Chapter 1

"I never teach my pupils; I only attempt to provide the conditions in which they can learn." - Albert Einstein

As I find myself working as an athletic academic advisor in the athletic student life office at the same university in which I had coached for 23 years, I observe the student-athletes' changes in degree paths, the struggles with time commitments in their sport, the mental health issues that come with competing at this level, and the overall need to have a sense of connection with their team, other classmates and the university community. I realize that there are issues for both male and female student-athletes in dealing with this competitive environment. However, through watching in different roles within the athletic department, I see a need to look into athletic identity, the level of social support and the overall health issues that the female student-athletes may experience during their college career.

One may believe there is not any real suffering going on within this population and that they seem to have it made with all of the privileges they receive for being student-athletes at a major university. I have heard numerous times, the desire from these student-athletes to be just like the "normal" students on campus. Yet, these student-athletes seem to realize that they are not like the "normal" students. Even though they are going through the same developmental issues of identity, independence and emotional maturity as the "normal" student, this population may be faced with issues that could cause them more distress and lead them into an area of unhealthy behaviors just to cope momentarily with their stress and exhaustion. Furthermore, some

student-athletes also place a great amount of emphasis on their roles as athletes. So often this perspective leads them to a place where they may be experiencing multiple competing roles (Papanikolaou, Nikolaidis, Patsiaouras, & Alexopoulos, 2003). It has been documented that these student-athletes try adjusting their roles, which usually means withdrawing from the academic roles and social roles (Brewer & Cornelius, 2001).

Being a college female student-athlete can be a difficult balance between athletic, academic and personal demands. The female student-athlete may experience the notoriety of being involved in a well-respected activity in our society (Grove, Fish, & Eklund, 2004). The female student-athlete has the chance to work on developing overall leadership skills, and have numerous experiences that could help raise her self-esteem and overall confidence through sport (Babbio, 2009; Humphrey, Yow, & Bowden, 2000). Many additional positive benefits can come from participating in college athletics such as time management, building coping mechanisms to deal with stress and the awareness of the importance of being a student and an athlete (Morgan, 2001). Yet student-athletes may find it difficult to balance other life demands with that of their sport participation with increases in practice and training times, meetings, travel and competitions. The atmosphere of mental, emotional, and physical strain, as well as intense competition and expectations, can produce a negative effect on the overall wellness and education of the female student-athlete (Papanikolaou et al., 2003).

It is possible that the combination of increased time commitment to their athletic role could place them at higher risk for overall health risk behaviors (Aries, McCarthy, Salovey, & Banaji, 2004). Brewer, Van Raalte, and Linder (1993) 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 disorder behaviors. While scholars have studied many issues of the student-athlete including psychological, emotional and physical (DiBartolo & Shaffer, 2002), few have examined the overall effects of athletic identity and social support on the health risk behaviors of female student-athletes.

This study explored the relationships between athletic identity, social support and health risk behaviors of female student-athletes. Since student-athletes lives may create more stress and societal pressure than their counterparts, due to their role as student-athletes, social support seems to be a critical need of the student-athlete (Pinkerton, Hinz, & Barrow, 1989). According to the study done by Rosenfeld, Richman, and Hardy (1989), social support from groups such as coaches and team members can serve to reduce uncertainty in the student-athlete during times of stress, provide companionship, and help aid in mental and physical recovery. It is important that the environment of social support fosters the feelings that a person is worthwhile, capable, and valued as a member of the team (Richman et a., 1989). When social support is established, the sense of acceptance and personal control are heightened and anxiety is decreased (Sarason, Sarason, & Pierce, 1994). Given these points, college sports can shape an environment of acceptance and value. In the following sections, I state the problem, highlight issues of urgency to female student-athletes and their health risk behaviors, state the need and purpose for the study and identify the guiding research questions of the study.

Problem Statement

Compared to non-athletes, research has shown that college student-athletes report more problems with alcohol and some studies have documented an increase in depressed student-athletes and binge drinking compared to the non-athletes (Ford, 2007). Another growing concern within this population is the increase in suicidal risks and substance abuse (Judd et al., 2000). The ongoing problem is the difficulty or inability of college coaches, staff, and administrators in athletics, to recognize the signs of depression and unhealthy behaviors in the student-athletes (Mentink, 2002).

High-risk drinking (i.e., binge drinking, drinking and driving, drinking which may cause physical harm to themselves or others) is a significant public problem and college student-athletes are particularly at risk for high prevalence of drinking (Blanken, 1993; Clark, 2008; Center for College Health and Safety, 2005; Zamboanga, Rodriguez, & Horton, 2008). In addition, there have been reports of higher levels of depressive symptoms in female student-athletes. Therefore, the need for academic counselors and staff to be able to identify signs of distress becomes even more important. Education about nature, risks, and symptoms of unhealthy behaviors, need to be a part of the athletic community training. The depression and anxiety that female student-athletes experience can increase the risks of suicide attempts, alcohol abuse, and social inabilities (Armstrong & Early, 2009).

The research is insufficient in the area of the athletic identity and the coping skills for female student-athletes. One void in the research is the health risk behaviors of female student-athletes and the connection these behaviors have to social support and athletic identity. If the student-athlete's choice is to handle the pressure and anxiety

with unhealthy behaviors, the warning signs need to be identified quickly so that the appropriate resources can be utilized. Programs developed around these concepts for female student-athletes could provide coping mechanisms for future growth and development.

The majority of administrators and coaches have limited education into the health risk behaviors that the female student-athletes experience (Turrisi, Mallett, & Mastroleo, 2006). Therefore, the aim of this study was to provide insight and knowledge into the development of female student-athletes and to encourage an environment to foster coping skills for healthy behaviors in the present and in the future. Athletic departments should be concerned about the student-athletes well-being especially since the reputation of the institution is closely tied to its sports program (Cigliano, 2006). While the athletes are students, they are also considered role models. These athletes and their attitudes, their behaviors and their actions, represent the institution across the nation (Cigliano, 2006). With all of this pressure put on the student-athletes and their role as athletes, the strength of the athletic role and importance has continued to increase (Brewer, 2005).

Erikson and Chickering's theories indicate that the college years (i.e., ages 18-22) are a time of fundamental change and growth in identity (Erikson, 1968; Maslow, 1968; Super, 1990). With the additional challenges faced by student-athletes, their identity development may be affected either positively or negatively by their sport participation. These negatives could be in the form of their health risk behaviors. However, athletic identity and social support have been noted to have a positive impact on the coping mechanisms of student-athletes (Brewer & Petitpas, 2005; Rees &

Freeman, 2007; Watson & Kissinger, 2007). Student-athletes have many relationships within their athletic environment in which they may rely upon for support. For instance, these relationships could consist of academic staff, athletic staff, administrators, coaches, and teammates. These relationships could be an effective and safe place to promote, educate, and enhance the coping skills of the female student-athlete who is dealing with many issues of stress related behaviors. It has been noted that the social support system to which a female student-athlete responds is either a coach or another staff member who is an integral component to the athletic program (Giacobbi et al., 2004; Watson, 2005). While many female student-athletes form a very strong bond with their coaches, at this point in their lives they need to be establishing a sense of independence (Grove et al., 2004).

Considering that the coaches or staff members can be a very influential avenue to provide knowledge, support, insight and understanding into the everyday stress that the female student-athlete may be experiencing, it is of utmost importance that athletic departments provide education to the staff members so they can be a vital part in the overall development and well-being of the female student-athlete. To date, it is unknown how athletic identity and social support may impact the health risk behaviors of the female student-athletes. Nevertheless, this study considered these relationships and provided insight to possible correlations between all of these variables. In the following sections, I detail the problems that female student-athletes encounter more specifically.

Athletic Stressors

Although many student-athletes find participation in college sports rewarding,

there are many who experience difficulties. These difficulties consist of adjusting to college, to the higher more pressurized level of sport competition, a wide variety of emotional concerns from being away from home to trying to fit in with the new environment, and possible psychological distress as a result of their sport performance. Student-athletes have "expected stressors" such as academic hardships, forming peer relationships, and financial constraints associated with college attendance, along with the other demands previously mentioned (Anderson, 2004; Thomas, 2008; Trockel, Barnes, & Egget, 2000). Student-athletes also face the same concerns that nonathletes do which include becoming independent, coping with uncertainty, finding a clear purpose, and clarifying values (Astin, 1973; Chickering, 1969; Pascarella & Terenzini, 2005).

However, the nonathlete population does not typically experience development challenges associated with college sport programs. Challenges for the student-athletes include competitive pressures, their athletic lifestyle, career and academic pressures and pressure from their coaches and teammates. Social isolation, identity conflicts, and fear of failure may become a reality for these student-athletes (Pascarella, Bohr, Nora, & Terenzini, 1995; Pinkerton et al., 1989); consequently, student-athletes are at a possible risk to experience a wide range of distressful reactions linked to mental health. Mental health challenges that many student-athletes have to endure could raise the question that their needs for programming as well as a certain type of counseling may be important to consider. Even though student-athletes as a whole face similar challenges, male and female student-athletes also experience many health challenges differently.

Gender Differences

Although male student-athletes may experience many of the same issues as the female student-athletes, there are many different concerns that arise when dealing with the female student-athlete population. Both males and females feel anxiety and frustration which could arise given the stress of possibly not making the starting position, trying to foster relationships both within the team and outside of the team while still maintaining their focus in school. Yet females generally look to relationships as a sense of their worth more so than males (Matud, 2004). For example, female student-athletes will have a tendency to rely on others in their group for support, encouragement and overall sense of belonging more than the male student-athletes (Armstrong & Early, 2009). Watson (2005) states that depending upon the institution, the female student-athletes like their male counterparts, must invest much of their time during the academic year on their sport in practices, training, team meetings, games, and related endeavors. Given this scenario, the male and female student-athletes do not have much time to invest in social activities with other students on campus; therefore, social developmental possibilities are limited. The demands that are placed on the female student-athletes may also lead to feelings of social isolation. In some cases, these demands can increase in their stress and anxiety given that their need for relationships and social interaction are quite different than the male student-athletes (Hermon, 2005).

Research has supported the theory that female student-athletes report higher levels of depressive symptoms, social anxiety and non-support than their male counterparts (Storch, Storch, & Killiany, 2008). Many female student-athletes may feel

that they cannot show their emotions or they may be perceived as weak (Storch et al., 2008). One research finding states that female student-athletes internalize the effects of positive or negative feedback and that the need to be more integrated in the university seemed more important to them as a group (Storch et al., 2008). For these reasons there is a growing concern that these challenges and demands may cause possible detrimental effects on the adjustment and overall development of the female student-athlete. Hudd (2000) states, female student-athletes are likely to be more stressed than female nonathletes. As a result, they are less likely to practice healthy behaviors and more prone to practice bad habits.

Outcomes of Athletic Participation

Research has shown that there are many benefits to being a student-athlete on a college team. Athletic participation may ease the social adjustment and also result in higher grades, higher self-esteem and higher academic accomplishments (Marsh & Kleitman, 2003). Other benefits include developing long lasting relationships with coaches and teammates, leadership skills, team work skills and discipline (Simons, Van Rheenen, & Covington, 1999). There also has been found a positive association with athletic participation in the development of leadership skills, interpersonal skills and overall adjustment (Melendez, 2007). Many other rewards can also be highlighted that include psychological enhancement, positive self-concept, social improvements, enjoyment and fun (Hassmen, Koivula, & Uutela, 2000). Athletics impacts society in numerous ways, from providing entertainment to the fans, to helping shape the character of the student-athletes. In looking at the student-athletes and their overall health, behavioral factors need to be examined which could impact student-athletes

functioning, these include their strength of athletic identity and their quality of social support.

Conversely, unhealthy outcomes linked to being a student-athlete may include an increase in anxiety and stress, promotion of unhealthy behaviors to maintain or increase body image, depression, eating disorders, and low self-esteem (Davis & Cowles, 1989; Hausenblas & McNally, 2004). Athletic participation also has the potential to increase stress in relationships, time demands, interpersonal conflicts and threats to self-esteem (Wilson & Pritchard, 2004). With the knowledge of the unhealthy outcomes that female student-athletes may experience, it is urgent to know more about the social support system within this population.

Social Support

The importance of social support to female student-athletes has been noted by researchers that both the quality of relationships and physical appearance helps them develop a higher self-esteem (Harter, 1990). Social support is measured as the number and quality of individuals on whom the person can rely during periods of stress (Sarason, Levine, Basham, & Sarason, 1983). Results indicate that social support has a buffering effect on negative life events and stress that the student-athlete may be experiencing (Grove et al., 2004). Sarason, Sarason, and Pierce (1994) suggest that there may be some types of support that are more beneficial in certain situations and the person only benefits to the extent that support is matched to the stress they are going through. Therefore, it is vital that the athletic staff understand the importance of quality of social support and if the student-athlete is really benefitting from the social support system that they are relying upon. The environment for the student-athlete's social support

needs to provide a wide range of support to assure the student-athlete's well-being (Richman, Rosenfeld, & Hardy, 1993). With this in mind, it is important that the environment of social support fosters the feelings that the student-athlete is worthwhile, capable, and valued as a member of the group or team (Sarason et al., 1994). Along with social support, self-esteem and other health risk behaviors should be mentioned in dealing with female student-athletes.

Self-Esteem and Health Behaviors

It has been reported that many female student-athletes who participate in sports where body image is stressed, unhealthy behaviors such as eating disorders, binge drinking and depression can occur and self-esteem may be indirectly affected (Miller, 2009). Some of these body image sports include gymnastics, track and volleyball, not to mention that all female student-athletes may feel this pressure of body image. As a result of this pressure to be fit and thin, many female student-athletes are referred to as being perfectionistic which may mean they may become obsessed with their body image or their performance (Kirk, Singh, & Getz, 2001). Since college sports fosters a highly competitive environment, female student-athletes are likely to deal with some health risk behavior issue related to their performance at some time in their college career (Grabmeier, 2002; Miller, Melnick, Barnes, Farrell, & Sabo, 2007; Watson et al., 2007). These issues according to Armstrong and Early (2009) may come in the form of injury, deselection from the traveling team, poor play, overweight issues, depression, or even an overall feeling of a lack of support, to name a few. Expectations to perform are extremely high and many female student-athletes may tend to put even more pressure on themselves to perform at a higher level.

Athletic Identity

Recent research has begun to focus on the development of identity within the athletic population (Lapchick, 2001, 2007; Martens, Cox, Beck, & Heppner, 2003). Athletic identity can be defined as to the degree which an individual identifies with the athletic role (Brewer et al., 1993). Much of the research in the past on student-athletes has been focused on injuries (Alfermann, 2000; Brewer et al., 1993), and career related issues (Shachar, Brewer, Cornelius, & Petitpas, 2004). Meanwhile, athletic identity is salient because the female student-athlete who has invested much of her time, effort, and identity into her role as an athlete is described as having a high athletic identity (Brewer & Cornelius, 2002). A high measure of athletic identity may directly affect overall self-esteem of the female student-athlete (Tusak, 2006). With this athletic identity being of great significance to the overall identity of the female student-athlete, there is a need to research possible self-esteem issues, depression issues and the need for a strong social support system within this population. Even though there have been many reports of the benefits of participating in sports, these benefits may not outweigh the risks for some female student-athletes. With the increased role of the student-athlete and social support that may be conditional, many colleges are reporting increasing numbers of female student-athletes who are struggling with depression, anxiety, body image, and low self-esteem (Miller, 2009).

Purpose of Study

The purpose of this study was to examine the health risk behaviors of female student-athletes and the relationship these behaviors have to their social support and athletic identity. This study identified possible health risk behaviors in this population

and significant correlations with social support and athletic identity variables. Some female student-athletes participated in a team sport or an individual sport, and the differences between these two groups are identified as well. Regardless of what type of sport the individual participated, the female student-athlete is faced with having to deal with pressures from the team, the coach, and the female student-athlete's self-imposed expectations. It was the goal of this study to identify any similarities and differences among the female student-athlete population and then provide ideas for programming in order to help assist in these matters of concern. Once the link between these factors was explored and high-risk behaviors or patterns of risk for the female student-athletes were identified, then the areas of need can be addressed through the design and implementation of support programs.

The research in this study utilized The Athletic Identity Measurement Scale, The Social Support Questionnaire and The National College Health Assessment Survey as instruments for this study. The theories of social support by Sarason, athletic identity by Brewer, Chickering's Seven Vector Theory of Student Development, and Schlossberg's transition theory, examined the influence of these relationships within the life of the student-athlete. Using these theories, I have added to our current understanding of the overall health issues for the female student-athletes and the coping mechanisms that they have at their disposal.

It was expected that the results of this study will have direct application to the female students in college athletics; moreover, from these results a new way of thinking and application about the health and wellness of these female student-athletes may be developed. Through this study, the need to assess the quantity and quality of the female

student-athletes' social support system and further development of specific life skills for female student-athletes may have come to light and help aid them in handling the stress of college athletics.

Significance of Study

Many athletic departments are quick to handle an injury but not to handle emotional issues. For this reason, exploring the relationship between the factors of athletic identity and social support may provide new important information to individuals working with these student-athletes (e.g., sport psychologists, academic advisors, coaches, trainers). In a time when females are found to score lower in self-esteem, it is of vital importance that relationships and social support be strong and significant (Todd & Kent, 2003). Since peer relationships and team cohesion are important to female student-athletes, they may be more influenced into behaviors of their team which could include the use of alcohol or eating issues. Hazardous alcohol abuse is prevalent in college athletics and certain dynamics need to be looked at in dealing specifically with female student-athletes (Zamboanga et al., 2008). The fact remains that athletic departments have given little attention to providing education and programming related to substance abuse, sexually transmitted diseases, contraception, nutrition, healthy exercise, and mental health (Turrisi et al., 2006). Another area of concern is student retention since literature states that the time demands of balancing the commitments to athletics and academics is a major reason for dropping out of school (Perrelli, 2004).

For female student-athletes, this oversight could be detrimental to their health and well-being, since it has been noted in the literature that these health-related issues

are the leading causes of morbidity and mortality among college student-athletes (Nattiv & Puffer, 1991; Nattiv, Puffer, & Green, 1997). Therefore, further study should be conducted in the areas of athletic identity and social support. Individuals working with this population have the opportunity to use the results of this study in order to increase their understanding of female student-athletes and to form stronger working relationships. This information could also aid in identifying female student-athletes who are at risk for using unhealthy behaviors as coping mechanisms. This, in turn, will support a healthier community of female student-athletes and a possible increase in the potential of this population both athletically, academically and personally.

Research Questions

The following research questions guided this study:

(1) What is the relationship among social support, athletic identity and health risk behaviors for female student-athletes?

(2) Are there differences in the types of health risk behaviors and psychosocial variables reported by group 1 and group 2? (Group 1: softball, basketball, volleyball, rowing and soccer. Group 2: golf, tennis, track and gymnastics).

(3) Are social support and athletic identity scales predictors of female student-athletes self-reported health risk behaviors and GPA?

Definition of Terms

Alcohol Habits: the risk behaviors an individual partakes in after alcohol consumption has occurred.

Alcohol Use: the amount of drinks consumed in one setting.

Athletic Identity: the degree to which an individual identifies with the athletic role (Brewer, Petitpas, Van Raalte, & Mahar, 1993).

Athletic Identity Measurement Scale (AIMS): a 7- itemed instrument on a 7-point Likert scale used to measure the strength of identification to the athletic role (Brewer et al., 1993).

Depression: the intense feelings of loss, sadness, failure, and rejection (Armstrong et al., 2009).

Eating Disorder: a distorted pattern of thinking and behavior about food (Palme, 2008).

Exclusivity: Exclusivity refers to the importance of the athlete role in relation to day-to-day activities (Brewer et al., 1993).

Health Risk Behavior (HRB): the total health risk behavior that encompasses all of the criterion variables which include: alcohol habits, alcohol use, anxiety, depression, drug use, eating disorders, marijuana use, sexual activity, stress, suicide, and tobacco use.

Medical Hardship: a student-athlete who loses the majority of their season to injury.

National College Health Assessment (NCHA): an assessment to identify common health and behaviors risks of the population being studied (ACHA –NCHA, 2012).

Negative Affectivity: the degree to which an individual feels bad or depressed in response to undesirable outcomes of sport participation (Brewer et al., 1993).

Redshirt freshman: a student-athlete who participated in the college's academic year but did not compete during that year's sport season.

Self-esteem: one's feelings and perceptions of oneself (Richman & Shaffer, 2000).

Social Identity: Social Identity is the athlete's degree of social awareness regarding their role as an athlete (Brewer et al., 1993).

Social Support: the existence or availability of people on who we can rely, people who let us know they care about, value, and love us (Sarason et al., 1994; Sarason & Sarason, 2009).

Social Support Questionnaire (SSQ6): a 12- itemed instrument on a 6 - point Likert scale used to measure the quality and the quantity of social support (Sarason et al., 1994).

Assumptions

(1) It was assumed that participants fully comprehended the instruments and answered appropriately and accurately. No participants reported any difficulty with comprehension during data collection.

(2) It was assumed that participants answered the research questions carefully, honestly and to the best of their abilities or recollection.

(3) It was assumed that the instruments chosen provided an adequate measurement of the health risk behavior, athletic identity and social support. Due to the distribution of scores from the instruments, it appears that the instruments gave accurate measurement.

Conclusion

The aim of this study was to identify the health risk behaviors that female student-athletes could engage during the most formative times in their lives. These health risk behaviors are identified and correlations within the health risk behaviors and athletic identity and social support are also noted. This study provides insight into the pressures that these female student-athletes encounter and offers some explanation and profile of those who are at a higher risk for maladaptive health risk behaviors.

Athletic departments continue to emphasize core values and state that their philosophy is one that holds the well-being of student-athletes as a top priority. It is time that these athletic departments show student-athletes that their health and wellness are important and that the athletic department is concerned about more than athletic success. The amount of responsibility and expectations are high for these student-athletes, therefore, it is vital that programs and policies are set up to bring them support for their overall well-being. Since the factors of athletic identity and social support can be detrimental to the overall wellness of the student-athlete, this study provides necessary research into the intricacies of these variables. The need was to study these factors together and make an impact on the overall wellness and the programming needs of the student-athletes as well it helping to identify necessary coping skills during this time of personal development. In the following pages, Chapter 2 presents the literature review, Chapter 3 states the methods and research questions, Chapter 4 presents the results of this study and Chapter 5 states the discussion and implications of this study.

Chapter 2

Literature Review

This chapter is a review of the literature that encompasses the key concepts of this Dissertation. The first section discusses the theoretical foundation of this study. The second section states benefits and challenges that student-athletes experience in collegiate sports along with identifying any gender differences in health risk behaviors that research has shown within the athletic community. The third section discusses environmental stressors as well as coping behaviors that student-athletes are subject to throughout their career as student-athletes. The fourth section discusses the psychosocial aspects of social support and athletic identity and the importance of these two concepts within the student-athlete population. This chapter concludes with a section that describes and justifies the independent variables utilized in this study.

Theoretical Foundation

The theoretical framework for this study proposed relationships among the variables of social support, athletic identity and health risk behaviors among the female student-athletes. The term social support and athletic identity have been topics within the athletic community since the 1980s. There has not been much study done incorporating Chickering's Theory of Identity Development and Schlossberg's Theory of Transition when investigating the athletic population. In this study, two factors were examined for their relationship to health risk behaviors: the social support and athletic identity of the female student-athletes. Chickering's Theory of Identity Development and Schlossberg's Transition Theory are two of the theories used in this framework due to the relevance of those theories on this age group.

Social Support Theory

The Social Support Theory and the benefits of social support have been corroborated in numerous studies. Robbins and Rosenfeld (2001) even stated that social support and the benefits that come from staff and coaches are common knowledge to researchers in education. Supportive communication such as using empathy, concern, respect and confidence, may help to enhance the person to see realistic alternatives in a stressful situation, possibly gain skills, and recognize that there are resources available to them from others (Richman et al., 1993).

Richman et al., (1993) identified eight separate types of social support which the first three are most pertinent to the student-athlete: (a) listening support, (b) emotional support, and (c) emotional challenge. The listening support is when the role of the support is to not necessarily give any feedback but to provide support and concern. When emotional support is shown, it is in a way of acting and caring in a comforting way. Emotional challenge is support that helps the person evaluate their feelings, values and attitudes about the situation. According to Albrecht and Sarason (1994), supportive communication reduces perceptions of uncertainty and helps the person receiving the support develop a sense of control over stressful circumstances. Sarason et al., (1994), states that perceptions of social support reduce fears of failure and anticipations of anxiety when the recipient is aware of the availability of the caring providers. Consequently, the individual would be free to explore other possible options and take reasonable risks to deal with the situation. While social support can remain constant and stable over a long period of time, it can also change as a consequence of significant events and the stages of life (Carstensen, Mickels, & Mather, 2006).

When discussing social support, it is important to add that the sense of community can provide relationships with close personal ties and may be beneficial to individuals who may feel socially isolated (Reis, Sheldon, Gable, Roscoe, & Ryan, 2000; Yang, Peek-Asa, Lowe, Heiden, & Foster, 2010). This statement is important because many student-athletes may feel isolation from the college community. Therefore, engaging in small group activities or face to face conversation with professors and other students may help nurture this sense of support (Pascarella & Terenzini, 2005). Sarason et al., (2009), explains that social support does work and the sense of belonging and personal meaning are a critical element of social support. While the support may change over time, the feelings of acceptance and being valued can stay with us all of our lives (Sarason et al., 2009). So often, it has been noted in studies within the athletic community (Armstrong et al., 2009), that the social support that comes from a teammate or coach are the most important in a student-athlete's life. This can be true depending upon the situation the student-athlete is experiencing. However, when there are deeper issues such as injury, health related or performance issues, these student-athletes may seek another form of support. With this being the case, especially amongst female student-athletes, understanding the role and the type of support a female student-athlete may need is necessary in dealing with their overall well-being and sense of self.

The point of using the Social Support Theory for a foundational theory in this study is that females in general rely more upon their relationships to help them through difficult times (Matud, 2004). When female student-athletes experience difficulties, they will be more prone than their male counterparts to look outside of themselves for

support. For these reasons, to be able to highlight these support systems and educate the female student-athletes on the health risk behaviors and the pressures they are experiencing will help this population continue to grow as athletes, students, and people.

Athletic Identity Theory

Athletic identity has been defined as the degree of strength and exclusivity to which a person identifies with the athletic role (Brewer et al., 1993). As society continues to place high value and importance on sport, many American families seem to stress the development of athletic identities within their children at an early age. Many athletes choose very quickly as adolescents to specialize in a particular sport (Anderson, 2004). As they continue to excel, many factors can influence their development including media, parents, teachers, and coaches (Eitzen & Sage, 2008). Their athletic prowess may begin to gain more attention than any other aspect of their overall identity (Brewer, Petitpas, Van Raalte, & Mahar, 1993; Cornelius, 1995). Subsequently, their athletic identity begins to form. Very early in life, those who are forming their athletic identity begin to base their overall self-worth on their athletic success and as a result, their lives only focus on one aspect of their personality and may neglect the other identities (Brewer et al., 2005; Lockhart, 2010).

Many researchers have indicated that for college student-athletes, the strong athletic identity could result in some negative repercussions in the overall growth of the individual (Fletcher, Benshoff, & Richburg, 2003; Gerdy, 2002; Lubker & Etzel, 2007; Person & LeNoir, 1997). There seems to be an obvious lack of balance in the social, academic and athletic roles of the individuals who have strong exclusive athletic

identities. To date, Brewer and Cornelius (2002) developed a model that consists of three factors that help identify the strength of athletic identity. Athletic identity is made up of three items: (1) Social identity: means the extent to which the individual views his or herself in the role of an athlete, (2) Exclusivity: means to the extent that the individual self-worth is based on their performance in the athlete role and; (3) Negative affectivity: means the extent the individual experiences negative effects from undesirable outcomes of sport participation.

Brewer et al., (2005) found that even though sport can provide many opportunities for the student-athletes to learn about themselves, the overall commitment can eliminate many possibilities for participation in other activities and possible growth. The student-athletes may not be prepared for their future, have developed independence or engaged in self-exploration (Brown & Hartley, 1998). Pearson and Petitpas (1990) found that student-athletes were less likely to explore career or educational options on campus because of their commitment and time intensive involvement in their sport. This adjustment period could produce great difficulties for the student-athlete to handle (Pascarella et al., 1999). As a result, the student-athlete may experience great conflict between the two roles of student and athlete (Yopyk & Rustic, 2005). The athletic identity theory, therefore, is important to this study because the theory magnifies the importance of the athlete's role on their choices in their athletic, academic and social lives. In the past, since female sports were viewed as recreational, the athletic identity was more balanced for the female student-athlete. Now that female sports has become highly competitive and the expectations for winning has risen, it has been noted that females are becoming more like males in the overall strength and exclusivity in their

role as an athlete (Brewer et al., 2005).

Chickering's Theory of Identity Development

The college years are a formative time in the development of identity. Chickering states that development associated with this time of life are in areas of interests, values, beliefs, intellect and basic attitudes (Chickering, 1969; Chickering & Reisser, 1993). These developmental changes are influenced with the knowledge that the individual is learning at this time and that knowledge could come from an increase in competence, a particular group of people and the formation of new relationships (Chickering & Schlossberg, 2002).

Within his theory, Chickering presents seven vectors of development throughout the college years. These vectors include: (1) Developing competence – develop intellectual, physical and interpersonal competence, (2) Managing emotions – develop ability to recognize and accept emotions; appropriately express and control emotions, (3) Moving through autonomy toward interdependence – increased emotional independence, self-direction, problem-solving skills along with recognizing the importance of interdependence, (4) Developing mature interpersonal relationships – acceptance and appreciation for differences, (5) Establishing identity – comfort with body, gender, sense of security and self-esteem, personal stability and integration, (6) Developing purpose – clear vocational goals and establishment of strong interpersonal commitments; and (7) Developing integrity – more humanized and personal value system (Komives & Woodward, 1996). Chickering states that becoming autonomous and also emotionally independent is a critical part of developing the psychological mechanism that is needed to cope with problems. The individuals will experience how

their behavior was perceived and make necessary adjustments for the future. This establishment of identity will allow the individuals to develop competence, emotional management, and autonomy (Chickering et al., 2002). After growth of one's identity occurs, their ability to have a firm foundation of their beliefs will help them further establish interpersonal relationships and go into the future with a plan of meaning and purpose (Chickering et al., 1993).

Erikson (1968) also developed a model of psychological development that includes eight stages. The stages and the appropriate ego development within each stage are stated as follows: (1) Infancy: Trust vs. Mistrust, (2) Early childhood: Autonomy vs. Shame, (3) Play age: Initiative vs. Guilt, (4) School age: Industry vs. Inferiority, (5) Adolescence: Identity vs. Role Confusion, (6) Young adulthood: Intimacy and Solidarity vs. Isolation, (7) Middle adulthood: Generativity vs. Self-absorption or Stagnation, and (8) Late adulthood: Integrity vs. Despair. Stage 5 of Erikson's model is identity versus role confusion which occurs in adolescence. This is the time in an individual's life when evaluation of their past experiences may determine who they are. Throughout the college years, it allows the individuals a chance to explore their own values, interest and goals. Even though college is a typical time of change and exploration, change as far as identity occurs throughout adult years as well (Erikson, 1968). Identity is not static. It can change with new experiences, a new environment, and activities and values. This can help individuals understand their own uniqueness and also how they fit into their community.

In evaluating the role of identity using Chickering's Theory, it is also relevant in this study to state the work done by Parham (1993) on challenges the student-athletes

will face throughout their college careers. These are: (a) balancing athletics and academics, (b) balancing social activities with the isolation of athletics, (c) balancing athletic success with athletic failure, (d) balancing physical health and injuries with an internal need of continuing to play, (e) balancing the demands of relationships, including parents, friends, family and coaches, and (f) dealing with the termination of a collegiate athletic career. Because student-athletes are so consumed with their athletic role, they may fail to develop additional roles (Horton & Mack, 2000). Chickering believed that self-assessment and self-awareness are needed in order to develop a strong identity. With this in mind, the self-assessment must include an evaluation of needs, values, interest and abilities (Lally & Kerr, 2005). This is an important theory to add in this study mainly because of the development of identity in the college years and the amount of growth potential that may occur. This is the time to become more independent, grow in relationships, and identify personal values and goals. The theories state the significance of developing the whole person and not just as an athlete.

Schlossberg's Transition Theory

In 1989, in collaboration with Dr. Arthur W. Chickering and Dr. Anne Q. Lynch, Dr. Schlossberg revisited the transition theory as a result of a study of adult learners and the outcome of an investigation to learn about the differences between adult learners. Schlossberg's colleagues, "defined a transition as any event, or non-event that results in changed relationships, routines, assumptions, and roles" (Evans, Forney, & Guido-DiBrito, 1998). However, if the transition is not recognized by the individual as such it is not considered a transition, but instead a change. "Changes may occur without the individual's attaching much significance to them" (Evans et al., 1998).

According to Schlossberg, it is important "to understand the meaning that a transition has for a particular individual, one needs to consider the type, context, and impact of the transition" (Evans et al., 1998).

The first step is to define the type of transition: anticipated, unanticipated, chronic "hassles" or non-event (Schlossberg, Lynch, & Chickering, 1989). Secondly, identify "the relationships of the individual to the event or nonevent resulting in changes is central to the understanding of transitions" (Schlossberg et al., 1989). Finally, assess the impact that the transition has on the individual to determine the "degree to which the transition alters daily life". Both positive and negative transitions, as perceived by the individual, produce stress. "Transitions may lead to growth, but decline is also a possible outcome, and may be viewed with ambivalence by the individuals experiencing them" (Evans et al., 1998).

The basic idea of Schlossberg's theory is to find a systematic process of mastering change while taking stock and taking charge. To cope well with a transition, the individual needs to address these four concepts (Sargent & Schlossberg, 1988). The individuals needs to examine their own situation by asking evaluating questions about the situation, self, supports, and strategies for coping. In Sargent and Schlossberg's (1988), "Managing Adult Transitions" article, they identify key questions for each concept, which are as follows:

> Situation: What kind of transition it? Is the situation perceived as positive, negative, expected, unexpected, desired, or dreaded? Did the transition come at the worst or best time possible? Is it "on time" or "off schedule"? Is it voluntary or imposed? Is the individual at the beginning, middle, or end of the transition?

Self: What kind of strengths and weaknesses does the individual bring to the situation? What is the person's previous experience in making a similar transition? Does he or she believe there are options? Is he or she basically optimistic and able to deal with ambiguity?

Supports: There are people who are likely to help—or hinder—the person getting through the transition. Does that person have support from family, friends, co-workers, and supervisors? In what ways do those people give support? In what ways do they hinder the person's efforts to change? Once the individual has taken this inventory or stock of his or her assets and liabilities, the next step is to take charge.

Strategies for coping: This is the stage where the plan of action to cope with the transition comes into play. Does the person use several coping strategies or just one? Can the person creatively cope by changing the situation, changing the meaning of the situation, or managing reactions to stress? (Schlossberg et al., 1989).

Schlossberg's theory is relevant because Schlossberg has shown how important it is to know how people may experience the situation or transition. For many female student-athletes, a certain situation may not be stressful. However, if it appears to be stressful for a particular female student-athlete, the support needs to be set in place in order to help this student-athlete navigate through the transition or situation with healthy coping skills. For instance, if a female student-athlete gets injured and is unable to compete yet she has a strong athletic identity and all of her support comes from her team, being injured could very easily lead her to the feeling that she does not matter

anymore. Her ability to help the team succeed has diminished in her mind. This brings into perspective the other theory of Schlossberg's (1989) mattering and marginality, which states that people need to feel like they matter and not feel marginalized. Yet during the time of transition is when they need to feel like they matter the most.

Schlossberg states that attention to student's self-perceptions of mattering will help the individual make the necessary changes to be successful through the transition in a healthy way and the product could be someone with healthier coping strategies. Support systems need to be educated in these theories of Schlossberg's in order to help take the individual to dealing with change. Schlossberg's article (1989), "Marginality and Mattering: Key Issues in Building Community", explains that transitions and feelings of marginality are many times interrelated; people in transition often feel marginal and that they do not matter. Schlossberg, suggested that when individuals feel marginalized, they worry about if they matter to anyone else" (Evans et al., 1998). In addition, Schlossberg's states, "feelings of marginality and mattering may discourage or encourage campus involvement and community development" (Kodama, 2002).

Schlossberg (1989) argues that "mattering represents a compelling social obligation and a powerful source of social integration; that are bonded to society not only by virtue of our dependence on others but their independence on us" (Schlossberg et al., 1989; Cuyjet, 1998). This concept prompts us to think about what our campuses and athletic departments are doing (or not doing) to make our environments inclusive and the effectiveness of the established diversity programs. Moreover, it helps us reevaluate what our athletic departments are doing to work towards improving the access, equity and quality of the educational experience for all student-athletes.

The combination of social support, athletic identity, and student identity theories inform this dissertation about how female student-athletes grow and mature. In the following sections, discussions are covered on the topics of benefits and challenges of sport participation, self-esteem and depression, eating disorders, and binge drinking as potential health risk behaviors.

Benefits and Challenges of Sport Participation

College and university students who participate in intercollegiate athletics experience the usual pressures of time management, personal identity and overall transition of college life as well as additional pressures of training and competition (Selby, 2000). There are many positive aspects of sport regardless of the pressure and anxiety that the female student-athletes may be feeling. These include the development of athletic skills, social interaction and a building of confidence to name a few (Brown, Glastetter-Fender, & Shelton, 2000). Many benefits to the health of these female student-athletes such as a strong sense of self, established social groups, and good management skills, come from them being involved in athletics. Exercise has also been proven to help females reduce their amount of osteoporosis (Women's Sports Foundation, 2004). Sport may have many risks but these female student-athletes, who are competing at a higher level than purely recreational, are more likely to have a higher self-esteem and confidence (Coakley, 2001; 2007).

Nevertheless, the problem still remains that athletic directors and coaches put so much emphasis on eligibility and winning that certain counseling and health needs of the female student-athlete are often overlooked (Turrisi et al., 2006). Therefore, members of athletic departments (i.e., athletic administration and coaches) need to be educated so they

see the importance of utilizing counselors who can approach some of these delicate issues. It has been reported in various studies that there is an underutilization of counseling services by female student-athletes (Brewer et al., 1993; Maniar, Curry, Sommers-Flanagan, & Walsh, 2001; Pinkerton et al., 1989; Watson, 2005). Yet fortunately, there is starting to be a paradigm shift in athletic departments where they were previously focusing on the treatment of physical injury and prevention, now the focus has turned to a more holistic view of health care (Klossner, 2005). This focus includes a broader view of health problems such as depression, anxiety, substance abuse, grief and loss, and relationship issues (Brown & Blanton, 2002). A strong athletic identity can be in conflict with the overall student-athlete identity and possibly lead to a problem in social, psychological and emotional development (Alfermann, 2000). For example, studies by Brewer et al., (2005), have reported that athletic identity could possibly be a factor to the increase in depressive reactions and other psychological distresses in conjunction with sport related injuries or deselection from the team.

Self-esteem and Depression

Research has shown that females, when under times of duress, experience development of depression (Armstrong et al., 2009). Selby, Weinstein, and Stewart Bird (2004) investigated various factors that create stressful conditions for the student-athlete which include coping with injury, keeping up with academics, and general stress of competition. It was stated in their research that these stressful conditions may lead to eating disorders, depression and alcohol abuse. Other studies have pointed out that this group may suffer from other clinical mental health problems such as lowering of self-esteem and depression that warrant professional attention (Andersen, 2002; Hinkle,

1996; Maniar, Chamberlain, & Moore, 2005). Student-athletes are experiencing more pressure these days due to getting less sleep, feeling isolated from the campus and overtraining. They often lose their passion for their sport but keep playing to maintain scholarships or not to let the coaches and family down (Maniar et al., 2005; Wilson et al., 2004). In the studies conducted by Wilson and Pritchard (2004), athletic participation was considered to bring an increase in stress and time management for student-athletes which may directly affect their depressive level (Wilson et al., 2004). Furthermore, it has been documented that student-athletes have shown to have more psychological problems such as depression than non-student-athletes despite the forms of social support available (Maniar et al., 2005; Pinkerton et al., 1989; Watson et al., 2007).

Since the student-athlete may experience isolation from campus, there may become an overreliance on athletics for social support and social activity (Ferrante, Etzel, & Lantz, 1996). Approximately 9.5% of the population will suffer from a depressive illness during any given 1-year period and females are twice more likely to experience depression than males (National Institute of Mental Health, 2002). With a potential increase in suicidal rates and attempts of suicide within the student-athlete population, athletic departments have begun to pay more attention to the issue of depression among student-athletes (Maniar et al., 2005). Although research is limited on the prevalence of depression amongst student-athletes, preliminary data has shown that depression among the student-athlete population is at similar or higher rates than nonathletes (Maniar et al., 2001). Both the high levels of stress and perceptions of support may play a role in the wellness of the student-athlete (Etzel, Watson, Visek, &

Maniar, 2006).

Therefore, the need for staff training to recognize signs and symptoms of depression and the ability to identify potential stressful life events that could lead to depression is of utmost importance. These life events can include injury, being cut from the team, losing starting status, reduction or loss of scholarship, death of a teammate, and life events outside athletics (Etzel, Ferrante, & Pinkney, 2002). Athletic departments should educate coaches in these areas of concern because research has shown that student-athletes are more likely to speak to them or athletic trainers about their difficulties (Maniar et al., 2001).

The female student-athlete's mental and emotional well-being is also important to consider. Some factors that were identified to be important areas of research were: decrease in performance, isolation, a change in sleeping patterns, and a change in communication patterns (Ogilvie & Taylor, 1993). The societal pressures that the female student-athlete has to maintain of body image and femininity can further complicate these problems. For females in general, the amount of stress is increasing on college campuses (Armstrong et al., 2009; Epstein & Katz, 1992). Since female student-athletes experience an atmosphere of high anxiety and stress due to their sport and performance, they are at risk for certain unhealthy behaviors (Bethune & Panlener, 2007; Chen, Snyder, & Magner, 2010; Miller, Melnick, Barnes, Farrell, & Sabo, 2005). The following sections describe the possible health risk behaviors that need to be addressed within the female student-athlete population. More specifically the sections consider health risk behaviors like environmental stressors, eating disorders, and binge drinking. The remainder of the chapter discusses social support and athletic identity as

two variables that are significant within this study.

Environmental Stressors and Health-Risk Behaviors

The female student-athlete has to contend with athletic, academic and social demands. Some situations experienced by female student-athletes create a restricted and somewhat isolated atmosphere; for instance, long practice hours, trips to athletic events, and separate living arrangements (Miller, Gordon, & Schneider, 2009; Nattiv et al., 1991; Nattiv et al., 1997). Athletic talent is the special commodity that the student-athlete has that separates them from the nonathlete population. Unfortunately, while student-athletes may benefit from this special attention, they also are very isolated from the "normal" development by being segregated (Pinkerton et al., 1989). Normal development, according to some theorists (Astin, 1999; Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007; Morgan, 2001), is developing relationships with others outside of the athletic arena, such as other college students, professors and also the opportunity to experience programs which are not run by the athletic department (Morgan, 2001). In order to create the healthy balance in the female student-athlete's life, it is of utmost importance that the female student-athlete starts to view herself as an individual, who happens to be an athlete.

Student-athletes have been identified with sport for most of their adolescent years. In the past, the focus has been on the athlete as a performer, and not necessarily as a unique individual with unique needs (Lanning, 1982; Miller & Kerr, 2002). Therefore, the student-athlete may have a difficult time viewing himself/herself apart from sport or athletics. If an injury occurs to a student-athlete, this can be a very critical time period in a student-athlete's life because so many of them have never experienced having to sit out of competition due to injury (Gregory & Van Valkenburgh, 1991; Mignano, Brewer, Winter,

& Van Raalte, 2006; Selby, 2000). If injury occurs it could cause a sense of identity crisis, and isolation, which in turn, may cause anxiety when the athlete has to deal with a severe injury or a career ending injury (Lavallee, Gordon, & Grove, 1997).

The student-athletes may also have to deal with the reality that the talent they have is not adequate to advance them onto professional sports. It is not realistic for most student-athletes to believe they can make a living based solely on their athletic skills (Barnett & Wright, 1994; Perrelli, 2004). Specifically, less than 1% of collegiate athletes ever actually make it in the professional arena in athletics (Lanning, 1982). Because of the small percentage of professional careers becoming a reality, these student-athletes have to try and identify themselves as something other than athletes, and find a new avenue of competition (Pinkerton et al., 1989).

While student-athletes may have many different support systems, research has shown that they are more at risk than nonstudent-athletes because of the stress and pressure to compete (Brewer et al., 2005). It has been proven that the mental health of the student-athlete has become even more of an issue within the past several years. For example, one area that has shown an increase in reported depression is within the female student-athlete population, as this percentage has raised from 10-20% reporting depression symptoms (Gill, 2008; Mentink, 2002). This is a societal issue with individuals below the age of 24 showing a 25% chance to experience a depressive episode in their life and the annual rate of depression for teenagers is at least twice that of adults of the age 25-44 (Dishman et al., 2006).

In a study of factors that contribute to the student-athlete's happiness, internal factors contributed more to happiness then external (Denny & Steiner, 2009). When the

student-athletes identify so much of who they are to their athletic identity, the success they achieve from their sport can be overemphasized in importance to their self-esteem and self-worth (Gotwals, Dunn, & Wayment, 2003). When success and loss are linked to their sport, many factors could come into existence that may attribute to unhealthy risk behaviors such as: their performance, injury, cuts from the team, losing a starting position, and fear of losing. Many other factors that student-athletes have to deal with also include: NCAA rules, university policies, athletic department standards, progress toward degree, GPA requirements, outside employment, and team dynamics. Indeed, student-athletes have the unique challenge of balancing the roles of student and athlete (O'Bryant, 1993). Even the NCAA identifies this challenge and addresses this in the Call to Action (Knight Commission, 2001).

The study conducted by Humphrey et al., (2000) reported that 50% of female student-athletes reported a lack of time as being their main stressor. The NCAA has restricted the amount of practice time for student-athletes to 20 hours a week. This was established so that the interference of their sport would be minimized and that the student-athletes could try and attain the same education that the student population does (NCAA, 2006). In addition to the regulations, the student-athletes have to meet their academic requirements in order to stay eligible. The student-athletes have the pressure to make progress towards their degree every year (i.e., 40%, 60%, 80%, 100%) whereas the regular student population, are not in a time constraint regarding degree completion. The percentage of degree requirements and the 6 and 18 hour rule that the student-athletes have to fulfill, can put much stress on them in their academic goals as well as the time that they have to contribute to these academic endeavors (NCAA manual,

bylaw 14.4.3, 14.4.3.1-d). Since the student-athletes physical performance can be overrated by the athletic department and campus, their overall personal development may be overlooked. As a result, student-athletes may receive mixed messages of what is the top priority: them as individuals or them as athletes. Some negative behaviors that have been identified for the female student-athlete population are: alcohol and drug abuse, eating disorders, depression, anxiety and anger, and sexual promiscuity. Identity conflict, social conflicts, and isolation can lead to health risk behaviors previously mentioned and can become potentially risky (Pinkerton et al., 1989). Participation in sports on the college level can cause additional stresses, emotional, physical, and mental (Brown et al., 2000). Female student-athletes on teams, feel tremendous pressure to meet the expectations of their teammates, their coaches, their parents, and the fans, not to mention personal expectations and goals (Anshel, 1990; Chen et al., 2010; Hass, 2006; Lucas, 2002; Murphy, 1999). Two specific health risk behaviors that are prevalent in the female student-athlete population are eating disorders and binge drinking. These health risk behaviors are discussed in the next section of this chapter.

Eating Disorders

Eating disorders are defined as a distorted pattern of thinking and behavior about food (Palme, 2008). Female student-athletes are at risk for developing eating disorders and unhealthy behaviors due to the nature of their athletic environment and also societal pressure. Even with the pressures of the sport culture, females are immersed in the social context of the importance of their body appearance and performance (Greenleaf, Petrie, Carter, & Reel, 2009). While transitioning into college, female student-athletes may also experience increased personal responsibility, a perceived loss of social support

and increase demands on their academics (Berry & Howe, 2000; Greenleaf et al., 2009). Furthermore, additional cultural pressure is inflicted upon the female student-athlete because of the societal focus on the thin body shape, a pursuit for fitness, and the glamorization of thinness. Heredity and the social context may influence the development of disordered eating for female student-athletes as well as increased pressure from their coaches to be fit (Hausenblas & Carron, 1999; Petrie, Greenleaf, Reel, & Carter, 2009).

The world of eating disorders can seem quite complex because it may involve many different areas such as anorexia, bulimia, binge eating and starvation which can be methods of maintaining weight. Results of many studies have stated that body image and social pressure from coaches and peers were significant predictors of developing disordered eating (Berry et al., 2000; Petrie et al., 2009). Female student-athletes have consistently stated that their concern about their body size is a concern of theirs and adds stress in their lives. Berry et al., (2000) has reported that many factors could lead to the development of unhealthy diet practices. These factors can consist of traumatic events, pressure about weight or body image, competition anxiety and social pressure, to name a few. Unhealthy dieting practices have been found across all sporting groups and especially amongst female student-athletes. Since this health risk behavior is so prevalent within the female population, it has been suggested that educational programs be taught to the coaching staff, which include: nutrition, weight control and patterns of disordered eating among the females on their teams (Petrie et al., 2009). Studies have shown that female student-athletes in aesthetically judged sports had higher concern for weight, more body dissatisfaction and dieted more than other female student-athletes

(Beals & Manore, 2002; Greenleaf et al., 2009; Petrie et al., 2009; Reinking & Alexander, 2005). There has been concern that participation in certain sports may encourage disordered eating which in turn could become very serious.

Costa and Guthrie (1994) stated that eating disorders have grown immensely in the last 40 years. However, it is hard to tell if it has always been this prevalent or if it has risen due to all of the publicity. Brownwell and Rodin (1992) found that 80-95% of upper middle class females 13 –30 years of age from Western cultures exhibit some sort of disordered eating. While a high prevalence of eating disorders was noted among Caucasians and Hispanic females, it was less common among Black and Asian and even less among Native Americans (Garner & Garfinkel, 1997). In much of the research regarding eating disorders, middle class females are more likely to have disordered eating than males. Some people are found to use food and body image as much as others use drug and alcohol to deal with emotional conflict. This is particularly interesting in looking into female student-athletes and their coping mechanisms for stress. There has been controversy that ballet dancers, gymnasts and long distance runners are highly susceptible to disordered eating because many argue that they are complying with the demands of their sport (Brownwell, 1992; Hamilton et al., 1986).

There are many reasons why someone may succumb to an eating disorder. One reason is that it helps them feel more in control when personal and social experiences have led them to feel deficient. There are also family affects which can cause a sense of fragmentation due to the complexity of family relationships. Literature states that females who may have difficulty in achieving autonomy in a society that puts demands on young women for external appearance and performance may lean on disordered

eating for comfort and control (Dunn, Turner, & Denny, 2007; Petrie et al., 2009).

Symptoms of disordered eating.

Symptoms for anorexics can include restlessness, boredom, emptiness, and aimlessness. People battling anorexia may feel a need for rituals in their life that gives them a false sense of control (Berry et al., 2000). The starvation helps them feel better about themselves and this behavior allows them to turn off the need for others and turn it to themselves (Reinking et al., 2005). Where they may be feeling negative and angry in dealing with others, or a particular situation, now their focus is on them. Bulimics, on the other hand, may show symptoms of loneliness, emptiness and a lack of feeling loved (Berry et al., 2000). They may have more of a sarcastic interaction and their overall attitude can seem very self-defeating (Sundgot-Borgen & Torstveit, 2004). Their behavior will seem more manipulative than anorexics. Only after the maladaptive behavior is changed are they able to see the relationship between food, personality and attitudes (Hsu, 1990).

Pressures to be thin.

Both eating disorders, anorexia and bulimia, are due to societal pressures to be thin in a society where there is increased emphasis on body image (Greenleaf et al., 2009). Heredity and the social context can also influence the development of disordered eating, so therefore, this psychological disorder requires both understanding in terms of individual factors and an understanding of the social pressures (Armstrong et al., 2009; Hsu, 1990; Schwarz, Aruguete, & Gold, 2005).

So often it has been stated that coaches tend to award student-athletes who make their weight. Greenleaf et al., (2009) found that student-athletes in aesthetically judged

sports had higher concern for weight, more body dissatisfaction and dieted more. Guthrie (1985) stated that 83% of student-athletes dieted to improve performance and 7% lost weight for appearance. Performance and excellence were the main reasons for dieting and the student-athlete's attitude was to do whatever was needed, which even meant extreme health behaviors, in order to please their coaches. Along with the motive to achieve, there were found to be other causes for disordered eating such as attention getting, a need for love, interaction with over demanding parents and coaches. However, the contributing major factor was losing playing time, status or position on the team (Hsu, 1990). Since coaches have pressure to perform, they also put extra pressure on the student-athlete to win. However, if student-athletes begin to isolate themselves, become secretive, and demonstrate shame or denial in the team, coaches or team trainers should see this as a sign for possible maladaptive health behaviors.

Eating disorders and depression.

Furthermore, eating disorders and depression can cause emotional stability when they linger over a period of time (Mentink, 2002). When athletes do not win, they may stop eating regularly, socially withdraw, and neglect other things in their lives (Grabmeier, 2002; Greenleaf et al., 2009). The relationship between depression and food restriction can surface if the athletes are feeling out of control in their performance and they use food restriction to show that they do have control.

Many female student-athletes have a hard time handling social and cultural pressures (Gutgesell, Moreau, & Thompson, 2003; Murphy, 1999; Osborne, 2002). Subsequently, these pressures can lead to depression and can be linked to substance abuse and other disorders like eating. Females may often have different attitudes and

certain profiles about eating than males. Since female student-athletes are so often found to be perfectionists, it also has been reported that depression and low self-esteem are related to perfectionism. If these female student-athletes think they are less than perfect, they will undermine their own self-esteem. Perfectionists live in a world of daily anxiety. Since high actions validate their ego, the results have to be perfect. Anything less than perfect can be catastrophic. In fact, Nattiv and Puffer (1997) both found related significance to eating disorders and perfectionism. Athletes who focus on their sport and minimize their social side with outsiders were found to become perfectionistic in their sport. Thinness can be linked to a particular sport where body image is stressed, whereas other athletes in sports where thinness is not stressed may learn the perfectionist behavior from coaches, parents, and teammates through modeling, feedback and reinforcement (Burns, 1980; Cumming, Eisenman, Smoll, Smith, & Malina, 2005).

In past studies, it has been found that the female student-athletes score high on anxiety and they tend to dwell on the mistakes and the negatives. As a result, this leads to the fear of failure as well as the need to perform and please others at the sacrifice of their own personal health (Cumming et al., 2005). Approximately 9.5% of the population will suffer from a depressive illness during any given 1-year period. Females are twice more likely to experience depression than males (National Institute of Mental Health, 2002). With a potential increase in student-athletes suicidal attempts this has caused athletic departments to pay more attention to the issue of depression among athletes (Maniar et al., 2005). Although research is limited on the prevalence of depression amongst student-athletes, preliminary data has shown that depression among

the student-athlete population are at similar or higher rates than nonathletes (Maniar et al., 2001). In their quest for perfection, elite athletes are at risk for serious psychological problems. These problems can include depression, anxiety and eating disorders. This is not uncommon for female athletes who are at risk and these problems will more than likely affect their performance (Maniar et al., 2001). The Center for Disease Control and Prevention (www.cdc.gov) released research last fall that reports that 1 in 25 teenagers takes anti-depressant drugs and that 1 in 100 U.S. adults made plans to commit suicide within the past year. The CDC also reported that adults ages from 18-29 are more likely to have suicidal thoughts, make plans to attempt suicide, and actually attempt suicide that adults over the age of 30. These statistics and scenarios serve as reminders that the college athletic department needs effective policies on how to handle student-athlete mental health issues.

Binge Drinking

Binge drinking has been measured by researchers as consuming 5 drinks in a row for males and 4 drinks in a row for females. This kind of high risk drinking is a significant problem on campuses today and affects all of the college students (Martens et al., 2004; National Institute on Alcohol Abuse and Alcoholism, 2002; Naughton, 1996). Yet studies consistently show that college student-athletes consume more alcohol and experience more drinking related problems than nonathletes (Damm & Murray, 1996; Martens, Dams-O'Connor, & Beck, 2006; Zamboanga et al., 2008). Athletic involvement is linked to an elevated risk of hazardous alcohol use among college students. In fact, research on the relationship with drinking patterns and female student-athletes has shown that female student-athletes seem to engage more into binge

drinking as well as other forms of problematic drinking (Brenner & Swanick, 2007; Murray, 2000; Nelson & Wechsler, 2001). It has been noted from research that individuals will follow the behaviors of their peers (Martens, Dams-O'Connor, Duffy-Paiement, & Gibson, 2006). So when thinking about the team pressure in order to fit in, it is not surprising that athletes will partake in alcohol consumption and even drinking games to fit in with their teammates (Zamboanga, et al., 2008).

The 2006 NCAA report on substance use indicated that binge drinking among college athletes was increasing (NCAA, 2006). Even though this population has more alcohol education than nonathletes, student-athletes still report higher alcohol consumption rates as well as negative behaviors associated with alcohol which include DUI, unsafe sexual behaviors and criminal offenses (Dejong & Langford, 2002; Williams, 2012; Yusko, Buckman, White, & Pandina, 2008a; 2008b). Institutions have their alcohol policies, but many of the student-athletes do not believe that the policies are strict enough, and the enforcement of these policies, appear inconsistent (Brenner et al., 2007; Lavigne, Witt, Wood, Laforge, & DeJong, 2008). Athletic departments must revisit how these policies are enforced so the message that is sent to the student-athletes is a strong and firm one about the penalties and consequences of alcohol abuse. The Turrisi et al., (2007) study showed that student-athletes that experience a greater sense of connectedness with their peers will be more receptive to the peer norms, which ultimately may be hazardous drinking patterns. The philosophy on campus needs to be instead of utilizing funds for year round drug testing, using the resources for mitigating alcohol abuse since this is a significant health risk behavior.

The National Institute of Alcohol Abuse and Alcoholism Task Force on College

Drinking (2002) released a call to action identifying college athletes as a high-risk population for alcohol problems (NIAAA, 2002). Through this report it has been suggested that the role of the university and the athletic department should be explored (Williams, 2012). A study by Lavigne et al., (2008) found that the drinking rate of the athletes is correlated to the perceptions that the students had about if the policy was going to be enforced. Many student-athletes found that they believed the policies were not strict enough and not enforced (Lavigne et al., 2008).

Drinking games within the athletic community.

Drinking games have been popular on campus and are estimated to have up to a 67% participation rate of student-athletes (Lavigne et al., 2008; Waldron 2008). Even though partaking in sports promotes a healthy lifestyle, student-athletes also partake in nonhealthy behaviors like drinking, binge eating or illicit drug use (Zamboanga et al., 2008). Not only do student-athletes drink more often, but when they do drink, they consume even more than nonathletes. For example, Nelson reported that 25% female student-athletes reported frequent binge drinking as opposed to 20% of nonathletes (Nelson et al., 2001). Student-athletes are also more likely to engage in other unhealthy behaviors as a possible result of their high-risk drinking. These behaviors could include but are not limited to driving while drunk, engaging in drug use, and greater number of sexual partners (Brenner et al., 2007). It was noted that many of the sports reported more binge drinking during their off season (when they were not in competition) to the numbers of 56% compared to 35% in season (when they were in competition). Additionally, Brenner et al., (2007) found that 75% were high risk drinkers and 44% were frequent high risk drinkers, even more than reported earlier. Brenner et al., (2007)

also reported that 34% of athletes said they had 11 or more drinks at one time in the past month.

Student-athlete alcohol usage.

In the past, it was thought that athletic participation would help protect the student-athletes from drinking. Now research unfortunately shows that student-athletes are more prone to drinking than the regular student population. Existing research also shows that the more the athletic participation increases for the student-athletes, so does their drinking behavior (Hildebrand, Johnson, & Boyle, 2001; Waldron 2008). Studies have been conducted that collected data on student-athletes within NCAA divisions (i.e., I, II, III), in the pursuit to identify the usage of alcohol and substance abuse (Shirazi & Tricker, 2005; Yang et al., 2010; Yusko et al., 2008; Thombs, 2000). The reoccurring theme was that there seemed to be a higher rate of alcohol-related negative consequences among the student-athletes as compared to nonathletes. In addition to this finding was the statement that student-athletes were more prone than nonathletes to binge drinking and heavy drinking. Thombs (2000), and Nelson and Wechsler (2001) found that student-athletes started drinking at earlier ages and were involved in unhealthy and risky behaviors more so than individuals who were not involved in athletics.

The usage of alcohol and the high consumption of alcohol have continued to be debated as to the reason for the risky behaviors. Many motives have been discussed as to why this risky alcohol use is prevalent within this population. These motives could be coping mechanisms (Damm et al., 1996), social opportunity and availability, peer pressure (Shirazi et al., 2005), and possibly the experience of drinking for the first time.

While it is difficult to determine the actual reasons for a high prevalence of drinking within this population, many studies have identified many social aspects of this behavior (Perkins & Craig, 2006). These reasons could be peer influence, drinking to deal with stress of school and athletics, or just drinking to have fun (Grossbard et al., 2009).

In conclusion, research indicates that college student-athletes engage in a wide variety of health risk behaviors. Findings also show student-athletes may have higher levels of marijuana use (Ford, 2007). Nelson et al., (2001) stated that since student-athletes have so many factors to deal with and pressures that they experience, they are more likely to binge drink because these dual roles place them at risk for many health risk behaviors. Emphasis has been put on alcohol abuse, which is still highly prevalent among the student-athlete population; however, other health behaviors also need to be addressed. Social support is a necessary concept to understand within this athletic community and may provide insight into building a healthy environment and culture for the student-athletes (Hermon, 2005; Rhind, Jowett, & Lorimer, 2011; Rosenfeld et al., 1989).

Social Support

Since social support is defined as knowing that one is loved and others will do all they can when a problem arises (Sarason et al., 1994), it is understood why the environment of the team is critical to the student-athlete. If the female student-athlete feels isolated and disconnected from the university campus, her social support likely comes from her teammates, families, and communities (Grove et al., 2004).

However, sometimes an athletic teammate is not the one a student-athlete will

confide in due to the competitive environment. Female student-athletes may feel like disclosure of private challenges will compromise their position on the team and make them appear weak and vulnerable. Feeling they cannot disclose is correlated to feelings of isolation and mattering (Brewer et al., 2005; Riemer, Beal, & Schroeder, 2000). The social isolation they may encounter could affect how they view themselves and possibly affect self-perceptions as an athlete as well as self-esteem. Nevertheless, sport experiences and team dynamics can have an effect and play an important role in the development of the self-concept and the athlete's self-esteem (Brewer et al., 2005). Results have indicated that social support has a buffering effect on the negative life events and the stress that the student-athlete may be experiencing (Grove et al., 2004). Sarason et al., (1994) suggest that although there may be some types of support that are more beneficial in certain situations, the individual only benefits to the extent to which that support is matched to their stress. Social support is measured as the number and quality of individuals on whom the person can rely during periods of stress (Sarason et al., 1994).

It is important for the well-being of the student-athlete that their social support comes from a wide variety of sources, so depending on the problem or situation, they have someone to understand and support them no matter what the issue (Richman et al., 1993; Richman et al., 2000). It is vital that the environment of social support fosters the feelings that the person is worthwhile, capable, and valued as a member of the group or team (Sarason et al., 1994). When social support is established, the sense of acceptance and personal control are heightened and anxiety is decreased. Researchers believe that female student-athletes have a strong need to feel a part of the group. Therefore, relationships such

as family, peers, and coaches will play a significant part in their strength of their social support (Reifman & Dunkel-Schetter, 1990). Males and females exhibit different interpersonal relationships throughout their life. Females have been socialized to confide in others, have close relationships and express emotions (Matud, 2004). When a student-athlete is either injured or going through a rough performance time, the social support system is crucial to helping the student-athlete with healthy coping skills and to maintain their overall perseverance (Greenleaf et al., 2009). Research has shown that certain strategies for enhancing social support networks have made a great impact on the long-term physical and psychological well-being of the student-athlete (Richman et al., 1993).

Social support has been one of the most frequently studied constructs in overall mental health research (Cohen, Gottlieb, & Underwood, 2000). There are many forms of social support that can be creatively provided in the student-athlete's environment. Social support has been found to make a significant difference on the effect of stress, well-being, and physical health of the female student-athlete (Albrecht & Adelman, 1984; Corbillon, Crossman, & Jamieson, 2008; Dunkel-Schetter & Bennett, 1990). Recent studies on injured female student-athletes have shown that pre injury, they did not look to coaches for support, yet post-injury, they looked to trainers for the majority of their social support (Jingzhan, Peek-Asa, Lowe, Heiden, & Foster, 2010; Rumball & Lebrun, 2004; Yang et al., 2010). Studies also consider the health and wellness approach to counseling student-athletes since it has been noted that this population currently experiences issues that may call for professional counseling at a rate of 15% compared to 8% of the nonathletic population on campuses (Watson et al., 2007). The perception or belief that emotional support is available appears to be much stronger influence on mental health than the actual

receipt of social support (Dunkel-Schetter et al., 1990). Seeking social support has been considered a coping strategy in dealing with competitive stress (Crocker, 1992), slumps and burnout (Gould, 1996), and injury (Bianco & Eklund, 2001; Brewer et al., 2005). The study of Rees and Hardy (2004) found evidence that there might be a significant link between social support and sport performance. In sport, there is a need to look at the support transactions an athlete might experience because not all support is beneficial (Gould, 2001).

The structure of one multidimensional measure of social support, the Social Support Questionnaire (SSQ) is a model that has been used as a framework for researching social support (Bianco et al., 2001; Brewer et al., 2005; Rees et al., 2004). The model has sought to respond to the following areas as they intersect with social support: size of network and health outcomes (Vaux, 1988), the importance of close relationships to the effectiveness of support (Bianco et al., 2001), gender effects on social support (Matud, 2004), females and have more support (Colarossi, 2001), student-athletes may need more support (Wilson et al., 2004), student-athletes require special assistance (Papanikolaou et al., 2003), first year student-athletes transition (Papanikolaou et al., 2003), stress of the first year competition (Giacobbi et al., 2004), feelings of isolation (Tracey & Corlett, 1995), guidance from teammates (Pratt et al., 2000), college has benefits (Tao, Dong, Pratt, Hunsberger, & Pancer, 2000), time of personal growth (Wintre, 2000), and a familiar and safe support system (Berzonsky & Kuk, 2000). Along with the importance of social support is the aspect of athletic identity and how that affects the overall health risk behavior choices of the student-athlete.

Athletic Identity

Since the definition of athletic identity is the degree to which an individual identifies with the athletic role (Brewer et al., 1993), then a strong sense of athletic identity in a student-athlete could possibly vary with past and current athletic experiences as well as the successes and failures that the student-athlete has experienced. Since athletic identity can also be considered a social role, the extent of the influence that family, friends, coaches and teammates have on the athlete is critical when looking at the student-athlete's attitude toward their self-esteem as an athlete (Brewer et al., 1993). A student-athlete who puts high value on their athletic performance is considered strongly influenced by performance outcomes (e.g. wins, losses, records).

Student-athletes can experience several types of losses in athletics including loss of their starting position, chronic competitive failure, deselection, injury and sport termination to name a few. In the minds of the student-athletes, their self-worth and importance has been measured by their successful athletic performance therefore, these losses can bring about great difficulties in adjusting and coping to any type of athletic failure (Horton et al., 2000). Sometimes the athletic role is the central source of their identity and these are the student-athletes who will need help in altering and redefining themselves and their success (Coakley, 2007). Studies have shown that student-athletes who strongly identify with their role as an athlete and are dissatisfied with their progress in their sport have lower self-esteem (Brewer et al., 2005; Stephen & Brewer, 2007).

Stephen and Brewer (2007) examined the social and personal issues that may help maintain the athletic identity of the student-athletes. Socially, the female student-

athletes stated that their coaches enforced the importance of their role as an athlete, their team shaped their social network, and they felt somewhat glorified as an athlete. The uniqueness of the student-athlete population is communicated to them even before they arrive on campus. Through the recruiting process and until they arrive on campus, the student-athlete may be treated as an admired commodity from fellow students, faculty, administrators and alumni which can lead to increased pressure (Etzel et al., 2002; Etzel et al., 2006). Personally, they felt that sport gave them meaning to their lives, felt proud to be an athlete and felt confident in the strong body and skill they had obtained. The study of Brewer, Van Raalte, and Linder (1993), shows that when a student-athlete puts a great amount of importance on their athletic role, this could profoundly affect one's feelings of self-worth and self-esteem. Furthermore, Brewer et al., (2005) mentioned that student-athletes who define themselves based on their performance and ultimately, athletic identity, are vulnerable to depression following the occurrence of any negative athletic performance.

According to the study done by Grove, Fish, and Eklund (2004), the student-athletes, who experience lower levels of athletic identity because of not making the team or not being able to compete at a higher level, will be able to handle the stress better than those who are competing at higher levels since they identify with a higher importance to their athletic role. In the study done by Melendez, it was stated that student-athletes who strongly identify with their athletic role should be considered more at risk for emotional adjustment to college (Melendez, 2007).

Many studies have stated that a high athletic identity can carry over into other domains and increase self-confidence (Ryska, 2002; Melendez, 2007). Yet, evidence

from other researchers have suggested that individuals with a strong athletic identity risk experiencing difficulties if they become injured, lose a starting position or just overall fall into a performance slump (Horton et al., 2000; Miller et al., 2002). Brown and Hartley (2003) also found that over identifying with the athletic role may be detrimental to their academic achievement and can minimize career options.

Research is sometimes contradictory regarding the development of athletic identity. For example, when examining the importance individuals place on sport in their lives (i.e., importance of sport), a construct related to athletic identity, research suggests that the importance of sport increases throughout high school and declines sharply from the athlete's first-year to senior year in college (Miller et al., 2002). Research also indicates that the salience of the athletic role may decline over the college career of student-athletes (Brewer et al., 1993; Miller et al., 2002). However, research done by Houle, Brewer, and Kluck (2010) states that athletic identity increases from ages 10-15, with no change from age 15 to the individual's current age in college. With this finding, there seems to be even more need to identify the links with athletic identity, social support and health risk behaviors.

Conclusion

There is evidence which supports that the transition into college can be a very stressful experience. In addition to this first time experience, student-athletes also have the stress of the team expectations. Most studies indicate that peers were the most important resource for the student. Therefore, it is an advantage for student-athletes that they enter into a preexisting network comprised of their teammates. This could help with their college transition and possible stressors they may encounter. It is of utmost

importance to the social support system the environment feels safe, yet with competition, this may be difficult to nurture.

This study intended to determine how social support and athletic identity affect the health risk behaviors of female student-athletes. In previous sections, I have shown how social support is critical to females and their overall feelings of belonging. This is in direct correlation with the choices that they make regarding their coping mechanisms when dealing with stressful situations. I have also described the concept of athletic identity which has been noted to make the role of student-athlete quite difficult at times, especially due to overall academic development and career exploration. Female student-athletes are usually known to be successful in the classroom; however, studies have shown that female student-athletes experience the same stressors in the athletic arena as their male counterparts.

As the literature has shown, athletic participation at the college level creates major personal and emotional demands on the female student-athlete (Watson et al., 2007; Melendez, 2010). Many accommodate and successfully overcome the variety of stress-producing circumstances they may face. However, for those that successfully master this time period, the rewards are substantial. For those less fortunate, the results could be detrimental to their personal experience and future success (Selby et al., 2004).

Eating disorders, depression, and alcohol use have been prevalent in the research with the female student-athlete. Counseling psychologists are seeing more female student-athletes every day for several of these issues previously mentioned. Programming and educating the support staff, who deal with these female student-athletes on a daily basis and have possibly more influence on them, might bring success

to helping the female student-athletes navigate through the college years. It was the goal of this study to provide insight into the health risk behaviors and identify any connections between these behaviors and social support and athletic identity.

A holistic view on identity when addressing some of these challenges that female student-athletes face could be beneficial. This type of approach may help the overall retention and academic persistence of the student-athlete (Hermon, 2005). This is an approach that will focus on the strengths instead of the weaknesses of the female student-athlete in order to help them create a positive change in their lives when dealing with the challenges and demands that are placed upon them (Myers & Sweeney, 2005). Since there is a growing concern that these challenges and demands may cause possible detrimental effects on the adjustment and overall development of the female student-athlete, this holistic approach may provide an avenue to address these challenges.

The sense of belonging and the feeling of connectedness are of utmost importance to female student-athletes and the way in which they connect to the athletic environment. This implies that the female student-athletes should not be looked at as a single concept but rather understood collectively as a student, an athlete, and a person within the athletic atmosphere (Todd et al., 2003). For the female student-athletes, the area of concern in this study, in particular, involved the link between social support, athletic identity and how these factors affect overall health risk behaviors. The stress to succeed is not only in their academics, but they have an added pressure from their sport as well.

For the female student-athlete, anxiety has been linked to a lack of social support, and to athletic identity (Armstrong et al., 2009). Research has stated that with

the added pressure student-athletes are facing now from the athletic department, the environment within the past few years has possibly had an effect on the higher rates and increases that have been reported in depression and substance abuse (Miller, 2009). Research has shown that the most common emotional problem among student-athletes is depression, followed by abuse of alcohol or other drugs (Mentink, 2002; Ogilvie et al., 1993**)**. Literature shows that female student-athletes, when under times of duress, experience the development of depression, whereas males may invest in more alcohol and drugs at this time (Nelson et al., 2001; Selby et al., 2004; Turrisi et al., 2006). It has also been noted that depression and suicide are major concerns in this developmental time of this college age group and both behaviors are closely related to self-esteem (Maniar et al., 2005; Mentink, 2002). Therefore, it is important that these health risk behaviors are identified since many of the researchers such as Brewer et al., (1993; 2005), believe that student-athletes who score highly on athletic identity could experience depressive symptoms and that failure in sports can develop a low self-esteem (Murphy, Petitpas, & Brewer, 1999).

Female student-athletes are at high risk for certain health risk behaviors due to the stress, competition, and overall pressure to perform. Given findings in the literature, I believe that the variables of social support and athletic identity can help explain the differences in health risk behaviors found within the sport type and also within this female student-athlete population. In this study, I have examined the level of social support and athletic identity of each female student-athlete and combined contributions of each variable and how the variables were related to each other. Findings from this study may assist the student development and athletic department staff in identifying

strategies and interventions in order to promote a healthier approach to possible health risk behaviors within this population. In the next chapter, I state the method, the research design, the instruments, the data collection procedure, and the data analysis strategy used in this study.

Chapter 3

Methods

The purpose of this study was to examine the health risk behaviors of female student-athletes and the relationship these behaviors have to their social support and athletic identity. This study identified possible health risk behaviors in this population and any significant correlations and possible predictions with social support and athletic identity variables. Some female student-athletes may participate in a team sport or an individual sport, and the differences between these two groups are identified as well. Regardless of what type of sport the individual participates, the female student-athlete is faced with having to deal with pressures from the team, the coach, and the female student-athlete's self-imposed expectations. Therefore, it was also the goal of this study to identify any similarities and differences in social support, athletic identity, and health risk behaviors among the female student-athlete population and then provide ideas for programming in order to help assist in these matters of concern. Once the link between these factors was explored and high-risk behaviors or patterns of health risk behaviors for the female student-athletes were identified, then the areas of need can be addressed through the design and implementation of support programs.

This chapter consists of the following sections: research design, research questions, description of sample, demographic data, instruments and measurements, data collection procedures, data analysis, and conclusion. This dissertation had four main goals. The first was to identify the health risk behaviors of female student-athletes and examine the differences between the types of sport. The second goal was to see if any correlations existed between the social support, athletic identity and health risk

behaviors of these female student-athletes. The third goal was to identify if social support and athletic identity scales used in this study were predictors of health risk behaviors and GPA of the female student-athletes. The final goal was to find any common themes that may have occurred in the data in order to make recommendations for programming efforts for these female student-athletes, which may be in the area of building a healthy lifestyle, complete with healthy coping mechanisms, in the stressful area of higher education.

Research Design

A research design, the glue that clasps a research project together, shows how the major parts of a research project work together to address the central questions of the study (Trochim, 2006). According to Creswell-Plano Clark (2007), "a research *design* refers to the plan of action that links the (studies) philosophical assumptions to specific methods" (p.4). In this study, a non-experimental, descriptive, correlational design was used.

The proposed study was: (a) *non-experimental*, an intervention was not deliberately being introduced to observe its effects (Shadish, Cook, & Campbell, 2002), (b) *descriptive*, the research data described characteristics about the population being studied, yet did not describe a *causal relationship* between the variables within the study and (c) *correlational*, it "simply [observed] the size and direction of a relationship among variables" (Shadish et al., 2002, p. 12). A correlational study allowed me to examine relationships among and between the variables and measure the statistical and practical significance of those relationships. Therefore, this was an appropriate research method for the research questions investigated within this study (Tabachnick & Fidell,

2006).

This study described the family status, year in school, type of sport, and scholarship classification of the female student-athlete. Then, a causal-comparative aspect was added to identify the factors of social support and athletic identity as it compared to each group and the health risk behaviors that have been identified as high risk. The final part of the design was a correctional element to analyze the relationships of the predictor variables and all of the criterion variables.

The University of Oklahoma is a data-rich site due to many representations of team and individual sports. This population is also data-rich since many teams are highly competitive and are nationally ranked in the top 25 in NCAA Division I athletics. Pressures within Division I athletics have been noted from previous research (Humphrey et al., 2000; Lee & Loke, 2005). Therefore, this competitive environment could cause the variables in this study to be intensified. If this is the case, a difference in programming efforts may be needed in dealing with Division I student-athletes.

Given the above mentioned, the following questions guided this research:

Research question 1: What is the relationship among social support, athletic identity and the health risk behaviors for female student-athletes?

Research H_1: There is a relationship among social support, athletic identity and the health risk behaviors for female student-athletes.

Research question 2: Are there differences in the types of health risk behaviors and psychosocial variables reported by group 1 and group 2? (Group 1: softball, basketball, volleyball, rowing and soccer. Group 2: golf, tennis, track and gymnastics).

Research H_2: There are differences in the types of health risk behaviors and psychosocial variables reported by group 1 and group 2. (Group 1: softball, basketball, volleyball, rowing and soccer. Group 2: golf, tennis, track and gymnastics).

Research question 3: Are social support and athletic identity scales predictors of female student-athletes self-reported health risk behaviors and GPA?

Research H_3: Social support and athletic identity scales, are predictors of female student-athletes self-reported health risk behaviors and GPA.

Participants

The sample for this study included female student-athletes from the University of Oklahoma. Approval from the Institutional Review Board (IRB) was granted for this institution to be utilized in this study. Efforts were made to survey all of the female student-athletes who volunteered to participate, which resulted in representativeness in terms of family status, year in school, and type of sport and classification of scholarship.

In an effort to gather the most complete data, the entire population of the female student-athletes was targeted. If there was 100% participation, around 250 female student-athletes would participate in the study. The actual response from the sample consisted of 190 female student-athletes and was sufficient to provide insight and data about the health risk behaviors of female student-athletes in Division I athletics. The sample was formed into two groups by type of sport. Group one was considered a team

sport and included: softball, basketball, volleyball, rowing and soccer. Group two was considered an individual sport and included: golf, tennis, track, and gymnastics. The researcher believes that differences in the social support and athletic identity between a female student-athlete in a team sport versus an individual sport may exist. For example, research has shown that team sport athletes may reach out to their teammates more often while individual sport athletes may look to a more personal support system. The notion also exists that pressure is intensified in individual sports because more pressure may be on the particular individual to perform and not have the option to lean on a teammate's performance. With this aspect in mind, the athletic identity may be affected. In regards to the appropriate sample size for this study, Knapp and Brown (1995) recommend at least ten participants per variable in a research design or that the number of participants "should exceed the number of variables by at least 50" (p. 466). Green (1991) suggests the formula $N > 50 + 8m$ (where m is the number of IVs) to determine regression sample sizes. This study included the following variables: social support, athletic identity, and health risk behaviors. Therefore, according to Green an appropriate size for this study was 66 participants. According to Harris (1985), it is suggested that the number of participants should exceed the number of predictor variables by 50 (i.e., ten participants x three variables = 30 participants, or three variables+ at least 50 participants = 53).

Demographics

The total sample was comprised of 190 female student-athletes from the University of Oklahoma. A demographic information questionnaire was developed for this study in order to obtain information on the female student-athlete's family status,

year in school, type of sport, and scholarship classification. Type of sport was identified as either a team sport participant or an individual participant. Team sports consisted of softball, basketball, volleyball, rowing and soccer. Individual sports consisted of golf, tennis, track and gymnastics.

Scholarship classification had three areas: full, partial, and non-scholarship. This information was then used to formulate a health risk behavior profile of the female student-athlete population. Through this profile, coaches, trainers and staff may be able to identify potential problems when understanding the possible predisposing factors as well as health risk behaviors that this population exhibits. This data was used for descriptive statistics of the population. Of the 190 participants in this study, 65% were team sport participants, and 35% were individual participants. Sixty percent of respondents were on full scholarship, 28% were partial scholarship, and 12% were non-scholarship student-athletes. Thirty two percent were sophomores, 24% were freshman, 22% were juniors, 18% were seniors and 2 % were redshirt freshman and fifth year seniors. See Table 3.1 for the demographic information on this population that will highlight family status, year in school, type of sport and type of scholarship.

Table 3.1 General Demographic Information

	N	%
Family status		
Single	188	.98
Married	2	.02
Separated	0	0
Divorced	0	0
Year in School		
Redshirt Freshman	3	.02
Freshman	45	.24
Sophomore	60	.32
Junior	42	.22
Senior	36	.18
Fifth Year Senior	4	.02
Medical Hardship	0	0
Type of Sport		
Team	123	.65
Individual	67	.35
Scholarship		
Full scholarship	114	.60
Partial scholarship	53	.28
Non-scholarship	23	.12

Instruments

To discover some of the specific health risk behaviors, social support and athletic identity reported by female student-athletes, the instruments used in this study included:

(1) Demographic Information Questionnaire

(2) National College Health Assessment (NCHA)

(3) Social Support Questionnaire (SSQ6)

(4) Athletic Identity Measurement Scale (AIMS)

Athletic Identity Theory, Social Support Theory, Chickering's Identity Development Theory and Schlossberg's Transition Theory, were selected as the framework for this study since the focus is on the degree in which the female student-athlete identifies with the athletic role, stressors within that role and student development (Brewer et al., 1993).

Demographic Information Questionnaire

The total sample was 190 female student-athletes from the University of Oklahoma. A demographic survey was developed for this study to obtain information on the female student-athlete family status, year in school, type of sport, and scholarship classification. Type of sport was identified as a team sport participant or an individual participant. Scholarship classification had three areas: full, partial, and non-scholarship (Appendix A).

National College Health Assessment (NCHA)

The National College Health Assessment (Appendix B) is designed to yield self-reported data on personal patterns of participation in a variety of health risk behaviors. This assessment helped identify the most common health and behavior risks affecting a female student-athlete's health behavior. The NCHA is divided into six categories of behaviors that contribute to the leading causes of mortality and morbidity in the United States. The six categories are as follows: (1) behaviors that result in unintentional and

intentional injuries, (2) tobacco use, (3) alcohol and other drug use, (4) sexual behaviors that contribute to unintended pregnancy and sexually transmitted diseases, including HIV infection, (5) dietary behaviors, and (6) physical activity. Sample questions asked included items such as "Within the last 30 days how often did you use alcohol?" "Within the last 30 days did you drive after drinking?" "How would you describe your weight?" In the year 2000, more than 825,000 students and 550 colleges had already taken the survey. This survey has continued to be given every year and has grown to become an established and well-regarded tool to present the real picture of college student health (American College Health Association, 2012). Reliability and validity was evaluated by using the National College Health Risk Behavior Survey, the Harvard School of Public Health, and the ACHA-NCHA study. Cronbach's alpha which is an estimate of internal consistency (Santos, 1999) was .78 for the present study.

Social Support Questionnaire (SSQ6)

The Social Support Questionnaire (Appendix C) was used to measure the extent of the female student-athlete's support system. This questionnaire is a shorter version of the 27-item Social Support Questionnaire that has been validated in the undergraduate student population and consists of a 12-item questionnaire. Each item in the SSQ6 assesses 2 dimensions. The first part measures the number of available "others" or sources to which a female student-athlete feels she can depend on in a stressful situation. The second part assesses the degree of satisfaction the female student-athlete has with each available source of support. Six questions were asked in order to identify whom the female student-athlete can rely on and trust and also how satisfied she was in the support. The support was measured by questions such as "Whom can you really

count on to be dependable when you need help?" After the question was completed, the satisfaction element, "How satisfied are you with this support?" was answered. The social support for all questions can come from family and/or friends. Using a 6-point Likert scale (1 = very dissatisfied, 6 = very satisfied) female student-athletes indicated their level of satisfaction with the different forms of support help they receive. The number of sources for support was calculated as well as a satisfaction score. Internal consistencies for the SSQ6 have been reported as ranging from .93 to .96 (Sarason et al., 1990). The Cronbach's alpha was .86 for the present study.

Athletic Identity Measurement Scale (AIMS)

The AIMS (Appendix D) was used to measure the strength and exclusivity of identification to the athletic role (Brewer et al., 1993; Brewer et al., 2001). The AIMS consists of a 7-item measure scored on a 7-point Likert scale ranging from 1 (i.e., strongly disagree) to 7 (i.e., strongly agree). AIMS scores can range from 7 to 49. Higher scores reflect greater identification with the athletic role. The instrument, which assesses athletic identity, includes such items as "Sport is the most important part of my life," and "I spend more time thinking about sport than anything else." Internal consistency has been reported to be high with an alpha coefficient of .93. Test-retest reliability over a 2-week period was reported as .89 (Brewer et al., 1993). As evidence of construct validity, Brewer et al., (1993) found AIMS scores to be highly correlated with scores on the Importance of Sports Competence Scale of the Perceived Importance Profile. Brewer et al., (1993) has also provided theoretically meaningful convergence and divergence with other measures (Grove et al., 2004). The Cronbach's alpha was .79 for this study. In every study there is a need for validity and reliability (Strube, 2004).

Validity. In searching for a shorter instrument to assess social support, the Social Support Questionnaire (SSQ6) was developed. The SSQ6 is the shortened version of the 27-item original questionnaire the SSQ, which was developed by Sarason et al., (1983). In the developmental process of the short form of the social support questionnaire, many factors were tested. Several studies with university students showed high correlations within the short form of the social support form to the original questionnaire. Test-retests showed high validity in the short form and correlations were similar to the longer version of the questionnaire. The SSQ6 has high correlations to the full scale SSQ and psychometrically it is sound and is an acceptable substitute for the SSQ. It must be noted that this data was tested and obtained within a college student population. The SSQ has been used within a clinical setting but the variables and differences were obtained in a consistent manner used in the original validation work. Internal reliability was found to be high and acceptable for an instrument with so few items at .82. The research findings of the short form are that it is valid and reliable especially within the college aged population.

Throughout this developmental process the social support aspects within this instrument were found to highly relate to one another. Criterion validity tests show a significant negative correlation between the SSQ6 and a depression scale (ranging from -0.22 to -0.43), and correlations of 0.57 and 0.34 were obtained between an optimism scale and the satisfaction score and the number score, respectively (Sarason et al., 1983). The number scores yielded an inter-item correlation ranging from 0.35 to 0.71 (m=0.54). The Cronbach's alpha for internal reliability was 0.97. The inter-item correlations for the satisfaction scores ranged from 0.21 to 0.74, and the coefficient

alpha was 0.94. Test-retest correlations of 0.90 for overall number scores and satisfaction scores of 0.83 were obtained (Sarason et al., 1983). To examine the athletic identity of athletes, Brewer, Van Raalte, and Linder (1993) developed the Athletic Identity Measurement Scale (AIMS). The original version of the AIMS contained eleven items, which soon was shortened to ten items. At first the AIMS was meant to be uni-dimensional structure. Findings were discovered in two new exploratory factor analyses in purely sport samples (Brewer et al., 1993; Hale, James, & Stambulova, 1999) which revealed a multidimensional three-factor solution. Brewer and Cornelius (2001) have developed the most recent version, which contains seven items instead of ten items. These seven items account for three constructs, namely social identity, exclusivity, and negative affectivity. Social identity refers to the extent to which the individual views him/herself as occupying the role of the athlete (Brewer et al., 1993; Hale et al., 1999). Exclusivity refers to the extent to which an individual's self-worth is determined solely by performance in the athlete role. Negative affectivity refers to the extent to which an individual's experiences negatively affect them and are in response to undesirable outcomes in the sport domain (Hale et al., 1999).

Instrument Reliabilities. In analyzing data from surveys the scales must be determined, and then theoretical relationships among the scales can be analyzed (DeVellis, 2003). Scale quality, face validity and scale consistency are assessed in this research by using Cronbach's alpha (Santos, 1999). Instrument reliabilities were computed for all instruments used in this study. Cronbach's alpha reliability coefficient and corrected item-total correlations were used to determine the internal consistency of items in the instrument and items whose removal should be considered (DeVellis, 2003;

Thorkildsen, 1988). All instruments in this study had reliabilities of .78 or greater.

Variables of Interest

Many variables were examined in this study. Variables consist of predictor and criterion variables that may affect the findings in this study. The predictor variables were selected due to the importance of social support and athletic identity within this population. For this study, social support was defined as knowing that one is loved and others will do all they can when a problem arises (Sarason et al., 1990). Athletic identity was defined as the degree to which an individual identifies with the athletic role (Brewer et al., 1993). The criterion variables which are the health risk behaviors were studied because of the significance within these variables in past studies. Demographic variables are identified in order to help provide a profile of the female student-athlete and their health risk behaviors. All variables studied include the following:

Demographic: family status, year in school, type of sport, classification of scholarship

Predictor Variables: social support, athletic identity

Criterion Variables: total health risk behavior (alcohol use, anxiety, depression, eating disorders, marijuana, sexual activity, stress, suicide, tobacco) and GPA (Appendix E).

For the first research question and its related hypotheses, the variables tested were social support, athletic identity and the health risk behaviors to determine if there were significant statistical relationships amongst any of the variables. Likewise, the second research question and its related hypotheses, the variables tested were the health risk behaviors to see if there were any significant differences between groups 1 and 2.

The third research question and its related hypotheses, the variables tested were to identify if social support and or athletic identity were predictors of health risk behaviors and GPA.

Data Collection

Procedures were utilized to ensure the confidentiality of the information that was shared by the participants. In addition, the study proposal was approved by the University of Oklahoma Institutional Review Board (IRB) of the Norman campus on October 19, 2011. The data collection packet was distributed to volunteer female student-athletes during the spring semester 2012 at team meetings. All packets included a consent form for study participation, a demographic information questionnaire, the SSQ6 (the social support questionnaire, short form), the AIMS (athletic identity measurement scale) and the National College Health Assessment (NCHA). Participants completed survey forms during a designated team meeting and placed them into the envelope provided. Participants then took the envelope and placed it in a sealed box. All consent forms were then collected separately in a second box on site by the researcher. By this process, the researcher could not associate responses with individual study participants.

The researcher collected all of the survey responses on site so that participants were assured that no one other than the researcher had access to the raw data. If exceptions occurred, due to any difficulty in the researcher meeting with any of the college teams, the packets would then be given to assistant coaches to administer. In this study, the researcher administered all surveys.

Data Analysis Strategy

The data for this study was analyzed using the Statistical Package for Social Sciences 19 (IBM Corp, 2010). Descriptive statistics, Pearson correlations, ANOVA, MANOVA, and multiple regression statistical tools were utilized to analyze the data for this study. Frequencies and percentages were calculated for all of the demographic variables so that there was a good sense of the overall profile of the female student-athletes. Means and standard deviations were also calculated for all continuous variables. Descriptive statistics provided information on frequency distribution and means on the demographic data. Inferential statistics allowed me to estimate the probability that our findings could be generalized back to the population of interest. Pearson correlations were run to identify the relationships among the variables. The Analysis of Variance (ANOVA) was used to determine differences in means among groups where appropriate. The Multivariate tests (MANOVA) was performed when there was > 1 criterion variables. MANOVAS were performed for the subscale variables in social support, athletic identity and health risk behavior. Multiple Regression was utilized to identify if the predictor variables, social support and athletic identity, had a relationship with either of the criterion variables of GPA and health risk behavior (HRB). The result was a variable by variable record of the portion (partial r^2) of overall model variance (adjusted r^2) accounted for in the two criterion variables (GPA and HRB) by both predictor variables (Social Support and Athletic Identity).

Question 1 was determined by correlations which were used to identify the direction and strength of relationships between variables. Correlational "simply expresses the strength and direction of the relationship between two variables" (Glaser,

2005, p. 49). Significant correlations were examined within this relationship. These correlations among variables were identified as strong, moderate or weak. For example, if r is >.7 this indicates a strong correlation, if r>.35-.69 this indicates a moderate correlation, and if r>.10-.34 this indicates a weak correlation (Abrami, Cholmsky, & Gordon, 2001).

Question 2 was discovered through an Analysis of Variance (ANOVA) and Multiple Analysis of Variance (MANOVA) to make these comparisons. The ANOVA and MANOVA were used to analyze the data to see if different health risk behaviors had a detectable effect for the two groups on any of the variables being tested. Means and standard deviations were reported for all of the study variables (Mertens, 2005). Also variables included in the MANOVA were the components of the Social Support Scale: social support quality and social support quantity, as well as components of the Athletic Identity Measurement Scale: SI (social identity), EX (exclusivity), and NA (negative affectivity).

Question 3 was determined by using the multiple regression analysis. Multiple regression statistics were executed in order to determine if the Social Support Scale and the Athletic Identity Measurement Scale could be predictors of the health risk behaviors reported by the female student-athletes and their GPA. These statistics were then entered in the regression model as predictor variables (Huberty & Petoskey, 2000). Criterion variables that were used in this regression included GPA and the total health risk behavior score which consisted of: alcohol use, anxiety, depression, eating disorders, marijuana, sexual activity, stress, suicide, and tobacco.

Strengths for this study included the previous research, numerous variables and

instruments being evaluated and theories that support the statements and provide consistency to the findings. All of these analyses combined may help to increase insight and possibly help decrease the biases that could occur by using one single method (Ary, Jacobs, Razavich, & Sorenson, 2006; Huberty et al., 2000). The goal in utilizing these theories was to include different perspectives and possibly test the various theories within that population. Using the various strategies of analysis in this study will strengthen the overall research design and help to increase the ability to interpret the findings within this population (Thurmond, 2001). In the next chapter, I report the results of each of the three research questions for this study.

Chapter 4

Results

As stated in Chapter 1, the purpose of this study was to examine the health risk behaviors of female student-athletes and the connection these behaviors have to athletic identity and social support. The research examined the differences in the type of sport (team or individual), any significant correlations between variables and any significant predictors of health risk behaviors.

This chapter is the presentation of the results from the statistical analysis of data gathered. After the collection of the data using the demographic sheet, The National College Health Assessment (NCHA), the Athletic Identity Measurement Scale (AIMS) and the Social Support Questionnaire (SSQ6), several statistical procedures were used to explore the research questions. Means, standard deviations and percentages are used to describe the sample. Analysis of Variance (ANOVA) and Multiple Analysis of Variance (MANOVA) were used to identify group differences based on type of sport, and associations between variables were evaluated using the correlations and multiple regression. Statistical Package for Social Sciences 19 (SPSS) was the data analysis program used in this study. All data was entered into the computer by the researcher and was reviewed by visual inspection after entry. Through analysis of each question, certain aspects of the relationships were revealed.

Preliminary Data

Surveys were distributed to approximately 250 female student-athletes at a Division I university. These surveys were a pencil-and-paper format, with an informed consent coversheet, a demographic information questionnaire, the National College Health Assessment, the Athletic Identity Measurement Scale, and the Social Support

Questionnaire. Surveys were distributed prior to the start of a student-athlete team meeting, and either at the particular sport complex or in the athletic department's academic center. In all, 190 surveys were collected or returned to the researcher. Two survey packets had little more than demographic information completed and thus removed from the dataset. Fourteen survey packets had complete information up to, but not including, the NCHA. These cases were not included in any analyses since much of the research was compiling information from this particular instrument. After examining the demographic information questionnaire to ensure a representative sample was obtained, and reviewing the specifications set forth by the research questions, it was determined that enough cases were collected for meaningful analyses. Cronbach's alpha was performed to examine the internal consistency for both the Social Support Questionnaire and the Athletic Identity Measurement Scale (Santos, 1999). The Social Support Questionnaire consisted of two components, the quantity of social support and the quality of social support. The alphas for both subscales are given as well as the alpha for the entire scale (see Table 4.1). The Athletic Identity Measurement Scale consisted of three components which are social identity (SI), exclusivity (EX), and negative affectivity (NA). The alphas for the subscales are given as well as the alpha for the entire scale (see Table 4.2).

Table 4.1

Social Support Questionnaire Statistics

Scale	# of items	Mean	SD	Alpha
SS Total	12	54.78	10.39	.863
SS Quantity	6	23.82	7.83	.875
SS Quality	6	30.96	5.05	.918

Note: N=190

Table 4.2

Athletic Identity Measurement Scale Statistics

Scale	# of items	Mean	SD	Alpha
AIMS Total	7	39.58	5.63	.786
SI	3	19.05	2.40	.728
EX	2	9.43	2.82	.773
NA	2	11.10	2.40	.766

Note: N=190

Cronbach's alpha is the most commonly used measure of reliability. When the number of the alpha is higher, then the scale is more reliable. Nunnaly (1994) has indicated 0.7 to be an acceptable reliability coefficient yet lower coefficients have been found in the literature.

General Demographics/Descriptive Statistics

The age of the sample is 18-22 which is representative of the female student-athlete of the population. The sample consisted of 190 student-athletes with a mean age

of 20 years. The team sport participation in this study included 65% (n=123) of the sample; and 35% (n=67) participated in individual sports. This distribution in percentages was expected because team sports usually have larger numbers of participants determined by the nature of their sports. Additional descriptive statistics related to family status, year in school and scholarship status are represented in Table 4.3.

Table 4.3 General Demographic Information		
	N	%
Family status		
Single	188	.98
Married	2	.02
Separated	0	0
Divorced	0	0
Year in School		
Redshirt Freshman	3	.02
Freshman	45	.24
Sophomore	60	.32
Junior	42	.22
Senior	36	.18
Fifth Year Senior	4	.02
Medical Hardship	0	0
Type of Sport		
Team	123	.65
Individual	67	.35
Scholarship		
Full scholarship	114	.60
Partial scholarship	53	.28
Non-scholarship	23	.12

Table 4.4 shows the means and standard deviations for all of the study variables for the total sample. The minimum and maximum score are displayed per variable to show how the variable related to the max score for that particular variable.

Table 4.5 shows the means and standard deviations for all of the study variables and the differences between the two study groups.

Table 4.4 Means and Standard Deviations of Study Variables (Total Sample)

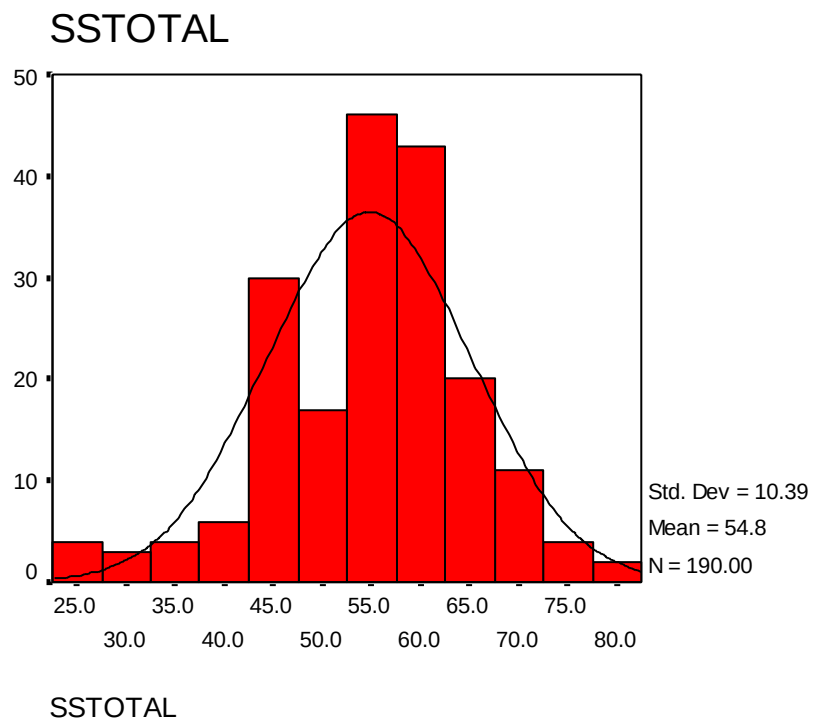
Variable	*M*	*SD*	Max Possible Score	Min	Max
Alcohol Habits	9.62	3.22	18	0	14
Alcohol Use	6.70	3.39	12	0	10
SI	19.06	2.49	21	3	21
EX	9.43	2.48	14	2	14
NA	11.1	2.40	14	2	14
AI Total	39.58	5.62	49	16	49
Depression	1.71	2.27	15	0	12
Drug Use	.82	1.19	7	0	7
Eating Disorder	.25	.93	7	0	7
GPA	2.97	.70	4	2	4
HRB	265.35	34.75	375	169	347
Marijuana	.63	1.02	7	0	6
Mental Health	15.52	8.27	44	0	42
Sexual Activity	4.37	2.95	10	0	10
SSQuality	30.96	5.05	36	6	36
SSQuantity	23.82	7.83	54	4	42
SS Total	54.78	10.39	90	23	78
Suicide	.22	.77	11	0	5
Tobacco Use	.39	1.05	10	0	6

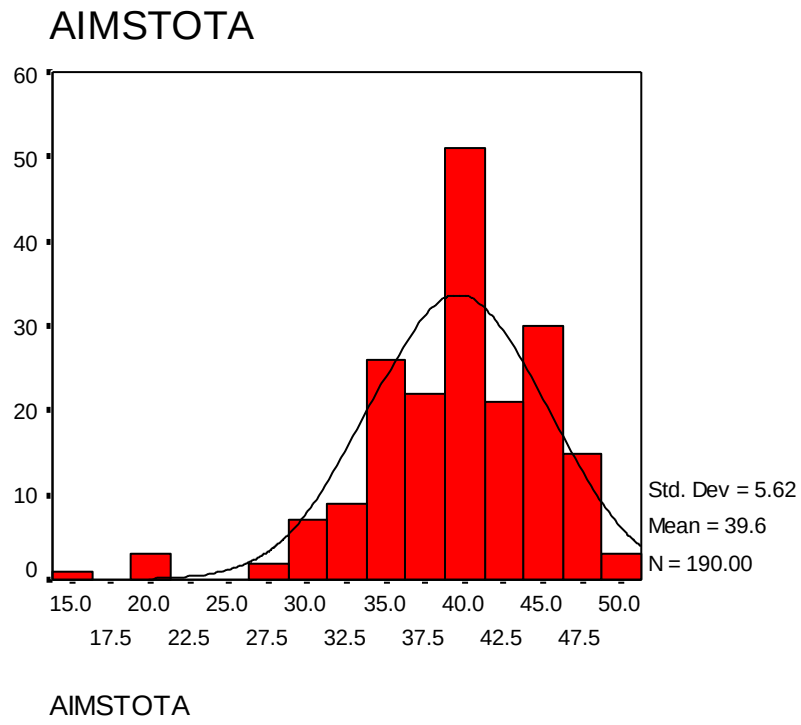
Table 4.5 Means and Standard Deviations of Study Variables (Between Groups)					
	Team		Individual		
Variable	*M*	*SD*	*M*	*SD*	Max Possible Score
Alcohol Habits	10.11	2.59	8.72	3.99	14
Alcohol Use	7.18	3.48	5.81	3.43	12
SI	19.34	2.15	18.52	2.75	21
EX	9.06	2.21	10.12	2.80	14
NA	11.03	2.33	11.22	2.53	14
AI Total	39.43	4.80	39.97	6.90	49
Depression	1.69	2.01	1.75	2.71	15
Drug Use	.81	1.01	.82	1.39	7
Eating Disorder	.20	1.19	.48	1.33	7
GPA	2.98	.75	3.02	.59	4
HRB	276.07	33.43	281.88	42.13	375
Marijuana	.72	1.13	.48	.79	5
Mental Health	14.98	7.62	16.51	9.32	44
Sexual Activity	3.30	2.01	2.87	2.12	7
SSQuality	30.17	5.31	32.42	4.17	36
SSQuantity	22.94	7.80	25.45	7.68	54
SS Total	53.11	10.47	57.87	9.56	90
Suicide	.27	.89	.13	.46	11
Tobacco Use	.41	1.11	.36	.92	6

Measures of Central Tendency and Normality

I examined variable descriptive statistics and distributions to analyze skewness and kurtosis for The Social Support Questionnaire and The Athletic Identity Measurement Scale, which both were in acceptable ranges. The skewness for both scales was negative which indicated that a large majority of the participants scored on the high end of the scale (Abrami et al., 2001). The Social Support Questionnaire values were: skewness = -.535, standard error of skewness = .176, kurtosis = .651. The Athletic Identity Measurement Scale values were: skewness = -1.075, standard error of skewness = .176, kurtosis = 2.521. The implication of skewness is dependent upon the

test, the population and the sample size. In this study, it would be contradictory to the Social Support Theory and Athletic Identity Theory for the female student-athletes to be normally distributed across all aspects of the scales. Central Tendency and normality of the Social Support Scale and Athletic Identity Measurement Scales are below:





Results of Research Questions

The purpose of this research was to determine the existence and nature of the relationships between social support, athletic identity and health risk behaviors among female student-athletes. Three research questions were designed to examine the purpose of this study. Through analysis of each question, certain relationships were discovered. The following paragraphs will show the results of the research questions.

Question 1

What is the relationship among social support, athletic identity and the health risk behaviors for the female student-athletes?

This question was addressed by testing the hypotheses H_1: there is a relationship between social support, athletic identity and health risk behaviors for the female student-athletes. This was answered by examining the correlations between the total health risk behavior scores, the Athletic Identity Measurement Scale and the Social

Support Questionnaire. The Pearson product-moment correlation coefficients (typically denoted by *r* and also referred to as Pearson's *r*) were calculated to determine the strength and direction of the relationships among these variables. The p value of the Pearson r for this study is a .05 level (2-tailed) of significance (Ary et al., 2006). The significant correlations for the total sample are shown below. Note: Correlations (r) among variables are identified as strong, moderate or weak. If r is > .7 this indicates a strong correlation, if r is > .35 - .69 this indicates a moderate correlation, and if r is > .10 - .34 this indicates a weak correlation. In the correlation table below the findings are noted with ** which is significant at p<.01 level, and those significant at p<.05 level are noted with *, strong to moderate are bolded.

Correlations- Table 4.6

Variables	1	2	3	4	5	6	7	8	9	10
1.Sport	-	.047	**.320****	.037	.030	.017	-.111	-.011	-.156*	.153*
2.GPA	.047	-	**.332****	.016	.113	.059	-.259**	.081	-.111	.062
3.SSTOT	.220**	**.332****	-	-.005	-.118	-.044	-.273**	**.324****	-.159*	-.004
4.AITOT	.037	.016	-.005	-	**.335****	.223**	-.058	**.441****	**.307****	.065
5.Stress	.030	.113	-.118	**.335****	-	.507**	.008	**.352****	.168	.093
6.Depr	.017	.059	-.044	.223**	**.507****	-	.008	**.352****	.114	.281**
7.Marijuana	-.111	-.259**	-.273**	-.058	.008	-	-.010	**.362****	**.306****	.085
8.HRB	-.011	.081	**.324****	**.441****	**.352****	**.362****	.120	-	**.445****	.017
9.Alcohol	-.156*	-.111	-.159*	**.307****	.149*	.134	**.306****	**.445****	-	-.049
10.Eating Disorders	-.153*	.062	-.004	.065	.093	**.301****	.085	.017	-.049	-

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

Many of the variables had moderate to weak correlations. Strong correlations are

shown with many of these variables and Total Risk because these variables were a part of the equation that was used to derive the Total Risk variable. From the tables above the moderate to strong correlations that were significant included: 1). *Sport* and: social support; 2). *GPA* and: social support and marijuana (which was negative); 3). *Social Support* and: GPA, HRB and marijuana (which was negative); 4). *Athletic Identity* and: stress, depression, HRB, and alcohol; 5). *Stress* and: depression and HRB; 6). *Marijuana* and: alcohol; 7). *Depression* and: athletic identity, stress, HRB, and eating disorder; and 8). *HRB* and: social support, athletic identity, stress, depression and alcohol.

Question 2

Are there differences in the types of health risk behaviors and psychosocial variables reported by group 1 and group 2? (Group 1: softball, basketball, volleyball, rowing and soccer. Group 2: golf, tennis, track and gymnastics).

This question was addressed by testing the hypotheses H_2: there are differences between the types of health risk behaviors and psychosocial variables reported by group 1 and group 2. An initial ANOVA procedure was performed testing for group differences between Group 1 and Group 2 using the means and standard deviations of the health risk behavior variables and the variables that were from the instruments of Athletic Identity (SI, EX, NA) and Social Support (Quality and Quantity of Social Support). This analysis was performed as a preliminary analysis to screen for significance. Although considered an extra step to complete prior to the regression analysis, this researcher was distinguishing general significance of the relationships at hand. The ANOVA model met the requirements for the Levene's Statistic, testing for

homogeneity of variances. If the resulting p-value of Levene's test is less than some critical value (typically 0.05), the obtained differences in sample variances are unlikely to have occurred based on random sampling (Mertens, 2005; Ary et al., 2006). Thus, then it is concluded that there is a difference between the variances in the population (Mertens, 2005). After running the ANOVA for the obvious variables of difference, the MANOVA was performed since there were many dependent variables that looked to have possible significance in the differences between groups (Abrami et al., 2001).

Below are the significant results ($p < .05$) of the ANOVA and MANOVA procedures which were used to show the differences between groups. The groups were categorized as follows: Group 1 = team sport (softball, basketball, volleyball, rowing, and soccer); Group 2 = individual sport (golf, tennis, track, and gymnastics). Table 4.7 displays the results of the ANOVA by group and Table 4.8 displays the descriptive statistics.

Table 4.7 Results of ANOVA by Group

Variable	F-Value	P-Value	Between group differences
Alcohol Use	6.805	.010	1>2
Eating Disorder	4.550	.013	2>1

Note: significance at the $p<.05$ level

ANOVA

Alcohol

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	81.752	1	81.752	6.805	.010
Within Groups	2258.543	188	12.014		
Total	2340.295	189			

ANOVA					
Eating Disorder					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	5.239	1	5.239	6.288	.013
Within Groups	156.635	188	.833		
Total	161.874	189			

Table 4.8 Descriptive Statistics			
Variable	*Mean*	*SD*	N
Alcohol Use	6.69	3.51	190
Eating Disorder	.1158	.73	190

⋆Note means and standard deviations per total sample and sport were reported in Table 4.4 and 4.5.

From the ANOVA's reported, Group 1 (team sport) reported significant higher levels of alcohol use than group 2. Group 2 (individual sport) reported significantly higher levels than group 1 in eating disorders.

Prior to conducting the MANOVA, a series of Pearson correlations were performed as can be seen in Question 1 of this study. Many variables were correlated in a moderate range (Ary et al., 2006). Once a meaningful pattern was found within these correlations this suggests that a MANOVA could be run. Also the Box's M value was found to have a p value of .005 which followed the guideline of Petoskey's (2000) of $p<.005$. A one-way multivariate analysis of variance (MANOVA) was conducted to test the differences between the dependent variables (SI, EX, NA, Athletic Identity Total, SSQuality, SSQuantity, Social Support Total, HRB, GPA) and the two groups of sport type (i.e.: Team sport versus Individual sport). A significant MANOVA effect was

reported by Pillais' Trace = .30, F(5, 184) = 7.011, P< .001. The multivariate size was estimated at .16, which implies that 16% of the variance was accounted for by sport type. Below is Table 4.9 which shows the results of the MANOVA with the significant findings of the variables.

Table 4.9 One-way ANOVA's

Variable									
	Levene's		ANOVAs			Team		Individual	
	F	*p*	F	*P*	N^2	*M*	*SD*	*M*	*SD*
GPA	7.71	.006	.425	.515	.002	2.98	.75	3.04	.58
HRB	7.70	.006	.022	.882	.001	175.6	25.3	174.9	32.1
AITotal	6.63	.011	.259	.612	.001	39.43	10.4	39.86	9.5
SI	6.10	.015	5.12	.024	.027	19.34	2.1	18.5	2.7
EX	5.36	.022	8.25	.005	.042	9.0	2.2	10.1	2.8
NA	.110	.740	.275	.601	.001	11.0	2.3	11.2	2.5
SSQuan	.675	.412	4.56	.034	.024	22.9	7.7	25.4	7.6
SSQual	1.36	.162	8.95	.003	.045	30.1	5.3	32.4	4.1
SSTotal	1.97	.245	9.52	.002	.048	53.1	5.4	57.8	6.1

Note. N=190, N^2 = Partial eta squared.

From the MANOVA in Table 4.9 significant differences were found between groups as follows:

(1) Reported Social Identity was greater in the Team sport than the Individual sport.

(2) Reported Exclusivity was greater in the Individual sport than the Team sport.

(3) Reported Social Support Quantity, Social Support Quality and Total Social Support, was higher in the Individual sport than the Team sport.

Question 3

Are social support and athletic identity scales predictors of female student-athlete self reported health risk behaviors and GPA?

This question was addressed by testing the hypotheses H_3: social support and athletic identity scales are predictors of the female student-athletes self reported health risk behaviors and GPA. Multiple regression statistics were executed to determine if the Social Support Questionnaire and the Athletic Identity Measurement Scale could be predictors of the health risk behaviors and GPA reported by the female student-athletes and were entered in the regression model as independent predictor variables. Two prediction models were formed. The first prediction model used the criterion variable GPA and predictor variables Social Support and Athletic Identity. The second prediction model used the criterion variable HRB and predictor variables Social Support and Athletic Identity. Both predictor variables were entered into the regression equation at the same time. Total scores for all of the variables were used and not any subscales. The components of the AIMS scale are: SI, EX, and NA; the components of the Social Support Questionnaire are: social support quality and social support quantity; and HRB variables are: alcohol habits, alcohol use, anxiety, depression, drug use, eating disorders, marijuana, sexual activity, stress, suicide, and tobacco.

Following are the findings of the regression models for criterion variables GPA and HRB with the predictor variables social support and athletic identity. Table 4.10, 4.11 and 4.12 will report the prediction output from the equation of social support and athletic identity as predictor variables and GPA as the criterion variable. Table 4.13, 4.14, and 4.15 will report the prediction output from the equation of social support and

athletic identity as predictor variables and HRB as the criterion variable.

Table 4.10 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.333[a]	.111	.101	.661

a. Predictors: (Constant), AIMSTOTAL, SSTOTAL

Table 4.11 ANOVAb

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	10.182	2	5.091	11.636	.000[a]
	Residual	81.818	187	.438		
	Total	92.000	189			

a. Predictors: (Constant), AIMSTOTAL, SSTOTAL

b. Dependent Variable: GPA

Table 4.12
Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.689	.427		3.953	.000
	SSTOTAL	.022	.005	.332	4.818	.000
	AIMSTOT	.002	.009	.018	.261	.795

Table 4.13 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.549[a]	.301	.294	23.68843

a. Predictors: (Constant), SSTOTAL, AIMSTOTAL

Table 4.14 ANOVAb						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	45247.423	2	22623.711	40.317	.000[a]
	Residual	104933.530	187	561.142		
	Total	150180.953	189			

a. Predictors: (Constant), SSTOTAL, AIMSTOTAL

b. Dependent Variable: HRB

Table 4.15 Coefficientsa						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	38.867	15.300		2.540	.012
	SSTOTAL	.885	.166	.326	5.337	.000
	AIMSTOT	2.223	.307	.443	7.250	.000

a. Dependent Variable: HRB

From the tables above which reported the regression models, the following was found to be statistically significant:

(1) The variables social support and athletic identity accounted for approximately 11% of the variance as noted by the regression coefficient (R^2 = .111) in the criterion variable GPA. The test of the regression coefficient for this variable was statistically significant for the model, F (11.636), p = .000. The overall judgment for this hypothesis was that the social support predictor variable does account for a significant variation in the resulting GPA variable. The variable social support was the only significant predictor of GPA at *B*.332 which was considered a medium effect.

(2) The variables social support and athletic identity accounted for approximately 30% of the variance as noted by the regression coefficient

(R^2= .301) in the criterion variable HRB. The test of the regression coefficient for this variable was statistically significant for the model, *F* (40.317), *p* = .000. The overall judgment for this hypothesis was that social support and athletic identity predictor variables do account for a significant variation in the resulting HRB variable. The variable athletic identity was the strongest predictor at *B* .443 which was considered a strong effect and social support at *B* .366 which was considered a medium effect.

Three research questions were formed to examine the health risk behaviors of female student-athletes and the connection these behaviors have to the student-athlete's athletic identity and social support. The research attempted to examine the differences in the type of sport (team or individual), any significant correlations between variables and any significant predictors of health risk behaviors and GPA.

Summary

To summarize, the first research question asked about the relationship among social support, athletic identity and the health risk behaviors of the female student-athlete. This question was answered by examining the correlations between the total health risk behavior scores, the Athletic Identity Measurement Scale and the Social Support Questionnaire. The Pearson product-moment correlation coefficients were calculated to determine the strength and direction of the relationships among these variables. When $p<.05$ the relationship between variables was found to be significant.

The following strong to moderate correlations were identified:

(1) Sport had a moderate relationship with social support and a low but significant negative relationship with alcohol and eating disorders.

(2) GPA had a moderate to strong relationship with social support and a negative relationship with marijuana.

(3) Social support had a strong relationship with HRB and a low but significant relationship with marijuana and alcohol.

(4) Athletic identity had a strong and moderate relationship with stress, HRB and alcohol and a low but significant relationship with depression.

(5) Stress had a moderate relationship with depression and a low but significant relationship with alcohol.

(6) Marijuana and alcohol had a strong relationship with one another.

(7) Eating disorder and depression had a moderate relationship with one another.

To summarize the second research question asked if there were differences in the types of health risk behaviors and psychosocial variables reported by group 1 and group 2. (Group 1: softball, basketball, volleyball, rowing and soccer. Group 2: golf, tennis, track and gymnastics). An initial ANOVA procedure was performed testing for group differences between Group 1 and Group 2, and in a second step on this analysis a MANOVA was performed using the health risk behavior variables and the variables that were from the instruments of Athletic Identity (SI, EX, NA) and Social Support (Quality and Quantity of social support).

Significant ANOVA results are:

	Group 1		Group 2
Alcohol use	1>2, p=.010	Eating disorder	2>1, p=.013

Significant MANOVA results are:

(1) Reported Social Identity was greater in the Team sport than the Individual sport.

(2) Reported Exclusivity was greater in the Individual sport than the Team sport.

(3) Reported Social Support Quantity, Social Support Quality and Total Social Support, was higher in the Individual sport than the Team sport.

Research question 3 asked if the social support and athletic identity scales were predictors of female student-athlete self-reported health risk behaviors and GPA? Multiple regression statistics were executed to determine if the Social Support Scale and the Athletic Identity Measurement Scale could be predictors of the health risk behaviors and GPA reported by the female student-athletes and were entered in the regression model as independent predictor variables. Two regression models were formed using the totals of the Social Support Questionnaire (Social Support Quality, Social Support Quantity) and the Athletic Identity Measurement Scale (SI-Social Identity, EX – Exclusivity, NA– negative affectivity). One prediction model was using the criterion variable GPA and the second model was using HRB as the criterion variable.

From the results of the regression analysis, the Social Support Questionnaire was found to have 11% of the variance on GPA and had a moderate effect on the criterion variable. Both the Social Support Questionnaire and the Athletic Identity Measurement Scale were predictors of HRB, counting for 30 % of the variance on the criterion variable. The Athletic Identity Measurement Scale had a larger *B* than the Social Support Questionnaire but both were significant in the prediction model with HRB as the criterion variable.

The statistical analyses indicated several significant findings within the correlations, the differences amongst groups and significant predictors to health risk

behaviors reported by the female student-athletes. These findings, as suggested by theory, show that certain keys such as an academic and athletic environment, importance of athletic identity, importance of quality and quantity of social support, influence of peers, influence of coaches, and the presence of mentors may be linked to the overall health risk behaviors of female student-athletes. Support for additional theories in areas such as mental health, psychological help, and the intricacies and relationships of health risk behaviors, was provided by an in-depth analysis of information collected by the questionnaires, yet not directly related to the three research questions.

Chapter 5

Discussion and Implications

The purpose of this study was to examine the health risk behaviors of female student-athletes and the relationship these behaviors have to athletic identity and social support. The research examined the differences in the type of sport (team or individual), any significant correlations between variables and any significant predictors of health risk behaviors and GPA.

To fulfill this goal, three research questions were constructed exploring health risk behaviors from the National College Health Assessment, as well as the instruments of the Athletic Identity Measurement Scale and the Social Support Questionnaire. A quantitative study was designed using these original questionnaires to fulfill the purpose of the study. Analysis of the survey data included the statistical techniques of correlations, analysis of variance, multivariate analysis and multiple regressions. This chapter contains a summary, discussion, conclusions, implications along with speculations related to the study's findings, recommendations for future research, and also recommendations for athletic departments and their respective universities.

Summary of the Study

This study was conducted during the fall of 2011 and spring of 2012 with female student-athletes from all sports that were represented at the institution. The sample population was generated from a NCAA Division I athletics university. As presented in Chapter 3, all female student-athletes who were competing during either the fall of 2011 or spring of 2012 were asked to volunteer to participate in this study. The survey instruments consisted of the Demographic Information Questionnaire, the Social

Support Questionnaire (SSQ6), the Athletic Identity Measurement Scale (AIMS), and the National College Health Assessment (NCHA). All surveys were given in conjunction with either a team meeting or team practice. The researcher was the only person who administered these surveys.

Student-athletes' life experiences in college are quite different than their non-athlete peers. Since many of the student-athletes have a high athletic identity, and a strong commitment to their sport, this increases risk for feelings of isolation (Brewer et al., 2002). For this reason, it is imperative for those who work closely with the student-athletes to realize the culture and the pressures that the student-athlete may face during their competitive years in college. In response, this study attempted to provide data to examine how this pressure may lead to health risk behaviors and how the student-athlete's athletic identity and social support are linked to the health risk behavior as well. More specifically, this study examined the following about female student-athletes: (1) the relationships between the female student-athlete's health risk behavior and social support and athletic identity; (2) any differences between a team female student-athlete and an individual female student-athlete; and (3) if social support and athletic identity scales could be possible predictors to the health risk behaviors and GPA of female student-athletes.

Relationship among Social Support, Athletic Identity and Health Behaviors

To answer question one, Pearson Product correlations were conducted. Some strong correlations were found in the relationship among social support, athletic identity and the health risk behaviors of the female student-athletes. Many of the variables had moderate to weak correlations. The following strong to moderate correlations were

identified:

(1) Sport had a moderate relationship with social support and a low but significant negative relationship with alcohol and eating disorders.

(2) GPA had a moderate to strong relationship with social support and a negative relationship with marijuana.

(3) Social support had a strong relationship with Health Risk Behavior (HRB) and a low but significant relationship with marijuana and alcohol.

(4) Athletic identity had a strong and moderate relationship with stress, HRB and alcohol and a low but significant relationship with depression.

(5) Stress had a moderate relationship with depression and a low but significant relationship with alcohol.

(6) Marijuana and alcohol had a strong relationship with one another.

(7) Eating disorder and depression had a moderate relationship with one another.

The strongest relationship in health risk behavior found in this study was alcohol use; this is consistent with the findings from other studies on alcohol and the student-athlete population (Brenner et al., 2007; Mignano et al., 2006; Nattiv et al., 1997; Smith & McCauley, 1991; Thombs et al., 2002; Werch, Ross, Anzalone, & Meers, 1994; Zamboanga et al., 2008). From the studies of Brenner and Swanick (2007) it was found that student athletes abused alcohol and engaged in alcohol related health risk behaviors more frequently than nonathletes. This is consistent with the findings of Nelson et al., (2001), Buckman, Yusko, Farris, White, & Pandina (2007) and Wilson et al., (2004). All of these researchers found that student-athletes engaged more in binge drinking and

had more health risk factors due to the binge drinking than nonathletes. Student-athletes have also been known to engage in more risky behaviors like unprotected sex or heavy episode drinking (Brenner et al., 2007). College student-athletes consistently report riskier patterns of alcohol use compared to their non-athlete peers (Brenner et al., 2007). An interpretation of this finding is that this risk may be heightened due to the social environments, the physical and psychological stress and greater time constraints they have on them due to their athletic demands like practice times, team meetings and travel schedules (Brenner et al; Martens et al., 2006; Watson, 2002). It has been well-documented that stress is prevalent within the athletic population but how stress influences the student-athlete's behavior with alcohol use is still not well established (Wilson et al., 2004). Even though this population has more education on alcohol abuse they still are at high risk for alcohol abuse and health related activities that are associated with high alcohol consumption.

The findings of this study suggest that alcohol consumption is of great concern within the female student-athlete population. Other studies have shown that student-athletes in general are at higher risk for unhealthy behaviors in comparison to nonathletes (Brenner et al., 2007; Clark, 2008; Martens et al., 2006). More specifically, female student-athletes have more of a problem with alcohol and eating disorders than nonathletes (Nelson et al., 2001, Zamboanga et al., 2008). A comparative study between student-athletes and nonathletes and their reported health behaviors, is an area for future reference and was beyond the scope of this study. Among the student-athlete population it has also been suggested that first-year student-athletes are more prone to the impact of these influences because of their lack of experience in coping with all of the demands of

college athletics (Giacobbi et al., 2004; Pascarella et al., 1995; Pascarella et al., 1999). Another interpretation of the findings in this study is that the transition into the first-year is critical for these female student-athletes because moving from a familiar environment to a new environment increases likelihood of moving from senses of mattering to marginality (Sargent et al., 1988). In a familiar environment, roles and expectations are clear.

There was a moderate link found between depression and stress in the female student-athletes in this study. Though a moderate relationship in this study, the findings remain consistent with studies on depression and stress for this age group (Armstrong et al., 2009; Mentink, 2002; Selby et al., 2004; Storch et al., 2008). As was stated in the literature review, research has shown that the most common emotional problem among student-athletes is depression, followed by abuse of alcohol or other drugs (Pascarella et al., 2005; Perrelli, 2004**)**. Literature also shows that female student-athletes, when under times of duress, experience the development of depression, whereas males may invest in more alcohol and drugs at this time (Buckman et al., 2011; Yusko et al., 2008). It has also been noted that depression and suicide are major concerns in this developmental time of this college age group and both behaviors are closely related to self-esteem (Armstrong et al., 2009; Cox et al., 2003).

The study done by Yusko et al., (2008) stated that the number one health risk behavior that student-athletes have significantly different than nonathletes is in the area of stress. An interpretation of this finding within this study is consistent with the fact that studies show depression is becoming an issue within this population (Armstrong et al., 2009; Metnink, 2002). Despite the research done by Brewer et al., (1993), student-

athletes may be at more risk for depression and still more research needs to be done within this population on this issue. In the study done by Alfermann et al., (2000) anxiety and depression are linked and more research would be warranted to see the significance of depression and the female student-athlete population.

The finding of the significance of depression and anxiety in this population is consistent with the research on female student-athletes and the point that they are more prone to depression and anxiety than their counterparts. Studies done by Armstrong and Early (2009) suggest that depression within the female student-athlete population can be addressed and by utilizing the social connectedness of their teams. When looking at depression and the risks of this emotion, much needs to be understood. An interpretation of the finding from the literature on the significance of depression and anxiety within this study is that so often female student-athletes feel that if they voice their feeling of anxiety or depression, it will make them look weak and possibly compromise their spot on the team (Tusak, 2006). Through the literature it has been stated that anxiety could come in many forms for the female student-athlete. This could occur from injury, the fear of losing one's starting position, the concern of their scholarship being reduced, or just being on the bad side of the coach, to name a few (Grove et. al., 2004; Yang et al., 2010).

Depression was found to have medium correlation on eating disorders in this study. This is consistent with the studies done by Papathomas (2010) and Berry et al., (2002) on body image. Body image can always be a factor that would relate to a threat to athletic identity (Berry et al., 2002; Brewer et al., 2005). If this is the case then the student-athlete may become depressed and ultimately look to disordered eating as a

coping mechanism. Since the athletic identity of the student-athlete is their top priority, they may decide to partake in unhealthy behaviors to maintain a competitive edge (Brewer et al., 1993). The risk for this behavior may become a vicious cycle where one health risk behavior leads to another. Thus, an athlete with very high athletic identity may move into a depressed state, low self-esteem and then disordered eating (Dunn et al., 2007). This is an area for future research and was beyond the scope of this study to look in depth on the issue. Anxiety also had a moderate correlation on depression and stress which was consistent with previous research on anxiety and stress. As was discussed earlier in the literature review in Chapter 2, since the state of stress is so high in this population, additional research is needed on the causes of stress and collegiate interventions for the female student-athletes (Hudd, 2000; Tusak, 2006).

There was a moderate correlation finding between the total health risk behavior score and total athletic identity and social support. In dissecting this finding, it can be stated that the strength of the athletic identity role and the external perception one has regarding their role as an athlete, have a moderate link to the health risk behaviors that the female student-athlete within this study chose to partake. The strength of the athletic role in the female student-athlete possibly varies with past and/or current athletic experience as well as relative wins and losses within the athletic domain. One interpretation of this finding is that athletic identity is considered a social role (Brewer et al., 1993). This finding is consistent with the studies done that have noted female student-athletes' athletic identity is becoming as pronounced as it is for the male student-athletes (Brewer et al., 2005; Denny et al., 2009; Grove et al., 2004; Mignano et al., 2006). This incorporates the theory by Chickering that states the first-year and

throughout the college years, it is time for independence and identity to develop. Since these college years are crucial times in development, support staff in athletics should prioritize the female student-athletes' overall well-being (Thompson & Sherman, 1999; Valentine & Taub, 1999).

Differences Reported Between Types of Sports

An analysis of variance (ANOVA) and a multivariate analysis of variance (MANOVA) was used to answer research question two. This process was used to identify differences in the types of health risk behaviors and psychosocial variables reported by group 1 and group 2 (Group 1: softball, basketball, volleyball, rowing and soccer. Group 2: golf, tennis, track and gymnastics). An initial ANOVA procedure was performed, testing for group differences between Group 1 and Group 2 using the health risk behavior variables and the variables that were from the instruments of Athletic Identity (SI, EX, NA) and Social Support (Quality and Quantity of Social Support).

The groups were categorized as follows: Group 1 = team sport (softball, basketball, volleyball, rowing, and soccer); Group 2 = individual sport (golf, tennis, track, and gymnastics). The groups were identified as team or individual based on the performance aspect of the sport. If the majority of the sport participation had an individual element where the student-athlete was being scored, ranked or measured on their individual performance, this was considered an individual sport. Also, if the sport was able to have individuals compete and represent their institution by themselves without their team, this was another aspect of being considered an individual sport. Tables 4.7, 4.8 and 4.9, which shows all of the differences between groups 1 and 2 can be found in Chapter 4.

Regarding differences between sports, the team student-athletes scored higher in alcohol use than the individual student-athletes. This is consistent with the studies done in regards to team dynamics and overall team influence (Brenner et al., 2007; Ford, 2007; Miller et al., 2009; Turrisi et al., 2006). This finding is also consistent with the study done by Nattiv et al., 1997, which stated team sports engaged in alcohol use at a greater quantity and frequency than individual sports. Findings from this study show that team student-athletes in comparison to individual student-athletes, feel differently in regards to their social support and the type of pressure that they feel which is consistent with the studies done by Hudd (2000) and Turrisi et al., (2006). The literature finds that alcohol is the major health risk behavior among college students (Ford, 2007; Grossbard et al., 2009; Martens et al., 2006). The results of this study indicate that college is a crucial time for student-athletes when they often experience more peer pressure to partake in drinking. According to the literature, when a female student-athlete has a feeling of high anxiety and tension, she will tend to have a higher level of alcohol consumption. As can be noted from my findings, there was a significant report of alcohol use and anxiety reported within this population. College years, therefore, become an opportune time for alcohol education, as well as stress management and coping skills. Throughout the literature it has been documented that the drinking patterns are not significantly different between the general population of athletes and non-athletes. One difference was that female student-athletes tended to drink more than female non-athletes (Overman & Terry, 1991; Zamboanga et al., 2008). This study adds to the current literature in the finding that female student-athletes are at a higher risk at experimenting with alcohol during 17-23 years of age is more prevalent within the team

environment.

In this study the finding was consistent from previous research that the team female student-athlete identified stronger with the athletic identity role of the athlete than the individual athlete, yet the individual athlete scored higher in exclusivity. This is consistent with the research done by Brewer et al., (2005), which stated that team student-athletes tend to identify with the athletic role due to the team concept and the individual student-athlete will most likely establish their identity through other interactions. One interpretation of this finding could be that teams stress more unity and teamwork and individual sports have to contend more with internal competition among their teammates. With this competitive environment it could make unity more difficult for the individual student-athletes to relate to one another and could produce a more individual commitment. It has been noted in the literature that the demands on each of these student-athletes are very similar yet extremely different as well (Selby et al., 2004). A possible way to work with these dynamics would be to develop team building aspects that embrace good choices and actually cheer the others onto making good choices. There is a twofold educational process on this dynamic. One point, as referred to earlier, is to establish a sense of commitment from the coaches to think at a deeper level about healthy behavior for the student-athletes rather than just stress athletic performance.

Another significant finding was that individual-sport female student-athletes scored higher on quality and quantity of social support and total social support. It must be noted that both groups had a high social support score but the individual group had more support in quantity and quality than team female student-athletes. This is

consistent with the literature that female student-athletes as a whole have a high level of social support (Matud, 2004; Grove et al., 2004). Through the literature it has been found that female student-athletes as a whole tend to seek out social support and that they may gain a greater sense of support through their own initiative (Sarason et al., 1983). It is also reported that female student-athletes in the past tended to seek most of their support from family and friends, but in this study, team sport student-athletes seem to be seeking support primarily from teammates. There is a possibility that a student-athlete on an individual sport team might feel as if they receive more support from their coach, primarily because the focus is more on the individual in these sports. Student-athletes on an individual sport team may also receive more social support away from their team, whereas student-athletes on a team sport are engulfed in a culture of relying on one another. These team sport female student-athletes may look to their teammates more often for social support, even though the social support one receives from outside the team may be more beneficial.

The interpretation of the finding in the difference of social support could be in the nature of the sport. In an individual sport, the coach can give personal attention to the needs of the individual student-athlete more, whereas within a team, the coach is usually working on team work and overall unity (Denny, et al., 2009; Greenleaf et al., 2009; Yang et al., 2010). According to the literature, the social support given to a teammate may fluctuate depending on the win-loss column (Rosenfeld et al., 1989). Even though the individual student-athlete group had a significant amount of social support in quality and quantity than the team student-athlete group, eating disorders were found to be a significant difference in the individual student-athlete population.

This study's findings regarding sport commitment and eating disorders are consistent with previous research (Berry et al., 2000; Greenleaf et al., 2009; Kirk et al., 2001). There are many pressures within the sport culture but the importance of body appearance and performance continue to be emphasized for the female student-athlete (Greenleaf et al., 2009). This item of concern is past the scope of this study but researchers should study body appearance in female student-athletes to learn the scope of the effect on depression and eating disorders.

It was not a surprise that group 2, the individual female student-athlete, showed a higher exclusivity. An interpretation of this finding could be explained because their roles are independent from the team and work goes into their practice and performance more individually so the importance and the pressure of their role could be intensified. For instance, in track, one athlete could be competing in the hurdles whereas the other on high jump. This creates a higher commitment individually since it is only themselves they can lean on when it comes down to being prepared and succeeding in their event. The individual student-athlete may need different social support given the pressures to individually perform without the benefit of a supportive team. This creates a tremendous amount of stress on the female student-athlete. Whereas, in a team sport if a student-athlete is struggling, the coach may be able to substitute even temporarily to help the student-athlete get their thoughts back to being mentally strong. The role of the support system may be a more significant one for the individual sport student-athlete and therefore this may explain why this group scored higher in all three categories of the variable of social support.

A final note is with the concept of social support. Social support had a moderate

link to HRB. The scores on the Athletic Identity Measurement Scale and the Social Support Questionnaire were both very high for team and individual female student-athletes and is consistent with other current studies (Brewer et al., 2005; Giacobbi et al., 2004; Rees et al., 2007; Watson, 2005; Wilson et al., 2005; Yang et al., 2010). Yet the fact still remains from this study that team female student-athletes drink more and have higher athletic identity. The link of social support on alcohol use is one that is quite interesting and needs to be further researched. As stated in previous paragraphs, social support, whether it was quality or quantity, was shown to be significant within this population. Social support could be helpful in stress reduction, coping with anxiety, reducing loneliness, or increasing feelings of well-being (Etzel et al., 2002; Gill, 2008; Hardy et al., 1999).

Predictors of Health Risk Behaviors

The final question in this study, question three, considered the possibility for social support and athletic identity scales to be able to predict the female student-athletes self-reported health risk behaviors and GPA. Multiple regression statistics were executed to determine if the Social Support Scale and the Athletic Identity Measurement Scale could be predictors of the health risk behaviors reported by the female student-athletes and their GPA. Social Support and Athletic Identity were entered in the regression model as independent predictor variables. Multiple Regression analyses were used to identify significant predictors of GPA and total health risk behavior (alcohol use, alcohol habits, tobacco use, drug use, marijuana use, sexual activity, safety, stress, anxiety, and depression). From the tables reported on the regression models, the following was found to be statistically significant:

The variables social support and athletic identity accounted for approximately 11% of the variance as noted by the regression coefficient in the criterion variable GPA. The test of the regression coefficient for this variable was statistically significant for the model at $p = .000$. The overall judgment for this hypothesis was that the social support predictor variable does account for a significant variation in the resulting GPA variable. The variable social support was the only significant predictor of GPA at *B*.332 which was considered a medium effect.

The variables social support and athletic identity accounted for approximately 30% of the variance as noted by the regression coefficient in the criterion variable HRB. The test of the regression coefficient for this variable was statistically significant for the model at $p = .000$. The overall judgment for this hypothesis was that social support and athletic identity predictor variables do account for a significant variation in the resulting HRB variable. The variable athletic identity was the strongest predictor at *B* .443 which was considered a strong effect and social support at *B* .366 which was considered a medium effect. This is consistent in previous research that states alcohol consumption and risky alcohol related activities are prevalent in student-athletes (Brenner et al., 2007). Some authors suggest that the demands that are put on these athletes is why they experience and exhibit such levels of alcohol consumption and risky health behaviors (Williams et al., 2008; Williams et al., 2012; Yusko et al., 2008). I think there are many factors to the levels of risky behaviors but believe that social support for a female student-athlete, during their college years, is a critical link to their health risk choices.

Limitations

There were a few limitations in this study. Some threats to the internal validity is

the collector change because of the possibility of different people having to administer the questionnaires in different locations, as well as testing effect in that the population may know how to answer the questions and what is being tested.

Another issue could be that the population may not answer the surveys correctly because of the nature of the questions being asked, they may also be afraid of their athletic participation being threatened, so they will answer the questions conservatively. To minimize these threats, the principle investigator administered the questionnaires. The administrator informed the population as to the importance of the study, and provided sound confidentiality and anonymity to the results. A limitation may be present since some female student-athletes were unable to participate due to other scheduling conflicts. Secondly, the student-athletes completed the surveys at different times of their seasons.

Another possible limitation exists due to the site of the study. Since the University of Oklahoma is a Division I school, the possibility of a limitation could be in assuming that these implications to this study could apply to Division II and III universities. Division III programs aim for more balance between athletics and academics. The Division II and III schools attempt to maximize all three parts of the triangle which are the student's academic, athletic and social experience at college.

Since the level of competition and pressures are different at these institutions, the possible health risk behaviors, athletic identity and social support could pose inconsistencies to the findings and limitations to the implications. Depending upon the geographical area, some possible social and environmental differences propose a limitation as well. In revisiting the theories that were chosen in this study, there is a

possible limitation as to the relevance in the areas of student-athlete development. Chickering's Theory is a strong identity theory for student development but other theories may have identified other issues that were significant to the athletic identity of the student-athlete. A possibility would be theories in motivation and achievement for example.

The final limitation is that the validity of the instruments has been established among college students and not the population of female student-athletes. To minimize these limitations, the season schedules were coordinated to try and get them as close as possible to the most demanding time of their seasons. Some of these instruments were used with student-athletes in an unpublished thesis, which provides the instruments some test of its usefulness with this population reliability and validity to the student-athlete population.

In this study measures were taken to encourage participation in the present study, and appropriate response rates were obtained. Statistical power lends confidence with which to reject the null hypothesis for each research question. The level of statistical power present in an analysis accounts for the likelihood that the non-respondents would differ from the sample. The higher the statistical power presented in the analysis, the lower the likelihood that the non-respondents would differ from the sample. In the best way possible, all relevant variables were included and their interrelationships were taken into account in the exploration of this study. In order to collect the most information, the Athletic Identity Measurement Scale and the Social Support Questionnaire were given along with the National College Health Assessment. Upon receipt of the instrument packet, and in observing the participants, it seemed a

shorter length of surveys may have been more accurate. For the purposes of this study, the variety of information collected was of interest.

Strengths for this study included the previous research, numerous variables and instruments being evaluated and theories that support the statements and provide consistency to the findings. All of these analyses combined may help to increase insight and possibly help decrease the biases that could occur by using one single method (Abrami et al., 2001; Mertens, 2005; Strube, 2004). The goal in utilizing these theories was to include different perspectives and possibly test the various theories within that population. Using a few types of analysis and trying to identify similarities within the data should help to accomplish data-analysis triangulation.

Implications for Practice

In The United States of America, intercollegiate athletics is woven into the fabric of our universities, our society, and for some, our daily lives. The expectations of winning, maintaining eligibility, retention, and graduation rates of intercollegiate athletics and those who participate in them are great both athletically and academically. At a time when the inclusion of athletics within higher education is being questioned by educators and practitioners, based on the central missions of a university, it is important to understand the needs and the experiences of student-athletes and look for opportunities for enhancement and growth of the overall person. This will give a higher value to the intercollegiate experience and overall educational experience of the student-athletes.

Athletic Identity

There are many benefits for those that participate in college sports but this experience is supposed to be a rewarding experience. This experience can be negative due to the pressure of winning (Eitzen & Sage, 2008). With millions of dollars being spent on the building of new sport facilities, the increasing evidence of cheating and violations on recruiting, and the escalating salaries of coaches (Wolverton, 2009), this may foster an environment of increasing pressure for the student-athlete to perform. Since this sport environment could intensify the athletic identity for the student-athlete, an increase of psycho-social problems could be found within this population (Wolverton, 2009). Given that the athletic identity may take over the priorities of developing other roles and experiences on campus, programming efforts need to be in place that can encompass the cultivation of the students' social and cultural development. Institutions have the ability to be a resource in providing opportunities for these student-athletes to get outside of their own subculture and flourish within the university community. A possibility for this cultivation could be for the Director of Athletic Student Life to work as a team member with Student Affairs on campus. Whenever time permits and appropriate programming exists, these two offices should utilize all resources available and combine the student-athlete population with the nonstudent athlete population as often as possible. This will help the student-athletes engage with the university community. An example of this philosophy would be to organize the new student orientation for all incoming students (athletes and nonathletes) together rather than separate, which is how it is currently organized. This would provide an atmosphere for connection with one another right when they arrive on campus,

which Pascarella and Terenzini state, will help in their transition to college (Pascarella et al., 2005). Research has shown that athletic participation has little influence on the college outcomes such as learning for self-understanding, higher-order cognitive activities and overall motivation to succeed academically (Shulman & Bowen, 2001; Pascarella et al., 1995). If this is the case, we as educators must be put in place avenues for these student-athletes to develop and grow outside of their athletic identity.

Social Support

It is important for families, coaches, and teammates to realize how influential they are in the life of the student-athlete. The female student-athletes in this study had very high levels of social support but when challenges arise like being injured or failing to maintain the starting position, the reliability of support will be critical to the female student-athlete. It is also up to the support staff to be aware of this possibility and provide an environment of belonging and certainty. To get the coaches and student-athletes engaged in the STEP Up program would be a possible equation for success in this area. The STEP UP program is a bystander intervention program that educates students to be proactive in helping others (NCAA, 2012). This program encompasses many steps which include: decision making, strategies for effective helping, how to identify warnings signs, and what action steps are needed. The goals of the STEP UP program are to: raise awareness of helping behaviors; increase motivation to help; develop skills and confidence when responding to problems or concerns; and ensure the safety and well-being of self and others (C.A.T.S., Life Skills, 2010). This program could help foster the attitude of making good choices about many health risk behaviors that the student-athletes will be facing in their college career and also build stronger,

healthier, relationships within the team environment. If leaders on the teams are taught steps like those in the Step Up program, they will be more able to be role models of change and action and lead others to a life of good and healthy choices. These choices are not only about their own behaviors but more importantly about situations where they may be a bystander and need to have the skills to make good decisions, help in an effective way, or take necessary action if needed. Since this study points out the importance of social support to the female student-athlete's health risk behaviors, the Step Up program should be considered especially among this population and may be administered from a life skills programming perspective. This program may help to equip team members in identifying possible issues that may hinder the well-being of their teammate and give the bystander skills to take action in a positive way.

Generally one would believe that, based on the size of the team and the assumed level of camaraderie, the student-athletes would experience a great amount of social support. It is important to remember that social support comes from many different avenues within the team as well as outside the team. It should be pointed out again that social support was high in both of the individual sport female student-athletes and the team female student-athletes. Social support for the student-athlete can be used in team building or even dealing with an injury. This social support could make a difference in student mattering that was discussed earlier from Schlossberg's theory. These differences could be seen in an increase of self-esteem, a strong sense of social connectedness to the group, and a significant feeling of mattering as a person and not only as an athlete.

Health Risks

With depression being identified as a potential risk within the female student-athlete population, the utilization of alcohol as a coping mechanism to relieve the pain or anxiety from any stress is a high possibility. This is where a strong social support system is needed. This support system includes the people within this support system having the ability to identify, recognize and then act upon any potential health risk behavior. Along with social support, the scope of affectionate communication would be beneficial. Affectionate communication is the ability to communicate in a caring way. Once again, since the staff members have been proven to be significant influences in social support, teaching them to be able to empathize and be compassionate with the issues the student-athletes may be experiencing will be crucial. The support staff could help buffer the depression or anxiety of the student-athlete if they were trained in identifying any negative factors or behaviors that may be influencing a student-athlete which could cause them to be prone depression or anxiety.

It is imperative that athletic staff be trained to recognize signs and symptoms of depression, identifying potential stressful life events that could lead to depression such as injury, being cut from the team, losing starting status, reduction or loss of scholarship, death of a teammate, and life events outside athletics. Educational workshops should be offered to the coaches on the potential stressors that the female student-athletes are experiencing because research has shown that these athletes are more likely to speak to their coaches or athletic trainers about their difficulties (Maniar et al., 2001). Within this education a required link should be with resources on campus such as student affairs. This would enable more in depth and well-rounded

programming from outside of the athletic community and incorporate the many resources provided by the campus community.

Training for staff could be provided through workshops or conferences on health and wellness of student-athletes. Institutions must develop specific action plans to enhance the wellness of the student-athletes. A holistic approach to learning and identifying crucial needs should be introduced to the staff. Programmed areas with regards to wellness should involve issues of alcohol use, depression, eating disorders and stress. The key is to get everyone on every level involved and clear about their role and responsibilities. With the backing of the coaches towards the wellness of the student-athletes, the athletic department has a better chance of addressing the developmental needs of female student-athletes.

According to the literature, stress and athletics has become a major concern in counseling the student-athlete (Yang et al., 2010). We as educators need to identify the triggers of stress and anxiety for the student-athletes so that the opportunity to teach healthy coping mechanisms can be put in place to enable these student-athletes to navigate through stressful times in their college careers. Warning signs include: withdrawal from social contact, changing in eating habits and sleeping patterns, decreased interest in activities, problems concentrating or remembering. Given the stress that was reported in this study and the high athletic identity scores from the female student-athletes, it is recommended that colleges disrupt the relationship between stress and depression.

With alcohol use, stress, anxiety and depression showing significance in this study, it is highly recommended that educational opportunities be developed in each of

these areas for the student-athletes. These influences are present in the personal level and the peer norms, teammate expectancies and alcohol policies that the athletic department has in place (Williams et al., 2008). The key to the success of programming efforts remains in the participation and support of the athletic department and staff members.

Athletic Departments and Coaches

With regard to the present study, it is important for athletic departments and universities to educate their coaches on the important roles they assume when working with their student-athletes. Many people assume that coaches, given their authoritative position, are automatically mentors to their student-athletes. Knowing the importance of the coach's role to the overall self-esteem and personal development of the student-athlete, mentoring training should be implemented. The role of a mentor is a large task to complete, especially when one is considered a mentor by so many. Coaches should be given guidance on how to convey meaningful messages within the framework of their present duties. The university should take responsibility in training the coaches using a mentoring training program. Many programs are successful but one model – the 4H mentoring model emphasizes commitment, trust, understanding, respect, connection, and a sense of humor between the mentor and the mentee (Rhodes, 2005). Throughout this program mentees are encouraged to develop independence, a sense of belonging and generosity (Kress, 2004).

The implications for coaches also concern recruiting processes. When universities agree to allow a student-athlete to join an intercollegiate athletic team, they are accepting a responsibility to educate the whole student and the student is accepting

the responsibility to represent the university well. All though many coaches at this level may not embrace this philosophy, these responsibilities need to be highlighted. Throughout the course of the female student-athlete's college career, the student-athlete may experience the influences of peers, social support factors and their own journey in developing individual identity apart from being an athlete. Of the observed influences during female student-athletes' collegiate experiences, the influence and support of the coach and teammates is of the greatest importance. The coach, teammates and staff are critical front-line interventionists. The long hours that the student-athletes are required to put in are mainly due to the athletic departments attitude to the win at all cost. Eitzen and Sage (2006) suggest that the current state is unfair and will limit the experiences to the student-athlete.

The teammates, the coaches and the athletic staff are among the many personnel that the general student body, do not usually access. Thus, female student-athletes have the opportunity to build very close relationships with coaches that the rest of the student body will not experience. These relationships begin several years prior to collegiate enrollment with the recruiting process. These influential relationships afford coaches the opportunities to educate and influence student-athletes in ways that no one else has the ability to do. The coach-athlete relationship is considered to be the foundation of the coaching process and the most meaningful interpersonal relationship in sport because its nature is likely to determine the athlete's development, satisfaction, self-esteem, confidence and performance accomplishments (Jowett & Cockerill, 2003). Given this insight it would be beneficial to address the coaching philosophies of the athletic department and provide information and education on ways to embrace a holistic

approach to coaching (Miller et al., 2002). One such program by is the Athlete-Centred Coaching Program, which offers a holistic approach to developing coaching values (Kidman, 2005). The program that Kidman (2005) developed states levels of commitment which include:

(1) Become a coach who understands that the role of coach is to be a change agent and an improvement facilitator.
(2) Learn to ask questions that lead to self-awareness for the student-athlete.
(3) Be empathetic and understanding to assist the student-athlete into seeing the need for change.
(4) Understand the student-athletes learning style and be creative.
(5) Establish a coaching or team culture in which openness, growth and change are the pillars.

This type of coaching empowers the student-athlete, where both coach and student-athletes can ask meaningful questions and develop an environment of inspiration. This will allow learning opportunities for effective decision makers to take ownership and in turn enhance team culture. If this culture cannot be developed within the athletic team environment then steps need to be taken elsewhere to empower the student-athlete. Possible areas of support could come from student affairs staff, student life staff or student development staff members.

Both Schlossberg's theories (Schlossberg et al., 1988; Schlossberg et al., 1989), state that how the student copes with life events she is experiencing during their college years, may affect persistence in college. Schlossberg's theories were useful in this study because they highlighted the need for staff to understand the transitions a student-athlete

may be facing, as well as the importance for the student-athlete to feel that they matter. These theories help guide staff in identifying their importance in the student-athlete's social support system in transitioning times, when student-athletes need specific support, guidance and feedback. Mattering could be crucial to the student-athlete who gets injured, possibly loses their starting position or other threats to sport participation. Future research needs to examine whether continuance in sport can be explained by Schlossberg's theories.

As Schlossberg states, mattering is when someone shows interest in the student-athlete, pays attention to their experience and shows that they care. When the female student-athlete does get injured or is extremely depressed or has any tough issues, the coach may not be there to support the student-athlete appropriately. In this case, others like the assistants, the trainers, and possibly even other support staff such as the student life area, may need to step up to show that they care by offering support in listening or constructive feedback and problem solving. If this does not happen, marginality or the feeling of uncertainty may be the perception for this student-athlete and may risk departure from sport programs or a deceased motivation in sport. This departure could be from healthy behaviors to unhealthy ones. So the risk of unhealthy behaviors could span from many emotional areas such as anxiety, depression or stress like reported in this study, and are not only linked to a few. Since the sense of mattering is of utmost importance to the well-being of the student-athlete a priority is to educate the support staff in their role and how they can influence health behaviors in a positive way. If mattering is nurtured, the student-athlete may feel connected and that they belong (Schlossberg et al., 1989). But should all of the pressure for the development of the

student-athlete fall upon the coaches and the athletic department? Research has shown that the involvement of faculty can prove to be invaluable (Howard-Hamilton & Sina, 2001). Scholars have noted that faculty should work in conjunction with the athletic departments. With this cooperation the professors could be instrumental in the development of the student-athlete away from athletics and foster growth in areas outside of athletics (Valentine & Taub, 1999).

Mentoring

Programs should be implemented to aid the adjustment of female student-athletes who are transitioning to a different environment so they feel the sense of mattering. Some institutions have added a student-athlete mentoring program (SAMS) which provides a team with a representative that will serve as a role model and a resource to their teammates and even other student-athletes. Many issues will be dealt with by the SAMS such as alcohol abuse as well as other variety of issues (stress, drug abuse, eating disorders, sexual harassment, academic integrity, time management etc.). SAMS members are dedicated to displaying a positive image and help in supporting their fellow student-athletes through education and awareness. This program would be a useful and integral program especially for new student-athletes. This program could involve freshmen as well as transfer students, especially those coming in from other environments where the pressure to perform is not as heightened as at a Division I institution. An example of this less pressurized environment may be transfers from Division II or III, or junior college transfers. The environment within these Divisions is less stressful in the athletic role because academics and overall involvement in college activities are a top priority, and not only athletic activities (Richards & Aries, 1999).

Life Skills

In addition to developing athletic skills, student-athletes need to become equipped with the coping skills necessary to promote their growth as a whole person. In Klein (2011), John Pryor states that "stress is a major concern with college students and since these students may enter college with lower levels of emotional health, administrators should expect to see more consequences of stress, such as higher levels of poor judgment". Since this is the state of this generation, coping skills need to be developed. Having strong coping skills will provide them with a good foundation when times get tough. When looking at the link between the concept of good teaching and the experiences that confront female student-athletes, it is recommended that the social support system strengthen in competency of communication, and building a community where circumstances lead to significant learning in others rather than fear, frustration and possibly depression (Kuh, 2001).

As Chickering states in regards to student development, working with female student-athletes involves emphasis on the whole student. It is imperative that the people who are working with these female student-athletes need to understand the student-athletes they work with and work with them as developing persons and not just athletes. Life Skills/Student Development programs in institutions need to target demands on the female student-athletes that may be overlooked. It would also be ideal if the coaches, staff members, trainers, and administrators become more educated in understanding identity and what it means to have identity beyond the student-athlete one. Modern times have called for college athletics to be a win at all costs mentality. Unfortunately this type of attitude can compromise the athlete's character, overall development and

academic goals. It is important for athletes to not succumb to this win at all cost culture and use their experiences through athletic to develop their character, leadership skills, personal being and career goals (Parham, 2011).

Broughton's study (2001), states that a holistic approach to learning and development for the student-athlete may be beneficial. Given this thought, another recommendation of life skills development would be to incorporate some concepts from *Learning Reconsidered*. This would integrate academic learning and student development. This comprehensive process frames learning as active and collaborative (Council for the Advancement of Standards in Higher Education, 2002). A holistic approach to learning may be the prescription needed to address issues of identity development. *Learning Reconsidered* (Keeling, 2004) addresses just that holistic approach when it has defined *learning* as a comprehensive, holistic, transformative activity (American College Personnel Association and National Association of Student Personnel Administrators, 2004). This type of learning encompasses all aspects in a student's life and takes into consideration their environment, life experiences and personal development. Philosophically this concept of learning goes by the premise that the student has many areas of development that comprise their entire being. In athletics, so often, the student-athlete may feel like they are only viewed and valued as an athlete, sometimes a student, but rarely as a person. This new concept of *learning* helps the student and the staff working with the student, view them as a whole being with many dimensions from body, emotions, and spirit. Powerful learning such as this can transform thinking (Mezirow, 2000). If this type of learning and environment can be nurtured, the ability to help develop independence and identity within the student-

athletes may flourish.

This recommendation would combine academic learning and student wellness. The goals of *Learning Reconsidered* are similar to the *Greater Expectations* of higher education that was developed in 2002. The Association of American College and Universities (2002) have stated 5 commitments to educating students in today's university system. These commitments include: (1) Striving for excellence; (2) Cultivating personal and academic integrity; (3) Contributing to a larger community; (4) Taking seriously the perspectives of others and; (5) Developing competence in ethical and moral reason (CAS, 2008). Many things may flourish in this environment and this learning atmosphere for the student-athlete could enable one to develop as a learner that is empowered, informed and responsible.

During college, students are thinking about the world, themselves, and how they think and learn. Mezirow calls this process "learning to think like an adult" (2000, p.3). In *Greater Expectations* it is stated that college graduates should be able to be educated, develop skills that can transform into the work environment, understand their civic role in society, the ability to be sensitive to others and manage functions that help their overall quality of life (CAS, 2006). In a new vision for learning the author argues that campuses need to develop students to be "empowered through the mastery of intellectual and practical skills" (Mezirow, 2000). The Council for the Advancement of Standards (CAS, 2006) mentioned 16 individual outcomes for areas of growth for students in college. These outcomes were: intellectual growth, effective communication, enhanced self-esteem, realistic self-appraisal, clarified values, career choices, leadership development, healthy behavior, meaningful interpersonal relationships, independence,

collaboration, social responsibility, satisfying and productive lifestyles, appreciating diversity, spiritual awareness, and personal and educational goals (CAS, 2006). It is the responsibility of the athletic department to provide the learning environment and the atmosphere for these outcomes to be a possibility. Many successful experiences can be created for these student-athletes and the university community as a whole can be an avenue of great teamwork and discovery into the development of the whole person within the student-athlete. Bigger (2005) states there are numerous interventions that can be implemented to bridge the gap between student-athletes and the university community. The one would seem most impactful within this population is the establishment of learning communities.

Implications for Future Research

The conclusions from this study provide a strong glimpse into the many ways that student-athlete development is influenced by their experiences during their college years. These experiences could be derived from their social support, their athletic identity, or many of the health risk behaviors that they are exposed to during these developmental years. Perhaps the biggest recommendation is the role of the social support system for the female student-athlete and identifying the particular needs and systems that should be nurtured. Another area for future research is to explore the role of the university in the lives of student-athletes to determine the unique aspects of this relationship and how this affects their overall identity, success, and development. Since social integration is a condition for student success (Astin, 1993; Tinto, 1993), involvement with other students is crucial. More research needs to be done in the area of student-athlete learning and development and building educational communities for

them to take part (Tinto, 1993). More research should also be conducted on the relationship between athletic identity and stress for female student-athletes. Additionally, research needs to investigate the roles of various social support systems, paying attention to issues of quantity and quality. The influence of the coach on student-athlete outcomes needs to be investigated further since this role is critical especially in the lives of the freshmen. Understanding this culture may provide context into the frequently highly publicized challenges with which these student-athletes are faced. Since the importance of social support is so important within this study more research needs to be done in understanding the role of the support system and what types of support are given in what context.

This study found a moderate link between the importance of the athlete role, stress and anxiety. The reoccurring theme of stress and anxiety in this study needs further research, for more in-depth discovery could uncover possible health risk behaviors. Another theme that reoccurred within this study was the undertone of depression as a health risk behavior within the female student-athlete population and is a recommendation area for future research. Researchers need to identify the significant differences between male and female student-athletes and if females are following the health risk behaviors traditionally associated with male sports. This study highlighted some differences between health risk behaviors from sport to sport but more in-depth study is warranted. Another area for future research would be to add qualitative approaches to understand the nuances involved in regards to the female student-athletes health risk behaviors.

Educational opportunities need to be implemented that prepare these student-

athletes for life, work and civic participation in this complex world. As we look at the student-athlete population as a whole, I have observed student-athletes who never have had to take responsibility in their learning or feel the consequences if they have not done their work. This lack of ownership and overall understanding of personal responsibility is an area that has not been addressed in this population to the point it probably needs to be. The strong sense of athletic identity buys into this environment that their sport is the most important and that the student life office needs to take care of the academic issues that might cause concern for their eligibility. Academic staff members as support systems to the student-athletes need to be aware of this dimension and help the student-athlete take responsibility for their work and their academic success.

Finally, with a broad understanding of the issues at hand, one might consider the challenge of making athletics a platform for development of student-athlete wellness. This would be a radical change for revenue sports and for some coaches that emphasize the athlete and overlook the student or personal development of the individual. Overall well-being is an indicator of the overall functioning of student-athletes while considering holistic development and what student-athletes learn through their sport (Miller et al., 2005). This would entail incorporation of the relationships explored in this research along with a basic understanding of the cultures of each sport. One might consider the collegiate athletic environment as a broken system, with the chief problem being that student-athletes are segregated from the university so that they become strictly dedicated to athletics. Character development usually occurs when the staff and coaches are willing to talk about the behaviors as they arise. The treatment of the

student-athletes should be one like students not rock stars. We must teach and educate them like we do any other student for overall development. Character development, ethical conduct and responsibility need to be the culture, not a winning is everything attitude (Eberhardt, 2006). The student-athlete needs to be integrated into all programs on campus to have the opportunity to experience the total student culture and this is what may make a difference.

Utilizing the concepts of Chickering's vectors as well as providing an atmosphere of mattering from Schlossberg's theory may be a place to begin a framework for developing programs that could make a difference in the overall well-being of the female student-athlete. To help nurture health and wellness in these female student-athletes and provide them with the ability to develop the whole person is crucial to the future of athletics and society. Athletic departments within institutions of higher learning need to be just that, one of higher learning in every aspect of the person not only athletic in nature. If the mission is to develop leaders for tomorrow, it is essential that the athletic community enable these leaders to be embraced as whole people learning to develop in mind, body, and soul.

Conclusion

This study was designed to accomplish three goals which were: (1) to identify the health risk behaviors of female student-athletes, (2) to identify the differences between a team student-athlete and an individual student-athlete and (3) to discover if the athletic identity measurement scale and the social support questionnaire were predictors of health risk behavior within this population. The aim of this study was to examine the health risk behaviors of female student-athletes and the relationship these behaviors

have to their social support and athletic identity. This study identified possible health risk behaviors in this population and significant correlations with social support and athletic identity variables. Some female student-athletes may participate in a team sport or an individual sport, and the differences between these two groups are identified as well. Regardless of what type of sport the individual participates, the female student-athlete is faced with having to deal with pressures from the team, the coach, and the female student-athlete's self-imposed expectations. It was a goal of this study to identify any similarities and differences among the female student-athlete population and then provide ideas for programming in order to help assist in these matters of concern.

There were two predictor variables that were studied which were athletic identity and social support. The two criterion variables that were studied include Health Risk Behavior (HRB) and GPA (grade point average). HRB consisted of alcohol use, anxiety, depression, eating disorders, marijuana, sexual activity, stress, suicide, and tobacco. Several significant findings were discovered which were highlighted in chapters 4 and 5 of this dissertation. Throughout this study psychological, emotional, and physical well-being is concerned. Following are the significant correlations identified in this study: Sport had a moderate relationship with social support and a low but significant negative relationship with alcohol and eating disorders. GPA had a moderate to strong relationship with social support and a negative relationship with marijuana. Social support had a moderate relationship with HRB and a low but significant negative relationship with marijuana and alcohol. Athletic identity had a strong and moderate relationship with stress, HRB and alcohol and a low but significant relationship with depression. Stress had a strong relationship with depression and a low

but significant relationship with alcohol. Marijuana and alcohol had a strong relationship with one another. Eating disorders and depression had a moderate relationship with one another. Significant ANOVA results are that group 1 scored higher than group 2 on alcohol use, and group 2 score higher than group 1 on eating disorders. Significant MANOVA results are: Reported Social Identity was greater in the Team sport than the Individual sport. Reported Exclusivity was greater in the Individual sport than the Team sport. Reported Social Support Quantity, Social Support Quality and Total Social Support, was higher in the Individual sport than the Team sport.

Two regression models were formed using the totals of the Social Support Scale (Social Support Quality, Social Support Quantity) and the Athletic Identity Measurement Scale (SI-Social Identity, EX – Exclusivity, NA – negative affectivity of athletic identity). Results were that the variable of social support was the only significant predictor of GPA and had a medium effect. Both variables social support and athletic identity were significant predictors of HRB, with social support having a medium effect and athletic identity having a strong effect.

Many recommendations were stated in this chapter which included the following possible programming measures:

- The Step Up program;
- training for staff and coaches through workshops or conferences to address health and wellness for student-athletes;
- mentoring programs (SAMS); and,
- the implementation of a developmental program which incorporates concepts of learning reconsidered.

The uniqueness of this study shows that female student-athletes, even though there may have been a couple of differences between type of sport, basically they were found to have many similarities within their health risk, athletic identity and social support. Some other unique factors that need to be researched further are the aspects of the strength of the athletic identity, the critical support resources and the dynamics of the team on health risk behaviors. Many health risk factors are noted in the literature within this population, but more attention needs to be made to the pressure, anxiety, and isolation that may exist in their environment.

My vision for the future of this population is when I walk through the halls and hear the female student-athletes talking and sharing, it is words of *learning,* and a view of themselves as a whole being with many dimensions from body, emotions, and spirit. I envision a culture of powerful learning which can transform their thinking (Mezirow, 2000). I envision this type of learning and environment being nurtured by staff, coaches, and student-athletes. With a change of environment and culture, there are possibilities that may lead to the development of independence and identity within the student-athletes; then transformation may be the end result. I envision those that have the privilege to work with the student-athletes, strive to be true teachers and lead with compassion and understanding. "True teachers use themselves as bridges over which they invite their students to cross; then, having facilitated their crossing, joyfully collapse, encouraging them to create bridges of their own" (Nikos Kazantzakis).

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APPENDIX A

Demographic Information Questionnaire

Please answer each question to the best of your ability. Give specific information or check which answer is appropriate.

GENERAL INFORMATION

Age years____

Family status check(one) single____
married____
separated____
divorced____
(please specify)_____

Year in school check(one) redshirt freshman____
freshman____
sophomore____
junior____
senior____
fifth year senior____
medical hardship____
graduate school ____

In which type of sport do you participate?

Please check all that apply.

_____ Team (includes: basketball, volleyball, rowing, softball, soccer)

_____ Individual (includes: track, tennis, golf, gymnastics)

_____ Full Scholarship

_____ Partial-Scholarship

_____ Non-Scholarship

Appendix B

ACHA NCHA II

American College Health Association **National College Health Assessment**

Instructions:

The following questions ask about various aspects of your health.

To answer the questions, fill in the oval that corresponds to your response.

Select only one response unless instructed otherwise.

Use a No. 2 pencil or blue or black ink pen only. Do not use pens with ink that soaks through the paper. CORRECT: ● INCORRECT: ∅ ⊗ ◒ ⊙

This survey is completely voluntary. You may choose not to participate or not to answer any specific question. You may skip any question you are not comfortable in answering.

Please make no marks of any kind on the survey which could identify you individually.

Composite data will then be shared with your campus for use in health promotion activities.

Thank you for taking the time and thought to complete this survey. We appreciate your participation!

American College Health Association

National College Health Assessment

PAGE ONE

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Health, Health Education and Safety

1. **How would you describe your general health?**
   ○ Excellent ○ Very good ○ Good ○ Fair ○ Poor ○ Don't know

0 = No
1 = yes

(Please mark the appropriate column for each question to the right)	2. Have you received information on the following topics from your college or university?		3. Are you interested in receiving information on the following topics from your college or university?	
	No	Yes	No	Yes
A Alcohol and other drug use 0/1	○	○	○	○
B Cold/Flu/Sore throat 0/1	○	○	○	○
C Depression/Anxiety 0/1	○	○	○	○
D Eating disorders 0/1	○	○	○	○
E Grief and loss 0/1	○	○	○	○
F How to help others in distress 0/1	○	○	○	○
G Injury prevention 0/1	○	○	○	○
H Nutrition 0/1	○	○	○	○
I Physical activity 0/1	○	○	○	○
J Pregnancy prevention 0/1	○	○	○	○
K Problem use of Internet/computer games 0/1	○	○	○	○
L Relationship difficulties 0/1	○	○	○	○
M Sexual assault/Relationship violence prevention 0/1	○	○	○	○
N Sexually transmitted disease/infection (STD/I) prevention 0/1	○	○	○	○
O Sleep difficulties 0/1	○	○	○	○
P Stress reduction 0/1	○	○	○	○
Q Suicide prevention 0/1	○	○	○	○
R Tobacco use 0/1	○	○	○	○
S Violence prevention 0/1	○	○	○	○

4. **Within the last 12 months, how often did you:**

(Please mark the appropriate column for each row)

	Always	Most of the time	Sometimes	Rarely	Never	N/A, did not do this activity within the last 12 months
	0	1	2	3	4	5
A Wear a seatbelt when you rode in a car?	○	○	○	○	○	○
B Wear a helmet when you rode a bicycle?	○	○	○	○	○	○
C Wear a helmet when you rode a motorcycle?	○	○	○	○	○	○
D Wear a helmet when you were inline skating?	○	○	○	○	○	○

5. **Within the last 12 months:**

(Please mark the appropriate column for each row)

	No	Yes
	0	1
A Were you in a physical fight? 0/1	○	○
B Were you physically assaulted (do not include sexual assault)? 0/1	○	○
C Were you verbally threatened? 0/1	○	○
D Were you sexually touched without your consent? 0/1	○	○
E Was sexual penetration attempted (vaginal, anal, oral) without your consent? 0/1	○	○
F Were you sexually penetrated (vaginal, anal, oral) without your consent? 0/1	○	○
G Were you a victim of stalking (e.g., waiting for you outside your classroom, 0/1		
H residence, or office; repeated emails/phone calls)? 0/1	○	○

6. **Within the last 12 months, have you been in an intimate (coupled/partnered) relationship that was:**
(Please mark the appropriate column for each row)

		1 Yes	2 No
A	Emotionally abusive? (e.g., called derogatory names, yelled at, ridiculed)	○	○
B	Physically abusive? (e.g., kicked, slapped, punched)	○	○
C	Sexually abusive? (e.g., forced to have sex when you didn't want it, forced to perform or have an unwanted sexual act performed on you)	○	○

7. **How safe do you feel:**
(Please mark the appropriate column for each row)

	1 Very safe	2 Somewhat safe	3 Somewhat unsafe	4 Not safe at all
On this campus (daytime)?	○	○	○	○
On this campus (nighttime)?	○	○	○	○
In the community surrounding this school (daytime)?	○	○	○	○
In the community surrounding this school (nighttime)?	○	○	○	○

Alcohol, Tobacco, and Drugs

8. **Within the last 30 days, on how many days did you use:**
(Please mark the appropriate column for each row)

		1 Never used	2 Have used, but not in last 30 days	3 1-2 days	4 3-5 days	5 6-9 days	6 10-19 days	7 20-29 days	8 Used daily
A	Cigarettes	○	○	○	○	○	○	○	○
B	Tobacco from a water pipe (hookah)	○	○	○	○	○	○	○	○
C	Cigars, little cigars, clove cigarettes	○	○	○	○	○	○	○	○
D	Smokeless tobacco	○	○	○	○	○	○	○	○
E	Alcohol (beer, wine, liquor)	○	○	○	○	○	○	○	○
F	Marijuana (pot, weed, hashish, hash oil)	○	○	○	○	○	○	○	○
G	Cocaine (crack, rock, freebase)	○	○	○	○	○	○	○	○
H	Methamphetamine (crystal meth, ice, crank)	○	○	○	○	○	○	○	○
I	Other amphetamines (diet pills, bennies)	○	○	○	○	○	○	○	○
J	Sedatives (downers, ludes)	○	○	○	○	○	○	○	○
K	Hallucinogens (LSD, PCP)	○	○	○	○	○	○	○	○
L	Anabolic steroids (Testosterone)	○	○	○	○	○	○	○	○
M	Opiates (heroin, smack)	○	○	○	○	○	○	○	○
N	Inhalants (glue, solvents, gas)	○	○	○	○	○	○	○	○
O	MDMA (Ecstasy)	○	○	○	○	○	○	○	○
P	Other club drugs (GHB, Ketamine, Rohypnol)	○	○	○	○	○	○	○	○
Q	Other illegal drugs	○	○	○	○	○	○	○	○

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9. **Within the last 30 days, how often do you think the typical student at your school used:**

(State your best estimate; Please mark the appropriate column for each row)

	Never used	Have used, but not in last 30 days	1-2 days	3-5 days	6-9 days	10-19 days	20-29 days	Used daily
Cigarettes	○	○	○	○	○	○	○	○
Tobacco from a water pipe (hookah)	○	○	○	○	○	○	○	○
Cigars, little cigars, clove cigarettes	○	○	○	○	○	○	○	○
Smokeless tobacco	○	○	○	○	○	○	○	○
Alcohol (beer, wine, liquor)	○	○	○	○	○	○	○	○
Marijuana (pot, weed, hashish, hash oil)	○	○	○	○	○	○	○	○
Cocaine (crack, rock, freebase)	○	○	○	○	○	○	○	○
Methamphetamine (crystal meth, ice, crank)	○	○	○	○	○	○	○	○
Other amphetamines (diet pills, bennies)	○	○	○	○	○	○	○	○
Sedatives (downers, ludes)	○	○	○	○	○	○	○	○
Hallucinogens (LSD, PCP)	○	○	○	○	○	○	○	○
Anabolic steroids (Testosterone)	○	○	○	○	○	○	○	○
Opiates (heroin, smack)	○	○	○	○	○	○	○	○
Inhalants (glue, solvents, gas)	○	○	○	○	○	○	○	○
MDMA (Ecstasy)	○	○	○	○	○	○	○	○
Other club drugs (GHB, Ketamine, Rohypnol)	○	○	○	○	○	○	○	○
Other illegal drugs	○	○	○	○	○	○	○	○

ALCOHOL 1 ALCOHOL 2

One drink of alcohol is defined as a 12 oz. can or bottle of beer or wine cooler, a 4 oz. glass of wine, or a shot of liquor straight or in a mixed drink.

10. **The last time you "partied"/socialized how many drinks of alcohol did you have? (If you did not drink alcohol, please enter 00. If less than 10, enter 01, 02, 03, etc.)**

DRINKS: 00 01 02 03 04 05 06 07 08 09

11. **The last time you "partied"/socialized over how many hours did you drink alcohol? (If you did not drink alcohol, please enter 00. If less than 10, enter 01, 02, 03, etc.)**

HOURS: 00 01 02 03 04 05 06 07 08 09

12. **How many drinks of alcohol do you think the typical student at your school had the last time he/she "partied"/socialized? (If you think the typical student at your school does not drink alcohol, please enter 00. If less than 10, enter 01, 02, 03, etc.)**

DRINKS: 00 01 02 03 04 05 06 07 08 09

ALCOHOL 3

13. **Over the last two weeks, how many times have you had five or more drinks of alcohol at a sitting?**

○ N/A, don't drink ○ None ○ 1 time ○ 2 times ○ 3 times ○ 4 times ○ 5 times ○ 6 times ○ 7 times ○ 8 times ○ 9 times ○ 10 or more times

ALCOHOL SAFETY

14. **Within the last 30 days, did you:**

(Please mark the appropriate column for each row)

	Yes	No	N/A, don't drink	N/A, don't drive
A Drive after drinking any alcohol at all	○	○	○	○
B Drive after drinking five or more drinks of alcohol	○	○	○	○

0 1

PAGE FOUR

Sex Alcohol HAB

15. During the **last 12 months**, when you "partied"/socialized, how often did you:

(Please mark the appropriate column for each row)

	0 N/A, don't drink	1 Never	2 Rarely	3 Sometimes	4 Most of the time	5 Always
A Alternate non-alcoholic with alcoholic beverages						
B Avoid drinking games						
C Choose not to drink alcohol						
D Determine, in advance, not to exceed a set number of drinks						
E Eat before and/or during drinking						
F Have a friend let you know when you have had enough						
G Keep track of how many drinks you were having						
H Pace your drinks to 1 or fewer per hour						
I Stay with the same group of friends the entire time you were drinking						
J Stick with only one kind of alcohol when drinking						
K Use a designated driver						

ALCOHOL SAFETY

16. **Within the last 12 months**, have you experienced any of the following **when drinking alcohol?**

(Please mark the appropriate column for each row)

	0 N/A, don't drink	1 No	2 Yes
A Did something you later regretted			
B Forgot where you were or what you did			
C Got in trouble with the police			
D Someone had sex with me **without my** consent			
E Had sex with someone **without their** consent			
F Had unprotected sex			
G Physically injured yourself			
H Physically injured another person			
I Seriously considered suicide			

17. **Within the last 30 days, what percent of students at your school used:** **State your best estimate. (If less than 10, please enter 00, 01, 02, etc.)**

Cigarettes % Used	Alcohol % Used	Marijuana % Used
00 01 02 03 04 05 06 07 08 09	00 01 02 03 04 05 06 07 08 09	00 01 02 03 04 05 06 07 08 09

DRUG USE

18. **Within the last 12 months**, have you taken any of the following **prescription drugs** that were not prescribed to you?

(Please mark the appropriate column for each row)

		0 No	1 Yes
A Antidepressants (e.g., Celexa, Lexapro, Prozac, Wellbutrin, Zoloft)	0 1		
B Erectile dysfunction drugs (e.g., Viagra, Cialis, Levitra)	0 1		
C Pain killers (e.g., OxyContin, Vicodin, Codeine)	0 1		
D Sedatives (e.g., Xanax, Valium)	0 1		
E Stimulants (e.g., Ritalin, Adderall)	0 1		

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24. **Within the last 12 months, have you or your partner(s) used emergency contraception ("morning after pill")?**

- ○ N/A, have not had vaginal intercourse in the **last 12 months**
- ○ No
- ○ Yes
- ○ Don't know

25. **Within the last 12 months, have you or your partner(s) become pregnant?**

- ○ N/A, have not had vaginal intercourse in the **last 12 months**
- ○ No
- ○ Yes, unintentionally
- ○ Yes, intentionally
- ○ Don't know

Weight, Nutrition, and Exercise

WEIGHT 1

26. **How do you describe your weight?**

A ○ Very underweight
B ○ Slightly underweight
C ○ About the right weight
D ○ Slightly overweight
E ○ Very overweight

WEIGHT 2

27. **Are you trying to do any of the following about your weight?**

A ○ I am not trying to do anything about my weight
B ○ Stay the same weight
C ○ Lose weight
D ○ Gain weight

28. **How many servings of fruits and vegetables do you usually have per day? (1 serving = 1 medium piece of fruit; 1/2 cup fresh, frozen, or canned fruits/vegetables; 3/4 cup fruit/vegetable juice; 1 cup salad greens; or 1/4 cup dried fruit)**

○ 0 servings per day ○ 1–2 servings per day ○ 3–4 servings per day ○ 5 or more servings per day

29. **On how many of the past 7 days did you:**

(Please mark the appropriate column for each row)

	0 days	1 day	2 days	3 days	4 days	5 days	6 days	7 days
Do **moderate-intensity** cardio or aerobic exercise (caused a noticeable increase in heart rate, such as a brisk walk) for at least **30 minutes**?	○	○	○	○	○	○	○	○
Do **vigorous-intensity** cardio or aerobic exercise (caused large increases in breathing or heart rate, such as jogging) for at least **20 minutes**?	○	○	○	○	○	○	○	○
Do 8-10 strength training exercises (such as resistance weight machines) for 8-12 repetitions each?	○	○	○	○	○	○	○	○

Mental Health

MENTAL HEALTH

30. **Have you ever:**

(Please mark the appropriate column for each row)

	Yes, in the last 12 months	Yes, in the last 30 days	Yes, in the last 2 weeks	No, not in last 12 months	No, never
	0	1	2	3	4
A Felt things were hopeless	○	○	○	○	○
B Felt overwhelmed by all you had to do	○	○	○	○	○
C Felt exhausted (not from physical activity)	○	○	○	○	○
D Felt very lonely	○	○	○	○	○
E Felt very sad	○	○	○	○	○
F Felt so depressed that it was difficult to function	○	○	○	○	○
G Felt overwhelming anxiety	○	○	○	○	○
H Felt overwhelming anger	○	○	○	○	○
I Intentionally cut, burned, bruised, or otherwise injured yourself	○	○	○	○	○
J Seriously considered suicide	○	○	○	○	○
K Attempted suicide	○	○	○	○	○

31. Within the **last 12 months**, have you been diagnosed or treated by a professional for any of the following?

(Please mark the appropriate column for each row)

	No	Yes, diagnosed but not treated	Yes, treated with medication	Yes, treated with psychotherapy	Yes, treated with medication and psychotherapy	Yes, other treatment
	0	1	2	3	4	5
A Anorexia	○	○	○	○	○	○
B Anxiety	○	○	○	○	○	○
C Attention Deficit and Hyperactivity Disorder (ADHD)	○	○	○	○	○	○
D Bipolar Disorder	○	○	○	○	○	○
E Bulimia	○	○	○	○	○	○
F Depression	○	○	○	○	○	○
G Insomnia	○	○	○	○	○	○
H Other sleep disorder	○	○	○	○	○	○
I Obsessive Compulsive Disorder (OCD)	○	○	○	○	○	○
J Panic attacks	○	○	○	○	○	○
K Phobia	○	○	○	○	○	○
L Schizophrenia	○	○	○	○	○	○
M Substance abuse or addiction (alcohol or other drugs)	○	○	○	○	○	○
N Other addiction (e.g., gambling, internet, sexual)	○	○	○	○	○	○
O Other mental health condition	○	○	○	○	○	○

32. Have you ever been diagnosed with depression? ○ 0 No ○ 1 Yes

33. Within the **last 12 months**, have any of the following been traumatic or very difficult for you to handle?

(Please mark the appropriate column for each row)

	No (0)	Yes (1)
A Academics	○	○
B Career-related issue	○	○
C Death of a family member or friend	○	○
D Family problems	○	○
E Intimate relationships	○	○
F Other social relationships	○	○
G Finances	○	○
H Health problem of a family member or partner	○	○
I Personal appearance	○	○
J Personal health issue	○	○
K Sleep difficulties	○	○
L Other	○	○

34. Have you ever received psychological or mental health services from any of the following?

(Please mark the appropriate column for each row)

	No (0)	Yes (1)
A Counselor/Therapist/Psychologist	○	○
B Psychiatrist	○	○
C Other medical provider (e.g., physician, nurse practitioner)	○	○
D Minister/Priest/Rabbi/Other clergy	○	○

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35. **Have you ever received psychological or mental health services from your current college/university's Counseling or Health Service?**
○ No 0 ○ Yes 1

36. **If in the future you were having a personal problem that was really bothering you, would you consider seeking help from a mental health professional?**
○ No 0 ○ Yes 1

37. **Within the last 12 months, how would you rate the overall level of stress you have experienced?**
A ○ No stress 0
B ○ Less than average stress 1
C ○ Average stress 2
D ○ More than average stress 3
E ○ Tremendous stress 4

Physical Health

38. **Within the last 30 days, did you do any of the following?**
(Please mark the appropriate column for each row)

		Yes	No
A	Exercise to lose weight	○ 1	○
B	Diet to lose weight	○	○
C	Vomit or take laxatives to lose weight	○	○
D	Take diet pills to lose weight	○	○

39. **Have you:**
(Please mark the appropriate column for each row)

	Yes	No	Don't know
Had a dental exam and cleaning in the **last 12 months?**	○	○	○
(Males) Performed testicular self exam in the **last 30 days?**	○	○	○
(Females) Performed breast self exam in the **last 30 days?**	○	○	○
(Females) Had a routine gynecological exam in the **last 12 months?**	○	○	○
Used sunscreen regularly with sun exposure?	○	○	○
Ever been tested for Human Immunodeficiency Virus (HIV) infection?	○	○	○

40. **Have you received the following vaccinations (shots)?**
(Please mark the appropriate column for each row)

	Yes	No	Don't know
Hepatitis B	○	○	○
Human Papillomavirus/HPV (cervical cancer vaccine)	○	○	○
Influenza (the flu) in the **last 12 months** (shot or nasal mist)	○	○	○
Measles, Mumps, Rubella	○	○	○
Meningococcal disease (meningococcal meningitis)	○	○	○
Varicella (chicken pox)	○	○	○

41. **Within the last 12 months, have you been diagnosed or treated by a professional for any of the following?**

(Please mark the appropriate column for each row)	Yes	No
Allergies	○	○
Asthma	○	○
Back pain	○	○
Broken bone/Fracture/Sprain	○	○
Bronchitis	○	○
Chlamydia	○	○
Diabetes	○	○
Ear infection	○	○
Endometriosis	○	○
Genital herpes	○	○
Genital warts/Human Papillomavirus (HPV)	○	○
Gonorrhea	○	○
Hepatitis B or C	○	○
High blood pressure	○	○
High cholesterol	○	○
Human Immunodeficiency Virus (HIV)	○	○
Irritable Bowel Syndrome (IBS)	○	○
Migraine headache	○	○
Mononucleosis	○	○
Pelvic Inflammatory Disease (PID)	○	○
Repetitive stress injury (e.g., carpal tunnel syndrome)	○	○
Sinus infection	○	○
Strep throat	○	○
Tuberculosis	○	○
Urinary tract infection	○	○

42. **On how many of the past 7 days did you get enough sleep so that you felt rested when you woke up in the morning?**

○ 0 days ○ 1 day ○ 2 days ○ 3 days ○ 4 days ○ 5 days ○ 6 days ○ 7 days

0 1 2 3 4 5 6 7

43. **People sometimes feel sleepy during the daytime. In the past 7 days, how much of a problem have you had with sleepiness (feeling sleepy, struggling to stay awake) during your daytime activities?**

0 ○ No problem at all
1 ○ A little problem
2 ○ More than a little problem
3 ○ A big problem
4 ○ A very big problem

44. **In the past 7 days, how often have you:**

(Please mark the appropriate column for each row)	0 days	1 day	2 days	3 days	4 days	5 days	6 days	7 days
Awakened too early in the morning and couldn't get back to sleep?	○	○	○	○	○	○	○	○
Felt tired, dragged out, or sleepy during the day?	○	○	○	○	○	○	○	○
Gone to bed because you just could not stay awake any longer?	○	○	○	○	○	○	○	○
Had an extremely hard time falling asleep?	○	○	○	○	○	○	○	○

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Impediments to Academic Performance

(Please select the most serious outcome for each item below)

0 = Significant disruption in thesis, dissertation, research, or practicum work
1 = Received an incomplete or dropped the course
2 = Received a lower grade in the course
3 = Received a lower grade on an exam or important project
4 = I have experienced this issue but my academics have not been affected
5 = This did not happen to me/not applicable

45. Within the **last 12 months**, have any of the following affected your academic performance?

		0	1	2	3	4	5
A	Alcohol use	○	○	○	○	○	○
B	Allergies	○	○	○	○	○	○
C	Anxiety	○	○	○	○	○	○
D	Assault (physical)	○	○	○	○	○	○
E	Assault (sexual)	○	○	○	○	○	○
F	Attention Deficit and Hyperactivity Disorder (ADHD)	○	○	○	○	○	○
G	Cold/Flu/Sore throat	○	○	○	○	○	○
H	Concern for a troubled friend or family member	○	○	○	○	○	○
I	Chronic health problem or serious illness (e.g., diabetes, asthma, cancer)	○	○	○	○	○	○
J	Chronic pain	○	○	○	○	○	○
K	Death of a friend or family member	○	○	○	○	○	○
L	Depression	○	○	○	○	○	○
M	Discrimination (e.g., homophobia, racism, sexism)	○	○	○	○	○	○
N	Drug use	○	○	○	○	○	○
O	Eating disorder/problem	○	○	○	○	○	○
P	Finances	○	○	○	○	○	○
Q	Gambling	○	○	○	○	○	○
R	Homesickness	○	○	○	○	○	○
S	Injury (fracture, sprain, strain, cut)	○	○	○	○	○	○
T	Internet use/computer games	○	○	○	○	○	○
U	Learning disability	○	○	○	○	○	○
V	Participation in extracurricular activities (e.g., campus clubs, organizations, athletics)	○	○	○	○	○	○
W	Pregnancy (yours or your partner's)	○	○	○	○	○	○
X	Relationship difficulties	○	○	○	○	○	○
Y	Roommate difficulties	○	○	○	○	○	○
Z	Sexually transmitted disease/infection (STD/I)	○	○	○	○	○	○
AA	Sinus infection/Ear infection/Bronchitis/Strep throat	○	○	○	○	○	○
BB	Sleep difficulties	○	○	○	○	○	○
CC	Stress	○	○	○	○	○	○
DD	Work	○	○	○	○	○	○
EE	Other (please specify _____)	○	○	○	○	○	○

Demographic Characteristics

46. How old are you? → Years

47. What is your gender?
- ○ Female
- ○ Male
- ○ Transgender

48. What is your sexual orientation?
- A ○ Heterosexual
- B ○ Gay/Lesbian
- 3 ○ Bisexual
- 4 ○ Unsure

49. What is your height in feet and inches? ▶ HEIGHT — Ft. / Inch

50. What is your weight in pounds? → WEIGHT — Pounds

51. What is your year in school?

- ○ 1st year undergraduate
- ○ 2nd year undergraduate
- ○ 3rd year undergraduate
- ○ 4th year undergraduate
- ○ 5th year or more undergraduate
- ○ Graduate or professional
- ○ Not seeking a degree
- ○ Other

52. What is your enrollment status?

○ Full-time ○ Part-time ○ Other

53. Have you transferred to this college or university within the last 12 months?

○ No ○ Yes

54. How do you usually describe yourself? *(Mark all that apply)*

1 ○ White
2 ○ Black or African American
3 ○ Hispanic or Latino/a
4 ○ Asian or Pacific Islander
5 ○ American Indian, Alaskan Native, or Native Hawaiian
6 ○ Biracial or Multiracial
7 ○ Other

55. Are you an international student?

○ No ○ Yes

56. What is your relationship status?

- ○ Not in a relationship
- ○ In a relationship but not living together
- ○ In a relationship and living together

57. What is your marital status?

- ○ Single
- ○ Married/Partnered
- ○ Separated
- ○ Divorced
- ○ Other

58. Where do you currently live?

- ○ Campus residence hall
- ○ Fraternity or sorority house
- ○ Other college/university housing
- ○ Parent/guardian's home
- ○ Other off-campus housing
- ○ Other

59. Are you a member of a social fraternity or sorority? (e.g., National Interfraternity Conference, National Panhellenic Conference, National Pan-Hellenic Council, National Association of Latino Fraternal Organizations)

○ No ○ Yes

60. How many hours a week do you work for pay?

- ○ 0 hours
- ○ 1–9 hours
- ○ 10–19 hours
- ○ 20–29 hours
- ○ 30–39 hours
- ○ 40 hours
- ○ More than 40 hours

61. How many hours a week do you volunteer?

- ○ 0 hours
- ○ 1–9 hours
- ○ 10–19 hours
- ○ 20–29 hours
- ○ 30–39 hours
- ○ 40 hours
- ○ More than 40 hours

62. What is your primary source of health insurance?

- ○ My college/university sponsored plan
- ○ My parents' plan
- ○ Another plan
- ○ I don't have health insurance
- ○ I am not sure if I have health insurance

63. What is your approximate cumulative grade average?

4 ○ A 3 ○ B 2 ○ C 1 ○ D/F ○ N/A

64. Within the last 12 months, have you participated in organized college athletics at any of the following levels?

(Please mark the appropriate column for each row)	Yes	No
Varsity	○	○
Club sports	○	○
Intramurals	○	○

65. Do you have any of the following?

(Please mark the appropriate column for each row)	Yes	No
Attention Deficit and Hyperactivity Disorder (ADHD)	○	○
Chronic illness (e.g., cancer, diabetes, auto-immune disorders)	○	○
Deafness/Hearing loss	○	○
Learning disability	○	○
Mobility/Dexterity disability	○	○
Partial sightedness/Blindness	○	○
Psychiatric condition	○	○
Speech or language disorder	○	○
Other disability	○	○

66. Are you currently or have you been a member of the United States Armed Services (Active Duty, Reserve, or National Guard)?

- ○ No
- ○ Yes and I <u>have</u> deployed to an area of hazardous duty
- ○ Yes and I <u>have not</u> deployed to an area of hazardous duty

THANK YOU FOR COMPLETING THIS SURVEY

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APPENDIX C

Social Support Questionnaire (Short Form)
SSQ6

Instructions:
The following questions ask about people from your environment who provide you with help or support. Each question has two parts. For the first part list all of the people you know, excluding yourself who you can count on for help and support in the manner described. For the second part, circle how satisfied you are with the overall support you have. If you have had no support for a question, check the words "no one", but still rate your level of satisfaction. Please answer all the questions the best you can. All of your Reponses will be kept confidential.

1. Whom can you really count on to be dependable when you need help?

No one	1.	4.	7.
	2.	5.	8.
	3.	6.	9.

2. How satisfied?

6 – very satisfied	5 – fairly satisfied	4 – a little satisfied	3 – a little dissatisfied	2 – fairly dissatisfied	1 - very dissatisfied

3. Whom can you really count on to help you feel more relaxed when you are under pressure?

No one	1.	4.	7.
	2.	5.	8.
	3.	6.	9.

4. How satisfied?

6 – very satisfied	5 – fairly satisfied	4 – a little satisfied	3 – a little dissatisfied	2 – fairly dissatisfied	1 - very dissatisfied

5. Whom accepts you totally, including both your worst and your best points?

No one	1.	4.	7.
	2.	5.	8.
	3.	6.	9.

6. How satisfied?

6 – very satisfied	5 – fairly satisfied	4 – a little satisfied	3 – a little dissatisfied	2 – fairly dissatisfied	1 - very dissatisfied

7. Whom can you really count on to care about you, regardless of what is happening to you?

No one	1.	4.	7.

	2.	5.	8.		
	3.	6.	9.		

8. How satisfied?

6 – very satisfied	5 – fairly satisfied	4 – a little satisfied	3 – a little dissatisfied	2 – fairly dissatisfied	1 - very dissatisfied

9. Whom can you really count on to help you feel better when you are feeling generally down in the dumps?

No one	1.	4.	7.		
	2.	5.	8.		
	3.	6.	9.		

10. How satisfied?

6 – very satisfied	5 – fairly satisfied	4 – a little satisfied	3 – a little dissatisfied	2 – fairly dissatisfied	1 - very dissatisfied

11. Whom can you really count on to console you when you are upset?

No one	1.	4.	7.		
	2.	5.	8.		
	3.	6.	9.		

12. How satisfied?

6 – very satisfied	5 – fairly satisfied	4 – a little satisfied	3 – a little dissatisfied	2 – fairly dissatisfied	1 - very dissatisfied

APPENDIX D

7-Item Version of the Athletic Identity Measurement Scale (AIMS)

For the following questions, please circle the number that best reflects the extent to which you agree or disagree with each statement regarding your sport participation.

1. I consider myself an athlete.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

2. I have many goals related to sport.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

3. Most of my friends are athletes.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

4. Sport is the most important part of my life.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

5. I spend more time thinking about sport than anything else.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

6. I feel bad about myself when I do poorly in sport.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

7. I would be very depressed if I were injured and could not compete in sport.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

APPENDIX E

SUBSCALE CONSTRUCTION FORMULAS

Subscale risk scores were calculated using the following formulas. Appendix B contains a copy of the National College Health Assessment (NCHA) which has been coded to indicate response scores. The numbers in the column to the left of responses indicates the value which was given to each question response.

Alcohol use= 8 E+ 10 + 11+ 13+ 14A+ 14B + 45A

Alcohol safety = 15 A+B+C+D+E+F+G+H+I+J+K

Alcohol habits = 16 A+B+C+D+E+F+G_H+I+J

Relationship safety = 6 A+B+C+D+

Social Identity (SI)= AIMS 1+2=3

Exclusivity (EX) = AIMS 4+5

Negative Affectivity (NA)= AIMS 6+7

Social Support Quantity = SS 1+3+5+7+9+11

Social Support Quality = SS 2+4+6+8+10+12

Sexual activity= 19+ 21 A+B+C

Depression= 30F+31F+32+45C

Tobacco = 8 A+C+D

Druguse = 8G+H+I+J+K+L+M+N+O+P+18 A+C+D+E

Stress= 37+45cc

Mentalhealth= 30 A+B+C+D+E+F+G+H+I+J+K

Anxiety – 30G+31B+ 45C

Physicalhealth = 38 A+B+C+D

Marijuana = 45O + 8F

Psychological help = 35

Future psychological help = 36

Eating Disorder – 31A+ 31E+ 45O

AIMS Total = SI +EX+NA

Social Support Total = SSQUAN+SSQUAL

Total health risk = Alcohol use + Alcohol Habits + Alcohol safety + Relationship safety + sexual activity + depression + stress + mental health + anxiety + physical health + marijuana + psychological help + eating disorders = TOTAL RISK

INFORMATION SHEET FOR CONSENT
TO PARTICIPATE IN A RESEARCH STUDY

My name is Carol Ludvigson, and I am a graduate student in the College of Education at the University of Oklahoma. I am requesting that you volunteer to participate in a research study titled Health risk behaviors of female student-athletes and the relationship to social support and athletic identity. You were selected as a possible participant because. Please read this information sheet and contact me to ask any questions that you may have before agreeing to take part in this study.

Purpose of the Research Study: The purpose of this study is to determine the possible health risk behaviors of the female student-athlete population and to see if there is any correlation to their health risk behaviors and social support and athletic identity.

Procedures: If you agree to be in this study, you will be asked to complete three questionnaires on health risk behaviors, social support and athletic identity. These questionnaires should only take you 30 minutes to complete. There is nothing further for you to do.

Risks and Benefits of Being in the Study: The study has minimal to no risks for your participation. Since there is information in this study that is personal and sensitive, the risk is minimal since there will be no way that you can be personally linked to your responses. You, personally, will not see any benefit to your participation, either.

Compensation: You will not be compensated for your time and participation in this study.

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether or not to participate will not result in penalty or loss of benefits to which you are otherwise entitled. If you decide to participate, you are free not to answer any question or discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled.

Length of Participation: Your participation in this study will last for approximately 30 minutes, the amount of time it will take you to complete the questionnaires. You will have no additional follow-up responsibilities following the completion of the questionnaire.

Confidentiality: The records of this study will be kept private and your supervisor will not have access to your responses. In published reports, there will be no information included that will make it possible to identify you as a research participant. Research records will be stored securely. The questionnaire will not have your name or other identifying information on it. Only approved researchers will have access to the records.

Contacts and Questions: If you have concerns or complaints about the research, the researcher(s) conducting this study can be contacted at 325-7717 or cludvigson@ou.edu. In the event of a research-related injury, contact the researcher(s). You are encouraged to contact the researcher(s) if you have any questions. If you have any questions, concerns, or complaints about the research or about your rights and wish to talk to someone other than the individuals on the research team, or if you cannot reach the research team, you may contact the

University of Oklahoma – Norman Campus Institutional Review Board (OU-NC IRB) at (405) 325-8110 or irb@ou.edu.

Please keep this information sheet for your records. By completing and returning this questionnaire, I am agreeing to participate in this study.

The University of Oklahoma®

OFFICE OF HUMAN RESEARCH PARTICIPANT PROTECTION - IRB

IRB Number: 13592
Approval Date: October 18, 2011

October 19, 2011

Carol Ludvigson
Athletic Student Life/OMS
4120 Gyrfalcon Drive
Norman, OK 73019

RE: Health Risk Behaviors of Female Student-Athletes and the Relationship to Social Support and Athletic Identity

Dear Ms. Ludvigson:

On behalf of the Institutional Review Board (IRB), I have reviewed and granted expedited approval of the above-referenced research study. This study meets the criteria for expedited approval category 7. It is my judgment as Chairperson of the IRB that the rights and welfare of individuals who may be asked to participate in this study will be respected; that the proposed research, including the process of obtaining informed consent, will be conducted in a manner consistent with the requirements of 45 CFR 46 as amended; and that the research involves no more than minimal risk to participants.

This letter documents approval to conduct the research as described:

Consent form - Subject Dated: October 12, 2011 Information sheet
Protocol Dated: October 12, 2011
IRB Application Dated: October 12, 2011
Other Dated: October 05, 2011 OU Dept of Intercollegiate Athletics-support Ltr
Survey Instrument Dated: September 08, 2011 Social Support Questionnaire
Survey Instrument Dated: September 08, 2011 National College Health Assessment II
Survey Instrument Dated: September 08, 2011 Demographic Data Sheet

As principal investigator of this protocol, it is your responsibility to make sure that this study is conducted as approved. Any modifications to the protocol or consent form, initiated by you or by the sponsor, will require prior approval, which you may request by completing a protocol modification form. All study records, including copies of signed consent forms, must be retained for three (3) years after termination of the study.

The approval granted expires on October 17, 2012. Should you wish to maintain this protocol in an active status beyond that date, you will need to provide the IRB with an IRB Application for Continuing Review (Progress Report) summarizing study results to date. The IRB will request an IRB Application for Continuing Review from you approximately two months before the anniversary date of your current approval.

If you have questions about these procedures, or need any additional assistance from the IRB, please call the IRB office at (405) 325-8110 or send an email to irb@ou.edu.

Cordially,

Todd T. Sandel

Todd Sandel, Ph.D.
Vice Chair, Institutional Review Board