancer survivors, ages 40-65. They found that as the participants increased their aerobic exercise from 14 minutes to 32 minutes over 10 weeks (i.e., increasing two minutes each week), their quality of life improved. Additionally, commitment to exercise and satisfaction had a significant positive relationship ($r = .49$ [have to commit]; $r = .20$ [want to commit], $p < .01$) for 428 university students from group exercise classes (Wilson et al., 2004). Although these studies did not specifically target college student-

athletes, it is possible that the exercise aspect of being a collegiate athlete has broader implications for life satisfaction and wellness. Further study is warranted to determine the impact of time spent in sport participation on the lives of student-athletes.

Life satisfaction also may be impacted by social support. For example, individuals with low income and low competence were satisfied with their lives when they received social support from others (Kalimo & Vuori, 1990). Although student-athletes may be satisfied with the social support that they receive (Green & Weinberg, 2001), further examination is needed to determine the relationship between social support and life satisfaction.

Examining life satisfaction or quality of life may provide insight in understanding overall well-being in college students (Hermon & Hazler, 1999). Life satisfaction is an indicator of subjective well-being only, but researchers (Inglehart, 1978; Miller & Crader, 1979) have concluded that subjective indicators provide a better sense of well-being than objective indicators. Even further, although researchers have found that satisfaction with several domains of individuals' lives helped to explain their overall life satisfaction (Abby & Andrews, 1986), individuals' satisfaction with their whole lives in a global sense is a better indicator of subjective well-being (Wozniak, Draughn, & Knaub, 1993).

Understanding subjective well-being will give insight to how individuals feel about the quality of their lives, regardless of how their lives appear to others (Barrow, 1989). Quality of life is defined as life satisfaction (Amarantos, Martinez, & Dwyer, 2001). There appears to be a positive relationship between life satisfaction and wellness (McConatha & McConatha, 1988-89). Thus, understanding life satisfaction can give

insight to individuals' overall functioning based on their psychological evaluation of themselves. Although understanding individuals' overall functioning or wellness should include a subjective reflection of their lives, understanding wellness may give a more comprehensive understanding of how individuals achieve a way of life optimized towards full functioning, including psychological, physical, emotional, social, and spiritual evaluations (Myers et al., 2000).

Wellness

Wellness provides the perspective for understanding human functioning and how individuals choose a way of life in order to live life more fully (Myers et al., 2000). Dating back to Aristotle, this state of functioning involved the interconnectedness of the mind, body, and spirit and individuals' pursuit for maximum functioning (Archer, Probert, & Gage, 1987). Wellness is a method of conducting oneself in a manner that allows one to reach their maximum potential as self-defined (Dunn, 1961). Through a wellness perspective of college student-athletes, counselors may gain an understanding of the lives of student-athletes and how the choices that student-athletes make can lead to a state of optimal mental, physical, social, emotional, and spiritual well-being (World Health Organization, 1958).

Theoretical Models of Wellness

Wellness has been theoretically conceptualized by several researchers (e.g., Ardell, 1988; Hettler, 1984; Myers & Sweeney, 2004; Myers et al., 2000). Hettler proposed one of the first models, based in health care, conceptualizing wellness using a hexagon to depict wellness within the emotional, intellectual, occupational, physical,

social, and spiritual aspects of human functioning. Although there were two reliable and valid instruments developed from this model, the Lifestyle Assessment Questionnaire (National Wellness Institute, 1988) and the Testwell (National Wellness Institute, 1988), this model lacks a basis in psychological development (Hattie, Myers, & Sweeney, 2004) and thus its use for counseling purposes with the college student-athlete population is questionable.

Ardell (1988) proposed another health care-focused model with five dimensions (i.e., environmental safety, nutrition awareness, physical health, self-responsibility, and stress awareness and management) and eight areas in which individuals can promote behavioral change. Individuals can seek wellness by making behavioral changes within their family life, through job satisfaction, in their leisure time, through nutrition, through physical fitness, in the psychological and spiritual realm, and through stress management (Ardell).

A more contemporary model is the Wheel of Wellness (Myers et al., 2000; Sweeney & Witmer, 1991; Witmer & Sweeney, 1992; Witmer, Sweeney, & Myers, 1998), drawn from the perspective of Adler's (1956) Individual Psychology. The Wheel of Wellness model is focused on the holistic treatment of individuals. In this model, personal wellness is depicted as a dynamic wheel of five different but interconnected life tasks (i.e., spirituality, self-direction, work and leisure, friendship, and love) that interact, along with subtasks of self-direction, within the business and industry, community, educational, family, governmental, media, and religious life realms (Myers et al.). The wheel is shown with spirituality at its core or hub, with self-direction, represented by 12

subtasks (i.e., sense of worth, sense of control, realistic beliefs, emotional awareness and coping, problem-solving and creativity, sense of humor, nutrition, exercise, self-care, stress management, gender identity, and cultural identity) as the spokes of the wheel. The model also depicts global tasks that effect personal wellness within each of the life tasks (Myers et al.).

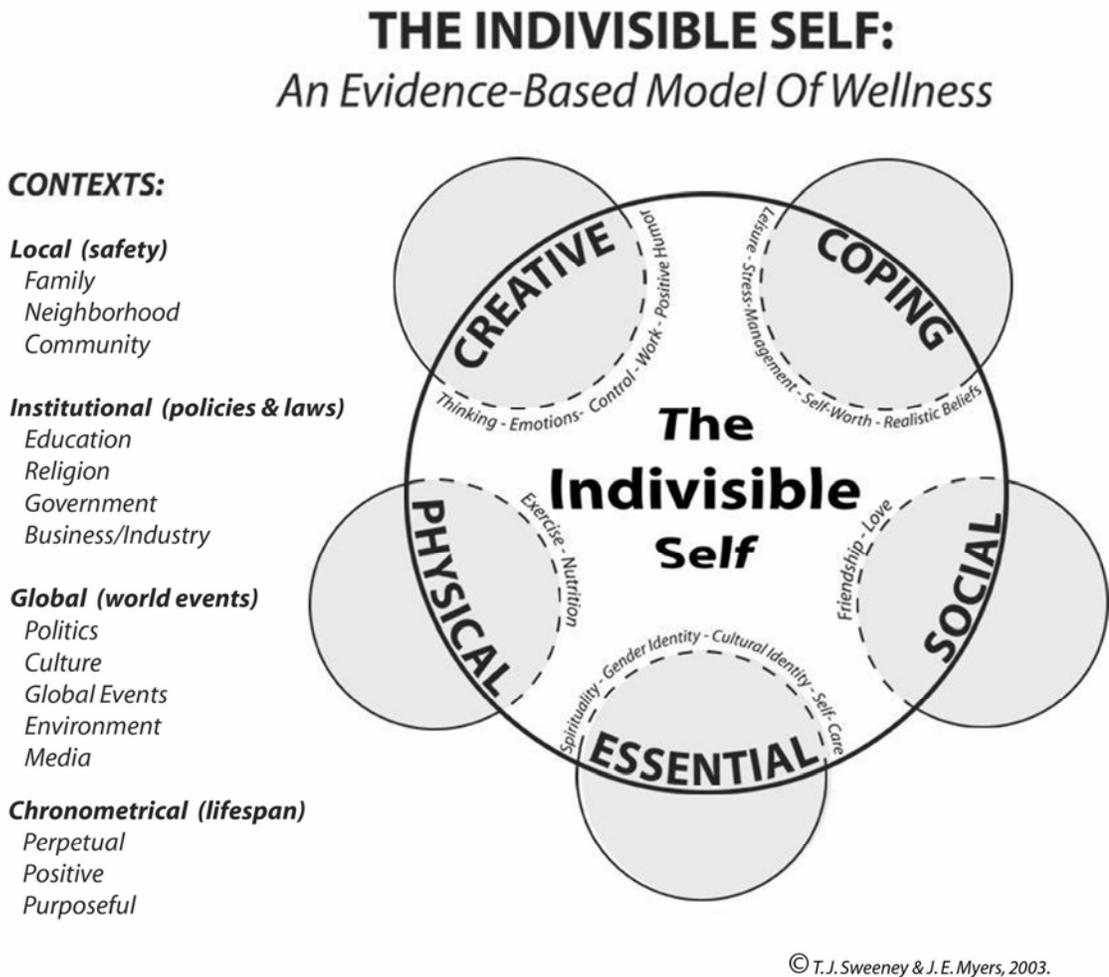
Consistent with Maslow's (1970) concept of self-actualization, the Wheel of Wellness provides a model to help mental health professionals understand wellness and prevention and the human tendency towards striving for optimal wellness throughout the lifespan (Myers et al., 2000). The Wellness Evaluation of Lifestyle (WEL; Myers, Sweeney, & Witmer, 1998) was developed to assess wellness as it was theorized using the Wheel of Wellness model. Although this model has reliable practical use for counselors and other mental health professionals, through further psychometric examination of the WEL. Hattie et al. (2004) found that the data did not support the "Wheel" depiction of wellness. As a result, The Indivisible Self wellness model (IS-Wel; Figure 1; Myers & Sweeney, 2005) was developed.

The Indivisible Self Wellness Model

Empirical study of the Wheel of Wellness led to the structure of the Indivisible Self wellness model (Hattie et al., 2004). Through exploratory factor analysis of the data from 3,043 persons who had completed the WEL, five second-order factors, termed *Creative Self*, *Coping Self*, *Social Self*, *Essential Self*, and *Physical Self*, and one higher order factor, entitled *Wellness*, emerged. The structure of these factors emerged from the

17 scales (i.e., five life tasks and 12 individual subtasks of self-direction) of the Wheel of Wellness (Hattie et al.).

Figure 1. Indivisible Self Model of Wellness (Reprinted with permission)



Five of these components, thinking, emotions, control, work, and positive humor, were structured as the *Creative Self*. What individuals think effects their emotions, how

they perceive they can influence their lives expresses their sense of control, their work experiences can influence their capacity to live life fully, and positive humor can enrich their mental and physical functioning (Myers & Sweeney, 2004). The *Coping Self* “is composed of elements that regulate our responses to life events and provide a means for transcending their negative affects” (Myers & Sweeney, p. 239) and includes the four components; leisure, stress management, self-worth, and realistic beliefs. The *Social Self* factor includes the two components of friendship and love. This factor includes social support, friendship, and intimate love that can enhance individuals’ quality of life (Myers & Sweeney).

Spirituality, gender identity, cultural identity, and self-care are the four components that make up the *Essential Self*. The components of this factor include elements that have positive benefits for quality of life, express an individual’s sense of meaning and purpose, serve as a lens through which life is experienced, and the proactive measures individuals take for a healthy (i.e., well) life (Myers & Sweeney, 2004). The final factor, the *Physical Self*, includes the two components of exercise and nutrition. Exercise is associated with positive psychological well-being (Berger & Motl, 2001; Bray & Born, 2004; McDonald & Hodgson, 1991), and healthy eating behaviors are associated with less depression (Kaplan, Landa, Weinhold, & Shrenker, 1984).

The higher order *Wellness* factor is unique, in that it comes out as a single indivisible higher order factor and a factor containing several sub-elements through item analysis of the WEL inventory (Myers & Sweeney, 2004). The *Wellness* factor exemplifies Adler’s view of holism emphasizing the whole self and its interaction

between the parts of self (Ansbacher & Ansbacher, 1967, as cited in Myers & Sweeney). With this view and understanding, this study will focus primarily on the higher order Wellness factor, with consideration of the other factors (Creative, Coping, Social, Essential, and Physical Self).

In addition to the higher order factor and the second-order factors, the Indivisible Self model of wellness presents contextual variables or environments in which individuals function. These contexts are *local, institutional, global, and chronometrical* (Myers & Sweeney, 2004). Local contexts include families, neighborhoods, and communities; Institutional contexts are education, religion, government, business and industry; Global contexts are politics, culture, global events, environment, media, and community; and, finally, Chronometrical contexts represent the perpetual, positive, and purposeful ways in which people change over time (Myers & Sweeney). These contexts represent safety, policies and laws, world events, and lifestyle choices over the lifespan, respectively. Each context helps to understand individual behavior in relation to wellness and how the individual interacts with their environment.

Based on extensive factor analytic procedures on the WEL inventory, The Five-Factor WEL (5F-WEL; Myers & Sweeney, 1999) was developed to assess wellness as defined by the IS-Wel. The 5F-WEL has proven to be a practically useful measure of holistic wellness across culture and in the college population (Myers, Luecht, & Sweeney, 2004).

Holistic Wellness and Undergraduate College Students

College students face many challenges and experience various stressors related to their normal developmental stage in life (Osborn, 2005). Because of the accessibility of the population for empirical studies, college students have been used extensively in wellness research. Although several factors related to wellness (e.g., identity, friendship, work and leisure, exercise and nutrition) have been studied with this population, few have been based on holistic wellness and even fewer have singled-out college student-athletes and have identified the relationship of total wellness and other aspects of wellness with their overall functioning. The following will outline wellness models and the research conducted on the college student population based on a recent literature review conducted by Osborn.

Non-Counseling Models of Wellness and Research

Archer et al. (1987) conducted the first wellness study on the college student population. Using Hettler's (1984) hexagonal model, Archer et al. assessed the physical, emotional, spiritual, occupational, social, and intellectual dimensions of wellness of 3,190 undergraduates (57% female; 70% 17-20 years old; 85% Caucasian). Students responded to 1) the extent to which they believed each dimension affected their health and wellness, 2) which dimensions they believed they needed more information on and assistance with, and 3) their current level of health and wellness in each area. In addition, the participants identified activities that they believed to be beneficial and detrimental to their wellness and factors that influenced their decision to participate in wellness activities.

Out of the six wellness dimensions, participants believed that the physical dimension (i.e., nutrition, exercise, and sleep) affected their health and wellness the most, reported most needing information and assistance about the occupational dimension, and rated their social wellness highest and spiritual wellness lowest. The students identified having a close relationship and exercise as activities that they perceived to be most beneficial to their wellness and worrying, poor sleep habits, and procrastination as activities they perceived to be detrimental to wellness. Enjoyment and time were the two factors that most influenced their decision to participate in wellness activities or behaviors. According to Archer et al. (1987), undergraduate students seem to perceive both physical dimensions and nonphysical dimensions of wellness as important to health, behavior, and emotions.

Adams, Bezner, Drabbs, Zambarano, and Steinhart (2000) introduced a six dimensional (physical, social, emotional, intellectual, spiritual, and psychological) wellness model similar to Hettler's (1984) model. Their model was different in that it included a psychological dimension in place of Hettler's occupational dimension. Their model was based on multidimensionality, balance among the dimensions, and causes of health, rather than illness. Adams, Bezner, and Steinhart (1997) developed the Perceived Wellness Survey (PWS) to measure these six dimensions of perceived wellness, which is defined as "the sense that one is living in a manner that permits the experience of consistent, balanced growth in the emotional, intellectual, physical, psychological, social, and spiritual dimensions of human existence" (p. 169).

Adams et al. (2000) administered the PWS to 112 undergraduate students (81% women; 81% White; average age 23 years) of a health education class at a southern state institution to test the overall model, along with measures of life purpose (i.e., zest for life, fulfillment, contentment, and satisfaction), dispositional optimism, and sense of coherence (or resilience; Antonovsky, 1987) to determine the relationship between spiritual and psychological wellness. Although no implications for wellness were provided for undergraduate students, higher perceived wellness was significantly related to higher scores of life purpose, dispositional optimism, and sense of coherence. Optimism and sense of coherence significantly predicted wellness, and the effect of life purpose on wellness was mediated by optimism and sense of coherence.

Counseling Models of Wellness and Research

The following models of wellness are based in counseling theory. These include the Wheel of Wellness (Myers et al., 2000), the Indivisible Self model of wellness (Myers & Sweeney, 2005), and the Four Factor Wellness model (4F-Wel; Myers et al., 2004). The next sections will present the research conducted on undergraduate students using the Wheel of Wellness and the Indivisible Self model of wellness.

Wheel of Wellness

Hermon and Hazler (1999) examined the relationship between experience of wellness and the psychological well-being of 155 undergraduate students. Wellness was measured using the original 114-item version of the Wellness Evaluation of Lifestyle (WEL-O [original version]; Witmer, Sweeney, & Myers, 1993). Two separate inventories were used to measure each state (i.e., affective) and trait aspects of psychological well-

being. The results of multiple regression analysis indicate that two wellness components--work, recreation, and leisure ($\beta = .27$) and self-regulation ($\beta = .28$)--were significant contributors to undergraduate students' affective experience of psychological well-being ($R^2 = .35$). These two components, with the addition of the friendship component, contributed to students' general life experience ($R^2 = .40$). The two wellness components of self-regulation and work, recreation, and leisure were the best predictors of college students' state and trait psychological well-being. In their analyses, Hermon and Hazler failed to consider race/ethnicity, gender, age, and marital status, although participants were described on these dimensions.

Enochs (2001) examined wellness and adjustment, using the 120-item version of the Wheel of Wellness (Wel-S; Myers, Sweeny, & Witmer, 2000), of 511 freshman (mean age = 18.63 years; 58% female; 80.25% Caucasian, 12.92% African American, and 2.5% Hispanic) at a southern, state-supported university. Half of the students lived in freshman year experience (FYE) resident halls and the other half lived in regular halls. Students who lived in FYE halls had access to the use of tutors and counselors housed in the residence hall, involvement of faculty members, and community-building activities. FYE students had higher total wellness and adjustment scores than students in the regular halls. No significant gender differences in total wellness were found. Enochs conclude that the orientation and resources received by the students may enhance overall wellness; however, no baseline scores of wellness were obtained, and thus the wellness and adjustment differences may have been in place before the students entered college.

Myers and Bechtel (2004) administered a revised 103-item version of the Wellness Evaluation of Lifestyle (WEL; Myers, Witmer, & Sweeney, 1998) to 179 first-year cadets at West Point Academy two sequential fall semesters, along with two other measures of perceived stress and mattering (i.e., degree to which individuals perceive themselves to be important to others). The sample mostly comprised of men (84%) and traditional-age college students (mean age = 19.4), although it was fairly diverse in terms of race and ethnicity (37% Caucasian, 29% African American, 13% Hispanic, and 8% Asian). The students scored highest on the Friendship life task (mean = 86.84) and lowest on the Work life task (mean = 69.80). Significant positive correlations between mattering and total wellness and significant negative correlations between stress and wellness in the areas of work, realistic beliefs, and stress management were identified. The cadets scored higher on Friendship and Self-Direction scales and in Total Wellness (Work mean scores were significantly lower) than an undergraduate norm comparison group. Myers and Bechtel concluded that “cadets feel connected with others and experience a greater buffer against stress as a consequence” (p. 480).

In relation to examining undergraduates’ connection to others, Shurts and Myers (2005) examined the relationship among liking, loving, and holistic wellness of 242 undergraduates (75% female; mean age = 25 years; 43% Caucasian, 22% African American, and 28% other ethnic background; 60% single, 33.5% married). Using a 105-item version of the WEL (Myers, Witmer, & Sweeney, 1998) and two separate measures of liking (i.e., focus on one’s closest friend) and love attitudes, Shurts and Myers found reasonably high self-assessment of Total Wellness (mean score = 77.4), significant

positive relationships between liking and the six WEL scales and Total Wellness, and strong correlations with the love attitudes of Eros love (i.e., romantic love) and the WEL scales of Leisure and Friendship; Pragma love (i.e., practical love/pragmatic love) and Spirituality; and Mania love (i.e., obsessive love) and Self-Direction. Interestingly, undergraduate males reported significantly higher Total Wellness scores than females. Shurts and Myers concluded that undergraduates have positive feelings about their intimate friendships in general as well as their ability to have successful non-romantic relationships.

Indivisible Self Model of Wellness

Studies using the Indivisible Self model of Wellness used the Five Factor Wellness Inventory (5F-Wel; Myers & Sweeney, 2004) to assess total wellness and the five secondary factors and seventeen tertiary factors described in a previous section describing this model. Spurgeon and Myers (2004) assessed racial identity attitudes, self-esteem, and wellness with 203 African American male junior and senior college students (mean age = 21.5 years) at a predominantly White institution (PWI; $N = 100$) and a historically Black college or university (HBCU; $N = 103$). Using the 73-item 5F-Wel (Myers & Sweeney), the researchers found significantly higher scores on the Social Self wellness factor for PWI participants than for HBCU participants. This result was inconsistent with previous findings. Total Wellness scores were similar for the HBCU (73.48) and PWI (72.77) groups. Multiple regression analyses findings suggested that neither racial identity nor self-esteem significantly predicted the variance in wellness.

Using the same version of 5F-Wel, Myers and Mobley (2004) examined wellness factors of an existing database including 1,567 undergraduate students (57% female; 61% Caucasian, 15.5% African American, and 19% other ethnic groups; 86% single, 8.4% married; 83% traditional age (i.e., 24 years or younger) and 14% nontraditional age (i.e., 25 and over) and 702 non-undergraduate adult participants. No difference in Total Wellness was found between the traditional and nontraditional college students. The student sample scored highest in Social Self factor and the lowest in the Coping Self factor. Nontraditional students scored higher on the third order factors of Spirituality and Realistic Beliefs than traditional students, who scored higher on the third order factors of Exercise and Leisure. In comparing the student group with the non-undergraduate adult group, Myers and Mobley found that college students scored higher on Exercise and Leisure and lower on Self-Care (items that refer to safety behaviors, preventive health behaviors, and avoidance of negative health practices) and Social Self than non-student adults. Myers and Mobley concluded that “undergraduate students are challenged relative to the establishment of friendships ... [and] are at risk for lower wellness than non-student adults (NSAs), most notably in the area of Realistic Beliefs” (p. 46).

Sinclair and Myers (2004) administered the 73-item 5F-Wel (Myers & Sweeney, 2004) and a 24-item scale measuring three aspects of objectified body consciousness (i.e., viewing self as an object): surveillance (viewing the body as an outside observer), shame (feeling shame when the body does not conform to accepted societal standards), and appearance control beliefs (amount of perceived control a woman believes she has over her appearance) to 190 White, heterosexual undergraduate women. Although wellness

scores were not computed for the entire sample, the results that were reported indicated that the participants scored highest on the Social Self factor and lowest on the Physical Self factor. Using MANOVAs, Sinclair and Myers found that lower surveillance and body shame score were associated with higher Total Wellness scores. Coping Self was negatively correlated with body shame and surveillance, and Creative Self was negatively correlated with body shame. Physical Self was significantly associated with surveillance and appearance control beliefs. Surprisingly, there was a positive correlation between appearance control beliefs and all factors of wellness except the Essential Self. According to Sinclair and Myers, this may indicate being able to control one's appearance provides a sense of competence for women have this belief.

Summary of Research on Undergraduate Students

Overall, the results of wellness research suggest that the wellness of undergraduate college students is defined by both physical (i.e., sleep, exercise, leisure activities) and social (friendships, peer networks) aspects of wellness. Social wellness is important to this population, as indicated by its highest rating among studies conducted by Myers and Mobley (2004), Sinclair and Myers (2004), and Spurgeon and Myers (2004). In general, college students reported positive feelings about their close friendships and their ability to have success in nonromantic, intimate relationships (Shurts & Myers, 2005). Spirituality and coping (i.e., realistic beliefs, stress management) represent the lowest rankings of wellness for undergraduate college students; however, based on a positive relationship between spirituality and Pragma love (i.e., practical love), Shurts and Myers suggests that a spiritual focus may be more

receptive by undergraduates if its practical use is clear to them. Thus, future research should build on the strong expression of physical and social wellness and attempt to improve resources for expressing spiritual and coping wellness.

Holistic Wellness and College Student-Athletes

Although there is limited empirical inquiry into the overall wellness of student-athletes, the topic has received attention. For example, Miller and Kerr (2002a) proposed the *Athlete-Centered Model* to encourage athletic programs, coaches, parents, administrators, and support staff to view sport as a vehicle for contributing to the overall well-being (physical, psychological, and social) of student-athletes. In this type of sport system, athletes and associated adults work together toward the goals of sport (e.g., winning) and athletes' self-development goals that will aid in helping athletes become more self-reliant and develop lifelong skills. Though other similar life-skills programs have been established, many are outside of the sports realm (Miller & Kerr). The premise of the *Athlete-Centered Model* is to allow these skills to be developed as a result of the sport experience. In this model, sport is viewed as developmentally appropriate and excellence in sport performance is pursued in light of the athlete's overall well-being (Miller & Kerr). Although the benefits of this program have not been studied empirically, its basic tenets include a philosophy of treating student-athletes holistically.

The Indivisible Self model of wellness provides a framework for treating student-athletes holistically. The Total Wellness factor of the model will help provide an understanding of the whole individual and the interaction of the different aspects of lives or challenges they face with being both a student and an athlete. The Total Wellness

factor can provide insight into the dynamic nature of their overall development throughout their college years.

More specifically, each of the five second-order factors provides a framework for meeting the needs and addressing the challenges faced by student-athletes. For instance, as stated in the literature presented previously (e.g., Brown et al., 2000; Harris, 2003; Kornspan & Etzel, 2001; Pearson & Petitpas, 1990), athletic identity, sport commitment, time in sport, and social support all provide challenges related to career development or work. Career issues can be addressed within the Creative Self factor that addresses the component of work. The Coping Self factor can help to understand the beneficial aspects of stress management as a result of how the amount of time student-athletes spend in sport participation (e.g., Coleman & Iso-Ahola, 1993) relates to the overall development of student-athletes. The physical health benefits related to time in sport can help explain the Physical Self factor and its relation to the holistic development of student-athletes. The Social Self factor can provide a framework for understanding social networks (e.g., friends, loved ones, and peers) of student-athletes. Finally, the positive benefits of their lifestyle that may lead to an improved quality of life, along with spirituality and gender and cultural identity can be addressed the Essential Self factor. This study will provide empirical data that explaining the relationship between athletic identity, sport commitment, time in sport, social support, and the secondary and tertiary factors of total wellness.

Ethnicity and Gender

The Essential Self factor of the Indivisible Self model of wellness may provide insight pertaining ethnic and gender identity influences on athletic participation. Athletic participation may have a different meaning based on gender and ethnicity (Elling & Knoppers, 2005). For example, differences have been found in graduation rates and academic performance between Black and White college student-athletes (Gaston-Gayles, 2004). After examining the literature regarding athletic identity, sport commitment, time in sport, social support, life satisfaction, and holistic wellness, along with other factors of wellness, there seemed to be some notable difference regarding the relationship between some of these factors and ethnicity and gender. The following sections will attempt to address these differences and how they might relate to the overall functioning of the student-athlete population.

Ethnicity

Although personal issues beyond ethnicity and race are important in understanding student-athletes, examining ethnicity and race may provide counselors and other helping professionals with more insight to understand student-athletes' motivation for participating in athletics (Kontos & Breland-Noble, 2002). Coakley (1990) hypothesized that more Black than White high school students participated in sport because Black student-athletes may use sport as a means of social advancement. Coakley inferred that Black high school athletes will develop a stronger athletic identity than White high school athletes because of Black student-athletes' refusal to focus on career goals other than participating in athletics. In a study examining 389 high school student-

athletes, Wiechman and Williams (1997) tested their hypothesis that “minorities will have a higher athletic identity than Caucasians” (p. 202). They found significant differences between Mexican-Americans, Caucasian-Americans, and African-Americans, with African-Americans having the lowest athletic identity and Mexican-Americans having the highest. Given these findings, it is surprising to note that they also found that African-Americans had significantly higher expectations of playing collegiate or professional level sports than the other two groups. African-Americans represented only 10% of the sample in this study, as compared to 25.7% at the national collegiate-level (NCAA Ethnicity Report Manual, 2004). These findings warrant additional examination of athletic identity by ethnicity.

Gender

Student-athletes’ gender influences how they experience sport (Kimball & Freysinger, 2003). Sport is stereotyped as being “masculine” in society (Veri, 1999) and, as such, women may experience sport differently than their male counterparts. Women’s experiences in college athletics may affect how they identify with the athlete role and reasons why they commit to sport participation.

In a study of high school student-athletes (218 females and 168 males), Wiechman and Williams (1997) found that females had significantly weaker athletic identities when compared to males, with more males expecting to participate in athletics at the college (75%), $X^2(2, n = 389) = 8.734, p = .0031$, and professional level (42%), $X^2(1, n = 389) = 31.279, p = .0001$, than females, 60.3% and 16%, respectively. Wiechman and Williams found that athletic identity and expectation to continue sport participation

in college and in the professional ranks were significantly correlated when comparing groups of student-athletes who expected to participate and those who did not ($t_{378} = 5.07$, $p < .0001$). Both high school males and females seemed to associate athletic identity with expectation of playing sports at higher levels, but differences in strength of athletic identity may be related to other factors, such as gender roles. At the college level, athletes associate athletic identity negatively with femininity ($r = -.19$, $p < .05$) (Lantz & Schroeder, 1999). Conversely, Murphy et al. (1996) found no significant difference between college male and female student-athletes on athletic identity. Thus, further examination of the role of gender is warranted.

Females and males also may differ in their reason for committing to sport participation. Women are more motivated to commit to sport participation by social benefits (Gill & Overdorf, 1994) and weight control and appearance (Cash et al., 1994) than men. In a study involving 410 college students (202 females and 208 males), Koivula (1999b) found that females were motivated to participate in sport by benefits related to appearance, benefits of mood enhancement and stress reduction, and weight management, while males were more motivated by competition, excitement, and socialization. Koivula hypothesized that the inconsistent findings of males being motivated by social influences in her study versus previous findings were due to the fact that most males in her study participated in team sports and most female respondents participated in individual sports.

Chapter Conclusion

College student-athletes are not unlike non-athlete college students in that identity development is an important task. Student-athletes identify, to varying degrees, with their role as athlete. As student-athletes form developmentally appropriate competences, including mature relationships and multiple self-identities, they began to carry out behaviors that are consistent with the identities that they view as important and are easily invoked. Student-athletes will spend more time carrying out the behaviors of one identity over another based on the feasibility of enacting the behaviors associated with a particular identity or the amount of importance they attach to that identity. Although the behaviors of particular identities are influenced by other behavioral expectations of a particular identity, healthy identity development occurs when one is able to recognize several behaviors associated with that role identity, and student-athletes who identify highly with the athletic role also can appropriately identify with behaviors associated with their student role.

Several researchers associate a high athletic role identity with negative outcomes for student-athletes. Other researchers indicate that the negative outcomes of having a high athletic identity are overgeneralized. The one consistently negative outcome found for student-athletes with high athletic identities is a negative relationship with career maturity. There are no empirical data to date, however, that relate athletic identity to poor life functioning or holistic wellness.

Athletic identity may be positively associated with well-being. In association with other variables that Goldberg (1991) proposed as important to the overall development of

student-athletes, such as, sport commitment, time in sport, and social support, along with life satisfaction, individuals who identify with their role as athlete may experience positive well-being. To date, no study has examined the relationships of these variables among college students. Understanding these relationships would provide counselors and other mental health professionals with a framework for treating athletic experiences more positively and constructively. This study is needed to provide an examination of these variables in order to increase helping professionals understanding of the college student-athlete population and provide insight about how to meet its needs.

CHAPTER III

METHODOLOGY

The literature review in chapter two highlighted the need to understand the wellness of college student-athletes. This chapter presents the methodology for exploring the relationships between athletic identity, sport commitment, time in sport, social support, life satisfaction, and holistic wellness, along with other factors of wellness. The research questions and hypotheses are presented first, followed by the participants and sampling procedure, measurement instruments, data analysis, and pilot study.

Research Questions and Hypotheses

This study was developed to examine the relationships among athletic identity, sport commitment, time in sport, social support, life satisfaction, and holistic wellness, including separate factors of wellness, among college student-athletes. To examine the relationships among these constructs, the following research questions and hypotheses are proposed.

Research Question 1

What are the relationships between athletic identity, sport commitment, time in sport, social support, life satisfaction, holistic wellness, and wellness factors?

Hypothesis 1

There will be statistically and practically significant relationships between athletic identity, sport commitment, time in sport, social support, life satisfaction, holistic wellness, and other wellness factors.

Research Question 2

Are there significant mean differences in athletic identity, sport commitment, time in sport, social support, life satisfaction, holistic wellness, and wellness factors based on gender, ethnicity, seasonal status, year-in-school, playing status, and division?

Hypothesis 2

There will be a statistically significant difference in athletic identity based on ethnicity and a difference in athletic identity and sport commitment based on gender. There will be a statistically significant difference in time in sport based on seasonal status. There will be no statistically significant differences in athletic identity, sport commitment, time in sport, social support, life satisfaction, holistic wellness, and other wellness factors based on year-in-school, playing status, and division.

Research Question 3

What amount of variance in holistic wellness can be accounted for by athletic identity, sport commitment, time in sport, social support, and life satisfaction?

Hypothesis 3

Athletic identity, sport commitment, time in sport, social support, and life satisfaction will account for a statistically significant portion of the variance in holistic wellness among student-athletes.

Research Question 4

Are there significant mean differences in holistic wellness based on athletic identity, sport commitment, time in sport, social support, and life satisfaction?

Hypothesis 4

There will a statistically significant mean difference in holistic wellness based on athletic identity, sport commitment, time in sport, social support, and life satisfaction.

The following table is a summary of the research questions, the independent variables and the dependent variables for each question, and how the hypothesis for each question will be analyzed.

Table 1: Matrix of Study Questions, Variables, and Data Analysis

Research Question	Independent Variables	Dependent Variable(s)	Data Analysis
1. What are the relationships between athletic identity, sport commitment, time in sport, social support, life satisfaction, holistic wellness, and wellness factors?	Athletic Identity, Sport Commitment, Time in Sport, Social Support, and Life Satisfaction	Holistic Wellness, Wellness Factors (Creative Self, Coping Self, Social Self, Essential Self, and Physical Self)	Pearson product-moment correlation
2. Are there significant mean differences in athletic identity, sport commitment, time in sport, social support, life satisfaction, holistic wellness, and wellness factors based on gender, ethnicity, seasonal status, year-in-school, playing status, and division?	Gender (Male and Female), Ethnicity (Black and White), Seasonal Status (in-season and out-of-season), Year-in-School, Division, Playing Status, and Interaction Terms	Athletic Identity, Sport Commitment, Time in Sport, Social Support, Life Satisfaction, Holistic Wellness, and Wellness Factors (Creative Self, Coping Self, Social Self, Essential Self, and Physical Self)	Multivariate Analysis of Variance (MANOVA)
3. What amount of variance in holistic wellness can be accounted for by athletic identity, sport commitment, time in sport, social support, and life satisfaction?	Athletic Identity, Sport Commitment, Time in Sport, Social Support, Life Satisfaction	Holistic Wellness	Stepwise Regression
4. Are there significant mean differences in holistic wellness based on athletic identity, sport commitment, time in sport, social support, and life satisfaction?	Levels of Athletic Identity, Sport Commitment, Time in Sport, Social Support, and Life Satisfaction	Holistic Wellness	Multivariate Analysis of Variance (MANOVA)

Participants

Participants in this study were 159 college student-athletes from three colleges and universities in the southeast. With a power of .90, an alpha level of .05, and using a medium effect size (.50), it was estimated that a minimum of 172 participants were needed for this study. Participants included student-athletes from various intercollegiate athletic teams (e. g., football, basketball, baseball, softball, soccer, and track and field). A full description of the participants is provided in Chapter 4.

Instrumentation

Instruments were identified to measure each of the constructs being examined in this study. Athletic identity was measured by the Athletic Identity Measurement Scale (AIMS; Brewer et al., 1993), sport commitment was measured by the Sport Commitment Scale (SCS) of the Athletes' Opinion Survey (AOS; Scanlan, Simons et al., 1993), time in sport was measured using the Time in Sport Questionnaire (Williams, 2005), social support was measured by the Multi-Dimensional Support Scale (MDSS; Winefield et al., 1992), life satisfaction was measured by the Satisfaction with Life Scale (SWLS; Diener et al., 1985), and wellness factors were measured by the Five Factor Wel Inventory (5F-Wel; Myers & Sweeney, 1999).

Athletic Identity Measurement Scale

In Chapter I, *athletic identity* was defined as “the degree to which an individual identifies with the athlete role” (Brewer et al., 1993, p. 237). The identity development of college student-athletes may be assessed just as it is with other college non-athlete students. Because student-athletes identity development is complicated by the

simultaneous development of identity as a student and identity as an athlete, however, it may help to determine the degree to which student-athletes attribute their identity to either of these. This study addresses the degree to which they attribute their identity to their role as athlete.

The Athletic Identity Measurement Scale (AIMS; Brewer et al., 1993) was developed to measure the strength and exclusivity of one's identification with the athlete role. This measure helps researchers understand the degree to which individuals attribute their identity to their athlete role and how important that identity is to the individuals' behavior. The AIMS is a ten-item, self-report instrument that elicits responses to statements about the role of athletics in their lives. The statements are answered on a scale of 1 (strongly agree) to 7 (strongly disagree). The AIMS was normed on three different groups, including two different subgroups of students in an introductory psychology course (243 male and female students in the first and 449 students in the second) and a group of 90 male members of a varsity football team. Responses to the items on the original AIMS are normally reverse scored and summed to provide a composite athletic identity index. In this study, statements will be answered on a scale of 1 (strongly disagree) to 7 (strongly agree) and no reverse scoring will be used. It is believed that using this response format improves ease of response on the AIMS. High scores on the AIMS indicate a stronger athletic identification than low scores. A copy of the items from the AIMS is included in Appendix A. Reliability measures of the AIMS indicate support for internal consistency with a coefficient alpha of .93, .87, and .81 over

three investigations, and a 14-day test-retest reliability score of .89 indicates stability over time (Brewer et al., 1993).

Previously, researchers have reported that scores on the AIMS were highly correlated with the importance of sport competence scale of the Perceived Importance Profile (PIP; Fox 1987), $r(225) = .83, p < .0005$, significantly correlated with the importance of physical conditioning scale, $r = .56$, the importance of attractive body scale, $r = .35$, and the importance of physical strength scale of the PIP, $r = .53$, all at $p < .0005$, providing convergent evidence of construct validity (Brewer et al., 1993). Significant correlations ranging from .26 to .53 between the AIMS and sub-scales (i.e., competitiveness, goal-orientation, and win-orientation) of the Sport Orientation Questionnaire (SOQ; Gill & Deeter, 1988), which measures sport achievement orientation, and a .61 correlation between the AIMS and the Self-Role Scale (Curry & Weiss, 1989), a measure of the self in the sport role, indicate further support for convergent validity (Brewer et al.). A non-significant relationship between the AIMS and the Rosenberg Self-Esteem Scale (Rosenberg, 1965) indicates support for divergent validity, demonstrating the independence of athletic identity and self-esteem (Brewer et al.). Levels of self-esteem were similar for individuals who identified with their role as athletes and those who did not (Brewer et al.).

Sport Commitment Scale

Sport commitment is defined as “a psychological construct representing the desire and resolve to continue sport participation” (Scanlan, Carpenter et al., 1993, p. 6). Scanlan, Carpenter et al. developed a well-established theoretical model of sport

commitment with commitment being a function of sport enjoyment, involvement alternatives, personal investments, social constraints, and involvement opportunities. These determinants were hypothesized by Kelly (1983) to have an impact on sport commitment (as cited in Scanlan, Carpenter et al., 1993).

To measure sport commitment, the Athletes' Opinion Survey (AOS; Scanlan, Simons et al., 1993) was developed to measure participants' commitment to a particular sport, as opposed to sport in general, a particular program, or a particular sport team. The AOS measures an individual's desire and resolve to continue to participate in a particular sport, consistent with the model's definition. The AOS consists of 19 items, separated into six scales (sport commitment and the five determinants of sport commitment). Item responses are on a five-point Likert-type scale reflecting the participants' personal decision or choice to be involved in their sport. The AOS was normed on 1,342 adult and youth athletes. For this study, the Sport Commitment Scale (SCS) of the AOS was used. This scale has only four items, and responses to questions of the SCS are summed to give a total sport commitment score. A copy of the SCS is included in Appendix A.

Researchers (Scanlan, Carpenter et al., 1993; Scanlan, Simons et al., 1993) have provided evidence of reliability and validity of the SCS. The items for the SCS demonstrate acceptable internal consistency with a Cronbach's alpha of .88. A previous factor analysis was conducted to determine if the items of the predictor variables on the AOS loaded appropriately on their respective scales. Each of the items separated cleanly, with standardized coefficients ranging from 0.554 to 0.871 (social constraints), 0.695 to 0.926 (sport enjoyment), 0.664 to 0.766 (involvement opportunities), 0.040 to 0.974

(involvement alternatives), and 0.470 to 0.503 (personal investments), representing evidence for discriminant validity of the items (Scanlan, Simons et al.). To determine if these five factors were separate from the sport commitment items, involvement opportunities items, and sport commitment items, factor analysis was conducted, resulting in a two factor solution with an interfactor correlation of .66 (Scanlan, Simons et al.).

Time in Sport Questionnaire

Time in sport refers to the number of hours that college student-athletes spend in sports-related activities (Person et al., 2001). Relevant activities for student-athletes include practice, competition, sports-related travel, athletic study hall, mandatory team and individual position meetings, strength and conditioning sessions, and mandatory psychoeducational sessions.

To assess time in sport, the Time in Sport Questionnaire was developed by the researcher to determine the participation hours of sports-related activities in relation to the specific sport in which student-athletes participate. The amount of time that a student-athlete spends in each activity may be different based on seasonal status. The athletes will be asked whether their sport is currently in-season or out-of-season. The items used to assess time in sport are included in Appendix A.

Participants will be asked report the amount of time they *currently* participate in each activity per week in hours and minutes. All minute responses will be converted into partial hours (e.g., 75 minutes = 1.25 hours). The sum of all the hours that athletes spend

in sports-related activities will provide the total score for the amount of time per week each student-athlete spends in sport related activities.

Multi-Dimensional Support Scale

Social support is defined as “the support and encouragement the athlete perceives that significant others provide for his or her involvement in sport” (Carpenter, 1993, p. 59). Although there are many measures of social support, the Multi-Dimensional Support Scale (MDSS; Winefield et al., 1992) was used because of its brevity and appropriateness for various populations. In addition, by using this instrument participants’ satisfaction with social support could be assessed (Winefield et al.).

The MDSS (Winefield et al., 1992) measures the availability and adequacy of supportive behaviors toward the respondent in the past month (Walker, Utsey, Bolden, & Williams, 2005). Additionally, the MDSS can help provide information about the satisfaction of perceived support from others even if availability is low (Winefield et al.). The MDSS includes questions about support received from three groups; confidants (family and close friends), peers (other same-age peers facing the same challenges), and experts or supervisors (those with some sort of authority over the participant, such as coaches) (Winefield et al.).

There are 19 items on the MDSS. The frequency (availability) of social support is measured using a 4-point Likert-type scale ranging from 1 = *never* to 4 = *always*.

Participants respond to how much support was available to them over the past month.

Participants’ satisfaction (adequacy) of support for each of these items is measured on a 3-point scale with 1 = would have liked more, 2 = would have liked less, and 3 = it was

just right (Winefield et al., 1992). A copy of the MDSS is included in Appendix A.

Responses to the instrument yield six subscale scores (availability and adequacy for each of the three sources of support (i.e., confidants, peers, and supervisors). These scores can be combined to determine a total availability or adequacy score for each participant, compare availability or adequacy across sources, or compare the adequacy of support received from one or more sources in two different participant groups (Winefield et al.).

In this study, the instrument was modified with permission. The questions were asked in the present tense because asking them in the past tense may have caused participants' responses to this questionnaire to contradict with responses to other questionnaires by changing the student-athlete's seasonal status. Also, both the frequency and adequacy of social support were measured on a 4-point likert-type scale, ranging from 1 = *never* to 4 = *always*.

Winefield et al. (1992) reported acceptable reliability with alpha coefficients for five scales ranging from .81 (peer adequacy), .85 (peer availability), .86 (confidant availability), .87 (supervisor adequacy), to .90 (supervisor availability). Statistically significant correlations between subscale scores and affect measures (self-esteem, depressive affect, and overall psychological disturbance) were discovered by Winefield et al, providing evidence for construct validity.

Satisfaction With Life Scale

Life satisfaction is defined as a "global cognitive judgment of one's life" (Simons et al., 2002, p. 131) indicating one's happiness or contentment with the quality of her or his life. Often assessed as an aspect of subjective well-being (Diener, Lucas, & Smith,

1999), life satisfaction scales often consist of only one item. In reaction to this, Diener et al. (1985) developed a multiple item measure of global life satisfaction called the Satisfaction With Life Scale (SWLS).

The SWLS (Diener et al., 1985) is a 5-item measure evaluated on a 7-point Likert scale ranging from Strongly Agree (7) to Strongly Disagree (1). For this study, the scale was changed, with permission, ranging from Strongly Disagree (1) to Strongly Agree (7), to improve ease of response for the participants. A copy of the SWLS is included in Appendix A. In a study of 176 undergraduates, reliability was supported with a coefficient alpha of .87 and a two-month test-retest correlation of .82 (Diener et al.). Convergent validity was supported when Diener et al. (1985) found the SWLS to be highly correlated with other measures of life satisfaction, such as the Fordyce Global Scale (Fordyce, 1978) ($r = .58$), a measure of happiness, D-T scale (Andrews & Withey, 1976) (.68), a single-item measure of happiness, and the Neuroticism scale of the Eysenck Personality Inventory (Eysenck & Eysenck, 1964) ($r = .57$). In addition, divergent validity was supported by Blais, Vallerand, Pelletier, and Briere (1989), who found the SWLS to be negatively correlated with the Beck Depression Inventory ($r = -.72$).

Five Factor Wel Inventory

Wellness is defined as “a way of life oriented toward optimal health and well-being in which mind, body, and spirit are integrated by the individual to live life more fully with the human and natural community” (Myers et al., 2000, p. 252). The most suitable measures of wellness used in scholarly research are those that are grounded in

wellness theory. The first reliable instrument to be grounded in counseling and psychological theory was the Wellness Evaluation of Lifestyle (WEL; Myers, Sweeney, & Witmer, 1996), based on the Wheel of Wellness model, presenting 17 measurable constructs of wellness. Recent refinements to the WEL suggest that the 17 constructs organize into five second-order factors (Coping Self, Creative Self, Essential Self, Physical Self, Social Self), and one higher order factor (wellness) (Myers et al., 2004). This new factor structure led to another model of wellness termed the Indivisible Self Model (Myers & Sweeney, 2004). The components of the Indivisible Self Model, the higher order wellness, the five second-order factors, and the 17 third order factors, are measured using the Five-Factor Wel Inventory (5F-Wel; Myers & Sweeney, 1999).

The 5F-Wel (Myers & Sweeney, 1999) was created to measure the Indivisible Self Model of wellness, an evidence-based model. The 5F-Wel measures wellness and five second-order factors that include 17 third-order factors. The five second-order factors are:

- The *Creative Self* (CrS) relates “the way we positively interpret the world” (Hattie et al., 2004, p. 356). This factor includes the third order factors of *problem solving and creativity, sense of control, sense of humor, work, and emotional awareness*.
- The *Coping Self* (CoS) reflects manner of coping using *realistic beliefs, leisure, stress management, and sense of worth* (Hattie et al.).
- The *Social Self* (SoS) reflects how people connect with others as indicated by *friendship and love* (Hattie et al).

- The *Essential Self* (EsS) reflects one's essence as measured by *spirituality, self care, gender identity, and cultural identity* (Hattie et al.).
- The *Physical Self* (PhS) reflects body attributes as measured by *exercise and nutrition* (Hattie et al.).

The 5F-Wel is a 91-item instrument assessing wellness based on the Indivisible Self Model of wellness. Participants respond to statements on a four-point Likert-type scale ranging from 1 = *strongly agree* to 4 = *strongly disagree*. A group of college-aged male and female students ($N = 1,567$) provided norms for the college population (Myers & Mobley, 2004).

Seventy-three items determine the factor scores. The other 18 items measure contextual variables or are used for psychometric purposes to further instrument development. Each factor score is derived by determining the average of the item-level scores for each factor and then multiplying that number by 25 (Myers et al., 2004). The scores of the second-order factors are a composite of the item scores for the third-order factors that define that second-order factor. The second-order scores are determined by averaging the item scores associated with that factor, then multiplying by a constant of 25, placing these scores on a common metric ranging from 25 to 100 (Myers et al., 2004). The higher-order wellness score is the sum of scores on all of the items and provides a global holistic wellness score, with higher scores indicating a higher level of wellness (Myers et al., 2004). A copy of this instrument is provided in Appendix A.

All five second-order factors contribute to overall wellness, as evidenced by confirmatory factor analysis resulting in an acceptable fit for the model, with a root mean

square error of estimation (RMSEA) of .042 ($\chi^2 = 8261$, $df = 2533$) (Hattie et al., 2004). Correlations between the scales, ranging from .24 to .81, provide additional support for each scale contributing uniquely to overall wellness. Estimates of reliability have been consistently high across several studies, with coefficient alphas ranging from .91 to .94 for the five second-order factors and above .94 for total wellness (Myers & Mobley, 2004) for college samples.

Also, there have been substantial efforts at establishing validity. Scores on the 5F-Wel (Myers & Sweeney, 1999) correlate highly with scores on other widely used assessment instruments such as the Testwell (spirituality scale, $r = .60$), the Coping Resources Inventory (e.g., emotional responsiveness with CRI-emotional scale, $r = .59$), Measures of Psychosocial Development (e.g., emotional responsiveness and intimacy, $r = .53$), and the Inventory of Self Actualizing Characteristics (e.g., friendship and interpersonal, $r = .41$) (Hattie et al., 2004). These correlations provide evidence for convergent validity.

Demographic Questionnaire

A demographic questionnaire was included. Demographic information was used both for describing the participants and in hypothesis testing. A copy of the Demographic Questionnaire is provided in Appendix A.

Procedure

Athletic directors were contacted in order to obtain permission for conducting a study involving student-athletes. The principal researcher explained the study to the athletic directors, including the potential benefits of the study for college student-athletes.

The athletic directors were asked to return a letter of agreement if they chose to participate in the study. If the athletic directors agreed to participate in the study, they were asked to identify coaches or other athletic staff who could facilitate identifying athletic teams or individual student-athletes who might participate in the study. Once identified, the student-athletes were contacted by the principal researcher in person or via email with the goal of recruiting participants for the study. Any student-athlete who was 17 years of age or younger was excluded from the study because parental consent would be needed. Dates and times were set to administer the instruments of the study to athletic teams or individual student-athletes.

During instrument administration, participants received a packet of information including two copies of an informed consent form, the Athletic Identity Measurement Scale (AIMS), the Sport Commitment Scale (SCS), Time in Sport Questionnaire (TISQ), the Multi-Dimensional Support Scale (MDSS), the Satisfaction With Life Scale (SWLS), the Five Factor Wel Inventory (5F-Wel), and the Demographic Questionnaire. The primary researcher gave brief oral instructions, including the purpose of the study. A copy of the instructions that were read to participants is included in Appendix B. A consent form was turned in by each participant by placing the form in a collection box. Participants were asked to keep the other consent form for their records. Participants then were asked to complete the instruments in their survey packets. The survey packets were organized with the demographic questionnaire first, followed by the AIMS, SCS, TIS, MDSS, SWLS, and the 5F-Wel, in that order. Completed packets were placed directly into a collection box. There was no information on the research packet that revealed the

identity of the respondent. Athletic programs were given an aggregate of the respective scores of each study variable, along with suggestions and tips from the principal researcher about how the results of the study may be used in meeting the identified needs of respective student-athletes.

Data Analysis

Once the data were collected and stored in a statistical package, descriptive statistics, including frequencies, means, standard deviations, and Cronbach's alpha reliability coefficients, were calculated for each variable. In addition, the appropriate statistical analyses were conducted for the research questions to test the hypotheses.

For research question one (What are the relationships between athletic identity, sport commitment, time in sport, social support, life satisfaction, holistic wellness, and wellness factors?), Pearson product-moment correlations were calculated to determine the relationships between study variables. In addition to determining the statistically significant relationships among these variables, the practically significant relationships were determined. The practically significant benchmark was set at .40 based on Olejnik and Algina (2000) criteria set for educational settings (as cited in De Lisle, Smith, & Jules, 2005). Pearson Product-moment correlations in this range (i.e., .30 to .70) are considered to have a medium effect (Spencer, 1995). The second research question (Are there significant mean differences in athletic identity, sport commitment, time in sport, social support, life satisfaction, holistic wellness, and wellness factors based on gender, ethnicity, seasonal status, year-in-school, playing status, and division?) was answered using a multivariate analysis of variance (MANOVA). Main effects based on gender,

ethnicity, seasonal status, year-in-school, playing status, and division level were determined. This analysis also considered possible interaction effects between the independent variables.

Stepwise regression analyses were used to answer the third research question (What amount of variance in holistic wellness can be accounted for by athletic identity, sport commitment, time in sport, social support, and life satisfaction?). The analysis considered the amount of variance in holistic wellness accounted for by the predictor variables. This analysis also considered the individual contribution of athletic identity, sport commitment, time in sport, social support, and life satisfaction to the overall variance in holistic wellness.

To answer the fourth research question (Are there significant mean differences in holistic wellness based on athletic identity, sport commitment, time in sport, social support, and life satisfaction?), a multivariate analysis of variance (MANOVA) was used. The main effects based on athletic identity, sport commitment, time in sport, social support, and life satisfaction, along with consideration of possible interaction effects, was determined. Scores on each of the independent variables were recoded to categorical variables for the purposes of analysis. Scores on each of the variables was coded as high or low, depending on whether they were in the upper third or lower of the scores, respectively, on that scale. On the AIMS, “high” scores were between 52 and 67 , and scores between 24 and 46 were considered “low.” On the SCS, scores between 9 and 17 were labeled “low” while scores between 19 and 20 were labeled “high.” Scores on the TISQ were recorded according to whether the student-athlete marked in-season or out-of-

season. In-season scores were coded as “high” if they were between 25 and 67 hours per week and above and “low” if they were lower than 15. For out-of-season scores, “low” scores were below 5 hours per week of sport participation and “high” scores were between 15 and 67 per week. For scores on the MDSS (range = 19 to 76), scores were considered “high” if they were between 55 and 76 for social support frequency and 63 and 76 for social support satisfaction. “Low” scores were between 8 and 47 for social support frequency and 8 and 54 for social support satisfaction. Scores on the SWLS were considered “low” if they were between 5 and 25 and “high” if they were between 29 and 35.

Pilot Study

A pilot study was conducted to assess the feasibility of the study, the administration time for completing the survey packets, the procedure for the full study, and wording of the Time in Sport Questionnaire. Also, the pilot study was conducted to gather preliminary data for the independent variables of athletic identity, sport commitment, time in sport, social support, life satisfaction, and the dependent variable of holistic wellness. These data were used to test the statistical procedures planned for the main study. This section includes a description of the participants used in the pilot study, the procedure used in collecting the data, an analysis of the data, and a discussion of the information gained from the pilot study.

Participants

Participants for the pilot study were from a large public university in the Southeast United States. Through the cooperation of the Student-athlete Life Skills

program, eleven student-athletes volunteered to participate in the study. Additional descriptive statistics are provided in Table 2.

Procedure

After receiving Institutional Review Board (IRB) approval from The University of North Carolina at Greensboro and the Institution at which the data were collected, the study procedures were explained to the director of the Student-athlete Life Skills program. In two instances, the study was explained to potential participants giving them full disclosure of the study and expectations of participation (see Appendix C). In one instance, those student-athletes who agreed to participate agreed to meet the primary researcher individually to complete the survey packet. Five participants met the primary researcher to complete the survey packet in person. In the other instance, the study was explained in a group setting, and several student-athletes took the survey packet home to complete and return to the Student-athlete Life Skills program. Fourteen packets were given to potential volunteers.

Each participant was given two copies of the informed consent, the AIMS, SCS, TISQ, MDSS, SWLS, 5F-Wel, and a Demographic Questionnaire. The participants were asked to sign one copy of the informed consent and to keep the other copy. After completing the survey packet, the participants placed the signed copies of the informed consent and the completed surveys in separate collection bins.

Results

Of the fourteen survey packets that were given out in the group setting, six were returned completed. The 11 total participants (7 females, 4 males) represented ten

different varsity sports (see Table 2). There was a mean age of 20.81 ($SD = 1.17$).

Participants represented two ethnic groups, Black ($n = 2$) and White ($n = 9$), and were mainly upperclass students (2 second-year, 5 third-year, 4 fourth-year) on full scholarship (7 full, 4 partial).

Albeit based on a small sample, reasonably high Cronbach's alpha coefficients provided support for reliability in the instrumentation for this sample (See Table 3). The AIMS, SCS, SWLS, and the Holistic Wellness score of the 5F-Wel each report alpha levels of .81. These reliability scores were similar to those found by other researchers in previous studies, suggesting acceptable internal consistency. For the AIMS, Cronbach's alpha was the same ($\alpha = .81$) as that found for a sample of 90 varsity football players (Brewer et al., 1993). The SCS alpha for this sample was slightly lower than what has been found by other researchers ($\alpha = .88$) (Scanlan, Simons et al., 1993), as was the SWLS ($\alpha = .87$) (Diener et al., 1985). Although the alpha level for the Holistic Wellness score on the 5F-Wel was much lower than that found by previous researchers ($\alpha = .94$; Myers & Mobley, 2004), the level found with this sample was still acceptable and, most likely, an artifact of the small sample size.

Table 2

Descriptive Statistics of the Pilot Study Participants

Demographic Characteristics	N	%	Demographic Characteristics	N	%
Age			Sport		
19	2	18.18	Women's Golf	1	9.09
20	2	18.18	Football	1	9.09
21	3	27.27	Softball	1	9.09
22	4	36.36	Women's Lacrosse	1	9.09
Total	11	100	Men's Swimming	2	18.18
Gender			Women's Volleyball	1	9.09
Male	4	36.36	Women's Swimming	1	9.09
Female	7	63.64	Men's Lacrosse	1	9.09
Total	11	100	Women's Tennis	1	9.09
Ethnicity			Women's Rowing	1	9.09
Black	2	18.18	Total	11	100
White	9	81.82	Scholarship Status		
Total	11	100	Full	7	63.64
Year			Partial	4	36.36
Second Year	2	18.18	Total	11	100
Third Year	4	36.36	NCAA Division		
Fourth Year	5	45.45	Division I	11	100
Total		100	Total	11	100

On the MDSS, Cronbach's alphas of .60 for frequency (number) of social support and .89 for adequacy (satisfaction) of social support were obtained. The individual Cronbach's alphas for frequency of social support by group was .39 (confidants), .82 (peers), and .58 (supervisors). For this sample, the reliability coefficient for peers is the only alpha consistent with that of previous researchers ($\alpha = .85$). The low coefficient alphas for confidants and supervisors are not representative of what has been found in previous studies, and is likely an artifact of sample size. The individual reliabilities for

adequacy of social support by groups were all at acceptable levels, .72 (confidants), .90 (peers), and .91 (supervisors).

The Time in Sport Questionnaire had a poor Cronbach's alpha for this study ($\alpha = .29$). This was the first administration of this questionnaire. The items on the questionnaire are a list of activities in which student-athletes may participate, and not all items have responses. Those without responses were given a value of zero, showing that student-athletes do not currently spend time in that activity. Thus, a response for each item is not necessary to determine how much time student-athletes spend per week in sport-related activities. It will be important to consider the internal consistency of this instrument in the full study to more fully provide a context for the study results.

The research questions for the pilot were different from those that were used in the main study. It was determined that these questions would be changed for the main study. A Pearson Product-Moment correlation was conducted for the study variables to address research question one (What are the relationships between athletic identity, sport commitment, time in sport, social support, life satisfaction, and holistic wellness?). One significant correlation was found between social support satisfaction and holistic wellness ($r = .73, p < .05$), indicating that those participants who were satisfied with the social support that they receive from significant others, peers, and/or supervisors reported higher levels of holistic wellness. All other correlations are listed in table 3.

Table 3

Correlation matrix of the study variables

Variable	AI	SC	TIS	SS	SSS	LS	HW
Athletic Identity	.81						
Sport Commitment	.24	.81					
Time in Sport	.02	-.08	.29				
Social Support	.04	-.07	.40	.60			
Social Support Sat.	.23	.44	-.07	.19	.89		
Life Satisfaction	-.40	.20	-.19	-.29	.50	.81	
Holistic Wellness	-.17	-.07	.45	.73*	.26	.04	.81

Note. * $p < .05$. α = Cronbach's Alpha for Each Item Scale is on the Diagonal

To address research question two (What effect, if any, does gender, ethnicity, and seasonal status (i.e., in-season or out-of-season) have on athletic identity, sport commitment, time in sport, social support, life satisfaction, and holistic wellness?), a multivariate analysis of variance (MANOVA) was conducted to assess the effects of gender, ethnicity, and seasonal status on athletic identity, sport commitment, time in sport, social support, life satisfaction, and holistic wellness. No significant main effects and no significant interaction effects were found, not surprising given the small sample used in the pilot study. Table 4 has the remaining results of the multivariate and univariate findings.

Table 4

Multivariate Analysis of Variance and Univariate F Tests for Gender, Seasonal Status, and Ethnicity

Source	Multivariate Analysis		Univariate Analysis						
	Wilk's	<i>F</i>	Athletic Identity	Sport Commitment	Time in Sport	Social Support #	Social Support Sat.	Life Satisfaction	Holistic Wellness
			<i>F</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>F</i>
Gender	.21	.75	.22	.00	.39	.03	1.24	.47	.228
Season	.08	2.33	.48	.00	2.29	3.97	.01	.06	1.845
Ethnicity	.02	9.84	.56	9.57*	.38	1.49	.37	.98	.039
Gender*Ethnicity	1.00								
Gender*Season	.06	3.10	.29	.93	.11	1.47	.16	.18	.432
Ethnicity*Season	1.00								
Gender*Season* Ethnicity	1.00								

Note. **p* < .05

To address research question three for the pilot (What amount of variance in holistic wellness can be accounted for by athletic identity, sport commitment, time in sport, social support, and life satisfaction within a specified model?) a path analysis was conducted to determine the amount of variance in holistic wellness accounted for by athletic identity, sport commitment, time in sport, social support, and life satisfaction. In the hypothesized model, 66% of the variance in holistic wellness was accounted for by the predictor variables ($R^2 = .66$). Although the large percentage of variance that is accounted for by the model is promising, it may be partially an artifact of the small sample size in the pilot study. The standardized path coefficients are provided in Table 5 and a visual representation of the results is provided in Figure 3. Research question four (To what extent does the data fit the specified model differently based on gender and ethnicity?) was not addressed in the pilot study because of the low number of participants.

Figure 2. Path Model of Holistic Wellness and Model Predictors

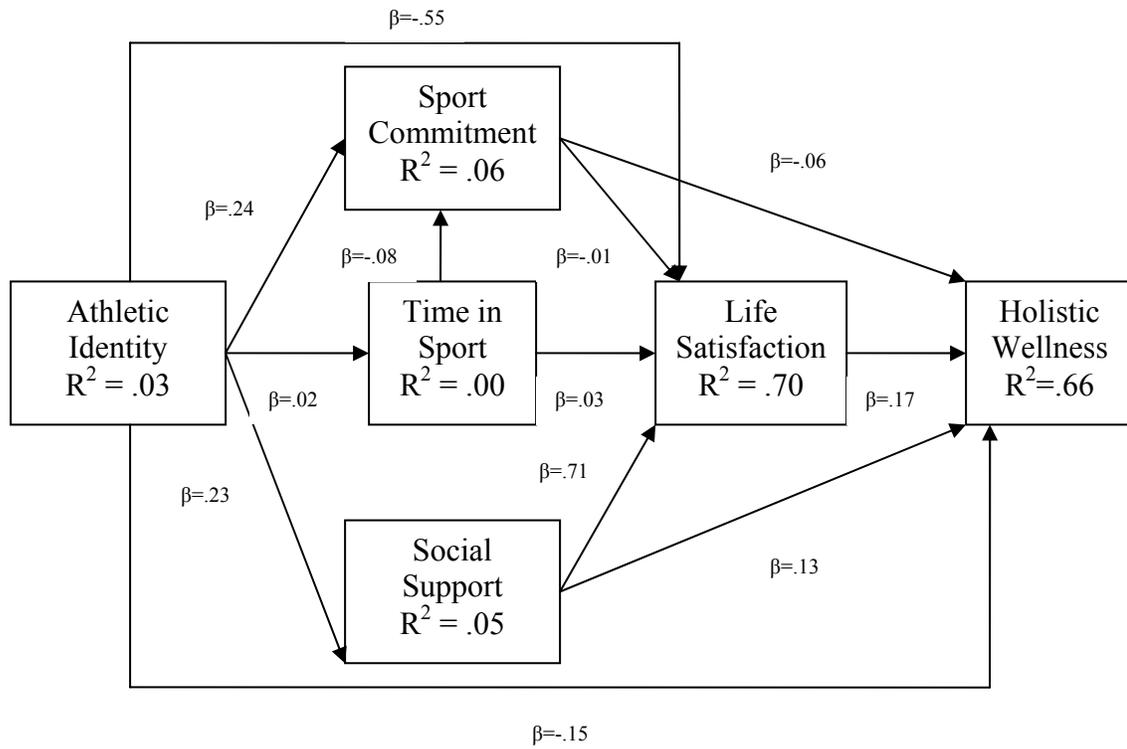


Table 5

Summary of Regression Analysis for Variables Predicting Holistic Wellness (N = 11)

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta		Sig.
(Constant)	37.71	33.03			.32
Athletic Identity	-.10	.29	-.15		.75
Sport Commitment	-.19	.99	-.06		.86
Time in Sport	.08	.12	.22		.53
Social Support-Number	.72	.43	.67		.17
Social Support-Satisfaction	.10	.40	.13		.82
Life Satisfaction	.21	.66	.17		.77

Information Gained From the Pilot Study

Valuable information was gained by conducting the pilot study. Allowing the participants to complete the survey packets on their own time increased the number of participants. This was not a part of the intended procedure. For most student-athletes, time for activities outside of athletic and academic activities is limited. Thus, it may be beneficial to offer sending and receiving the survey packets via email as an option for data collection in the full study.

Additionally, the research committee determined after the pilot study was conducted that the inclusion of a path model might be premature given the developmental stage of this research. Given this, research question three became a stepwise regression rather than a path model. In eliminating the path model, research question four was replaced to the question used in the main study (Are there significant mean differences in holistic wellness based on athletic identity, sport commitment, time in sport, social support, and life satisfaction?). Research question one was modified to include an analyses of the relationships between the study variables and other wellness factors based on the Indivisible Self model of wellness (Sweeney & Myers, 2003) (i.e., Creative Self, Coping Self, Social Self, Essential Self, and Physical Self). Research question two was modified to determine the mean difference in athletic identity, sport commitment, time in sport, social support, life satisfaction, holistic wellness, and other wellness factors based on gender, ethnicity, seasonal status, year-in-school, division level, and playing status.

There was additional information gained from unsolicited comments on the survey packets. In the Demographic Questionnaire, one participant answered question #6 (Are you a grant-in-aid athlete?), but made a note stating, “depending on year.” For this question, the word “currently” was added to the questionnaire in the full study. The question then read, “Are you currently a grant-in-aid athlete?”

The Time in Sport Questionnaire brought up several additional considerations. Several participants expressed confusion about the term “currently” listed in the directions. Participants were not sure if “currently” referred to “this semester,” “this season,” or “this week.” Further clarification of the time period in which “currently” is

referring to was needed. Also, in the instructions to this questionnaire for the full study, participants were asked to indicate the *average* amount of time they spend in each activity. Adding the word “average” likely helped the participants provide the number of hours of participation in a typical week, rather than in a week when the time spent in sport-related activities is extremely low or extremely high (e.g., tournament week for golf). As a result, for the full study, the instructions for this instrument were modified to read, “Please indicate the average amount of time (in hours and minutes) you *currently* (this season) spend in each activity per week.” Placing the statement, “My sport is currently (check one) _____ In-season _____ Out-of-season,” at the beginning of the instrument also may have increased the clarity of the instructions. Further, although the words “per week” were included in the instructions, repeating it beside the response space may be beneficial in helping participants report averages, and this change was made to the form for the full study.

Although only two significant findings were found, this must be considered in the context of a very small sample size that was intended only to identify necessary changes in preparation for the full study. The only significant correlation between the variables was between the frequency of social support and holistic wellness.

CHAPTER IV

RESULTS

The purpose of the study was to examine the relationship between athletic identity, sport commitment, time in sport, social support, life satisfaction, and holistic wellness among college student-athletes. In Chapter III, the research questions and hypotheses were delineated. The results are reviewed in this chapter. The sample is described first, and descriptive statistics are presented next. Then, the alpha coefficients of instrument reliability are provided. The results of the analyses of the research questions are provided next, followed by a chapter summary.

Sample

There were 160 participants in this study of the 360 who were approached, 160 volunteered to participate, for a response rate of 44.44%. Participants were obtained from three institutions in the southeastern part of the United States. Participants represented three NCAA division levels, Division I, II, and III, as described in Chapter I. Forty-five (28.12%) were obtained from a large public Division I University, 89 (55.63%) from a moderate sized public (HBCU) Division II University, and 26 (16.25%) from a small Division III College.

Demographics

Participants, ages ranged from 18 to 27, with a mean age 19.85 ($SD = 1.36$). Six ethnic groups were represented, with 48.8% African American ($n = 78$), 1.9% Asian or

Pacific Islander ($n = 3$), 41.3% Caucasian ($n = 66$), .6% Hispanic or Latino/Latina ($n = 1$), 0.6% Native American ($n = 1$), and 7% other ($n = 7$) completing the study instruments. Four participants (2.5%) did not report their ethnicity. The sample was 50.6% female ($n = 81$) and 48.8% male ($n = 78$). One participant did not complete the item representing sex. The mean Grade Point Average (GPA) for the group was 2.98 ($SD = .46$). Table 1 provides a full description of the demographic characteristics of the participants.

Also, the participants reported their academic year-in-school as follows: (21.3% ($n = 34$) First Year; 26.9% ($n = 43$) Second Year; 28.1% ($n = 45$) Third Year; 20.6% ($n = 33$) Fourth Year; 1.9% ($n = 3$) Fifth Year; 1.3% ($n = 2$) did not report). Twenty-three male and female sports were represented, including football ($n = 25$), softball ($n = 20$), baseball ($n = 13$), men's track and field ($n = 10$), women's soccer ($n = 10$), men's tennis ($n = 7$), women's basketball ($n = 7$), women's rowing ($n = 6$), men's soccer ($n = 3$), men's swimming ($n = 3$), men's lacrosse ($n = 3$), volleyball ($n = 3$), women's lacrosse ($n = 3$), women's swimming ($n = 3$), women's track and field ($n = 3$), field hockey ($n = 2$), women's golf ($n = 2$), wrestling ($n = 2$), men's basketball ($n = 1$), men's cross country ($n = 1$), men's golf ($n = 1$), women's cross country ($n = 1$), and women's tennis ($n = 1$). Twelve participants (7.5%) were on full athletic scholarship, 75 (46.9%) on a partial athletic scholarship, 21 (13.1%) were on a full or partial academic scholarship, and 39 (30.6%) identified themselves as a walk-on student-athlete. Three (1.9%) participants did not respond to the question about scholarship status.

Fifty percent ($n = 80$) of the participants played in their teams' starting line-up, meaning they were on the first string, leaving 23.8% ($n = 38$) who were second string and 4.4% ($n = 7$) who had third string playing status. Twenty (12.5%) participants responded "other" to the item requesting participation level, and 15 (9.4%) participants did not respond. Fifty-three (33.1%) participants reported being in-season of their sports competition period and 103 (64.4%) reported being out-of-season. Four (2.5%) participants did not respond to this item.

Table 6
Demographic characteristics by gender

Demographic Characteristic	Males		Females		Total	
	n	%	n	%	n	%
AGE						
18	13	16.7	15	18.8	28	17.7
19	15	19.2	21	26.3	37	22.8
20	19	24.4	29	36.3	48	30.4
21	18	23.1	12	15.0	30	19.0
22	11	14.1	2	2.5	13	8.2
23	1	1.3	1	1.3	2	1.3
27	1	1.3	0	--	1	.6
Total	78	100	80	100.0	158	100.0
ETHNICITY						
Native American	1	1.3	0	--	1	1.3
Asian/Pacific Islander	2	2.6	1	1.3	3	1.9
African American	51	66.2	26	33.3	77	49.7
Caucasian	17	22.1	49	62.8	66	42.6
Hispanic/Latino/Latina	0	--	1	1.3	1	.6
Other	6	7.8	1	1.3	7	4.5
Total	77	100.0	78	100.0	155	100.0
YEAR IN SCHOOL						
1 ST Year	17	21.8	17	21.5	34	21.7
2 nd Year	21	26.9	21	26.6	42	26.8
3 rd Year	19	24.4	26	32.9	45	28.7
4 th Year	19	24.4	14	17.7	33	21.0
5 th Year	2	2.6	1	1.3	3	1.9
Total	78	100.0	79	100.0	157	100.0
SCHOLARSHIP STATUS						
Full Athletic	2	2.6	10	12.8	12	7.7
Partial Athletic	45	57.7	30	38.5	75	48.1
Full or Partial Academic	5	6.4	16	20.5	21	13.5
Walk-on	26	33.3	22	28.2	48	30.8
Total	78	100.0	78	100.0	156	100.0
NCAA DIVISION LEVEL						
Division IA	17	21.8	28	35.0	45	28.5
Division II	61	78.2	26	32.5	87	55.1
Division III	0	--	26	32.5	26	16.5
Total	78	100.0	80	100.0	158	100.0

Instrument Descriptives

In this section, the mean scores and standard deviations for all the scales and subscales of the instruments used in the study are presented. Table 2 provides a visual presentation of these results, along with the possible range for each scale and subscale and the actual range scores for the current sample. The mean score of the Athletic Identity Measurement Scale (AIMS) was 49.04 ($SD = 8.07$) on a possible scale of 10 to 70. The Sport Commitment Scale yielded a mean of 17.43 ($SD = 2.76$) on a possible scale of 5 to 20. The mean score on the Time in Sport Questionnaire (TISQ) was 22.51 hours ($SD = 13.78$). The range of scores on the TISQ was 0 to 67 for this sample. Theoretically, there is a possible range of 0 to 168 (the actual number of hours in a week), although it is unrealistic for a student-athlete to spend all hours in a week participating in an activity related to their sport. Mean scores on the Multi-Dimensional Support Scale (MDSS) subscales ranged from 14.75 (Social Support Authority frequency; $SD = 4.30$) to 23.56 (Social Support Family and Friends Satisfaction; $SD = 4.14$). The possible range of the subscales differed because the number of items in one of the scales was different than the other two. The possible range for the Family and Friends scales for both frequency and satisfaction was 7 to 28 and the possible range for both the Peers and Authority scales for frequency and satisfaction was 6 to 24. The total Social Support Frequency scale yielded a mean of 51.55 ($SD = 10.75$) and the total Social Support Satisfaction scale yielded a mean of 57.72 ($SD = 11.12$), both with a possible range of 19 to 70. The range of possible scores on the Satisfaction with Life Scale was 5 to 35 with a mean score of 26.28 ($SD = 5.73$). Mean scores on the subscales of the Five Factor Wellness Evaluation (5F-Wel)

ranged from 75.58 (Coping Self; $SD = 6.41$) to 86.90 (Social Self; $SD = 9.66$) on a possible range of 25.00 to 100.00. The results of these descriptives are in Table 2.

Table 7
Instrument descriptives – full study

Scale/Subscale	Mean	SD	Scale Min	Scale Max	Study Min	Study Max
AIMS	49.04	8.07	10	70	24	67
SCS	17.43	2.76	5	20	9	20
TISQ	22.51	13.78	0	168	0	67
MDSS-Freq.: Family/Friends	22.35	3.93	7	28	8	28
MDSS-Freq.: Peers	15.54	3.93	6	24	1	24
MDSS-Freq.: Authority	14.75	4.30	6	24	6	24
MDSS-Freq.: Total Support #	51.55	10.75	19	76	8	76
MDSS-Sat: Family/Friends	23.56	4.14	7	28	1	28
MDSS-Sat: Peers	17.85	3.82	6	24	6	24
MDSS-Sat: Authority	17.63	4.05	6	24	6	24
MDSS-Sat: Total Support Sat.	57.72	11.12	19	76	8	76
SWLS	26.28	5.73	5	35	5	35
5F-Wel: Holistic Wellness	79.41	5.98	25	100	61.72	95.89
5F-Wel: Creative Self	78.47	6.83	25	100	65.00	96.05
5F-Wel: Coping Self	75.58	6.41	25	100	58.82	90.79
5F-Wel: Social Self	86.90	9.66	25	100	62.50	100.00
5F-Wel: Essential Self	81.54	9.17	25	100	54.69	100.00
5F-Wel: Physical Self	79.17	9.50	25	100	58.33	100.00

Note: AIMS = Athletic Identity Measurement Scale; SCS = Sport Commitment Scale; TISQ = Time in Sport Questionnaire; MDSS = Multi-dimensional Support Scale; SWLS = Satisfaction with Life Scale; 5F-Wel = Five Factor Wellness Evaluation

Descriptives by Ethnicity

In this section, descriptive statistics (i.e., mean scores, variability, and range minimum and maximum scores) are presented by ethnicity. This section is included to provide descriptive statistics only between African American and Caucasian college student-athletes because previous research findings suggest that there may be differences. Results of inferential analyses will be presented in the following sections that introduce the results of research questions. Although other ethnic groups were identified in this study, a large majority (92.3%) identified as either African American or Caucasian. Therefore, only the information for these two ethnic groups is presented (see Table 3).

Mean scores, variability, and range of scores were similar for African Americans and Caucasians on most scales and subscales. Although Caucasians had higher means than African American on most scales, there were some scales in which African Americans had higher mean scores than Caucasians. Those scales were **Time in Sport** (AA: $M = 23.90$, $SD = 11.78$; C: $M = 20.09$, $SD = 14.76$) and **Essential Self** (AA: $M = 83.53$, $SD = 8.67$; C: $M = 79.52$, $SD = 9.41$). Though African American and Caucasian mean scores on the **Holistic Wellness (HW)** scale, and **Creative Self (CS)** subscale were similar, the variability of the scores differed (**HW**; AA: $SD = 6.24$, $M = 79.63$, range = 31.85; C: $SD = 5.57$, $M = 79.54$, range = 21.23) and (**CS**; AA: $SD = 7.39$, $M = 78.81$, range = 31.05; C: $SD = 6.41$, $M = 78.54$, range = 27.50). In addition, there were three other scales/subscales where the range of scores had noticeable differences by ethnicity: **Multi-Dimensional Support Scale Frequency (SSF)** (AA: range = 62.00; C: range =

42.00), **Multi-Dimensional Support Scale Satisfaction (SSS)** (AA: range = 68.00; C: range = 32.00), and **Holistic Wellness** (AA: range = 31.85; C: range = 21.23).

Table 8
Scale/Subscale descriptives by ethnicity (African American and Caucasian)

Scale/Subscale	African-Americans (<i>N</i> = 78)					Caucasians (<i>N</i> = 66)				
	Mean	<i>SD</i>	Min	Max	Range	Mean	<i>SD</i>	Min	Max	Range
AIMS	49.55	8.54	30	67	37	49.03	7.58	24	64	40
SCS	17.58	2.88	10	20	10	17.20	2.72	9	20	11
TISQ	23.90	11.78	0	54	54	20.09	14.76	0	57	57
SSF: Family/Friends	22.30	4.21	8	28	20	22.67	3.71	12	28	16
SSF: Peers	15.53	4.29	1	24	23	16.66	3.56	10	24	14
SSF: Authority	14.59	4.22	6	24	18	15.03	4.61	6	24	18
SSF: Total	50.37	12.01	8	72	62	53.14	9.76	34	76	42
SSS: Family/Friends	23.04	4.74	1	28	27	24.15	3.53	13	28	15
SSS: Peers	17.85	3.85	6	24	18	18.13	3.50	12	24	12
SSS: Authority	17.32	4.26	6	24	18	18.23	3.82	11	24	13
SSS: Total	55.75	13.03	8	76	68	60.23	8.69	44	76	32
SWLS	25.78	6.00	5	35	30	27.14	5.16	5	35	30
5F-Wel: Holistic Wellness	79.63	6.24	61.72	93.57	31.85	79.54	5.57	70.55	91.78	21.23
5F-Wel: Creative Self	78.81	7.39	65.00	96.05	31.05	78.54	6.41	66.25	93.75	27.50
5F-Wel: Coping Self	75.99	6.26	58.82	90.79	31.97	79.55	6.49	60.53	89.47	28.95
5F-Wel: Social Self	85.34	9.21	62.50	100.00	37.50	89.27	9.18	71.43	100.00	28.57
5F-Wel: Essential Self	83.53	8.67	58.93	100.00	41.07	79.52	9.41	54.69	98.44	43.75
5F-Wel: Physical Self	77.35	8.99	58.93	100.00	41.67	81.30	9.90	60.00	100.00	40.00

Descriptives by Gender

In this section, the descriptive statistics are presented by gender. Although the mean scores, variability, and range scores were similar for females and males, there were some differences. Just as in the previous section, this section is included to provide

descriptive statistics only between female and male college student-athletes because previous research findings suggest that there may be differences. Inferential differences will be presented in the following sections that introduce the results of research questions. These scores are presented in Table 4.

The differences in female and male scores were on the **Time in Sport (TIS)** scale where means scores for males ($M = 25.65$, $SD = 10.14$) were higher than females ($M = 19.31$, $SD = 16.14$), and the **5F-Wel Social Self (SoS)** subscale and the **5F-Wel Essential Self (EsS)** subscale where female mean scores (**SS**: $M = 89.27$, $SD = 9.28$; **ES**: $M = 83.38$, $SD = 8.69$) were higher than males' (**SS**: $M = 84.59$, $SD = 9.50$; **ES**: $M = 79.55$, $SD = 9.33$). Also, on the total **MDSS Frequency (SSF)** scale, the total **MDSS Satisfaction scale (SSS)**, and the **5F-Wel Coping Self (CoS)** subscale females' variability (**SSF**: $SD = 11.40$, $M = 53.40$; **SSS**: $SD = 11.33$, $M = 58.44$; **CoS**: $SD = 6.96$, $M = 75.95$) was greater than males' (**SSF**: $SD = 8.57$, $M = 50.19$; **SSS**: $SD = 9.55$, $M = 57.63$; **CoS**: $SD = 5.85$, $M = 75.22$). In addition, females and males had a noticeably different range of responses on **SSS Family/Friends** subscale (female: range = 15.00 vs. male: range = 21.00), **SSS Peers** subscale (female: range = 13.00 vs. male: range = 18.00), **SSS Supervisor** (female: range = 13.00 vs. male: range = 18.00), **5F-Wel Holistic Wellness (HW)** (female: range = 23.02 vs. male: range = 34.17), **5F-Wel Social Self (SoS)** (female: range = 28.57 vs. male: range = 37.50), **5F-Wel Essential Self (EsS)** (female: range = 35.94 vs. male: range = 45.31).

Table 9
Scale/subscale descriptives by gender

Scale/Subscale	Males (N = 78)					Females (N = 81)				
	Mean	SD	Min	Max	Range	Mean	SD	Min	Max	Range
AIMS	48.56	8.09	30	67	37	49.58	8.09	24	66	42
SCS	17.63	2.64	10	20	10	17.25	2.89	9	20	11
TISQ	25.65	10.14	5	47	42	19.31	16.14	0	67	67
SSF: Family/Friends	21.67	3.51	11	28	17	23.20	3.89	11	28	17
SSF: Peers	15.09	3.61	6	24	18	16.18	3.87	6	24	18
SSF: Supervisors	14.01	4.08	6	24	18	15.47	4.41	6	24	18
SSF: Total Support	50.19	8.57	25	69	44	53.40	11.40	11	76	65
Fre.										
SSS: Family/Friends Sat.	23.34	3.82	7	28	21	24.06	3.61	13	28	15
SSS: Peers Sat.	17.76	4.05	6	24	18	17.95	3.61	11	24	13
SSS: Supervisors Sat.	14.01	4.03	6	24	18	18.10	4.04	11	24	13
SSS: Total Support Sat.	57.63	9.55	26	76	50	58.44	11.33	13	76	63
SWLS	25.31	6.00	5	35	30	27.23	5.32	5	35	30
5F-Wel: Holistic Wellness	78.15	5.90	61.72	95.89	34.17	80.65	5.86	70.55	93.57	23.02
5F-Wel: Creative Self	77.16	6.60	65.00	95.00	30.00	79.75	6.88	66.25	96.05	29.80
5F-Wel: Coping Self	75.22	5.85	58.82	89.47	30.65	75.95	6.96	60.53	90.79	30.26
5F-Wel: Social Self	84.59	9.50	62.50	100.00	37.50	89.27	9.28	71.43	100.00	28.57
5F-Wel: Essential Self	79.55	9.33	54.69	100.00	45.31	83.38	8.69	64.06	100.00	35.94
5F-Wel: Physical Self	78.28	9.53	58.33	100.00	41.67	80.02	9.50	60.00	100.00	40.00

Reliability for Instrument Scales

The reliability coefficients for all the instruments are presented in this section. For all of the scales, the alpha coefficients ranged from .49 (TISQ) to .93 (Holistic Wellness). Alpha coefficients for most scales and subscales were above .80 (13 out 18) (see Table 5). Coefficient alphas for the Multi-Dimensional Support Scale (MDSS) and its subscales

ranged from the .79 (Social Support Frequency Family/Friends) to .90 (Social Support Satisfaction Total and Social Support Satisfaction Supervisors) and the Five-Factor Wellness Inventory (5F-Wel) and subscales ranged from .69 (Coping Self) to .91 (Holistic Wellness). In general, the wellness reliability coefficients are lower than what was found in previous research studies using these constructs.

Table 10
Coefficient alphas for all scales and subscales

Scale/Subscale	Number of Items	Alpha	Author's Alpha
AIMS	10	.78	.81
SCS	5	.86	.88
TISQ	12	.49	N/A
SSF: Family/Friends Frequency	7	.79	.86
SSF: Peers Frequency	6	.84	.85
SSF: Supervisors Frequency	6	.86	.87
SSF: Total Support Frequency	19	.88	N/A
SSS: Family/Friends Satisfaction	7	.86	N/A
SSS: Peers Satisfaction	6	.88	.81
SSS: Supervisors Satisfaction	6	.90	.90
SSS: Total Support Satisfaction	19	.90	N/A
SWLS	5	.83	.87
5F-Wel: Holistic Wellness	73	.91	.94
5F-Wel: Creative Self	20	.80	.92
5F-Wel: Coping Self	19	.69	.85
5F-Wel: Social Self	8	.82	.85
5F-Wel: Essential Self	16	.81	.88
5F-Wel: Physical Self	10	.76	.88

Results of Research Questions and Hypotheses

In this section, the results of the analyses of the research questions and hypotheses tests are presented.

The relationships specified in Research Question One (What are the relationships between athletic identity, sport commitment, time in sport, social support, life satisfaction, holistic wellness, and wellness factors?) were analyzed using Pearson Product Moment correlations. [Hypothesis 1 (There will be statistically and practically significant relationships among athletic identity, sport commitment, time in sport, social support, life satisfaction, holistic wellness, and other wellness factors.)]. There were statistically significant correlations among the study variables Athlete Identity (AI), Sport Commitment (SC), Time in Sport (TIS), Social Support (total Social Support Frequency (SSF) and total Social Support Satisfaction (SSS), Life Satisfaction (LS), Holistic Wellness (HW), Creative Self (CrS), Coping Self (CoS), Social Self (SoS), Essential Self (EsS), and Physical Self (PhS).

There were several statistically significant relationships among the variables (see Table 6). Those that were both statistically and practically (i.e., $r = .40$ or greater) significant are notable for this study. All of the independent variables were significantly correlated with some aspect of wellness. In practical significance, the relationship between Social Support Frequency and Social Support Satisfaction was $r = .78$ ($p < .01$), and Life Satisfaction and Social Self was practically significant ($r = .40$, $p < .01$). The other practically significant differences were found among the wellness variables. Table 6 is a display of the statistics of the correlations calculated using Pearson Product Moment, providing partial support of Hypothesis 1. Using $.40$ as a practical significance benchmark, fewer correlations would be considered significant. These results may provide more meaning for usage in counseling practice.

Table 11

Pearson Product Moment Correlations among all scales and subscales

	AI	SC	TIS	SSF	SSS	LS	HW	CrS	CoS	SoS	EsS	PhS
AI	.78											
SC	.35**	.86										
TIS	.02	.09	.49									
SSF	.12	.03	-.09	.88								
SSS	-.01	.06	-.06	.78**	.90							
LS	-.02	.16**	-.04	.09	.19*	.83						
HW	.15	.33**	.06	.18*	.21**	.33**	.91					
CrS	.13	.25**	-.06	.19*	.22**	.29**	.86**	.80				
CoS	.29**	.31**	.02	.07	.11	.28**	.78**	.36**	.69			
SoS	.02	.21**	.02	.25**	.32**	.40**	.77**	.13	.53**	.82		
EsS	.08	.24**	.01	.13	.06	.14	.73**	.34**	.39**	.45**	.81	
PhS	.00	.24**	.32**	.03	.16*	.22**	.59**	.42**	.33**	.45**	.23**	.76

*Significant at .05 alpha level **Significant at .01 alpha level; alpha coefficients on diagonal.

The differences specified in Research Question Two (Are there significant mean differences in athletic identity, sport commitment, time in sport, social support, life satisfaction, holistic wellness, and wellness factors based on gender, ethnicity, seasonal status, year-in-school, playing status, and division?) were analyzed using multivariate

analyses of variance (MANOVA). [Hypothesis 2a (There will be a statistically significant difference on athletic identity based on ethnicity.) Hypothesis 2b (There will be a difference on athletic identity and sport commitment based on gender.) Hypothesis 2c (There will be a statistically significant difference on time in sport based on seasonal status.) Hypothesis 2d (There will be no statistically significant differences in athletic identity, sport commitment, time in sport, social support, life satisfaction, holistic wellness, and other wellness factors based on year-in-school, playing status, and division.)] Results are presented in Table 7. Gender, ethnicity, seasonal status, year-in-school, playing status, and division were the independent variables in this question. In order to conduct the desired analyses, the non-two-group independent variables were recoded to reflect two groups. For example, year-in-school was recoded and grouped as a categorical variable of two groups with each year serving as a reference group (e.g., First Year vs. Non-First Year or Second Year vs. Non-Second Year). The same recoding occurred for playing status (e.g., First String vs. Non-First String) and division (Division 1 vs. Non-Division 1). The other independent variables were already scored in two-group categories. Only scores for African American and Caucasian participants were used for ethnicity, as these were the only two ethnic groups with participants sufficient to support the analyses.

The omnibus test revealed a significant multivariate difference between African Americans and Caucasians ($F = 3.91, p = .00$). Post-hoc analyses indicated that African Americans scored higher than Caucasians on Essential Self ($F = 6.69, p = .01$) and lower than Caucasians on the Social Self ($F = 5.21, p = .02$) and Physical Self ($F = 6.83, p =$

.01) wellness subscales. Statistically significant gender differences existed as well ($F = 3.21, p = .00$). Males scored higher than females on time in sport ($F = 8.33, p = .00$) and lower than females on total social support frequency ($F = 5.39, p = .02$), holistic wellness ($F = 5.62, p = .02$), creative self ($F = 4.50, p = .04$), social self ($F = 8.57, p = .00$), and essential self ($F = 5.69, p = .02$). Seasonal status differences also were identified ($F = 3.23, p = .00$). Participants who were in-season scored significantly higher than those who were out-of-season on time in sport ($F = 25.29, p = .00$) and lower on total social support frequency ($F = 5.91, p = .02$).

Also, there were statistically significant differences among participants who were in their first year of college as compared to all other years ($F = 1.93, p = .04$), fourth year participants compared to non-fourth year participants ($F = 1.91, p = .04$), and fifth year participants compared to non-fifth year participants ($F = 1.88, p = .04$). Post-hoc analyses indicated that first year participants scored significantly higher than all other years in essential self ($F = 12.49, p = .00$), second years scored statistically significantly lower on life satisfaction ($F = 6.20, p = .01$) and social self ($F = 8.31, p = .00$), and fourth years were significantly higher on life satisfaction ($F = 5.68, p = .02$) only. Additionally, there were significant differences among the dependent variables for those participants who identified as being on the first string ($F = 1.92, p = .04$) in response to playing status as compared to those participants who identified as being on the second or third string of their sports team's playing status. First string participants scored significantly higher on social self ($F = 6.13, p = .02$) than non-first string participants. Second string participants were statistically significantly different that from non-second string participants ($F =$

1.84, $p = .05$), scoring significantly lower on holistic wellness ($F = 6.05, p = .02$), creative self ($F = 5.08, p = .03$), and social self ($F = 8.47, p = .00$).

The mean scores for National Collegiate Athletic Association (NCAA) division I participants were significantly different from the scores of non-division I participants ($F = 7.67, p = .00$). Post-hoc analyses indicated that Division I participants scored significantly lower than non-division I participants on athletic identity ($F = 4.69, p = .03$) and total social support frequency ($F = 5.09, p = .03$) and higher on time in sport ($F = 12.75, p = .00$), life satisfaction ($F = 5.49, p = .02$), social self ($F = 16.00, p = .00$), and physical self ($F = 31.96, p = .00$). Division II participants differed significantly from non-division II participants ($F = 3.19, p = .00$), with post-hoc analyses indicated that Division II participants were lower than non-division II participants in social self ($F = 9.39, p = .00$) and physical self ($F = 10.15, p = .00$). Also, division III participants differed significantly from non division III participants ($F = 6.26, p = .00$), with post-hoc analyses indicating that Division III participants scored significantly higher on athletic identity ($F = 4.03, p = .05$) and social support frequency ($F = 12.98, p = .00$) and lower on time in sport ($F = 44.38, p = .01$) and physical self ($F = 4.92, p = .03$).

Although there were a number of significant differences found through these analyses, Hypothesis 2a and Hypothesis 2b were not supported. That is, there was no difference in athletic identity by ethnicity and no difference in athletic identity and sport commitment by gender. Hypothesis 2c was supported, meaning there was a statistical difference in time in sport by seasonal status.

Table 12

Multivariate and Univariate Analysis of Variances for ethnicity, gender, seasonal status, year-in-school, playing status, and division level on all study variables.

Source	Multivariate Analysis		Univariate Analysis											
	Wilk's	F	AI F	SC F	TIS F	SSF F	SSS F	LS F	HW F	CrS	CoS	SoS	EsS	PhS
Ethnicity	.72	3.91*	.39	.19	2.89	1.08	3.57	2.41	.02	.08	.27	5.21*	6.69*	6.83*
Gender	.78	3.21*	.66	1.15	8.33*	5.39*	.74	3.65	5.62*	4.50*	.37	8.57*	5.69*	.91
Seasonal Status	.78	3.23*	3.00	1.60	25.29*	5.91*	3.76	.13	.34	1.82	.12	.90	.66	3.14
Year-in-School														
First Year	.85	1.93*	.00	.11	.65	1.81	.46	.01	2.41	2.54	.37	.06	12.50*	.92
Second Year	.37	.98	.37	.98	2.80	.39	.37	6.20*	1.44	.76	.36	8.31*	.19	.32
Third Year	.90	1.19	.09	.29	1.03	.23	.19	.67	.14	.05	.31	2.74	2.09	.03
Fourth Year	.15	1.91*	.56	.27	1.41	2.19	.20	5.68*	.01	.25	.61	2.90	2.04	1.23
Fifth Year	.86	1.88*	2.06	.64	.66	.00	.00	2.27	.02	.10	.15	.47	.08	.55
Playing Status														
First String	.82	1.92*	1.31	1.56	3.18	.60	2.89	1.60	3.60	2.89	1.91	6.13*	1.58	.18
Second String	.83	1.84*	1.44	1.68	2.03	.29	1.61	2.57	6.05*	5.08*	3.29	8.47*	2.21	.77
Third String	.98	.23	.00	.00	.72	.28	.96	.26	.70	.72	.44	.27	.10	.68
Division Level														
Division I	.60	7.67*	4.69*	.94	12.75*	5.09*	.19	5.49*	2.44	.12	.15	16.00*	1.87	31.96*
Division II	.78	3.19*	.23	.10	1.51	.30	1.61	2.31	.63	.11	.01	9.39*	2.64	10.15*
Division III														

Note: Athletic Identity (AI), Sport Commitment (SC), Time in Sport (TIS), Social Support Frequency (SSF), Social Support Satisfaction (SSS), Life Satisfaction (LS), Holistic Wellness (HW), Creative Self (CrS), Coping Self (CoS), Social Self (SoS), Essential Self (EsS), and Physical Self (PhS).

To answer Research Question Three (What amount of variance in holistic wellness can be accounted for by athletic identity, sport commitment, time in sport, social support, and life satisfaction?) and to test Hypothesis 3 (Athletic identity, sport commitment, time in sport, social support, and life satisfaction will account for a statistically significant portion of the variance in holistic wellness among student-athletes.) a stepwise regression analysis was conducted.

With the probability of F set at the .05 significance level, all variables dropped out of the regression equation except life satisfaction ($\beta = .26, p = .00$), sport commitment ($\beta = .28, p = .00$), and social support satisfaction ($\beta = .18, p = .02$), resulting in these variables being statistically related to holistic wellness $F(3, 145) = 14.33, R = .48$. The model summary results suggested that 22.9% of the variance in holistic wellness can be predicted by life satisfaction, sport commitment, and social support satisfaction (see Table 12).

Table 13
Model summary of predictor variables on holistic wellness

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.34 ^a	.12	.11	5.74
2	.45 ^b	.20	.19	5.49
3	.48 ^c	.23	.21	5.40

a. Predictors: (Constant), Life Satisfaction

b. Predictors: (Constant), Life Satisfaction, Sport Commitment

c. Predictors: (Constant), Life Satisfaction, Sport Commitment, Social Support Satisfaction

The differences specified in Research Question Four (Are there significant mean differences in holistic wellness based on athletic identity, sport commitment, time in sport, social support, and life satisfaction?) were answered next. [Hypothesis 4 (There will a statistically significant mean difference in holistic wellness based on athletic identity, sport commitment, time in sport, social support, and life satisfaction.)] Research question fours was tested using a multivariate analysis of variance (MANOVA) for athletic identity (AI), sport commitment (SC), time in sport (TIS), social support (both total social support frequency (SSF) and total social support satisfaction (SSS), and life satisfaction (LS) on holistic wellness (HW). The independent variables were continuous variables, so they were recoded into categorical variables for the purpose of analysis. The scores for each of the independent variables were placed in two categories: “High” or “Low.” Results are presented in Table 14.

The analysis indicated that only social support satisfaction and life satisfaction had significant mean differences on the multivariate model (SSS: $F = 2.316, p = .00$; LS: $F = 2.79, p = .00$). All variables except athletic identity and time in sport had significant mean difference in holistic wellness. In addition, each independent variable had significant mean differences on some aspect of wellness. (see Table 14). The high AI group was higher on coping self ($F = 5.27, p = .02$) than was the low AI group. High SC scores were significantly higher than low SC on all scales, except physical self (HW: $F = 12.28, p = .00$; CrS: $F = 9.82, p = .00$, CoS: $F = 8.26, p = .01$, SoS: $F = 4.96, p = .03$; EsS: $F = 6.20, p = .01$). Participants with high TIS scores both in-season and out-of-season had significantly higher PhS scores ($F = 15.95, p = .00$ and $F = 5.57, p = .02$) than

those who responded with low TIS scores. Participants in the high SSF group reported significantly higher scores than those in the low SSF group on HW ($F = 5.85, p = .02$), CrS ($F = 5.26, p = .02$), SoS ($F = 8.47, p = .00$), and EsS ($F = 4.97, p = .03$).

Additionally, participants who scored high on SSS scored significantly higher than those who scored low on SSS on all wellness variables, except Essential Self (HW: $F = 17.63, p = .00$; CrS: $F = 13.65, p = .00$; CoS: $F = 7.55, p = .01$; SoS: $F = 31.04, p = .00$; PhS: $F = 10.81, p = .00$). Participants in the high LS group scored significantly higher than those in the low LS group on HW ($F = 20.20, p = .00$), CrS ($F = 14.22, p = .00$), CoS ($F = 13.90, p = .00$), SoS ($F = 31.18, p = .00$), and PhS ($F = 8.58, p = .00$). These results provide evidence that partially supports Hypothesis 4.

Table 14
Multivariate Analysis of Variance for athletic identity, time in sport, social support, and life satisfaction

Source	Multivariate Analysis		Univariate Analysis					
	Wilk's	F	HW F	CrS F	CoS F	SoS F	EsS F	PhS F
Athletic Identity	.72	1.50	1.43	1.37	5.27*	.09	.73	.19
Sport Commitment	.82	1.23	12.28*	9.82*	9.08*	4.96*	6.20*	3.86
Time in Sport-In Season	.37	1.65	1.52	.03	.01	1.77	.92	15.95*
Time in Sport-Out-of-Season	.56	1.60	.51	.10	.86	.02	.16	5.57*
Social Support Frequency	.74	1.27	5.85*	5.26*	2.14	8.47*	4.97*	.01
Social Support Satisfaction	.60	2.316*	17.63*	13.65*	7.55*	31.04*	2.37	10.81*
Life Satisfaction	.71	2.79*	20.20*	14.22*	13.90*	31.18*	2.40	8.58*

Note: $p < .05$

Post Hoc Analysis

Each of the second order factors of wellness (e.g., Creative Self, Coping Self, etc.) are composed of third order factors as described in Chapters 2 and 3. Thus, post hoc analyses were conducted for those wellness variables that were significant with levels of independent variables to determine where those differences lie. Levels of Athletic Identity were significantly different in Coping Self. Those differences were among Realistic Beliefs ($F = 4.76, p = .03$). For levels of Sport Commitment, significant differences were among several of the third order factors. For the Creative Self, differences were among Thinking ($F = 6.50, p = .01$), Control ($F = 5.77, p = .02$), and Work. For the coping self, Leisure ($F = 4.02, p = .05$), Stress Management ($F = 7.88, p = .01$), and Self Worth ($F = 10.30, p = .00$). Friendship ($F = 4.43, p = .04$) made up the significant difference in the social self factor and Cultural Identity ($F = 10.26, p = .00$) made up the significant difference in the essential self factor.

For student-athletes who were out-of-season, levels of time in sport were significantly different in Physical Self based on Nutrition ($F = 3.99, p = .05$), while those who were in-season were significantly different in Physical Self based on both Nutrition ($F = 12.60, p = .00$) and Exercise ($F = 7.01, p = .01$). For Social Support frequency, there were significant differences in Creative Self among Emotions ($F = 5.26, p = .02$), in Social Self among both Friendship ($F = 7.48, p = .01$) and Love ($F = 6.27, p = .01$), and in Essential Self among Gender Identity ($F = 8.99, p = .00$) and Cultural Identity ($F = 5.49, p = .02$). For social support satisfaction several significant third order differences were among Thinking ($F = 5.05, p = .03$), Emotions ($F = 7.69, p = .01$), Control ($F =$

11.49, $p = .00$), Positive Humor ($F = 5.79, p = .02$), Leisure ($F = 5.09, p = .03$), Stress Management ($F = 8.33, p = .01$), Self Worth ($F = 14.84, p = .00$), Friendship ($F = 33.96, p = .00$), Love ($F = 16.53, p = .00$), Nutrition ($F = 6.59, p = .01$), and Exercise ($F = 8.10, p = .01$). Levels of Life Satisfaction differences were found among the third order factors of Emotions ($F = 8.52, p = .00$), Control ($F = 8.59, p = .00$), Work ($F = 4.39, p = .04$), Positive Humor ($F = 9.71, p = .00$), Leisure ($F = 13.31, p = .00$), Stress Management ($F = 18.13, p = .00$), Self Worth ($F = 21.57, p = .00$), Realistic Beliefs ($F = 5.91, p = .02$), Friendship ($F = 27.99, p = .00$), Love ($F = 23.74, p = .00$), and Exercise ($F = 18.80, p = .00$).

Chapter Summary

In this chapter, the resulting sample was described and demographics of the participants were presented. Participants were described by ethnicity and gender. The descriptive statistics for all scale and subscale scores were presented by ethnicity and gender as well. Alpha coefficients, all providing reasonable evidence of reliability for the study measures, were then presented for all the instruments used in the study.

Each research question and hypothesis was analyzed next. Each of the independent variables significantly correlated with holistic wellness and some of the subscales of the 5F-Wel. Hypothesis 1 was partially supported. Ethnicity, gender, seasonal status, year-in-school, playing status, and division level each had some statistical significant effect on the other study variables. Ethnicity did not have a significant effect on athletic identity and gender did not have an effect on athletic identity and sport commitment. Thus, the results failed to support Hypothesis 2a and Hypothesis 2b.

Seasonal status did have an effect on time in sport, supporting Hypothesis 2c. Not all predictor variables accounted for a significant portion of variance in holistic wellness as Hypothesis 3 speculated. Only life satisfaction, sport commitment, and social support satisfaction significantly predicted holistic wellness, thus partially supporting the hypothesis. Hypothesis 4 was partially supported, resulting in a significant difference in holistic wellness between high and low groups of sport commitment, social support frequency and satisfaction, and life satisfaction. . Post hoc analyses revealed significant differences within subgroups based on the third order factor structure of the 5F-Wel. Sport commitment, social support frequency and satisfaction, and life satisfaction reveal differences based upon several third order factors.

CHAPTER V

DISCUSSION

The results of this study were presented in Chapter IV. In Chapter V, a summary of the research findings are presented and the hypotheses are discussed first. Then, potential limitations in interpreting the results are considered. Finally, implications for counseling practice, counselor education, and future research are presented.

Overview of Study and Summary of Findings

College student-athletes' educational and life experiences are different from that of their non-athlete peers. Their dual role as student and athlete creates challenges for them in resolving developmental challenges faced by all traditional college-aged undergraduate students. Many college student-athletes have a high athletic identity, which has been associated with a high commitment to their sport, an increased amount of time they are involved with sport-related activities, and a decreased social network with those outside of their sport, resulting in lower frequency of and satisfaction with social support. These factors have the potential to be both detrimental and advantageous to student-athletes' holistic wellness and holistic functioning. Yet, no researcher has empirically examined the relationships among these variables.

It is imperative that counselors who work with this population have an understanding of the impact that athletic identity, sport commitment, the amount of time in sport spent in sport-related activities, and social support frequency and satisfaction has

on life satisfaction and holistic wellness. In response, this study attempted to provide data knowledge about the relationship among these variables. More specifically, this study examined the following about college student-athletes: 1) the relationships between athletic identity, sport commitment, time in sport, social support, life satisfaction, holistic wellness, and wellness factors; 2) the mean differences in athletic identity, sport commitment, time in sport, social support, life satisfaction, holistic wellness, and wellness factors based on gender, ethnicity, seasonal status, year-in-school, playing status, and division; 3) the amount of variance in holistic wellness that can be accounted for by athletic identity, sport commitment, time in sport, social support, and life satisfaction; and 4) the mean differences in holistic wellness based on athletic identity, sport commitment, time in sport, social support, and life satisfaction?.

To answer research question one, a Pearson Product Moment was conducted. There were statistically significant correlations between the Athletic Identity, Sport Commitment, Time in Sport, Social Support Frequency and Satisfaction, Life Satisfaction, Holistic Wellness, and the other wellness factors, namely Creative Self, Coping Self, Social Self, Essential Self, and Physical Self. Although not all variables correlated significantly, there were statistically significant correlations between Athletic Identity and Sport Commitment, Athletic Identity and Coping Self, Sport Commitment and Life Satisfaction, Sport Commitment and all wellness scales and subscales, Time in Sport and Physical Self, Social Support Frequency and Social Support Satisfaction, Social Support Frequency and Holistic Wellness, Creative Self and Social Self, Social Support Satisfaction and Life Satisfaction, Social Support Satisfaction and Holistic

Wellness, Creative Self, Social Self and Physical Self, Life Satisfaction and all wellness scales and subscales except Physical Self, and all wellness scales and subscales correlated significantly with one another, except Creative Self and Social Self. A benchmark of .40 was set to determine practically significant relationships among the study variables. Most of the practically significant relationships were among the wellness variables. There was a practically significant relationship between Social Support Frequency and Social Support Satisfaction and Life Satisfaction and Social Self.

A multivariate analysis of variance was used to answer research questions two and four. There were significant difference in wellness based on the demographic variables of gender, ethnicity, seasonal status, year-in-school, playing status, and division, and on levels of athletic identity, sport commitment, time in sport, social support frequency, social support satisfaction, and life satisfaction. There were significant differences in the means of holistic wellness by all the demographic variables. There also were differences found among the other study variables by several of these demographic variables. One focus of this study (as noted in chapter two) was differences based on ethnicity and gender. African American respondents scored higher than Caucasian respondents on Essential Self, and Caucasian respondents scored higher than African American respondents on Social Self and Physical Self. Females scored higher in Social Support Frequency, Holistic Wellness, Creative Self, Social Self, and Essential Self, while males scored higher on Time in Sport only.

Levels of the independent variables Sport Commitment, Social Support Frequency, Social Support Satisfaction, and Life Satisfaction all had a main effect on

Holistic Wellness. Most notably, Sport Commitment, Social Support Satisfaction, and Life satisfaction independently had a significant main effect on five out of six wellness variables. Further, significant effects were found for all independent variables on some wellness scale or subscale.

For research question three, results of a stepwise regression revealed that life satisfaction, sport commitment, and social support satisfaction were the only variables that predicted holistic wellness. Further, these variables accounted for just over one-fifth of the variance in Holistic Wellness.

The findings to the previous research questions should not be considered without a brief discussion of internal consistency. Internal consistency scores for the scale and subscales used in this study were acceptable in general (see Table 10). Scores on the social support subscales were higher or very similar (i.e., one point difference) than the authors had reported. The alpha coefficient scores for the wellness scales and subscales were lower than the authors had found, especially for the Coping Self subscale.

Inconsistencies could be a result of temporary emotional state of some of participants and their reactions to some of the items on instrument. For example, responses to the question “I am satisfied with how I cope with stress,” may have caused a negative response for some participants who may have had a recent negative sport event in which they did not have cope with stress well, while others may have responded to this question without temporary emotional response. Also, lower consistency scores may have been the result of several participants skipping ten or more questions on the instrument.

Discussion of Findings and Hypotheses

A discussion of the hypotheses for each research question is presented in this chapter. In this section, the reason why hypotheses may have been supported, rejected, or partially supported is discussed. Results from previous findings will be used to support the discussion.

Hypothesis 1

In Hypothesis 1, the researcher anticipated that there would be statistically and practically significant relationships among athletic identity, sport commitment, time in sport, social support (i.e., social support frequency and social support satisfaction), life satisfaction, holistic wellness, and other wellness factors (i.e., creative self, coping self, social self, essential self, and physical self). In testing this hypothesis with Pearson Product Moment correlations, this hypothesis was found to be partially supported statistically. There were 38 statistically significant correlations. Although direction was not specified in the hypothesis, all the significant correlations were positive. Notably, Holistic Wellness and Creative Self significantly correlated with all variables except Athletic Identity and Time in Sport. Sport Commitment significant associated with Life Satisfaction and all wellness scales. All wellness scales and subscales correlated with one another except Creative Self and Social Self. TIS only correlated with Physical Self, and Athletic Identity only correlated with Sport Commitment and Coping Self. Other than the exception expressed between Creative Self and Social Self, these findings seem consistent with Myers and Sweeney (2003).

Although correlations do not suggest causation, there may be some explanation to the associations between variables. The low number of significant correlations between Athletic Identity and the other variables (with the exception of Sport Commitment and Coping Self) was most surprising. These findings suggest that college student-athletes who highly identify with the athlete role consider themselves highly committed to their sport and have a manner of coping well using realistic beliefs, leisure time, stress management skills, and/or self worth. This also may suggest that individuals with high athletic identities may be able to overcome the stressors of negative events, which is how Myers and Sweeney (2004) described the Coping Self. The findings are consistent with the evidence supporting the relationship between high athletic identity and high sport commitment found by Horton and Mack (2000). They found that athletes (majority non-student) who highly identify with the athlete role have a high commitment to their sport. The results of this study extend this finding to traditional college-aged student-athletes. Findings explaining the relationship between athletic identity and life satisfaction, as well, are consistent with previous findings. Webb et al. (1998) found no significant relationship between athletic identity and one's satisfaction with their quality of life. Opposite to what was anticipated, significant correlations between AI and other variables (i.e., TIS, SSF, SSS, and HW) were not found. This study did not provide evidence that athletes who consider themselves to have a high athletic identity will spend more time in sports-related activities as was discovered by Schmid and Seiler (2003), a greater frequency or number of social supports within their network as found by Horton and Mack, and holistic wellness. It may be that students with high athletic identities may be

associated with holistic wellness indirectly through the means of mediating variables (e.g., sport commitment). This study, however, did not examine this relationship.

Sport commitment's statistically significant relationship with several of the variables in the study was anticipated. Since Hanton et al. (2003) found sport commitment to be associated with emotional well-being, it was anticipated and confirmed that sport commitment was associated with creative self which has emotional awareness as one of its components. The significant positive correlations between sport commitment and other variables may suggest that college student-athletes who are highly committed to their sport are pleased with the quality of their current life (LS), have a positive outlook on their world (CrS), are able to cope with negative events that happen in their lives (CoS), connect well with others (SoS), have a general sense of purpose in their lives (EsS), consider themselves physically well (PhS), and believe that they are holistically well (HW).

The significant correlations among most wellness variables were as expected. It is hard to understand why creative self and social self (the only non-significant correlation among wellness factors) were not correlated significantly. This may suggest that college student-athletes do not consider friendship and love (Social Self) to be positive contributors to how they positively interpret the world.

Several of the statistically significant relationships among the variables were between the Pearson r range of .16 to .29, indicating a small effect according to Spence,(1995). Most of the wellness variables were practically significant (i.e., correlations above .40), but few of the other variables were significant practically.

Regardless of the number or frequency of social support received by the student-athletes in this study, they reported being significantly satisfied with the amount of social support that they received. Whether this support was received from family, peers, coaches, love relationships, or friendship relationships, student-athletes reported being content with their quality of life as indicated by the practically significant finding between Life Satisfaction and Social Self. The social self aspect of wellness provides an avenue for practical application of wellness strategies for this population.

Hypotheses 2

In hypothesis 2, it was anticipated that there would be a statistically significant difference in athletic identity based on ethnicity, a difference in athletic identity and sport commitment based on gender, and a difference in time in sport by seasonal status. There seems to be differences in sport participation based on ethnicity and gender (Elling & Knoppers, 2005). Coakley (1990) hypothesized that African American high school student-athletes would have higher athletic identities than their Caucasian counterparts because African Americans refused to focus on careers outside of playing a sport, but Wiechman and Williams (1997) found the opposite to be true. Although there were differences found between African Americans and Caucasians in this study, the differences were among other variables (i.e., social self, essential self, and physical self). Based on the results of this study, it may be concluded that African American and Caucasian student-athletes have similar levels of athletic identity, even if their motives for participating may be different, although motives were not measured in this study. Thus, there is no support for the first part of the hypothesis.

There was no significant difference in athletic identity and sport commitment based on gender as proposed in the second part of hypothesis 2. Wiechman and Williams (1997) found that high school female student-athletes had significantly weaker athletic identities when compared to their male student-athlete peers. It appears that by the time these athletes reach the collegiate level, those differences disappear. This could be influenced by the difference between the somewhat extracurricular nature of sport in high school and the life consuming nature of sport at the collegiate level. Researchers (Cash et al., 1994; Gill & Overdorf, 1994; Koivula, 1999b) have found that women and men commit to their sport for different reasons. No significant differences were found between females and males in regards to levels of sport commitment, although other gender significant differences were found (i.e., time in sport, social support frequency, holistic wellness, creative self, social self, essential self). These findings may suggest that although female and male collegiate student-athletes have similar levels of sport commitment, they may get different benefits from their commitments as indicated by the differences in positive interpretations of their worlds (creative self), sense of friendship and love (social self), meaning or purpose of life (essential self), and sense of holistic wellness (holistic wellness). In addition, male range scores were greater than female scores on several measures. This may be a result of males responding to items on more extremes than females. This may have implications for differences in practice implications between females and males.

In the third part of hypothesis 2, it was assumed that seasonal status, that is, student-athletes' response to whether their sport was in-season (i.e., in the competition

season) or out-of-season (i.e., in the practice season), would have an effect on the amount of time student-athletes spent in hours in sport-related activities. Evidence supporting this hypothesis was found. This finding was not surprising, though. The NCAA places limits on the amount of hours that student-athletes can spend in sports-related activities, with a lesser number of hours allowed for out-of-season (maximum of 8 hours per week) than for in-season (maximum of 20 hours per week). Thus, a difference in the number of hours of sport-related participation in-season versus out-of-season was expected. There are no previous empirical studies that addressed this relationship.

The fourth part of Hypothesis 2 was examined to address the mean difference of the study variables based on college student-athletes' year-in-school, playing status, and division level. There was no previous literature to suggest the direction of the relationships among these variables, so the hypothesis was that there would be no significant relationship found. There, however, were significant differences found among these variables.

First year student-athletes scored higher on Essential Self than other years. Post hoc analyses revealed that that difference was in Spirituality, in which first year students scored higher than others. Second year students scored higher than other years on Life Satisfaction and lower on Social self and its third order component Friendship. This suggests that friendship relationship wellness decreases after student-athletes' first year but then increase after the second year. Regardless of the decrease in friendship wellness, second year students seem to be more satisfied with their lives.

The athletic experience seems to be different based on whether student-athletes are starters for their teams or not. Based on post hoc analysis, first string student-athletes (i.e., starters) seem to have lower wellness in love relationships than student-athletes of other years. This may be because starters may be more committed to their role on their team than individuals with whom they may consider having a love relationship. Second string student-athletes have higher levels of holistic wellness than those with other playing statuses, with differences found in the Creative Self and Social Self. Through post hoc analysis, these differences were found more specifically in Emotions and Positive Humor (Creative Self) and Friendship and Love (Social Self). Second string student-athletes have more friendship and love relationships than other playing statuses possibly because they are willing to be more committed to these relationships in addition to or instead of their sport. Because second string student-athletes may have had to deal with the disappointment of not being a starter for their teams, they may have had the opportunity to learn how to manage their emotions and use humor to cope with their discontentment.

There were significant differences in the study variables based whether the student-athletes participated at Division I, Division, II, or Division III schools. Those differences were in Athletic Identity, Time in Sport, Social Support Frequency, Life Satisfaction, Social Self, and Physical Self. Division I student-athletes spent more time in sport-related activities than other division levels, even though their athletic identity was lower than other division levels. Division III college student-athletes had higher athletic identity scores than other divisions. These findings are surprising considering that more

Division I and II student-athletes have scholarships (partial or full) to participate in their sport in college. This may be based on the notion that many Division III student-athletes are walk-on athletes who have earned their position on athletic teams. The process of earning a position may lead to student-athletes putting more salience on their role as athlete. Also, Division I student-athletes have lower Social Support Frequency scores than other division levels. One possible explanation is that their increased time in sport-related activities leaves them with less time for the opportunity for social support contacts. This finding is consistent with their significantly lower Social Self and Friendship and Love wellness scores. Division II student-athletes have significantly lower Friendship and Love (Social Self) and Nutrition and Exercise (Physical Self) wellness than other division levels.

In addition, Division III student-athletes have higher scores on Social Support Frequency and lower scores on Time in Sport than other division levels. This combination, along with the high Athletic Identity score listed above may suggest Division III student-athletes receive support for identifying with their athletic selves, even though they may not spend a great amount of time participating in sport-related activities. Through post hoc analyses, it was reported that Division III student-athletes have a lower self worth, stress management strategies, and exercise habits than other division levels.

Hypothesis 3

Hypothesis 3 proposed that athletic identity, sport commitment, time in sport, social support, and life satisfaction would account for a statistically significant portion of

the variance in holistic wellness among college student-athletes. Not all predictors were significant; however, life satisfaction, sport commitment, and social support satisfaction were significant predictors of holistic wellness. These three predictors accounted for slightly more than one-fifth of the amount of variance in holistic wellness. These findings provide partial support for the hypothesis. This is the first study to examine these predictors in relation to holistic wellness.

It was anticipated that athletic identity would be a significant predictor of holistic wellness because previous researchers had found relationships between athletic identity and various aspects of wellness (Blinde & Greendorfer, 1985; Gatz & Messner, 2002; Pearson & Petipas, 1990). Instead, athletic identity may be indirectly associated with holistic wellness through other predictor variables (e.g., sport commitment) or other aspects of wellness (e.g., coping self).

Hypothesis 4

Hypothesis 4 suggested that there would be a statistically significant mean difference in holistic wellness based on athletic identity, sport commitment, time in sport, social support, and life satisfaction. Testing this hypothesis through multivariate analyses of variance provided partial support for hypothesis 4.

These findings indicated the opposite of what previous researchers have hypothesized about high levels of sport commitment. High sport commitment has been associated with poor academic and career development (Pearson & Petipas, 1990). The results of this study indicate that college student-athletes who score high on athletic identity, sport commitment, and time in sport may consider themselves holistically well.,

Student-athletes with a high athletic identity have had poor career maturity (Murphy, Petitpas, & Brewer, 1996), lower career decision-making self-efficacy (Brown et al., 2000), and a poor emotional response to forced or unforced termination of their sport participation (Brewer, 1993). Time in sport has been hypothesized to associate poorly with career decision-making self-efficacy (Brown et al.). Although a significant relationship was not found between levels of athletic identity and time in sport for the multivariate model, there were differences in some aspect of wellness, namely Coping Self and Physical Self for time in sport. This may provide insight about how student-athletes cope with forced or unforced termination from their sport.

Ethnicity and Gender

Although there were no ethnic or gender differences found in regards to Hypothesis 2a and 2b, there were ethnic and gender differences were discovered through post hoc analysis. These differences may have important implications that can be taken in consideration across hypotheses.

Ethnicity

There were differences between how African Americans and Caucasians scored on some scales and subscales. African Americans and Caucasians scored significantly different on Self Worth, Social Self, Friendship, Love, Essential Self, Spirituality, Cultural Identity, Physical Self, and Exercise. African Americans were higher than Caucasians on Essential Self and Spirituality and Cultural Identity components and on the Self Worth component of Coping Self. These findings are similar to findings of previous researchers (Spurgeon & Myers, 2004), suggesting that African Americans may have a

stronger sense of self and cultural identity than Caucasians. Caucasians scored higher on Social Self and its components, Friendship and Love, and Physical Self, along with the component of Exercise. Shurts (2005) found similar results with Caucasian college-aged students scoring higher than African American college-aged students on Physical. The results for student-athletes in this study are similar to the results found for the general population of traditional-aged college students.

Gender

Significant gender differences also exist among the variables. Those differences were in Time in Sport, Social Support Frequency, Holistic Wellness, Creative Self, Thinking, Positive Humor, Social Self, Friendship, Love, Essential Self, Self-care, and Exercise. Surprisingly, females scored higher than males on all scores, except time in sport. This may suggest that female college student-athletes have higher levels of wellness than male college student-athletes. It also may suggest that the time males spend in sport-related activities may detract from their overall wellness. Based on previous findings (e.g., Myers & Mobley, 2004; Shurts, 2005), it was expected that females would score higher than males on Social Self, especially the Friendship component. Based on the current findings, it seems that female student-athletes are similar to the general college-aged female student population in that they have more friendships than males.

Potential Limitations

Although measures were taken to reduce the potential limitations, results should nonetheless be considered within these limitations. The most notable limitations include sampling, data collection procedures, and measurement error.

The sample was taken from one geographic region (southeastern) in the United States, and even within this region, the sample was drawn from only two states in the region. Thus, there may be limitations in generalizing the findings to those who may experience different lifestyles in other parts of the country. In addition, sampling procedures prevented experimental control. In order to increase the probability of having an ethnically diverse sample, sampling was taken from a Historically Black College or University (HBCU). The final sample resulted in half of participants being African American; this over-sampling resulted in a sample that is less representative of the actual NCAA population of student-athletes, although it allowed for ethnic comparison.

Next, the collection procedures posed potential limitations. The timing in which the data was collected may have influenced how the participants responded to the instrument items. For data that were collected during the fall semester, participants who identified themselves as being first year college student-athletes could not provide a cumulative Grade Point Average because they had never received a final grade for any of the classes that they were currently taking. Also, data were collected from student-athletes who were in their competition season and those who were out of their competition season. The differences in how individuals responded to questions about athletic identity, sport commitment, time in sport, and social support could have been different as a result of timing only. Thus, there should be caution in interpreting these findings. Although student-athletes were instructed to respond to items honestly based on their current situations, the administrator could not control outside events such as a recent

tough loss or thrilling victory that may have influenced how the participants responded to the items.

Finally, another limitation is measurement error. All the study instruments were self-report instruments, which creates the risk of participants responding to items with the most socially acceptable response according to them, rather than responding to the items honestly. The primary researcher did attempt to reduce measurement error by using instruments with relatively high reliability and validity.

Implications

In this section, the implications of the study are presented. The results of this study have implications for counseling practice, counselor education, and future research studies involving student-athletes. It is the intent that the following guidelines will help guide future counseling work with college student-athletes, as well as inform future research endeavors.

Counseling Practice

The results of this study have implications for counseling practice. The structure of athletics creates challenges for student-athletes in accomplishing developmental tasks. In using interventions to help student-athletes resolve developmental issues, counselors should take a holistic approach. It is hoped that, by taking this approach, counselors will use more constructive methods in helping student-athletes in their route to discovering further life satisfaction.

Identity development is one of the salient developmental tasks of all college students. Student-athletes who highly identify with their role as athlete may carry out

behaviors that are more related to that role at the expense of neglecting behaviors related to the student role. For some student-athletes, however, the role of college athlete may encourage them to more fully carry out the behaviors of a student. So, for some, athletic identity may be useful in helping them function well, rather than a detriment to their well-being. Counselors would be well advised to assess fully the relative strength of the athlete identity and the student identity when working with college student-athletes.

Athletic identity was significantly correlated with only one aspect of wellness, Coping Self, in this study. Student-athletes with a high athletic identity may need the services of a counselor to improve their functioning to their maximum potential. Counselors working with student-athletes with a high athletic identity should work with them from a proactive perspective, using those aspects of coping self with which their athletic identity may be significantly associated. For instance, the coping self aspect of wellness reflects realistic beliefs, leisure, stress management, and sense of worth. In this study, Realistic Beliefs made up the significant difference in the Coping Self factor. Counselors should be aware that student-athletes may score low on Realistic Beliefs based on levels of perfectionism resulting from sport performance. Although student-athletes may have been able to manage life's events and channel negative situations into positive outlets, they may have unrealistic expectations concerning future circumstances outside of sport. Thus, counselors can help them develop realistic plans for life to help them be more proactive about goals without neglecting their current identity as athletes and behaviors associated with their athletic roles.

Encouragement techniques can be used to help student-athletes explore more fully behaviors that they have not defined as being a part of their athletic identity, such as attending a relationship seminar for all college-aged students. These new experiences may lead to the life-changing events that Chickering and Reisser (1993) believe are needed for college-aged students to fully define who they are. Counselors can implement Adlerian techniques such as encouraging student-athletes to embrace multiple roles (i.e., athlete, student, friend) in order to help them develop a healthy self-identity that could lead to more holistic functioning. Counselors can encourage student-athletes to do a self-evaluation in order to help them in the process of becoming more self-accepting of their limitations in aspects related to other areas of life. More specifically, counselors can work with student-athletes to explore patterns and themes in their lives in order to help them develop knowledge and more awareness of self in relation to others and other aspects of their life. Counselors also can help student-athletes by using activities that foster more realistic beliefs about themselves. Student-athletes can be asked to make a list of “shoulds” and “oughts” to help them become aware of their self-talk and how it might govern certain behaviors.

Sport commitment seems to relate to all aspects of holistic wellness. Counselors will benefit from understanding what it really means for particular student-athletes to be committed to their sport, rather than assuming that sport commitment may limit the opportunity for commitments in other areas of life. In examining student-athletes’ resolve to continue participating in their sport, counselors should first assess whether the decision student-athletes have made to commit to their sport is because of sport enjoyment, the

lack of other attractive alternatives, barriers that keep them from terminating their sport participation, or social expectations to continue playing. Once a full assessment has been completed, counselors can then design interventions that help student-athletes use what they have learned from their commitment to their sport and the related work experiences that can influence their capacity to live life more fully. The creative self is one aspect of wellness in which counselors can work with student-athletes by using their problem-solving ability, creativity, and their commitment to work. Counselors can help student-athletes understand how their sport commitment has taught them how to solve problems and develop a work ethic in sport and how these skills can be translated to other areas of life. This is especially true for student-athletes who are transitioning out of their sport.

One of the major aspects of college students' lives is the nature and quality of their relationships with others which affects various aspects of their overall development (Chickering & Reisser, 1993). For college student-athletes, their relationships with others have an effect on their development of interpersonal competency, their ability to manage their emotions, their tolerance for and respect of others different from themselves, and their identity development (Harris, 2003). Although the effect of relationships on psychosocial development is not unlike other non-athlete college students, this may provide an avenue for counseling student-athletes towards better overall development. Harris suggests that certified athletic trainers (ATC) serve as the first line of intervention for student-athletes who are presenting with psychosocial development concerns by referring them for counseling. Counselors can then help student-athletes make connections between their social relationships, life satisfaction, and overall wellness. For

example, counselors can help college student-athletes maximize the benefits that they gain from their social relationships to help develop in specific areas of their lives, such as interpersonal competency and identity development, and holistically. By helping student-athletes identify and list what they have learned about themselves from previous and current relationships, counselors can help individual student-athletes gain insight into the person they are and how that relates to their sense of direction and purpose in life. It is hoped that this sense of purpose will benefit overall life functioning, which is consistent with psychosocial developmental theory presented by Chickering and Reisser (1993).

In regards to ethnic differences, counselors can help Caucasian student-athletes develop their cultural identity. This can be accomplished through workshops that promote an awareness and acceptance of the common factors associated with the Caucasian American culture. In previous experience, the researcher has noticed that many college-aged students in general do not consider White (i.e., Caucasian) as a culture. Awareness and acceptance of the values, behaviors, and privileges of the Caucasian cultural identity may lead college student-athletes to have a greater sense of self worth.

There are also counseling implications based on gender. Although female student-athletes tend to have more friendships than male student-athletes, males still may be satisfied with the relationships that they have. Males may have more friendship-type relationships than they report; they just may not define those relationships in friendship terms. Could you say what this means? Even if this is the case, counselors should encourage male student-athletes to develop relationships outside of their sport. This may create more opportunities in which they can interact with others which may increase

psychosocial development (Chickering & Reisser, 1993) and overall wellness. Males have lower wellness scores than females across several wellness components. Thus, counselors should help males understand the holistic implications of their sport participation, in order that they do not focus on the sport-related benefits that come from participation. Counselors can do this by creating more learning opportunities for males outside of sport, such as encouraging them to attend school plays or other functions. These learning experiences may have a positive effect on career development and other aspects of wellness.

Counselor Education

The implications for counselor education that arise from the results of this study address the courses taught to counselors-in-training, the content of those courses, and training practices for counseling students who plan to work with college student-athletes. Although education practices are already in place (e.g., programs in student development and higher education) for instructing and training students who plan to work with the college population, rarely is there focus on the issues faced by student-athletes. There is more that the counselor education profession can do to prepare counseling students to be able to address the unique challenges of this population.

The counseling profession places emphasis on holistic and preventive approaches in working with clients. Holistic and preventive measures may be infused throughout many of the courses taught in counseling programs, but rarely is there a course that places specific emphasis on holistic and preventive techniques in counseling. For example, although most theory courses introduce different theoretical approaches that counselors,

who supposedly work from a holistic and preventive perspective, use more could be done to help counselors-in-training understand how to implement different theoretical techniques in a holistic and preventive manner. One way to accomplish this is to introduce students to theories that are more holistically focused (e.g., Indivisible Self). Holism and prevention should be taught as a proactive approach to counseling individuals rather than a claim that counselors make. When counselors-in-training are exposed to specific holism techniques, they will apply them to the populations (e.g., student-athletes) who they will eventually counsel.

In addition to incorporating specific holistic theories and techniques in the courses covered in counseling programs, the content of those courses can be geared towards including aspects of the lives of student-athletes. Student development and higher education courses of study address theories (e.g., Chickering & Reisser, 1993) that focus on the college population. Most of these theories cover the topic of identity development. For some, course content can be modified to include the identity development process of student-athletes and how that process may be similar or different from the identity development process of their non-athlete peers. With this understanding, counselors may be able to help student-athletes through this developmental task, recognizing and utilizing their athlete identity as an asset rather than a detriment to their overall development. Counselors can help student-athletes define and redefine behaviors that student-athletes believe are consistent with an athletic identity and how to carry out those behaviors in a manner that would be beneficial to their overall life functioning.

The results of this study also have implications for the training practices of counseling students. Counseling students can be trained to use wellness instruments (e.g., 5F-Wel) for assessment, treatment planning and goal setting, and intervention strategies in working with their clients. The use of holistic wellness instruments that are based in counseling theory can provide the opportunity for counselors to help student-athlete clients consider the interconnectedness of various aspects of their lives and how changes in one area affects the other areas. Counselors-in-training can benefit from this understanding by learning how to practice applying techniques that would help clients create and continue to maintain balance in their lives. Using this training approach, counselor educators can inform students about how changes in levels of sport commitment for student-athletes may affect levels of other commitments (e.g., academic, social, and personal). In addition, counselor educators can train students how to help student-athletes put their commitments into perspective and understand how to maintain these commitments in a healthy optimally functional manner.

Finally, counselor educators can train students how to become advocates for student-athletes on college campuses. Once knowledge is gained about the unique challenges of this population, counselors on college campuses will be in an advantageous position to provide holistic care for college student-athletes. Counseling students should be trained to make connections between the different offices (e.g., student affairs and academic services) in order to ensure that the needs of student-athletes are met fully. Counseling students can be trained to consult with other college personnel who provide services for student-athletes. This coordination of services may increase the certainty that

the academic, social, and personal needs of student-athletes are met. In addition, counselor educators can encourage students in their programs to develop mentor programs that connect future counselors with student-athletes. Counselors-in-training can begin to make informal contacts with student-athletes that may increase student-athletes' social network and provide a format for helping student-athletes transfer skills learned through athletics to other aspects of life. Also, programs can be set up that connect current student-athletes with past student-athletes so that the life experiences of past student-athletes may be used as learning tools for current student-athletes to help them enrich their college experience and transition to a future life with or without sport.

Future Research

This study was the first to examine empirically the relationship between athletic identity, sport commitment, time in sport, social support, life satisfaction, and holistic wellness. Other studies can duplicate and extend this study to further provide evidence to support the findings. Because this study was conducted in one geographic region, similar studies should be conducted in other regions to help obtain a sample from persons with varied background experiences. This will help increase the generalizability of the results. Also, an increased number of participants who are more demographically consistent with the population of college student athletes may further enhance generalizability.

It was hoped that the results of this study would be used to propose a hypothesized model of wellness, using athletic identity, sport commitment, time in sport, social support, and life satisfaction as predictors of holistic wellness for college student-athletes. There is more exploratory and confirmatory research that needs to be conducted

before establishing a formal model. This model may facilitate comparisons across division level, ethnicity, or sport, and may provide a framework for counseling practices in addressing the predictors of well-being for college student-athletes. One model could be constructed using the three significant predictors (i.e., sport commitment, social support satisfaction, and life satisfaction) of holistic wellness found in this study.

The amount of time that college student-athletes spend in sport-related activities has been considered sparingly in previous research. Little is known about how the number of hours involved in sport participation and mandatory and non-mandatory sport activities relate to other factors (e.g., the variables of this study). One reason may be that this figure is hard to quantify. An extension or modification of the Time in Sport Questionnaire (Williams, 2005) used in this study can be a start. A questionnaire with more quantitative items (e.g., multiple choice with stated number hours per choice) may provide more clarity and consistency in the responses obtained than one that is more qualitative in nature. Also, items that refer to a more recent (e.g., this week vs. this season) and specific time period may provide more consistency.

In addition, further research could address the low internal consistency scores found with the Coping Self subscale. Realistic beliefs may be affected by perfectionistic tendencies that some student-athletes possess. Perfectionism can have an effect on student-athletes ability to cope (Gould et al., 1996).

Chapter Conclusion

This study was designed to examine the relationship between athletic identity, sport commitment, time in sport, social support, life satisfaction, and holistic wellness in

college student athletes. In testing the hypotheses, several significant findings were discovered. Pearson Product Moment correlations resulted in correlations between athletic identity and sport commitment, sport commitment and all wellness variables, sport commitment and life satisfaction, life satisfaction and holistic wellness, to name a few. There were 38 significant correlations in all. Multivariate analysis of variance tests revealed that there was a difference in time in sport based on student-athletes' seasonal status (in-season or out-of-season) and that levels of athletic identity, sport commitment, time in sport, social support, and life satisfaction each have differences in holistic wellness. Stepwise linear regression analyses revealed that life satisfaction, sport commitment, social support satisfaction predict a significant proportion of variance in holistic wellness.

Further research is needed to expand the findings and address the potential limitations of this study. The current findings, however, can be used by counselor educators to impart knowledge, train, and help counselors-in-training make connections with college student-athletes. Counselors can then use these findings to develop intervention strategies to address the needs of this population in a preventative and holistic manner.

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APPENDIX A. QUESTIONNAIRES

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Demographic Questionnaire

Directions: Please circle or fill in the appropriate information for each question. The information collected on this questionnaire is for data analysis purposes only. Your responses will in no way be used to identify you as an individual.

1. Age: _____

2. Year in college: _____ 1st Year
_____ 2nd Year
_____ 3rd Year
_____ 4th Year
_____ 5th Year

3. Current Cumulative Grade Point Average (GPA): _____

4. In what sport do you participate competitively at the collegiate level?

_____ Primary Sport

_____ Secondary Sport, if any

5. Are you a grant-in-aid athlete? (Check all that apply)

_____ I am on a full **athletic** scholarship

_____ Yes, I am on a partial **athletic** scholarship

_____ No, I am on a full or partial **academic** scholarship

_____ No, I am considered a walk-on athlete

6. What is your sport's NCAA division level?

_____ Division I-A

_____ Division I-AA

_____ Division II

_____ Division III

7. Are you a starter for your team?

_____ Yes, First String

_____ No, Second String

_____ No, Third String

_____ No, Other

Athletic Identity Measurement Scale

Please answer each item on the following 7-point likert scale.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree

- _____ 1. I consider myself an athlete.
- _____ 2. I have many goals related to sport
- _____ 3. Most of my friends are athletes.
- _____ 4. Sport is the most important part of my life.
- _____ 5. I spend more time thinking about sport than anything else.
- _____ 6. I need to participate in sport to feel good about myself.
- _____ 7. Other people see me mainly as an athlete.
- _____ 8. I feel bad about myself when I do poorly in sport.
- _____ 9. Sport is the only important thing in my life.
- _____ 10. I would be very depressed if I were injured and could not compete in sport.

Sport Commitment Scale

Please answer the following questions based on the scales provided for each set of questions. Write in the number that corresponds to the phrase that most closely describes your answer.

_____ 1. How dedicated are you to playing your sport?

- 1 = not at all dedicated
- 2 = a little dedicated
- 3 = sort of dedicated
- 4 = dedicated
- 5 = very dedicated

_____ 2. How hard would it be for you to quit your sport?

- 1 = not at all hard
- 2 = a little hard
- 3 = sort of hard
- 4 = hard
- 5 = very hard

_____ 3. How determined are you to keep playing your sport?

- 1 = not at all determined
- 2 = a little determined
- 3 = sort of determined
- 4 = determined
- 5 = very determined

_____ 4. What would you be willing to do to keep playing your sport?

- 1 = nothing at all
- 2 = a few things
- 3 = some things
- 4 = many things
- 5 = a lot of things

Time in Sport Questionnaire

Please indicate the average amount of time (in hours and minutes) you *currently* (this season) spend in each activity per week. If the answer is none, please indicate so by using "0".

My sport is currently (check one): _____ In-season _____ Out-of-season

In-season is defined as the formal competition period of your sport season, including the practice season one month before your first competition.

Off-season or Out-of-season is defined as the period when you do not formally compete in your sport (more than one month prior to your competition season and beginning one day after your final competition).

1. Practice _____ hrs. ____ min. per week
2. Competition _____ hrs. ____ min. per week
3. Sports-related travel _____ hrs. ____ min. per week
4. Athletic Study Hall _____ hrs. ____ min. per week
5. Mandatory Team Meetings _____ hrs. ____ min. per week
6. Mandatory Individual Meetings _____ hrs. ____ min. per week
7. Strength and Conditioning Sessions _____ hrs. ____ min. per week
8. Other Team Functions (banquets, dinners) _____ hrs. ____ min. per week

Please indicate how often you have this type of function? (write in the appropriate number)

per week _____

per month _____

per semester _____

10. Mandatory Team Education Sessions _____ hrs. ____ min. per week

Please indicate how often you have this type of function? (write in the appropriate number)

per week _____

per month _____

per semester _____

9. Injury Rehabilitation _____ hrs. ____ min. per week

11. Other? Please list _____ hrs. ____ min. per week

Multi-Dimensional Support Scale

Below are some questions about the kind of help and support you have available to you in coping with your life at present. The questions refer to three different groups of people who might currently be providing support to you. **Each question has two parts.** For each question, please indicate the frequency (Never, Sometimes, Often, Always) of support you receive **and** your satisfaction (Very Dissatisfied, Somewhat Dissatisfied, Somewhat Satisfied, Very Satisfied) with that support using the following scale.

Frequency	Satisfaction
1 = Never	1 = Very Dissatisfied
2 = Sometimes	2 = Somewhat Dissatisfied
3 = Often	3 = Somewhat Satisfied
4 = Always	4 = Very Satisfied

A. First, think of your *family and close friends*, especially the 2-3 who are most important to you.

- | | | |
|---|-------|-------|
| 1. How often do they really listen to you when you talk about your concerns or problems? | _____ | _____ |
| 2. How often do you feel that they are really trying to understand your problems? | _____ | _____ |
| 3. How often do they try to take your mind off your problems by telling jokes or chattering about other things? | _____ | _____ |
| 4. How often do they really make you feel loved? | _____ | _____ |
| 5. How often do they help you in practical ways, like doing things for you or lending you money? | _____ | _____ |
| 6. How often do they answer your questions or give you advice about how to solve your problems? | _____ | _____ |
| 7. How often could you use them as examples of how to deal with your problems? | _____ | _____ |

Frequency

1 = Never

2 = Sometimes

3 = Often

4 = Always

Satisfaction

1 = Very Dissatisfied

2 = Somewhat Dissatisfied

3 = Somewhat Satisfied

4 = Very Satisfied

B. Now, *think of other people about your age*, who are likely to be facing the same challenges you face (i.e., other student-athletes).

- | | | |
|---|-------|-------|
| 1. How often do they really listen to you when you talk about your concerns or problems? | _____ | _____ |
| 2. How often do you feel that they are really trying to understand your problems? | _____ | _____ |
| 3. How often do they try to take your mind off your problems by telling jokes or chattering about other things? | _____ | _____ |
| 4. How often do they help you in practical ways, like doing things for you or lending you money? | _____ | _____ |
| 5. How often do they answer your questions or give you advice about how to solve your problems? | _____ | _____ |
| 6. How often could you use them as examples of how to deal with your problems? | _____ | _____ |

Frequency
1 = Never
2 = Sometimes
3 = Often
4 = Always

Satisfaction
1 = Very Dissatisfied
2 = Somewhat Dissatisfied
3 = Somewhat Satisfied
4 = Very Satisfied

C. Lastly, *think about people in some sort of authority over you* (like coach, trainer, or instructor, **not parents**).

Answer the following for the 2-3 persons that you see most.

- | | | |
|---|-------|-------|
| 1. How often do they really listen to you when you talk about your concerns or problems? | _____ | _____ |
| 2. How often do you feel that they are really trying to understand your problems? | _____ | _____ |
| 3. How often do they try to take your mind off your problems by telling jokes or chattering about other things? | _____ | _____ |
| 4. How often do they help you in practical ways, like doing things for you or lending you money? | _____ | _____ |
| 5. How often do they answer your questions or give you advice about how to solve your problems? | _____ | _____ |
| 6. How often could you use them as examples of how to deal with your problems? | _____ | _____ |

Satisfaction With Life Scale (SWLS)

Below are five statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding. The 7-point scale is as follows:

- 1 = strongly disagree
- 2 = disagree
- 3 = slightly disagree
- 4 = neither agree nor disagree
- 5 = slightly agree
- 6 = agree
- 7 = strongly agree

- _____ 1. In most ways my life is close to my ideal.
- _____ 2. The conditions of my life are excellent.
- _____ 3. I am satisfied with my life.
- _____ 4. So far I have gotten the important things I want in life.
- _____ 5. If I could live my life over, I would change almost nothing.

Five Factor Wel Inventory Form A (5F-Wel-A)

The purpose of this inventory is to help you make healthy lifestyle choices. The items are statements that describe you. Answer each item in a way that is true for you most of the time. Think about how you most often see yourself, feel, or behave. Answer all the items. Do not spend too much time on any one item. Your honest answers will make your scores more useful.

INSTRUCTIONS

Responses to items are to be marked on this instrument. Begin by filling in the following information:

Birth Month: _____

Birth Year: _____

Zip Code _____

Test Administration Code: (will be provided)

Mark only one answer for each item using this scale:

Answer Strongly Disagree	if it is never true for you.
Answer Disagree	if it is mostly not true for you.
Answer Agree	if it is true for you some of the time.
Answer Strongly Agree	if it is true for you most of the time.

EXAMPLE

If you "like to meet new people" some of the time, mark "agree" as shown here.

	Strongly Disagree	Disagree	Agree	Strongly Agree
I like meeting new people.	(A)	(B)	(C)	(D)

1. I engage in a leisure activity in which I lose myself and feel like time stands still.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
2. I am satisfied with how I cope with stress.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
3. I eat a healthy amount of vitamins, minerals, and fiber each day.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
4. I often see humor even when doing a serious task.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
5. I am satisfied with the quality and quantity of foods in my diet.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
6. Being a male/female is a source of satisfaction and pride to me.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
7. When I have a problem, I study my choices and possible outcomes before acting.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
8. I do not drink alcohol or drink less than two drinks per day.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
9. I get some form of exercise for 20 minutes at least three times a week.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
10. I value myself as a unique person.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

11. I have friends who would do most anything for me if I were in need.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

12. I feel like I need to keep other people happy.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

13. I can express both my good and bad feelings appropriately.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

14. I eat a healthy diet.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

15. I do not use tobacco.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

16. My cultural background enhances the quality of my life.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

17. I have a lot of control over conditions affecting the work or schoolwork I do.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

18. I am able to manage my stress.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

19. I use a seat belt when riding in a car.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

20. I can take charge and manage a situation when it is appropriate.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

21. I can laugh at myself.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

22. Being male/female has a positive affect on my life.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

23. My free time activities are an important part of my life.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

24. My work or schoolwork allows me to use my abilities and skills.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

25. I have friends and/or relatives who would provide help for me if I were in need.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

26. I have at least one close relationship that is secure and lasting.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

27. I seek ways to stimulate my thinking and increase my learning.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

28. I am often unhappy because my expectations are not met.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

29. I look forward to the work or schoolwork I do each day.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

30. I usually achieve the goals I set for myself.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

31. I have sources of support with respect to my race, color, or culture.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

32. I can find creative solutions to hard problems.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

33. I think I am an active person.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

34. I take part in leisure activities that satisfy me.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

35. Prayer or spiritual study is a regular part of my life.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

36. I accept how I look even though I am not perfect.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

37. I take part in organized religious or spiritual practices.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

38. I am usually aware of how I feel about things.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

39. I jump to conclusions that affect me negatively, and that turn out to be untrue.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
40. I can show my feelings anytime.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
41. I make time for leisure activities that I enjoy.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
42. Others say I have a good sense of humor.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
43. I make it a point to seek the views of others in a variety of ways.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
44. I believe that I am a worthwhile person.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
45. I feel support from others for being a male/female.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
46. It is important for me to be liked or loved by everyone I meet.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
47. I have at least one person who is interested in my growth and well being.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

48. I am good at using my imagination, knowledge, and skills to solve problems.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
49. I can start and keep relationships that are satisfying to me.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
50. I can cope with the thoughts that cause me stress.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
51. I have spiritual beliefs that guide me in my daily life.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
52. I have at least one person with whom I am close emotionally.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
53. I am physically active most of the time.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
54. I use humor to gain new insights on the problems in my life.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
55. I can put my work or schoolwork aside for leisure without feeling guilty.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
56. I have to do all things well in order to feel worthwhile.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree
57. I feel a positive identity with others of my gender.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

58. I am appreciated by those around me at work or school.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

59. I plan ahead to achieve the goals in my life.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

60. I like myself even though I am not perfect.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

61. I am satisfied with my free time activities.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

62. I do some form of stretching activity at least three times a week.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

63. I eat at least three meals a day including breakfast.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

64. I do not use illegal drugs.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

65. I believe in God or a spiritual being greater than myself.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

66. I can experience a full range of emotions, both positive and negative.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

67. I view change as an opportunity for growth.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

68. I eat fruits, vegetables, and whole grains daily.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

69. My spiritual growth is essential to me.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

70. When I need information, I have friends whom I can ask for help.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

71. I am proud of my cultural heritage.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

72. I like to be physically fit.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

73. I have at least one person in whom I can confide my thoughts and feelings.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

74. I am satisfied with my life.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

75. I have enough money to do the things I need to do.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

76. I feel safe in my home.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

77. I feel safe in my workplace or school.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

78. I feel safe in my neighborhood.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

79. I feel safe in my daily life.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

80. I am afraid that I or my family will be hurt by terrorists.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

81. I am optimistic about the future.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

82. My government helps me be more well.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

83. My education has helped me be more well.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

84. My religion helps my well being.
(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

85. I know I can get a suitable job when I need one.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

86. I watch TV less than two hours each day.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

87. World peace is important to my well being.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

88. Other cultures add to my well being.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

89. I look forward to growing older.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

90. I like to plan the changes in my life.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

91. Changes in life are normal.

(A) Strongly Disagree (B) Disagree (C) Agree (D) Strongly Agree

92. What is your current marital status?

A. married/partnered

B. single

C. separated

D. divorced

E. widowed

93. What is your current employment status?

A. employed full time

B. employed part time

C. retired, not working

D. retired, working part time

E. not working

94. What is your biological sex?

A. Male

B. Female

95. Are you biracial?

A. Yes

B. No

96. What is the primary cultural background with which you most closely identify?

A. Native American

D. Caucasian

B. Asian or Pacific Islander

E. Hispanic/Latino/Latina

C. African American

F. Other (please list)

97. What is your sexual/affectional orientation?

A. gay

C. bisexual

B. lesbian

D. heterosexual

Thank you!

APPENDIX B. CONSENT FORMS

Oral Presentation.....192

Informed Consent (Long Form).....193

Informed Consent (Long Form-Participants' Copy).....194

ORAL PRESENTATION

THE RELATIONSHIP BETWEEN ATHLETIC IDENTITY, SPORT COMMITMENT, TIME IN SPORT, SOCIAL SUPPORT, LIFE SATISFACTION, AND HOLISTIC WELLNESS

You are invited to participate in a study that will allow you assess the behaviors related to your sport participation and your holistic wellness. It will take approximately 30-35 minutes of your time to complete this packet of questionnaires. You have the right to ask the researcher questions about the study at any time.

There are no known risks associated with participating in this study. All participation is voluntary and you are free to refuse to participate or to withdraw your consent to participate in this research at any time without penalty or prejudice. Although there are no direct benefits of the study, you may benefit by having the opportunity to assess your holistic wellness and factors associated with sport participation. Your scores will be maintained in a database with all personal identifying information removed. Scores will be used in examining aggregate data only and no individual scores will be reported for any reason to any audience. Your response sheets will be securely stored and destroyed after seven years.

The University of Virginia Institutional Review Board has approved the research and this consent form. Questions regarding your rights as a participant in this project can be answered by calling Pryor Hale at (434) 924-5999. Questions regarding the research itself will be answered by Derick J. Williams by calling (434) 924-4928. Any new information that develops during the project will be provided to you if the information might affect your willingness to continue participation in the project.

Your completion of these surveys indicates that you agree to participate in the project described to you by Derick J. Williams.

UNIVERSITY OF NORTH CAROLINA AT GREENSBORO
CONSENT TO ACT AS A HUMAN PARTICIPANT: LONG FORM

Project Title: An Examination of the Relationship between Athletic Identity, Sport Commitment, Time in Sport, Social Support, Life Satisfaction, and Holistic Wellness in College Student-athletes.

Project Director: Derick J. Williams

Participant's Name: _____

DESCRIPTION AND EXPLANATION OF PROCEDURES:

This study will attempt to provide a more holistic wellness-based assessment of this population, while identifying the need to meet the challenges of this population holistically by providing empirical data concerning the relationship between athletic identity, sport commitment, time in sport, social support, life satisfaction, and holistic wellness. Participants are recruited from athletic teams whose coach consents to participate. Participants will voluntarily consent to take part in the study. You are asked to complete the packet of questionnaires and place completed packets into the collection box. It should take you approximately 30-35 minutes to complete this study, including the reading of directions for participation, informed consent, and completing the packet of questionnaires. Data will be transported in a portable locked file box and placed in a locked file cabinet in the primary researcher's office. The data for this project will be kept for 7 years after the study. After this period, the questionnaire packets will be destroyed using a shredder and any hard archived data will be deleted from computer systems and flash disk. You have the right to ask the researcher questions about the study at any time.

RISKS AND DISCOMFORTS:

There are no known risks associated with participating in this study. All participation is voluntary and you are free to refuse to participate or to withdraw your consent to participate in this research at any time without penalty or prejudice.

POTENTIAL BENEFITS:

Participants may have the opportunity to assess their holistic wellness and factors associated with sport participation. Others may gain an understanding of how to meet the needs of this population more constructively and holistically.

By signing this consent form, you agree that you understand the procedures and any risks and benefits involved in this research. Your privacy will be protected because you will not be identified by name as a participant in this project.

The University of North Carolina at Greensboro Institutional Review Board, which insures that research involving people follows federal regulations, has approved the research and this consent form. Questions regarding your rights as a participant in this project can be answered by calling Mr. Eric Allen at (336) 256-1482. Questions regarding the research itself will be answered by Derick J. Williams by calling (434) 924-4928. Any new information that develops during the project will be provided to you if the information might affect your willingness to continue participation in the project.

By signing this form, you are agreeing to participate in the project described to you by Derick J. Williams.

Participant's Signature*

Date

UNIVERSITY OF NORTH CAROLINA AT GREENSBORO

*****KEEP AS YOUR COPY*****

CONSENT TO ACT AS A HUMAN PARTICIPANT: LONG FORM

Project Title: An Examination of the Relationship between Athletic Identity, Sport Commitment, Time in Sport, Social Support, Life Satisfaction, and Holistic Wellness in College Student-athletes.

Project Director: Derick J. Williams

Participant's Name: _____

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RISKS AND DISCOMFORTS:

There are no known risks associated with participating in this study. All participation is voluntary and you are free to refuse to participate or to withdraw your consent to participate in this research at any time without penalty or prejudice.

POTENTIAL BENEFITS:

Participants may have the opportunity to assess their holistic wellness and factors associated with sport participation. Others may gain an understanding of how to meet the needs of this population more constructively and holistically.

By signing this consent form, you agree that you understand the procedures and any risks and benefits involved in this research. Your privacy will be protected because you will not be identified by name as a participant in this project.

The University of North Carolina at Greensboro Institutional Review Board, which insures that research involving people follows federal regulations, has approved the research and this consent form. Questions regarding your rights as a participant in this project can be answered by calling Mr. Eric Allen at (336) 256-1482. Questions regarding the research itself will be answered by Derick J. Williams by calling (434) 924-4928. Any new information that develops during the project will be provided to you if the information might affect your willingness to continue participation in the project.

By signing this form, you are agreeing to participate in the project described to you by Derick J. Williams.

Participant's Signature*

Date