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Changes in Female Athletes' Physical Self-Esteem Across a Competitive Cycle and as a Function of Athletic Identity

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Changes in Female Athletes' Physical Self-Esteem Across a
Competitive Cycle and as a Function of Athletic Identity
(TITLE)

BY

Michelle C. Reed
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THESIS

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Changes In Female Athletes' Physical Self-Esteem as a Function of Their Athletic Identity

Abstract

The purpose of this study was to examine if female athletes' physical self-perceptions are different when comparing their Physical Self-Perception Profile (PSPP) scores within their competitive season with their scores during the off-season. The second purpose was to determine if physical self-perception varied as a function of their athletic identity. A secondary objective was to evaluate female athletes' physical self-esteem in an individual sport setting compared to a team sport setting. Eastern Illinois University female collegiate athletes in six different sports, track (n=15), softball (n=16), soccer (n=11), tennis (n=3), volleyball (n=5), and rugby (n=19) were given the Athletic Identity Measurement Scale (AIMS) once and the PSPP during both in-season and out-of-season time periods. A series of one-way repeated measures ANOVAs were run on each separate PSPP subscale with repeated measures on time to determine physical self-esteem changes over time. The results revealed a main effect for time on body attractiveness. Body attractiveness was higher in-season ($M = 15.59$) than during the off-season ($M = 14.75$). Athletic identity was partitioned into high and low athletic identity so that a one-way MANOVA could be performed using AIMS scores (median cutoff for AIMS score (47)) as the independent variable and the PSPP change scores as the dependent variable (in-season scores minus out-of-season scores). The change scores for the overall MANOVA for athletic identity were nonsignificant. (Wilks Lambda = .94, $F(5, 63) = .87$, $p = .51$). This result indicated that the participants in this study were not different in their physical self-perception scores across a competitive cycle as a function of their different levels of athletic identity. A one-way MANOVA was performed

with sport type (team, individual) as the categorical independent variable and the PSPP change scores (in-out-of-season PSPP) as multiple dependent variables. The results indicated that sport type did not affect the athletes' physical self-perceptions (Wilks Lambda = .96, $F(4, 64) = .15, p = .96$). The significant finding in the present study was similar to those of other studies indicating that body attractiveness has a major influence over physical self-perception in females. It was concluded that female athletes' physical self-esteem appears to be resistant to fluctuations from in-season to off-season and for varying levels of athletic identity.

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CHAPTER I

INTRODUCTION

The effects of physical activity on the human body have been studied for years. Much of the research pertains to the physical benefits of physical activity, however, a significant number of studies are devoted to the psychological benefits. While much attention has been focused on the psychological benefits of exercise related to depression and anxiety, another noted benefit from exercise has been improvements in one's sense of self-esteem (Sonstroem, 1984; Gruber, 1986). Self-esteem is a psychological component of one's overall self-concept. Self-esteem in general, is the overall good feeling about oneself (Sonstroem, 1997). It has been accepted as a general indicator of emotional and mental well-being (Fox, 1990). "Global self-esteem...is the individual's positive or negative attitude toward the self as a totality" whereas "specific self-esteem refers to self-evaluations in narrowly defined domains" (Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995, p. 141; O'Brien, 1985, p. 383). Different levels of self-esteem determine the way a person feels about herself. The higher level of self-esteem that an individual holds usually reflects a higher overall feeling of good about oneself. Self-esteem is like a measure of self-love, in that it displays the level of confidence, security, and goodness one feels about herself. Individuals with a higher self-esteem have been shown to perform better academically and to display more desirable characteristics such as leadership or social skills. These findings have helped to develop self-esteem as one of the most important aspects of a human's overall health (Fox, 1990).

It is consistently reported that physical activity has potential psychological benefits (Leith & Taylor, 1991). Studies have shown that self-esteem is enhanced through involvement in physical activity (Leith & Taylor, 1991; Sonstroem, 1984; McAuley, Mihalko, & Bane, 1997; Boyd & Hrycaiko, 1997). Despite reported shortcomings in the research literature, exercise and fitness programs have shown excellent potential for promoting self-acceptance and improving one's sense of physical competence (Sonstroem, 1984; Sonstroem & Morgan, 1989). Several reviews of the research have explored the relationship between exercise and self-concept. These reviews have focused on purported positive changes in self-concept as a result of exercise programs. The researchers suggested that changes in self-concept might be associated with perception of improved fitness rather than with actual fitness changes. Sonstroem (1984) has concluded that exercise programs seem to be associated with increases in self-esteem. Based on more recent research, Sonstroem (1997) qualified his earlier observations, saying that the increases in self-esteem found after exercise may result from the perception of improvement on other program factors (goal achievement, sense of competence, adopting healthy behaviors, social experiences, reinforcement from significant others) rather than from fitness improvement itself.

An extensive review of the research that focused on children's programs found that self-esteem changes were associated with participation in direct play or physical education programs (Gruber, 1986). In this meta-analysis, Gruber (1986) analyzed 84 studies and concluded that participation in organized physical activity programs contributed to the development of self-esteem in elementary school children. An additional conclusion was that fitness-type activities were superior to other components

of elementary school physical education in development of self-concept. Berger (1996) has proposed that exercise programs designed to enhance self-esteem and self-concept should emphasize experiences of success, increased competence and attainment of goals.

Although a relationship between physical activity and self-esteem is generally accepted, the exact nature of this relationship is not clear because previous work has been mostly limited to global self-esteem (Boyd & Hrycaiko, 1997). Although research has indicated that to the degree that exercise is a difficult behavior to maintain over time, individuals develop a sense of personal competence when they are asked to remain adherent to a regular pattern of exercise for long periods of time which ultimately benefits their sense of self-esteem. There is a large body of literature in the area of exercise and self-esteem, but the attempts to examine multidimensional self-esteem and exercise have been limited (McAuley, Mihalko, & Bane, 1997). Self-esteem has been accepted as multidimensional for a number of years, however, exercise research has been slow in using the multidimensional approach and there have been little empirical experiments of self-esteem in athlete populations (Fox, 1990).

The Structure of Self-Esteem

To fully understand the nature and content of an individual's self-esteem it is necessary to examine self-perception in several specific domains of life, such as the physical, social, and work-related aspects of each individual (Fox, 1990). Global self-esteem is a combination of all the domains, physical, social, and work-related, put together. These domains may have an effect on the global self-esteem depending on the

importance placed in each domain. These domains must be assessed separately to understand the way they affect each individual.

The Hierarchical Structure of Self-Esteem and It's Assessment

Fox and Corbin (1989) developed an instrument of considerable interest to sport scientists and practitioners titled the Physical Self-Perception Profile (PSPP). This instrument is based on a multidimensional, hierarchical structure for the physical self, which is presumed to be an important aspect of global self-esteem. As shown in figure 1 the component of physical self-worth includes sports competence, body attractiveness, physical strength, and physical condition. Physical self-worth functions as a generalized outcome of one's perception in the four subdomains of the physical self. Physical self-perception has emerged as an important part in the composition of self-esteem (Fox, 1990). The physical self-worth domain has become more important to global self-esteem. Fox and Corbin (1989) created the Physical Self-Perception Profile (PSPP) to assess the multidimensional and hierarchical nature of physical self-esteem. This profile suggests that physical self-worth (general feelings of happiness, satisfaction, pride, respect, and confidence in the physical self) is determined by the contribution of four types of physical self-perceptions: perceptions of sport competence (athletic ability, ability to learn sport, confidence in sport), perceptions of physical conditioning and fitness (conditioning, stamina, fitness, ability to maintain exercise, confidence in exercise setting), perceptions of body attractiveness (attractive physique, ability to maintain an attractive body, confidence in appearance), and perceptions of physical strength and muscular development (perceived strength, muscular development, confidence in

Figure 1. Hierarchical organization of physical self-worth.



situations requiring strength) (Fox, 1990; Hayes, Crocker, & Kowalski, 1999). This model leads to the prediction that positive physical self-concept contributes to the development of global self-esteem. Individuals who enjoy a high level of positive physical self-concept are likely to enter into competitive situations and to feel good about exercising in the presence of others (Crawford & Eklund, 1994; Hayes, et al., 1999). Each of these subdomains affects physical self-perception as a whole. Moreover, the importance placed on each domain and its subdomains can affect global self-esteem in general.

This hierarchical model is attractive because it infers a path by which regular interaction with different aspects of life might modify more global elements of self-esteem. The satisfaction that an athlete has for example, in playing well in a soccer game may eventually generalize, if repeated often enough, to physical and global self-worth. The structure of the model has also been empirically tested with the dimensionality being strongly supported (Marsh & Shavelson, 1985).

Self-efficacy, the perception of one's ability to perform a task successfully, is a form of situation-specific self-confidence. Bandura (1986) combined the concepts of confidence and expectations to formulate a clear conceptual model of self-efficacy. The theory was originally developed within the framework of a social cognitive approach to behavior change that placed self-efficacy as a common mechanism for motivating behavior. Bandura's theory has several underlying premises that apply directly to the enhancement of self-esteem through sport: (1) If someone has the skills and sufficient motivation then the major determinant of performance is self-efficacy. Self-efficacy alone is not enough to be successful – an athlete must want to succeed and have ability to

succeed, (2) Self-efficacy effects an athlete's choice of activities, level of effort, and persistence. Athletes who believe in themselves will tend to persevere, (3) Although self-efficacy is task-specific, it can generalize to other similar skills situations, (4) Self-efficacy is related to goal setting, with athletes exhibiting higher self-efficacy being more likely to set challenging goals. If an athlete has the ability to perform successfully and the confidence to try to perform then the athlete has a better chance to be successful. Self-efficacy and self-confidence are two important aspects that are predictors of performance. Kamal, Blais, McCarrey, Laramée, and Ekstrand, (1992) indicated that self-confidence and self-esteem are paramount to optimizing of athletic performance. The more confident an athlete is, the better the athletic performance is likely to be. This general notion can support the idea that athletes have a higher self-esteem than nonathletes. The higher self-esteem is needed to help athletes perform successfully in athletics.

There is also evidence that participation in sports can increase self-esteem more than just physical activity. Taylor (1995) found that athletes during their senior year of college have a significant increase in self-esteem when compared to nonathlete's self-esteem. The study suggests that sport participation can help individuals rebound faster from the decline in self-esteem after freshman year of college. Kamal, Blais, Kelly, and Ekstrand (1995) also found many components of global self-esteem to be significantly higher for a group of athletes involved in formal competitive sports, compared to a group of students not involved in formal competitive sports. Using the Rosenberg Self-Esteem Measure results of this study revealed that athletes rated themselves as being more optimistic, attractive, sociable, and successful and having a higher self-esteem when compared to nonathlete participants. Athletes have consistently shown to be higher than

nonathletes on several beneficial psychological attributes, including self-esteem (Hawkins & Gruber, 1982; Taylor, 1995; Richman & Shaffer, 2000). According to Bandura's (1986) self-efficacy theory there are four aspects that leads to increases in ones' self-efficacy: (1) Previous accomplishments, (2) Vicarious experience, (3) Positive reinforcement (verbal persuasion from self or others), and (4) Emotional arousal. All of these factors are directly enhanced through involvement in organized athletic settings. Participation in sport seems to have a stronger effect on an individual then just physical activity.

Not only has global self-esteem of athletes been found to be higher than nonathletes, physical self-esteem has been found to be greater in athletes. Self-esteem can be considered a component of general mental health and additional research develops a mental health model that was reported as being effective in predicting athletes' success (Morgan, 1979). Using the profile of mood states (POMS) Morgan's model predicts that an athlete who scores above the norm on negative POMS subscales and below the norm on vigor will fail in comparison with an athlete who scores below the norm on negative mood scales and above the norm regarding vigor. Successful elite athletes in a variety of sports (e.g. swimmers, wrestlers, oarsmen, runners) are characterized by what Morgan referred to as the iceberg profile that reflects positive health (Morgan, 1979).

The idea in the general psychology literature is that when an individual "puts too many eggs in one basket" regarding how they view themselves, they risk an overall negative self-evaluation if they perform poorly in this area of their life. Athletes tend to formulate a large portion of their identity as an athlete based on their physical self-perception (Brewer, Van Raalte, & Linder, 1993). When something happens to take in

athlete out of her athletic environment such as a season transition, retirement, or injury, a decrease in physical self-perception may happen. The athlete puts everything into being an athlete and when she loses or is unable to be a part of that area of her life she can lose some of her physical self-perception or self-esteem. This decrease in self-esteem usually occurs until the athlete learns other skilled areas and develops self-efficacy in other areas (Werthner & Orlick, 1986). The reason for a decrease would be that the physical self is less focused on after sport. The physical skills a person holds will not give her the same attention as it once did. These skills become less important outside of the athlete atmosphere.

Athletic Identity

Commitment is associated with athletic involvement especially at the collegiate level. The amount of time and dedication needed to perform as an athlete becomes an important aspect of an athletes' life. Athletes usually ascribe a great deal of psychological significance and identify strongly with the athletic role (Brewer et al., 1993). At a high level of athletic involvement, such as intercollegiate athletics, the focus of life becomes the athletic participation. Individuals develop and associate their identities with the one area in their life that has most of their time and commitment. For athletes, the identity that is formed is based on the athletics in which they participate. This large amount of involvement can lead to a high athletic identity.

Athletic identity is the degree to which an individual identifies with the athlete role (Brewer et al., 1993). This is just as "teacher identity" would be how much a teacher

identifies with the teacher role. Almost every career has some sort of identity attached to it to which can be assumed by an individual. Brewer, Van Raalte, and Linder (1993) developed the Athletic Identity Measurement Scale (AIMS) to measure the degree to which an individual identifies with the athlete role.

The degree of identity is the area that affects the level and changes in self-esteem and physical self-worth. Horton and Mack (2000) found that athletes with higher levels of athletic identity had higher levels of self-concept. However, one question that remains unanswered is whether athletic identity is related to self-esteem changes according to their degree of competitive involvement. Athletes vary in their degree of athletic identity depending on their level of commitment and years of experience with longer sport participation and higher level of involvement associated with higher degrees of athletic identity (Webb & Nasco, 1998). Webb and Nasco (1998) found that the relationship between longer experience and the higher athletic identity was mostly due to increased commitment to continue sports participation. As athletes continue to participate in sports, the commitment increases because the level of competition increases. The increases place more emphasis on being an athlete, increasing athletic identity.

Since athletic identity is so heavily tied into being an athlete, self-esteem may also decline when an athlete's identity declines. Previous work has indicated that athletes' transition out of sport due to (1) end of career or (2) career ending injury, has shown to decrease in self-esteem and increase in psychological difficulties, especially athletes with high athletic identity (Webb & Nasco, 1998). Athletes with strong athletic identity who receive an athletic injury, particularly a career-threatening injury, experience a disruption in their self-identity. When there is not another source of self-identification or self-worth

for an athlete, there is a higher risk for emotional disturbance (Brewer et al., 1993).

However, if the athletes at risk could be identified before their retirements then maybe some preventative measures could be established and taken to help these athletes.

Statement of the Problem

A major aspect of athletics is the personal and psychological investment that athletes maintain within their sport. Therefore, it may be argued that a large component of the athletes' physical self-esteem is related to their sense of identity as an athlete. Sports competence, physical strength, and physical conditioning are all aspects of physical self-perception that help an athlete improve. These physical subdomains are important in that they indirectly relate to athletes' self-efficacy of their skills and overall athletic confidence. The body attractiveness physical subdomain is also important especially in females. Female exerciser's self-esteem has been shown to be enhanced through a higher appraisal of their body attractiveness (Hayes, Crocker, & Kowalski, 1999). Each year of experience also brings an increase in athletic identity. If higher athletic identity comes with each year of participation and physical self-perception also increases with experience then maybe there is a connection between athletic identity and an athlete's physical self-perception.

There are two major purposes of this study. The first purpose was to examine whether female athletes' physical self-perceptions are different when comparing their subdomain scores within their competitive season to scores during their off-season. The

second purpose was to determine if female athletes' physical self-perception varies as a function of their level of athletic identity.

Hypotheses

It was hypothesized that the female athletes would have a lower physical self-perception during the off-season when compared to their competitive season. Brewer (1993) found that athletic identity contributed uniquely to depressed mood in injured athletes and suggested that athletic identity would also be positively associated with depression following other identity-disrupting events, including athletic career termination or being cut from the team. The higher the athletic identity, the higher the depression in an athlete, which leads to the contention that athletic identity would be related to the amount of change in physical self-perception between seasons. The second hypothesis was that the female athletes with a higher level of athletic identity would have a lower physical self-esteem during the off-season.

Delimitations

This study examined only short-term fluctuations of physical self-esteem using in-season and off-season training cycle. Conclusions and implications regarding long-term changes in physical self-esteem were not possible with the current design. A more comprehensive investigation of the research question would necessitate training changes in physical self-esteem over a longer period of time. Female collegiate athletes were the

only population examined. Certain female sports, which were offered at this university, were the only sports examined in this study. Therefore, results should not be generalized to the full spectrum of female collegiate athletics. The time allotted between seasons varied from four months to six months because of the time frame of this study.

Definition of Terms

Athletic Identity – The degree to which an individual identifies with the athlete role (Brewer, Van Raalte, & Linder, 1993). For the current study athletic identity can be defined as the part of an individual's self-concept that is derived from her knowledge of her membership of an athletic group (or groups) together with the value and emotional significance attached to that membership.

Body Attractiveness – Perceived attractiveness of figure or physique, ability to maintain an attractive body and confidence in appearance (Fox, 1990).

Global Self-Esteem – Global self-esteem is the individual's positive or negative attitude toward the self as a totality (Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995).

Physical Condition – Perceptions of level of physical condition, stamina and fitness, ability to maintain exercise, and confidence in the exercise and fitness setting (Fox, 1990).

Physical Self-Perception – The perception of the physical aspects of the self. It is a domain of global self-esteem (Fox, 1990).

Physical Strength – Perceived strength, muscle development, and confidence in situations requiring strength (Fox, 1990).

Physical Self-Worth – General feelings of happiness, satisfaction, pride, respect, and confidence in the physical self. It is a domain of global self-esteem (Fox, 1990).

Specific Self-Esteem – Self-evaluations in narrowly defined domains (O'Brien, 1985).

Sports Competence – Perceptions of sport and athletic ability, ability to learn sport skills, and confidence in the sports environment (Fox, 1990).

Significance of the Study

Because many athletes may have larger identification with their role as an athlete, physical self-esteem may be more likely to fluctuate when the athlete is not involved in their competitive season (Brewer et al., 1993). This fluctuation may be more evident and negative if the athlete over-identifies with their identity as an athlete. A fluctuation across in-season and out-of-season measures could result in highs and lows resulting in overall loss of self-esteem. If a fluctuation can be detected in an athlete then something may be done to help the athlete become and stay more stable during both seasons. In addition, an early detection of fluctuation problems may be able to predict and help prevent difficulties in the transition out of athletics.

CHAPTER II

LITERATURE REVIEW

The purpose of this study was to determine whether the physical self-perception of female collegiate athletes were different when comparing PSPP scores within the competitive season to scores during the off-season. The second purpose is to determine if physical self-perception scores differ as a function of athletic identity. Studies have been done on self-esteem, physical self-perception, and athletic identity but few have ventured into the area of comparison between seasons.

The Structure of Self-Esteem

Self-esteem has been studied for many years by an enormous number of researchers in a wide array of disciplines. A major area that has been researched and continues to be a fruitful area in research is exercise and self-esteem. Researchers have been examining the relationship between self-esteem and physical activity and have come to a general acceptance that physical activity and self-esteem do affect one another, in the way that exercise can increase self-esteem (Hines & Groves, 1989; Sonstroem, 1984; Boyd & Hrycaiko, 1997). This has been the general conclusion but problems have arisen from the generality of the area of self-esteem. Self-esteem suffers, like other psychological aspects, from the “everybody knows what it is” problem, so researchers do not feel the need to define it (Marsh, 1990). That has tended to be a problem because

there are many ways to define self-esteem and its definition is becoming more complex as the research continues.

After the general acceptance of increased self-esteem from exercise, another research focus was the athlete versus the nonathlete. Physical activity has been shown to increase self-perceptions of the self, but the athlete in general is shown to reveal a higher amount of self-esteem. Participating in athletics has been proven to help increase self-esteem (Richman & Shaffer, 2000; Hawkins & Gruber, 1982; Marsh, 1998). Hawkins and Gruber (1982) found that little league baseball players benefited from a season of baseball, and their overall self-esteem was shown to increase. The Coopersmith's Self-esteem Inventory was given to the players two weeks into the season and then again one week before the end of the season. The results of the multivariate and the univariate analyses of covariance revealed a significant difference over a baseball season. A season of little league baseball helped to increase the boys' self-esteem.

Similar results were seen in Richman and Shaffer's (2000) study involving college women. Undergraduate female students were asked about their experience and history of participation in athletics. There were three areas that the students were asked about (1) High school team and recreational team experiences, (2) Sport years, or the number of years the student had participated in sport activities, and (3) High school involvement, to rate the perceived involvement in high school sports. The questionnaire combined all three categories to create a composite score of precollege sport participation. Then their academic competence in high school was assessed along with social acceptance in high school. The Physical Self-Description Questionnaire was given to assess the dimensions of physical competence and the Body Esteem Scale was given to

assess the body images of each individual. The last assessment was about acceptance in college. A questionnaire was designed to measure how the individuals assessed their peer status in college. The results indicated that greater precollege sport participation revealed more favorable body images, greater perceived physical competencies, more flexible gender attributes, and higher self-esteem among the female participants (Richman & Shaffer, 2000). Earlier sports participation correlated with all the variables indicating that sports participation, especially early in life, can positively affect a females' global self-esteem along with specific domains (body image, physical self-worth, etc.).

In addition, research shows that physically active people (of which the majority of athletes can be classified) have better body images than physically inactive people (Loland, 1998). Loland (1998) examined the physical activity and body images of 1555 Norwegians between the ages of 18 and 67. Through the examination he found that physically active people generally have a more satisfied feeling toward their body image than non-active individuals. Finally, marathon runners had a greater health/fitness orientation than normative samples, yet were less preoccupied with body appearance (Huddy & Cash, 1997).

Taylor (1995) found that college athletic participants tended to have a higher self-esteem than nonparticipants in every class except the freshman class. However, the higher level of self-esteem was not statistically significant until the senior year. The study examined 651 full-time college students on their participation in intercollegiate sports and their self-esteem, which was measured by the Rosenberg Self-Esteem Scale. Results indicated that college students experienced small significant gains in self-esteem during the college years. The college athletes had a higher level of self-esteem in each class

excluding freshman year but the athletes only showed a significant increase in self-esteem compared to the nonathletes in their senior year. The fact that participants did have a higher self-esteem in every class except the freshman class suggested that participation in intercollegiate athletics might produce a quicker rebound in self-esteem from the “postfreshman” decline (Taylor, 1995). However, this study was not truly longitudinal and that could have influenced some of the results. Taylor (1995), did find that sports and other experiences in college can have an affect on an individuals overall self-esteem.

For many years, self-esteem was studied as an unidimensional construct. Global self-esteem, an individual’s positive or negative attitude toward the self as a totality, was assessed and the results were used to determine self-esteem (Rosenberg et. al, 1995). The major self-esteem scale used for many years was the Rosenberg Self-Esteem Scale, however, this scale assess global self-esteem and not its dimensions (Rosenberg, 1965). There has been advancement in the self-esteem theory in the past twenty years; this is the widespread acceptance of multidimensionality (Shavelson, Hubner, & Stanton, 1976; Marsh & Shavelson, 1985; Fox & Corbin, 1989). However, as McAuley, Mihalko, and Bane (1996) observed, there has been too much reliance on the global self-esteem with exclusion of the domain-specific esteem and the examination of multidimensional models of self-esteem. The multidimensional model is a theory of multiple conceptions of the self, for example, persons may think highly of themselves as spouses, fairly highly of themselves as employees, and poorly of themselves as tennis players (Sonstroem, 1984). Multidimensionality refers to the different areas of the self that can be seen to have an overall affect on the self-esteem of an individual. Marsh and Shavelson (1985) concluded

that if multidimensionality is excluded or ignored then self-concept couldn't be adequately understood. More recently, studies have realized this exclusion and began to examine self-esteem as a multidimensional figure.

Shavelson, Hubner, and Stanton (1976) after reviewing the existing research in self-concept, developed a model of self-concept that was multifaceted and hierarchical in its nature. The study described measurement criteria, evaluating five multidimensional self-concept instruments. Seven features of their construct definition of self-concept were developed along with a model where the general self appeared at the apex and was divided into increasingly more specific domains. These domains are physical, social, and academic and are located at each level of the hierarchy. Their research found support for the multidimensionality of self-concept and discovered that no instrument existed to differentiate between the domains in their model of self-concept. The model was developed so that measurement instruments could be constructed using the proposed model of self-concept, constructed by Shavelson, et al. (1976), as a resource to its development. Shavelson et al. (1976) were searching to develop a model that would look at the different aspects of self-concept and help to develop instruments to measure the different domains in self-concept.

The concept of different domains in self-esteem has been researched and supported in different areas. Anshel, Muller, and Owens (1986) studied fifteen boys, ranging in age from six to nine years old, that were participating in a summer sports day camp. The researchers hypothesized that the positive experience in developing the sports skills would improve the self-concept related to sports skills and not the other dimensions. The camp counselors emphasized five objectives: (1) positive feedback on

performance and improvement, (2) avoidance of making comparative judgments regarding the boys' skills, (3) teaching sports skills, (4) elimination of "winners" and "losers" in games, (5) and attempts to develop group cohesion and establishing warm, meaningful friendships among participants (Anshel, et. al., 1986, p. 364). The participants were pre- and posttested on self-concept, which measured self-knowledge, self-esteem, and self-ideal scores relative to sport abilities. Anshel et. al. (1986) found through their data "that factors influencing self-concept are area-specific rather than general" (p. 365). The study supported the idea that different areas or domains influence an individuals' self-esteem and that the influences are not general but specific. The results indicate that multidimensionality is important and almost necessary when assessing self-concept.

Global self-esteem has been broken down into different domains. As mentioned previously physical, social, and academic or work-related are the three domains that Shavelson et al., (1976) and Fox (1990) suggested to be looked at when examining the global self-esteem of an individual. Fox (1990) believed that all domains must be looked at to fully understand "the nature and content of an individuals' self-esteem" (p. 1). An individuals' self-esteem is not dependent on one area of life but a combination of different aspects of life. "People tend to think differently about their capabilities in different areas of life" (Sonstroem, 1984). To fully understand a persons' self-esteem all the aspects need to be examined. The examination of the different aspects has helped to develop new ways to determine and research self-esteem. The "infusion of interactionism into self-esteem theory has produced a much richer picture of self-esteem content and provides a more informative map for plotting self-esteem change" (Fox & Corbin, 1989,

p. 410). The multidimensionality of self-esteem allows for the in-depth examination of what influences an individual's self-esteem and what changes an individual's self-esteem.

In a review of two studies, Marsh (1993) revealed that researchers have "proposed that the relations between global esteem and self-perceptions in specific domains should be modified in relation to the importance that an individual places on each domain, to individual's views about each domain" (p. 976). Not only should there be domains in self-esteem but the domains should be weighted. The importance an individual places on each domain can determine how much that domain affects global self-esteem. The contribution to self-esteem will be larger when the perceived importance in a specific area is greater. People rate different areas in their lives at different levels. Not every person feels that the physical self is very important or that academics are not important at all. The idea is that the way an individual feels or how much importance she places on a certain facet will be a better predictor of how that specific domain affects global self-esteem overall. For example, if an individual feels that participation in sports is very important and that a social life is not that important then that person's global self-esteem would be more affected from being cut from a sport than from not being able to go out and associate with her friends on the weekends. Marsh (1986) concludes that "a variety of theoretical hypotheses, as well as common sense, posit that the effect of a specific facet of self-concept on esteem will depend on the facet's importance" (p. 1233). The multidimensionality of self-esteem can be tested but if some basis of importance is not tested then the results may not be completely reliable or adequate.

In the recent years researchers have reviewed studies involving self-esteem and the concept of multidimensionality, hierarchical self-concept and have discovered that the

concept of multidimensionality is a progression in the area of self-concept but the research has been lacking in developing correct criteria to investigate and test its multidimensionality (Marsh, 1993). Marsh (1993) suggested after an investigation of global self-esteem and domain-specific self-esteem that researchers look at both methods of evaluating self-concept. Global self-esteem cannot adequately represent all of the specific domains in self-concept however; specific domains can represent and even help predict global self-esteem (Marsh, 1993). Both global and specific self-esteem are useful to research but researchers should employ both general and specific measures, especially domains in the specific area that is being research.

Physical Self-Esteem and the Physical Self-Perception Profile

The growing view of self-esteem as multidimensional is helping to improve the research on physical self-esteem. Researchers can understand better where the global self-esteem of an individual is derived from. After the multidimensionality of self-concept was revealed and accepted the research then turned to the dimensions in self-concept. The physical self-esteem domain has been one of the most predominant areas of research in the past twenty years. This domain has been dominant because of the impact of sports and recreational activities on society. After examining the physical domain, Marsh and Remyne (1994) found it to have multidimensionality. Eighth grade girls in two private girls' schools were administered four tests from the Fleishman's Basic Fitness Tests, the 12-Minute Cooper Run Test and the Sutherland and Marsh Instrument (Marsh & Remyne, 1994). Self-esteem was examined and broken down in a hierarchical

manner into different domains. The physical domain was then found to have different areas that affected the physical self-esteem construct. Not only is self-concept seen as multidimensional, the domains of self-concept are multidimensional. The study displayed physical self-worth as a multidimensional, hierarchical domain and that both self-concept and physical self-worth are complicated. When self-concept is broken down into domains, each domain, such as the physical, is just as complicated as self-worth itself.

Physical self-esteem was established as a domain of self-esteem and now the sublevels of self-esteem are being examined and established through research. The model of physical self-esteem is seen as hierarchical and multidimensional just as global self-esteem is. The dimensions are like an organization chart that starts with global self-esteem and trickles down. The physical self-concept holds different subdomains that influence the physical self-esteem differently. The subdomains suggested by Fox and Corbin (1989), sport competence, physical conditioning, body attractiveness, and physical strength have helped to divide the physical domain into segments that influence the physical self-concept as a whole. Fox and Corbin (1989) found that these four areas were the main areas in the physical self-concept domain that were dominant in the perception of the physical self. The complication of physical self-esteem triggered these two researchers to come up with an easier and valid way to measure physical self-concept. The two researchers developed an instrument that would measure the multidimensionality and hierarchy of physical self-concept. The physical domain concentrates on the physical aspects of a person and how they relate to global self-esteem. Fox and Corbin (1989) developed the Physical Self-Perception Profile (PSPP) to examine the physical domain and its influence on global self-esteem.

Fox and Corbin (1989) took the responses from an open-ended questionnaire to determine the important contributors to physical self-esteem among a college-aged population. The PSPP was tested on a total of 1,191 students with a variety of different majors at a Midwestern university. The important contributors were categorized into four subdomain subscales with an additional subscale of general physical self-worth. The five 6-item subscales were designed to measure perceived sports competence (Sport), perceived bodily attractiveness (Body), perceived physical strength and muscular development (Strength), perceived level of physical conditioning and exercise (Condition), and physical self-worth (PSW) (Fox & Corbin, 1989). The first four subscales measure the aspects of physical self-worth. The last subscale measures general physical self-worth as a whole. The findings suggested the PSPP is sensitive to a wide range of individual differences and does not appear to be susceptible to social desirability. The PSPP also revealed stability over a three-week period. This profile was developed to reveal the role played by physical self-worth in arbitrating the effects of domain-specific changes on global self-esteem.

After the PSPP was established, other researchers decided to test the structure and validity of the profile. Sonstroem, Speliotis, and Fava (1992) conducted a study to examine the compatibility of the PSPP with adults. The main purpose was to see if the profile could be affective with adults because the PSPP was developed using only college-aged participants. The participants were 149 female and 111 male adults from a large church community, a variety of YMCA programs, a real estate firm, and adult fitness programs and senior swim programs. There were three inventories that each participant received and completed, the PSPP, the Rosenberg Self-Esteem Inventory, and

a physical activity questionnaire. The physical activity questionnaire had three study-developed questions that were used to separate the participants into categories of exercisers and nonexercisers and to what degree. Statistical analysis provided a degree of validity for using the PSPP with middle-aged and older adults, which was important because the PSPP was directed before specifically to a college-aged population. The study provided some support for the PSPP when analyzing adults as well as the college-aged population.

McAuley et al., (1997) used the PSPP to determine the effects of exercise on the self-esteem of middle-aged adults. The participants, female (n= 42) and male (n = 41) middle aged-adults, were involved in a 20-week exercise program that consisted of low-impact aerobic exercise (walking). The participants began walking for 10-15 minutes, three times a week, at the start of the program and ended the program walking 40 minutes three times a week. The PSPP, the Rosenberg Self-Esteem Scale, and the Perceived Importance Profile (PIP) were completed before and after the exercise program. A series of mixed model multivariate analyses of variance were run on the data collected. A hierarchical regression analyses were employed to determine the contribution of fitness, body composition, exercise participation, and self-efficacy to changes in physical self-esteem. The study revealed that changes in the global self-esteem of the participants were significantly associated with the changes at the subdomain level. When the subdomain level changed the domain and global self-esteem also changed. In the study, the subdomain of physical condition changed (Effect Size (ES = .54). The domain level, physical self-worth, changed (ES = .41) followed by change in the global self-esteem (ES = .22). Physical activity increased the physical self-esteem in individuals therefore

increasing the global self-esteem in the same individuals. The study emphasized the hierarchical structure of self-esteem.

Eklund, Whitehead, and Welk (1997) studied seventh and eighth graders to test the validity of an adapted PSPP for children. The adapted version of the PSPP was referred to as the Children and Youth Physical Self-Perception Profile (CY-PSPP). A total of 642 seventh and eighth grade students from junior high schools in North Dakota and Arizona participated in the study. A confirmatory factor analysis was used in the study to confirm the validity of the CY-PSPP. The results indicated support for future use of the CY-PSPP in studies of children and physical self-esteem. The study also indicated initial evidence of reliability and validity of the CY-PSPP.

Gender differences in the PSPP were examined in a study conducted by Hayes, Crocker, and Kowalski (1999). College men ($n=89$) and women ($n=94$) were given the Physical Self-Perception Profile, the What Am I Like global self-esteem scale, and the Leisure Time Exercise Questionnaire. The results indicated that for both genders there was a positive correlation between global self-esteem and physical self-worth ($r = .54, p < .05$). Men consistently scored higher on all the subscales than the women. This happened even though the levels of physical activity and global self-esteem did not significantly differ between genders. Women are consistently reporting lower scores on the physical self-perception domains and reason may be that more females have greater incidence of social physique anxiety than males (Fox & Corbin, 1989; Fox, 1990; Hayes et al., 1999; Sonstroem & Potis, 1996). The study did reveal the same conclusion about body attractiveness as other studies. Body attractiveness was a major predictor of physical self-worth ($r = .78, p < .05$) (Hayes, et al., 1999). Other studies have revealed the

same findings (Fox & Corbin, 1989; Fox, 1990; Harter, 1985). Body attractiveness seems to play a major role in the influence of physical self-esteem in males and females.

Fox (1990), along with the Physical Self-Perception Profile (PSPP) created the Perceived Importance Profile (PIP). This profile is composed of four two-item subscales, which are designed around the subscales of the PSPP. This profile determines the amount of importance placed on each subdomain of the physical self-worth domain. The PIP can help to determine how much of the physical domain affects the self-esteem level as a whole.

The PIP was developed to accompany the PSPP to act as a filter for the PSPP. The filter is to mediate the perceived importance of each subdomain in Physical self-perception. If an individual does not deem a concept as important than the low score on that concept will not affect self-esteem at the global level (Fox, 1990, Welk, Corbin, & Lewis, 1994). For example, if a participant regards sport competence as unimportant, then a low score on the sport competence subdomain in the PSPP is unlikely to have a negative impact on the person physical self-worth. A filter can also be placed between the domains and global self-esteem. The filter would act in the same way as the PIP, determining the perceived importance of each domain, physical, social, and work-related.

The Physical Self-Perception Profile used in a majority of the studies seemed to have success in evaluating the physical self-worth of college athletes, especially female athletes. The profile was designed to survey the college population. The current study uses the physical self-perception profile to determine physical self-worth of collegiate female athletes.

Athletic Identity

Self-identity is the construct of a person that helps to answer the question “Who Am I?” (Wiechman & Williams, 1997). This is the simplest form of identity. A more complex definition is the sense of our placement in the world and who we are in the context of human life (Vander Zanden, 1984). The identity that is developed by each individual becomes a role to which the individual lives by. There are many different roles that each individual can choose to possess and portray; yet the importance placed on each role will reveal the role(s) that dominant the individuals’ behaviors and actions. There are many roles a person can possess, the role as a teacher, parent, spouse, or athlete etc. These roles vary from person to person. A major role that has received much interest is the athletic role. Sport psychology research has been interested in the role identity of athletes. Research has been conducted to further understand the roles and emotions that athletes experience in their lives.

Brewer et al. (1993) developed a scale to measure athletic identity or the degree to which an athlete relates to the athletic role. The Athletic Identity Measurement Scale (AIMS) was designed through three studies at two different universities with undergraduate students. Brewer et al. (1993) took the originally designed AIMS along with the Physical Importance Profile and a short form of the Marlowe-Crowne Social Desirability Scale and had 124 females and 119 male undergraduates complete the scales. Fourteen days later the undergraduates took the AIMS again for test-retest reliability. A principal component factor analysis was completed on the AIMS responses indicating that all the items in the AIMS contributed to the total score of the AIMS. The results also

indicated that the AIMS correlated highly with all the scores on the PIP revealing support for the validity of the AIMS. However, this result of high correlation does not permit the conclusion of the AIMS measures a construct that encompasses more than the perceived importance of sport (Brewer et al., 1993).

The first follow-up study involved 449 undergraduate students who completed a variety of questionnaires in the beginning of their spring semester psychology class. The questionnaires included the AIMS, the Self-Role Scale, the Sport Orientation Questionnaire and the Rosenberg Self-Esteem Scale. The AIMS correlated with all the questionnaires except the Rosenberg Self-Esteem Scale. The correlations further support the convergent validity of the AIMS. The noncorrelation between AIMS and the Rosenberg Self-Esteem Scale indicates the independence of athletic identity and self-esteem (Brewer et al., 1993). Identification with the athletic role does not mean the individuals' self-esteem is higher or lower than individuals who do not identify with the athletic role.

A third follow-up study was conducted with 90 members of a university football team. The team received three questionnaires before the season that included the AIMS, the Physical Self-Perception Profile, and the Physical Importance Profile. The discriminant validity of the AIMS is revealed in this last study, as the Physical Importance Profile subscale of sport is the only significant correlation. The findings reveal that athletic identity is distinct from the other variables and that when the athletic involvement is constant athletic identity is related to but not the same as the importance one places on sports (Brewer, et al., 1993). The studies together provided evidence that the AIMS was reliable and internally consistent. This instrument is a strength for the

further research. It can be used for the most obvious reason to investigate the relationship of athletic identity and emotional disturbance during common transitions in athletics (Brewer, et al., 1993). The AIMS was an advancement in the field of athletics providing a tool to measure the degrees at which individuals relate to the athletic role.

A high school athletic population was used to determine the relationship between scores on the AIMS to age, gender, years of athletic experience, ethnicity, and expectations of competing at the college/pro level (Wiechman & Williams, 1997). The 389 interscholastic athletes from freshman, junior varsity, and varsity basketball, soccer, and wrestling teams completed the AIMS during the fifth or sixth week of the season. The findings indicated that grade level and competitive level had no significant difference, however, the AIMS scores indicated a trend for athletic identity to strengthen from the freshman level to the varsity level of participation (Wiechman & Williams, 1997). The results revealed that male participants had higher athletic identity than women and Mexican-Americans had stronger athletic identity than African-Americans and Caucasians. African-Americans did show higher expectations of playing at a higher level than both the other ethnicities. The results were confusing concerning ethnicity. The African-American population had a lower sense of athletic identity but a higher expectation of playing in the future, which seemed contradictory. This is a concern for the athletic population and the African-American community. There are not many opportunities for athletes to go on to the professionals but half of the African-American population surveyed felt that they were going on to a college or professional career. These unrealistic expectations must be addressed in other research. The other findings showed the normal trend of females scoring lower in athletic identity than males (Brewer,

et al., 1993; Lantz, 1999). Lantz (1999) found that this trend is from the masculinity that is placed on athletics. Both males and females undergraduates at a Midwestern university complete the AIMS and Bem Sex-Role Inventory revealing that athletic identity was positively correlated with masculinity and negatively correlated with femininity (Lantz, 1999). This supports the reason why females would score lower on athletic identity. Females, in general, are not supposed to be masculine and high athletic identity is seen as masculine.

A unique aspect of athletic identity is its' situational variability. Brewer et al. (1993), suggest that this trait-like construct may still be able to fluctuate to accommodate the individual. For example, athletic identity could be boosted for the purpose of motivating an individual to train or it could be decrease to help an individual cope with losing or an injury (Brewer et al., 1993; Wiechman & Williams, 1997). Brewer, Selby, Linder, and Petitpas (1999), found similar results involving the fluctuation of athletic identity. The two studies they performed involved male collegiate athletes who completed the AIMS and a satisfactory questionnaire with a likert-type scale. The AIMS was given at the beginning of the season and the satisfactory scale along with the AIMS again was given at the end of the competitive season. The findings of a regression analysis revealed the tendency for athletes who were not satisfied with their season to decrease identification with the athletic role. The situation of dissatisfaction with the sport season related with decreases in the athletic identity scores. Athletes will try to cope with the fact of losing by disassociating their identities with athletics. The real finding appeared to be that perceived success might be a mediator to athletic involvement and athletic identity.

Athletic identity can fluctuate helping an individual deal with emotional stress but sometimes the individual places too much on athletic identity and does not let it fluctuate. This can cause problems emotionally on how an individual deals with certain situations. Individuals can be overly dependent on the roles that they choose to lead and may not be able to function without that role. A disruption in the role an individual is trying to live out can lead to a great deal of stress for that individual (Palmer, 1981). For example, a person who has identified herself as a mechanic has an accident losing her hands would most likely experience much stress from this accident. This stress would come from the disruption in the role as a mechanic. It would be hard for the individual to adjust knowing that the role she identified herself with can no longer be carried out. This same process can be seen in athletes. Athletes who tie their identity closely with the role as an athlete may experience difficulty when that role is disrupted.

It has been shown that athletes have difficulty retiring from their sport and that self-esteem tends to drop after retirement (Webb & Nasco, 1998). Retirement can be even more problematic depending on the degree of athletic identity one holds. Webb and Nasco (1998) found that when there is a higher level of athletic identity in an individual, retirement becomes more problematic. There were 93 participants that were given an original questionnaire that was composed of open-ended questions and items on a likert-type scale. The findings revealed a positive relationship between athletic identity and retirement difficulty. The relationship was the same regardless if the individuals' athletic identity was public or private. Their study also indicated that when retirement comes from injury there are more difficulties associated with retirement (Webb & Nasco, 1998). The impact of retirement from injury showed even more difficulties. The sudden

stoppage of athletics from injury does not allow a person to prepare for retirement as would a retirement that was known to be approaching. The fact that injury does not allow an athlete to prepare and focus on other aspects of life than athletics can make the emotional disturbance of injury magnified.

Pearson and Petitpas (1990) found similar findings on psychological difficulties from career ending injuries. In a review of studies involving the difficulties from athletic transitions, Pearson and Petitpas (1990) found that fewer difficulties came with a retirement that was at the typical time in a sports career. An athlete who has carried out the typical length of the career in her sport would have less difficulties transcending out of the sport because it was the time that most participants retire from that sport. However, if a injury cut a career short by years then the disruption would be greater causing more psychological difficulties. For example, a person who dies after living for eighty years is less disrupting then the twenty-two year old that dies with years left on her life. The idea is when the career is ended because the time is up then the athlete is prepared for the transition better. When the transition is abrupt, the athlete had no time to prepare and deal with the emotions from ending an athletic career.

Olympians who fell short of their athletic goals experienced difficulties when transcending out of the athletic world. Ungerleider (1997) interviewed 57 Olympians asking twenty-five questions related to childhood, athletic training, coaching, relationships, competition and performance goals, education, social, familial, and peer support, community outreach, part-time employment, full-time employment and transition from sport to a job. The interviews were analyzed and broken down for the study. The Olympians had a hard time with the transition out of athletics, especially when

the Olympians did not feel they had reached their goals. The self-esteem and confidence of the athletes was hurt when retirement came. Great athletic identity must be identified with these elites athletes because Olympians spend most of their time training and involved in their athletics. This high athletic identity probably assisted in difficulties in transition.

Researchers have suggested career counseling or interventions design to help the retired athletes learn a new trade or career skill (Webb & Nasco, 1998; Perna, Ahlgren, & Zaichkowsky, 1999; Ungerleider, 1997; Pearson & Petitas, 1990). These interventions could help in the transition of careers. Not only might athletes need career counseling but maybe psychological counseling as well. Retired athletes step into an unknown area where their skills are less or lacking. This can lead to a decrease in their self-esteem or cause other disruptions in their lives. The new jobs or careers after sports are usually not as emphasized on physical abilities that are like athletic skills. This turn of focus from physical abilities to other abilities such as social, mental, or academic etc. may cause a decrease in physical self-perception. With physical self-perception not being focused as much on the individual may tend to lose the physical confidence she once held. If this decline can be seen early then action can be taken to help the adjustment from sports as a career to a life without sports being the main focus.

The notion that changes in self-esteem is contingent on playing status for athletes (i.e. injury, retirement) raises the question of what happens when an athlete is just in the off-season? Does physical self-esteem change during the off-season and if it does is there any relation to the level of athletic identity? If there is a significant decline in the physical self-esteem there may need to be measures taken to help control the decline. Interventions

and counseling before an injury or retirement stops an athlete's career could help the athlete better transcend out of the athletic world.

CHAPTER III

METHODS

The purpose of this study was to examine whether changes occurred in female athletes' physical self-esteem when comparing their in-season physical self-esteem to their off-season physical self-esteem. The second purpose was to examine if physical self-perception changes were a function of their current athletic identity. A secondary purpose was to examine if female physical self-perceptions differ as a function of sport type (team, individual). Physical self-esteem measures were taken at two separate times (within their competitive season, during the off-season) and were examined using level of athletic identity as the independent variable (Athletic Identity Measurement Scale, Brewer et al, 1993).

Participants

Female Division I college athletes (N=69) from six different sports participated in the study. Women's Rugby (n=19), women's volleyball (n=5), women's soccer (n=11), women's track and field (n=15), women's tennis (n=3), and softball (n=16) were the sports compared in this study. Fall sports included rugby, soccer, and volleyball, while spring sports included tennis, softball, and track and field. The mean age of the participants was 19.51 (SD \pm 1.04). The mean number of years experience was 8.45 (SD

± 4.88). The breakdown of participants in the study was 1.45% graduate students, 8.7% seniors, 23.19% juniors, 27.54% sophomores, and 39.13% freshmen.

Measures

Physical Self-Esteem

To measure physical self-esteem, Fox's (1990) Physical Self-Perception Profile (PSPP) was administered. The PSPP is the foundation of what has come to be referred to as the Fox (1990) Hierarchical model of physical self-concept. This model predicts that positive physical self-concept contributes to the development of global self-esteem. Individuals who enjoy a high level of positive physical self-concept are likely to enter into competitive situations and feel good about performing in the presence of others. The profile consists of five 6-item subscales, designed to measure perceived sports competence (Sport), perceived body attractiveness (Body), perceived physical strength and muscular development (Strength), perceived level of physical conditioning and exercise (Condition), and physical self-worth (PSW) (Fox & Corbin, 1989). The PSPP scores each subdomain on a 4-point scale. Subjects were presented with two contrasting descriptions of people (e.g., people with unattractive bodies vs. people with attractive bodies) and were asked to choose which description was more like themselves. Then they were asked to decide how true the description was about themselves ("sort of true" or "really true") (Sonstroem, Speliotis & Fava, 1992). Scores on each subscale range from 6 to 24 with higher scores representing higher physical self-esteem in that subdomain. The test-retest reliability was shown to have coefficients that ranged between .74 and .92 for a 16-day lapse period and between .81 and .88 over a 23-day lapse period (Fox and Corbin,

1989). Fox and Corbin (1989) found the PSPP to have internal reliability, stability over samples, factorial validity, internal consistency of the profiles, and non-susceptibility to social desirable responses by the participants.

Athletic Identity

The 10-item Athletic Identity Measurement Scale (AIMS) was administered to all participants to measure athletic identity (Brewer et al., 1993). This scale was developed to measure the degree a participant identifies herself as an athlete. The scale contains ten items on a seven-point Likert scale ranging from strongly disagree (1) to strongly agree (7). The scores range from 10 to 70 points. The scale is design to reflect the strength and exclusivity of the identification to the role as an athlete with higher scores on the scale indicating higher athletic identity. Brewer et al. (1993) obtained a test-retest reliability coefficient of .89 over a two-week period and internal consistency coefficients ranging from .81 to .93 across three independent samples.

Procedure

The coaches of the six female athletic teams were contacted in person and given a letter of explanation and separate dates were planned to survey each team on physical self-esteem during the competitive season and during the off-season. The teams met separately and took the questionnaires in a classroom. The participants received general instructions orally and in writing from the investigator, to explain how to complete the questionnaires. Each participant received the questionnaires along with a letter of

correspondence, and a demographic information form. (Appendix A, B, C, D). Subject anonymity was maintained by keeping informed consent forms separate from surveys and number coding the participants' data. It was made clear that the coaches would not be viewing the data and that the data was only for the purpose of the study. The participants were asked not to engage in any discussion until after the questionnaires were collected. The order of survey administration was counterbalanced to prevent response bias. Athletic identity has been discussed as a traitlike construct and was given in the spring semester, which was in-season for tennis, track and field, and softball, but was out-of-season for rugby, soccer, and volleyball (Brewer et. al., 1993). Therefore, it is acknowledged that there may be some variability in athlete's measures depending on whether they are in-season or out-of-season. However, since Brewer et al. (1993) have indicated that athletic identity is relatively stable as a trait measure the instrument was robust to time of administration effects. The PSPP questionnaire was given before practice during season at the coach's convenience and the athletes were surveyed individually or at team meetings during the off-season to complete the off-season measures of physical self-esteem. The measurement of PSPP during the off-season was given four to six months after the competitive season for all the teams and took approximately fifteen to twenty minutes for the participants to complete.

Data Analysis

In order to examine whether female athletes' physical self-perception significantly differed in-season compared to out-of-season, a series of one-way repeated

measures analyses of variance (ANOVAs) were performed on each separate scale of the PSPP. Specifically in this analysis, time was the repeated measures variable of interest and the result of interest was the main effect of time on each PSPP subscale.

In order to examine whether there was significant changes in athletes' physical self-esteem during and out-of-season as a function of sport type, a one-way MANOVA was performed, with sport type (individual, team) as the categorical independent variable and PSPP scale change scores (In – Out-of-season PSPP) as multiple dependent variables.

Finally, in order to examine if athletes' changes across in-season and out-of-season were significantly different as a function of their athletic identity, a one-way MANOVA was performed on PSPP change scores (In minus Out-of-season scores) using athletes' AIMS (median cutoff) as the independent variable. The change scores represented an index of variability of PSPP over the measurement period. However, one-way MANOVAs were also performed separately on in-season and out-of-season PSPPs using athletic identity as the independent variable. For the MANOVAs, athletes were categorized as low or high in their athletic identity as a function of a median cutoff score (median AIMS = 47). Significant MANOVA results were followed by univariate ANOVAs on each individual PSPP subscale for change scores, in, and out-of-season analyses. An a priori level of significance for tests of research hypotheses was established at $p < .05$.

CHAPTER IV

RESULTS

The purpose of this study was to determine if female athletes have lower physical self-perception during the off-season compared to their in-season. A second purpose was to examine whether athletes' physical self-perception differed as a function of their athletic identity. An additional purpose of this study was to determine if sport type (team/individual) had any influence on the PSPP.

Participant Characteristics

Current members of the Eastern Illinois University women's rugby, volleyball, soccer, track and field, tennis, and softball teams took part in this study. Different response rates occurred for each team depending on the number of athletes that were available for each session, in and out-of-season. For the women's rugby team 25 survey packets were given in-season and 19 packets were given out-of-season for an overall response rate of 76%. For the women's volleyball team 11 survey packets were given in-season and 5 packets were given out-of-season for a response rate of 45%. The soccer team completed 23 packets in-season and 11 were completed out-of-season for a response rate of 48%. In-season, women's track and field completed 15 survey packets and out-of-season 25 were completed for a response rate of 60%. For women's tennis 3 packets were completed in-season and 6 were completed out-of-season for a response rate of 50%.

Women's softball completed 16 packets in-season and 19 packets out-of-season for a response rate of 84%. Participants ranged in age from 18-22 (M age = 19.51 yr; SD = \pm 1.04). The mean number of years of experience was 8.45 (SD \pm 4.88). The participants consisted of 27 freshman, 19 sophomore, 16 juniors, 6 seniors, and 1 graduate student. Since in and out-of-season physical self-perceptions have not been a primary focus, this study sought to broaden the research spectrum.

Means and standard deviations were calculated for the study to examine the differences across the variables. The means and standard deviations for the study variables are displayed in Table 1. The mean for athletic identity scores overall was 46.64 (SD \pm 9.35). The means and standard deviations for the variables of each sport type (individual, team) are displayed in Table 2. The means for athletic identity for sport type were individual sport setting 50.1 (SD \pm 7.83) and team sport setting 45.43 (SD \pm 9.61).

Physical Self-Perception Changes In-Season and Out-of-Season

This study examined if physical self-perceptions changed from in-season to out-of-season. The hypothesis was that during the off-season collegiate female athletes' physical self-perceptions would be lower than their in-season physical self-perceptions. A series of one-way repeated measures ANOVAs were performed on each separate PSPP subscale with repeated measures on time. Results for all repeated measures main effects for time were nonsignificant, except for body attractiveness. This result indicated that body attractiveness was the only significant difference in physical self-perception across time period. The physical self-perception of body attractiveness had a significant main

Table 1

Means and Standard Deviations for In-Season Variables and Out-of-Season Physical Self-Perception

Variable	In-Season	Out-of-Season
Sport Competence	19.00 (3.06)*	18.72 (2.88)
Physical Conditioning	18.33 (3.13)	18.41 (3.29)
Body Attractiveness	15.59 (4.33)	14.75 (4.41)
Strength	18.09 (2.89)	18.36 (2.92)
Physical Self-Worth	17.22 (3.43)	17.07 (3.45)

* Standard Deviations (\pm) are listed in parentheses.

Table 2

Means and Standard Deviations of In-Season and Out-of-Season Physical Self-Perception Scores for Sport Type

Variable	In-Season	Out-of-Season
<u>Sport Competence</u>		
Individual Setting	19.00 (3.07)*	18.94 (2.71)
Team Setting	19.00 (3.09)	18.65 (2.97)
<u>Conditioning</u>		
Individual Setting	19.06 (2.69)	19.78 (2.65)
Team Setting	18.08 (3.25)	17.92 (3.38)
<u>Body Attractiveness</u>		
Individual Setting	17.78 (3.72)	16.72 (4.24)
Team Setting	14.82 (4.30)	14.06 (4.30)
<u>Strength</u>		
Individual Setting	18.17 (3.29)	18.44 (3.24)
Team Setting	18.06 (2.77)	18.33 (2.83)
<u>Physical Self-Worth</u>		
Individual Setting	18.28 (3.12)	18.22 (2.37)
Team Setting	16.84 (3.49)	16.67 (3.69)

* Standard Deviations (\pm) are in parentheses.

effect for time ($F(1, 67) = 4.91, p < .03$) revealing that from in-season to out-of-season the female athletes' perception of body attractiveness was different. Examination of means from this result indicated that for these athletes, their in-season perception of body attractiveness ($M = 15.59$) was significantly higher than their off-season perception of body attractiveness ($M = 14.75$).

Physical Self-Esteem Changes and Athletic Identity

The hypothesis was that athletes with higher athletic identity would have a larger decrease in physical self-perception from in-season to out-of-season. Athletic identity was partitioned into high and low athletic identity so that a one-way MANOVA could be performed, using the variable AIMS score (median cutoff for AIMS score (47)) as the independent variable and the PSPP change scores as the dependent variable. The change score was the difference in each participant's in-season PSPP scores minus their respective out-of-season PSPP score. This change score provided the amount of change between in and out-of-season physical self-perception. The overall MANOVA for athletic identity on PSPP change scores was non-significant (Wilks Lambda = .94, $F(5, 63) = .87, p = .51$), indicating that for this sample, female athletes were not different on their changes across a competitive cycle on the physical self-perceptions as a function of their different levels of athletic identity. Table 3 displays means and standard deviations for PSPP change scores, in-season scores, and out-of-season scores for high and low athletic identity athletes. Two additional one-way MANOVAs were performed separately on in-season physical self-esteem and out-of-season physical self-esteem, respectively, to

Table 3

Means and Standard Deviations of Change Scores, In-Season, and Out-of-Season Scores for the PSPP Across Athletic Identity

Variable	Change Score	In-Season	Out-of-Season
<u>Sport Competence</u>			
High AIMS	-0.11 (2.12)*	18.39 (3.24)	18.50 (3.16)
Low AIMS	0.70 (2.03)	19.67 (2.75)	18.97 (2.58)
<u>Conditioning</u>			
High AIMS	-0.50 (2.89)	17.97 (3.36)	18.47 (3.70)
Low AIMS	0.39 (2.61)	18.73 (2.85)	18.33 (2.82)
<u>Body Attractiveness</u>			
High AIMS	0.72 (2.79)	16.17 (4.42)	15.44 (4.19)
Low AIMS	0.97 (3.53)	14.97 (4.21)	14.00 (4.59)
<u>Strength</u>			
High AIMS	-0.33 (2.69)	18.33 (2.84)	18.67 (3.06)
Low AIMS	-0.21 (2.52)	17.82 (2.96)	18.03 (2.76)
<u>Physical Self-Worth</u>			
High AIMS	-0.31 (3.19)	17.53 (3.35)	17.83 (3.57)
Low AIMS	0.64 (2.42)	16.88 (3.54)	16.24 (3.16)

* Standard Deviations (±) are in parentheses.

determine if athletic identity significantly influenced athletes' physical self-perception at a specific point in time.

Results of the one-way MANOVA performed on in-season PSPP scores was significant, (Wilks Lambda = .80, $F(5, 63) = 3.10$, $p < .05$), however, when examining follow-up univariate analyses, results indicated that none of these results were significant at the .05 level. This result indicated that high and low athletic identity athletes did not differ in their PSPP scores during the competitive season, but the follow-up univariate analyses were unsuccessful in revealing where the differences were. Univariate results for in-season sport competence did, however, approach significance ($F(1, 68) = 3.10$, $p = .08$). While this result was not statistically significant it did indicate a trend for in-season sport competence to be higher in high athletic identity athletes ($M = 19.67$) compared to low athletic identity athletes ($M = 18.39$). The idea that sport competence is higher in high athletic identity athletes makes sense. These athletes are more confident in their sport skills and in the sports environment. Individuals are more likely to identify strongly with something when they are confident in that area. Finally, overall results of the one-way MANOVA performed on out-of-season PSPP scores were nonsignificant, (Wilks Lambda = .89, $F(5, 63) = 1.49$, $p = .21$). This result indicated that there were no differences in athletes' out-of-season physical self-perceptions scores as a function of athletic identity.

Physical Self-Perception Changes and Sport Type

An additional research question was examined testing whether changes in athletes' physical self-esteem (PSPP) during the competitive season compared to the off-season varied as a function of sport type (team, individual). The hypothesis was that athletes involved in individual sport setting would have a larger difference in scores on the PSPP within the season's cycle. A one-way MANOVA was performed with sport type (team, individual) as the categorical independent variable and the PSPP change scores (In minus Out-of-Season PSPP) as multiple dependent variables. Results indicated no significant results, revealing that sport type did not affect the athletes' physical self-perceptions (Wilks Lambda = .96, $F(4, 64) = .15$, $p = .96$). Across the individual and team participants there were no significant changes in their PSPP scores.

Correlations Between In-Season and Out-of-Season Study Variables

Correlations of study variables assessing in-season and out-of-season are indicated in Table 4. The first notable correlation is the correlation of body attractiveness in-season and during the off-season to the physical self-worth subscale. This is important because it suggests that female athletes relate their body attractiveness greatly to their overall physical self-worth. The results of the analysis was only significant for the subscale of body attractiveness and this helps to explain the high correlation between physical self-worth and body attractiveness. The idea is that female athletes tend to use body attractiveness as a major scale to help interpret their overall physical self-worth,

Table 4

Study Correlations for In and Out-of-Season PSPP ScoresIn-Season

	Insport	Incond	Inbody	Instren	Inpsw	AIMS
Insport	---					
Incond	.56*	---				
Inbody	.38*	.61*	---			
Instren	.56*	.53*	.34*	---		
Inpsw	.45*	.53*	.74*	.42*	---	
AIMS	.36*	.20	-.04	.05	.03	---

Out-of-Season

	Outsport	Outcond	Outbody	Outstren	Outpsw	AIMS
Outsport	---					
Outcond	.43*	---				
Outbody	.31*	.51*	---			
Outstren	.45*	.33*	.13	---		
Outpsw	.41*	.49*	.78*	.38*	---	
AIMS	.26*	-.02	.00	.03	-.06	---

*Indicates correlation is significant at $p < .05$ level.

which supports the view that has been found within the non-athlete literature (Rulder & Cash, 1992). The correlation was not surprising considering the large amount of literature that reveals the importance of body appearance to females and their self-esteem (Harter, 1988; Fox & Corbin, 1989; Fox, 1990; Hayes et al., 1999). Another correlation that was significant was female athletes' sport competence and athletic identity in and out-of-season. There was a significant correlation between the two variables for both in-season and out-of-season. This correlation indicates that a female athletes' sense of sport competence is closely tied to her athletic identity. The correlations between the physical self-perception subdomains in and out-of-season may have been influenced by the interrelationship of the subdomains themselves. The subdomains are interrelated with one another and this may have influenced the correlation results.

CHAPTER V

DISCUSSION

The first purpose of the study was to examine if female athletes' physical self-perceptions were different when comparing their subdomain scores within their competitive season and during their off season. The second purpose was to determine if female athletes' physical self-perception varied as a function of their level of athletic identity. A third area was examined which was if physical self-perception varies in-season to out-of-season as a function of the type of sport (individual, team). A total of 69 female athletes from Eastern Illinois University athletic teams participated in the study. When comparing the present AIMS scores to Brewer et al. (1993) findings the current athletes had slightly lower athletic identity. Brewer et al. (1993) found that in a sample of 449 students in a college introductory psychology course the average score for the AIMS was 31.09 and in a sample of 90 football players on a college varsity team the average of score was 51.08. Wiechman and Williams (1997) found in their high school athletic sample that the athletic identity measurement scale mean score for male athletes ($n = 160$) was 49.7 and for female athletes ($n = 218$) was 47.1. The female sample in Wiechman and Williams (1997) study essentially displayed the same athletic identity measurement scale mean score as the female athletes in the current study ($M = 46.64$).

Physical Self-Perception Changes In and Out-of-Season

Repeated measures ANOVAs were run on each separate PSPP subscale with repeated measures on time (In-Season/Out-of-Season) to test the first hypothesis. It was hypothesized that physical self-perception scores would be lower for female collegiate athletes during the off-season when compared to the competitive season. The hypothesis was partially supported with a main effect for time on body attractiveness. This suggests female athletes' body attractiveness (In-Season $M=15.59$ /Off-Season $M=14.75$) is different in-season versus out-of-season, and that this particular component of physical self-esteem showed greater variability depending upon whether the female athlete was actively involved in her competitive season or not.

The significant result found in the subdomain of body attractiveness is consistent with other studies that have revealed the importance physical appearance has with global self-esteem and physical-esteem in females. McAuley et al. (1997), found that changes in the subdomain level of body attractiveness were significantly associated with changes in the global self-esteem in middle-aged adults involved in a 20-week exercise program. Chan and Grossman (1988) found that when the Running Information Questionnaire, Rosenberg Self-esteem scale, Zung Depression Scale, and Profile of Mood States surveys scores were compared between a group of continuous runners and prevented runners lower self-esteem existed in the prevented runners group. The researchers also found the prevented runners had greater dissatisfaction with body attractiveness. When the exercise of running is denied to regular runners, a drop in self-esteem and dissatisfaction with body appearance may arise (Chan & Grossman, 1988). The major conclusion of

importance from the current study is that the results support the literature indicating that regular exercise training supports increases in females' body esteem. The present study extends previous conclusions by indicating that this same effect seems to hold true for female collegiate athletes. Body attractiveness was the lone subscale that showed any significance revealing the importance of body esteem and physical training. The female athletes scored higher on their perceptions of body attractiveness when they were involved with the competitive season. During the competitive season there is more physical training, which reveals that this study supports the current literature in that physical training enhances perceptions of body attractiveness. Numerous studies have shown the same results that body esteem increases with training (McAuley et al., 1997; Chan & Grossman, 1988). It is also most likely that their exercise patterns were much different in-season compared to the off-season, so higher exercise training may have been a likely factor.

Furthermore, several studies have demonstrated that body appearance accounts for a large proportion of the variance in the prediction of physical self-worth (Hayes et al., 1999; Fox & Corbin, 1989). Especially with females, physical appearance seems to dominate the outlook on physical self-perception and this study reveals that body attractiveness was the main physical component that fluctuated to a level of significance. Previous studies have shown the dominance of physical appearance among college females and the current results now show that it is not only a dominant factor in physical self-worth but it can fluctuate in college female athletes from season to season (Hayes, et al., 1999; Fox & Corbin, 1989).

Sonstroem et al., (1992) found results in their study that concur with the results of the present study. Sonstroem et al. (1992) had middle-aged and older adults, female ($n = 149$) and males ($n = 111$), from different groups, such as, the YMCA and a real estate firm, complete the Physical Self-Perception Profile, Rosenberg Self-Esteem Inventory, and Physical Activity Questionnaire. The results indicated that body attractiveness had the largest relationship with global self-esteem and physical self-worth (females: $r = .786$, $p < .001$; males: $r = .798$, $p < .001$). This supports the current findings that reveal that body attractiveness is highly related to physical self-worth. Furthermore, Sonstroem and Morgan (1989) summarized the pertinent self-esteem theory and presented a rationale for self-esteem enhancement through exercise participation and recognized that many people exercise with the goal to improve physical appearance. The review indicated that many people emphasize the importance of physical appearance in physical self-worth as a whole. The pattern seems to indicate that physical appearance is the biggest predictor and most weighted subdomain in physical self-perception. The results reflect that female athletes perceptions of their body attractiveness are benefited at the greatest degree, by their active involvement in their competitive season.

Out of the five subdomains on the Physical Self-Perception Profile, body attractiveness was the only significant result. However, the other four subdomains that were found to be nonsignificant may have revealed a strength in female physical self-perceptions. Finding no change in these other subdomains suggests resilience in female athletes' physical self-perceptions from the competitive season to the off-season. Physical self-worth of female athletes may be maintained throughout the year and perhaps may be more resistant to change because of female athletes' greater physical self-confidence,

compared to non-athletes. Physical self-confidence has been shown to be higher in athletes than nonathletes and this confidence may stay maintain over short periods of transition. The small amount of time, five to six months, from in-season to the off-season may not allow enough time for an athlete's confidence to decline. The confidence may be high enough to last until the next season. Another reason for this resistance may be because of the amount of training that female collegiate athletes maintain. The fact that athletes in collegiate sports train in both in and out of season may influence the physical self-esteem of female collegiate athletes to stay resilient. Since exercise may not decrease significantly from season to season, the physical self-esteem of the athletes is able to maintain stability. This interpretation is optimistic because it implies that female athletes do not have many psychological problems or changes in the physical self-worth area while they are going through season transitions. This conclusion has to be made with caution because of some of the methodological problems and characteristics of the participants that were not account for in the study. These aspects of the study are discussed in the limitations section.

Physical Self-Esteem Changes and Athletic Identity

A one-way MANOVA was run with the AIMS score as the independent variable and the PSPP change score as the dependent variable to test the second hypothesis. It was hypothesized that there would be a greater decrease in physical self-perceptions from in-season to out-of-season for female athletes with higher athletic identity. This hypothesis

was unsupported, showing no significant difference in physical self-perceptions between females with high and low athletic identity.

It was hypothesized that since athletes with higher athletic identity would identify themselves and formulate their self-concept around their role as an athlete, these athletes would show a more drastic decrease in physical self-esteem when not currently involved in their competitive season. Although there is no current study that researches the effects of athletic identity in the competitive season versus out-of-season, some studies do reveal the consequences from different levels of athletic identity during retirement (Brewer et al. 1993; Brewer, 1993; Webb & Nasco, 1998; Pearson & Petitpas, 1990). These studies include retirement from a sport because of an ending career or injury. Webb and Nasco (1998) examined psychological responses of athletes upon the end of their athletic careers at Notre Dame and found that athletes with greater athletic identity had more difficulty in retirement. Injury related retirements were more problematic for retirees. The present study only dealt with changes from in-season to off-season but for some of the participants it was the last season or the retirement stage. However, there were only seven participants that were going to be retiring from college athletics (i.e. seniors & a graduate student), which may not have given enough of a sample to be accurate with the results in the present findings. The present study was trying to reveal if retirement problems could be seen before actual retirement so that plans and counseling could be provided to athletes before retirement. Athletic identity has been revealed to have a positive relationship with the difficulty of transition out of sports but this study does not reveal that athletic identity plays a major role in influencing female athletes' physical self-esteem in a brief cycle of competitive season. Because the majority (N=61) of the female

athletes in this study had at least one more year of eligibility left, a true transition from sport may not have been assessed with the off-season measurement of physical self-esteem.

Examination of athletic identity classifications indicated that 33 participants in the present study that were classified as low athletic identity and 36 participants classified as high athletic identity. The amount of participants is relatively equal for the two categories, however, there may not have been enough participants overall to result in a significant difference. With the large number of female participants in the collegiate level of athletics, this sample size may not have been large enough to detect meaningful changes in the population.

Physical Self-Perception Changes and Sport Type

To test whether changes in athlete's physical self-esteem, in versus out-of-season, varied as a function of sport type (individual/team), a one-way MANOVA was performed with sport type as the independent variable and the PSPP change scores as the dependent variables. It was expected that athletes participating in individual sport settings would have a higher decrease in physical self-esteem scores from in-season to out-of-season. The individual sport setting requires most of the attention in the sport on the individuals participating. This center of attention is on the athlete and when the season ends the attention is no longer directly on the individual athlete. This drastic change of attention may affect the athlete psychologically. The results of the one-way MANOVA were not significant (Wilk's Lambda = .97, $F(5, 64) = .37$, $p = .87$). The hypothesis was

unsupported and the results indicated that the sport setting had no significant affect on the changes in physical self-perception scores from in-season to off-season. Sport type did not seem to have any influence over a female athletes' physical self-esteem, however, some problems in the methodological aspects of this study may influence the non-significant results.

The present study did not show differences in physical self-perception scores between the two sport settings, however other studies have shown that levels of self-esteem may be different depending on the sport setting. De Man and Blais (1982) found a difference in levels of self-esteem for male and females depending on the sport. Males had higher levels of self-esteem in the individual sports setting and females had higher levels of self-esteem in the team sport setting. The idea that the female athlete relates much of her physical self-worth to body attractiveness could help explain why female athletes may have showed a higher self-esteem in team settings than individual settings in De Man and Blais's (1982) study. Individual sports settings have an environment for the athletes, which requires focus and attention on that individual athlete. The athlete is the center of attention for the athletic event and there are no team members to distract from that individual. The individuals physical self is made very much public. The team setting also makes female athletes public but the extent is different. The focus of the public is not solely on the individual athlete but the athletes as a team, meaning an athlete may be able to hide from the public eye. Female athletes' self-esteem levels have been seen to differ from lower self-esteem in individual sports and higher self-esteem in team sports, however, the present study did not find that to be the result.

Looking at classification of the independent variable (individual versus team sport setting), the total number of participants may have affected the results of this study. The categories of individual and team participants were unequal with only 18 participants labeled as participating in individual sport settings and 51 participants labeled as participating in team sport settings. The unequal number of athletes in individual and team sport setting was a result of the type of sports offered in the fall and spring terms at Eastern Illinois University. The individual sports at Eastern Illinois have fewer members compared to the team sports. This made for unequal cells for the independent variable. This unbalanced design was a probable factor in the nonsignificant findings in physical self-perception scores, since there was likely insufficient statistical power to detect significant sport type differences with only 18 individual sport athletes as part of the overall sample. Also, many of the fall cross-country athletes at Eastern Illinois University participate in track and field in the spring. Since the athletes in cross-country crossover to track these athletes were left out of the study because the athletes have little to none of an off-season. The crossover athletes are basically training almost all year because they are two-sport athletes. This uneven distribution of the participants could have caused the results to be non-significant. The 18 participants in the individual sport setting is a limited number of participants to effectively represent a true sample of female athletes in individual sport settings.

Assessing physical self-perception across one in versus off-season cycle may have been too short a period to assess whether real changes are occurring. Athletes may need to be followed for a longer period to observe a higher amount of changes in the seasons to determine if real changes occur. This study only examined participants from the in-

season to the off-season, which was about a six-month period of time. The cycle of in-season to off-season may need to be followed for a few cycles to determine if a change occurs between the seasons.

Udry, Gould, Bridges, and Beck (1997) revealed, with skiers suffering season-ending injuries that there may be an information processing/awareness step in the psychological process of ending a career that may be delayed or prolonged. This means that the athlete may not realize that the athletic career is over until a certain amount of time has passed. This may vary in different individuals indicating in the present study that not enough time had past for every athlete to process the idea that the season or athletic career was over. Another study revealed the same concept of time that a negative effect of life satisfaction may not arise until much later after the career termination and that a positive halo may surround the graduation period (Perna et al., 1999). The researchers examined male athletes and nonathletes at the termination of their collegiate careers. There were no significant findings between athletes and nonathletes life satisfaction scores. The argument was then made that the study had a limitation that the satisfaction with life scale was given at only one time proximal to the ending of the college career. It was argued that the effects of the athletic career termination may not arise until later and that the event of graduating may overshadow the termination from athletics. The athletes were too focused on the fact that they were graduating from college that they did not realize that their athletic careers were over. The amount of time for an athlete to conceive that the athletic career is over could be longer than just a few months. The short one-season cycle in the current study may have been insufficient to reveal significant changes in female athletes' physical self-perception.

Another factor that may have prevented significant change in the physical self-perception scores was the predictability of the transition of seasons. Pearson and Petitpas (1990) mentioned that the predictability of the transition out of sports could affect the amount of stress and psychological distress that an athlete experiences. If a transition was anticipated, then the athlete could prepare and plan for the transition, such as the transition between seasons. However, if the transition was not anticipated and the athlete experienced an abrupt halt on participation in sports then more stress may be related to the transition. For example, a parent who dies at the typical late adulthood stage would likely cause less stress than having a parent die while one is still a child. Death of a parent while still a child is atypical and is less anticipated than a parent who has lived a long life to age eighty and is dying (Pearson & Petitpas, 1990). This relationship can be related to an athlete's psychological response to unexpected or unanticipated career termination and its influence on self-identity and physical self-esteem. One who has played out the typical length of a career for the sport has the time to plan and anticipate the transition to life without sports. The fact that the athletes in the study anticipated the transition and knew of the transition from in-season to off-season may have affected the results on the physical self-perception scores. The anticipation may have created less of a difference between scores in-season and out-of-season.

At the collegiate level, athletics can tend to be a year round sport meaning that athletes barely experience an off-season. For example, many college sports have off-season conditioning and competition to keep the athletes involved and improving meaning that exercise training changes may be minimal when considering their effects on athletes' sense of physical self-competence. The rules and regulations at the collegiate

level allows for the athletic teams to stay involved in their sport for a certain number of hours each week during the off-season (Abell, 2000). Not only are the regulations there to allow teams to participate out-of-season but also at the highest collegiate levels it is expected that athletes train intensively and constantly just to keep up with athletes in the same field. This involvement could have been enough to keep the physical self-perception scores close to the same level in both seasons. The athletic identity scores may not have had effect on the physical self-perception scores because of the off-season involvement, also. The involvement in the off-season kept the athlete's athletic identity maintained to a certain extent so she could not feel the complete impact of the transition to the off-season. If the changes from in-season to off-season for collegiate athletes were more dramatic then maybe there would be a significant change in the physical self-perceptions of athletes.

A more dramatic change, such as retirement and injury has shown to decrease athletes' self-esteem. Studies on injury and retirement from sports have indicated the fluctuations in psychological aspects of an individual and the decreases in self-esteem when restricted or unable to participate in sports (Kolt & Roberts, 1998; Chan & Grossman, 1988; Brewer, 1993). Chan and Grossman (1988) found that when consistent runners, male ($n = 14$) and female ($n = 16$) were prevented from running they displayed various psychological distresses. Some symptoms included depression, anxiety, confusion, over-all mood disturbance, and lower self-esteem. Preventing runners from running decreased their self-esteem and created greater dissatisfaction with body images. Pearson and Petitpas (1990) discuss transition out of athletics by reviewing studies and articles discussing the topic. The concept is that most athletes experience difficulty in

transition out of sport and that there needs to be more programs to help with the transition. Pearson and Petitpas (1990) comment on the idea that it is a more difficult transition when it comes unexpected like from a career ending injury. The transition is sudden and gives the athlete little time to comprehend life without athletics. If these variables were investigated and seen in the present study then significant changes may have been seen from athletes' physical self-esteem.

Perhaps, a major factor to influence the results in the study may have been the type of season or degree of goal attainment athletes had. A winning or losing season may have influenced the physical self-perception scores and the athletic identity scores. Brewer et al. (1999), discuss the results from their study comparing preseason and late season assessments of athletic identity revealing that a poor season may decrease an athletes' athletic identity. The decrease is to help cope with the losing or devastating season. An athlete can decrease the degree to which she relates to the athletic role to help minimize the dysphoria that can accompany unsuccessful outcomes in sport. A decrease in the amount of identity an individual places on the athletic role can help an individual to disassociate herself to the reality of losing. If an athlete cannot handle the psychological affects from losing in their athletic endeavors then the easiest response is to identify less with the athletic role. Athletes will decrease their athletic identity to help keep their self-esteem from decreasing due to sport outcomes. Based on Brewer et al. (1999) findings, athletes may base their athletic identity on their subjective view of how successful their season was. Most of the participants in the present study had winning season records or good placing in their conferences excluding rugby and tennis. Volleyball and soccer both achieved tournament championships. Softball and track and field both finished third place

in their conference. This may account for the results of the study not indicating much difference in the physical self-perception scores. There were no reasons for the present athletes to disassociate from the athletic role because the athletes did not have to cope with losing. The athletes may have been influenced to have steady physical self-perceptions from season to season because of the winning records of the teams.

An aspect that may have influenced the outcome of the study is that the seniors in the study were satisfied with the past season and had reached the goals they wanted to before the end of their athletic career. Athletes have been found to have problems with self-esteem when the athlete felt that her set goals were not met. Ungerleider (1997) found that Olympic athletes who felt that they fell short of their goals suffered from emotions of anger, loss, and failure. The athletes experienced those and other problems when the end of the career was upon them and the goals set by them were not met. The Olympians ($n = 57$) were given twenty-five open-ended questions to answer about 1) family and life before competitive athletics, 2) life during competition and training, and 3) life after sport and the transition into the workplace. From the analysis of the questions the researcher found that the transition out of athletics to the workplace was harder for individuals that felt their goals have not been attained. It is possible the athletes in the present study who were ending their athletic career could have been satisfied with their performances and were emotionally ready to end their athletic careers. This would help to explain the small amount of differences between in-season and out-of-season physical self-perception.

Limitations

A methodological problem in the study may have been the number of participants in the varying classes. Most of the participants were underclassmen (n=62) while the least number of participants were seniors (n=6) and one graduate student (n=1). This resulted in unequal cell numbers for each class of students. The fact that the current study had so many more underclassmen may have influenced the physical self-perception and athletic identity scores. The seniors would have been most likely the athletes with a greater amount of psychological disruption or changes because unless they were moving on to continue playing the athletes were ending their careers. For the seniors, this transition out of sport may have resulted in greater differences in physical self-esteem but they represented very few of the total participant sample. Many studies, such as the ones mentioned before, have discussed the psychological affects of retiring or ending an athletic career. The general conclusion is that most athletes experience a sense of loss, depression, or a decrease in self-esteem with the ending of one's athletic career (Deutsch, 1985; Chan & Grossman, 1988; Pearson & Petitpas, 1990). The larger number of underclassmen may not differentiate too much in their physical self-perception scores yet because of the knowledge that they have at least one to three more years of participation. However, the seniors and graduate student are aware that this may be their last season to participate in athletics at such a high level. Thus, the fact that the majority of students in the current study were underclassmen may have been influential in the nonsignificant results.

The class level or experience level of the participant may have influenced the results in this study, especially the athletic identity scores. A majority of the participants were freshman who did not have as much experience as the higher classes of participants. Taylor (1995) found when looking at college athletes that an increase in self-esteem only reached significance in the senior year. Athletes and nonathletes at all class levels were given the Rosenberg Self-Esteem measurement and the scores were compared to each other. The researcher tried to make the study longitudinal-like by comparing students who were similar in certain background characteristics. The study revealed small but significant gains in the self-esteem of the athletes during the college years. There were a large amount of underclassmen in the present study, which may have deterred the results. There may not have been enough upperclassmen to result in a significant difference in physical self-perception scores. Wiechman and Williams (1997) found a trend for athletic identity to increase from high school freshman athletes to varsity athletes and to increase with more years of experience. High school athletes ($n = 389$) were examined on the relationship of athletic identity (Athletic Identity Measurement Scale) to their age, gender, years of experience, ethnicity, and expectations of competing at the college/pro level. The study revealed that the athletic identities strengthen from freshman to varsity level athletes.

The increase of athletic identity from class to class was not supported but the athletes with more years of competitive experience tended to have higher athletic identities. This finding was important to the current study because the majority of participants were freshmen and most had lower levels of experience than the upperclassmen. But once again the unequal cell size for the grade levels may have

hindered significant findings. The fact that the study had only six seniors and one graduate student compared to 27 freshmen may have influenced the function of athletic identity because of the trend of increased athletic identity from freshman to senior. The experience level is usually higher from class year to class year. The freshman in the study indicated a lower level of experience in each sport ($M=7.11$) than all the other classes combined (Sophomore, Juniors, Seniors, Graduate; $M=8.81$). The difference is almost two years experience. Perhaps if there were more seniors in the study, the difference would be larger helping to create more of a significant difference in physical self-perception as a function of athletic identity.

The present study did not look or examine the racial backgrounds of the participants in the study. This may have influenced the results of the study. The racial make-up of the study was Caucasian ($n = 61$), African-American ($n = 7$), and Native-American ($n = 1$). Perna, Ahlgren, and Zaichkowsky (1999), found that there were significant differences in life satisfaction between Caucasian and African-American athletes, after the end of their college athletic career. African-American athletes were found to have lower life satisfaction than the Caucasian athletes. The researchers felt that the lower life satisfaction among African-Americans may have been because collegiate sport participation does not improve overall well-being in African-Americans. The difference may be in the perception of athletic careers after college. African-Americans may expect to further their athletic career after college and when it does not happen, life satisfaction drops. Caucasian athletes reported a higher satisfaction with their lives after college athletic career, indicating less psychological disturbances, while African-Americans reported lower satisfaction indicating more psychological disturbances. Also,

the level of athletic identity of different races has been studied and different results have been found. Wiechman and Williams (1997) found a difference in high school athletes' athletic identity and ethnicities. The study on high school athletes revealed that Mexican-Americans had higher athletic identities than Caucasians and African-Americans and that any athletes who expected to play in college or the pros had higher athletic identities. African-Americans had higher expectations for playing at a higher level. The present study only had eight participants that were not Caucasian and this may have influenced the results. The small degree of diversity in the present study could have contributed to the nonsignificant findings.

Recommendations for Future Study

The number of participants should be increased to represent the population more suitably and to increase the accuracy and reliability of the results. Along with the increase in participants there should be more representation of all racial backgrounds. The representation of racial backgrounds is important to accurately represent the collegiate athletic sample. Also, it would be important that the research include equal sample sizes from each class level. The different psychological and experience levels from class to class may differ and this could have an influence on the aspects being examined. Other sports should be included in the study to help expand the population base and provide greater generalized ability. The need for a variety of sports can help to represent the athletic population. There are many more sports than the ones examined in the current study and it is important to try to examine all the different sport types and

settings. Also, the athletes' perceptions of success in meeting goals could be directly remedied by inserting a question or questions assessing athletes perceptions of success and then correlating this data with their athletic identity scores. A high correlation would support the increase and decrease of athletic identity because of meeting or not meeting goals. Researchers may also want to ask athletes about the frequency of anaerobic and aerobic training which could help to strengthen evidence that body attractiveness is associated with the amount or type of training.

In addition, it would be a good idea to increase the length of the study and involve more than one cycle of seasons. The research should be more longitudinal to include more time so that the athletes' physical self-perceptions can be repeatedly monitored. A longitudinal study may allow for a larger difference in the physical self-perception scores and allow for the athletes to be monitored as they move up in class level. The longitudinal study would follow athletes from class to class and could reveal the differences in physical self-perceptions and athletic identities as the athletes gradually come closer to the end of their careers. Time would allow the athlete to increase in experience and decrease in time left for career. Time would also allow for the athletes to realize that the collegiate athletic career is coming to an end. A longitudinal study would also allow for participants to be examined after the college career has ended. The examination of ex-athletes after their college career would help to monitor the athletes' psychological responses to a permanent transition. An examination of the athletes should be right after college and after a greater time delay from the end of the college career. This delay in time would allow the athlete to realize that the athletic career is over. Comparing the information during and after the athletic career may help to determine

what variables during the athletic career predict psychological problems after career termination. The amount of time needed to show a reaction to termination in the athletic career may vary. The negative affect may not arise until the athlete has been out of athletics for a longer period of time than right after college. Plus, other reasons may hinder the psychological responses of athletic termination after college like graduation and the beginning of a new career. For these reasons, further studies should examine participants in different points in the athletic career, including the time after the athletic career has ended.

Conclusion

The current study found that the subdomain of the physical self-perception profile, body attractiveness, varied in female collegiate athletes from the in-season to the off-season. No other significant findings were revealed in the current study. However, the one significant finding of body attractiveness was supported by previous literature (Chan & Grossman, 1988; Fox & Corbin, 1989; Hayes et al., 1999; McAuley et al., 1997; Sonstroem et al., 1992). Physical self-perception did not relate to athletic identity or type of sport in the current study. The study population was unequal within the class levels. This area of research could help athletes psychologically deal better with transitions from athletics, thereby making it easier for an athlete to transcend out of athletics. Research could help to define what the major psychological disruptions are and could lead to development of programs to help athletes transcend from athletics. Programs and interventions before retirement or situations ending the athletic career could prepare

athletes with ways to successfully leave athletics behind with little or no psychological disruptions.

Learning more about the variables and the population studied here could have an impact on how athletes deal with transition out of sport. The lack of significance found in physical self-perception scores in-season versus out-of-season may indicate that female athletes' physical self-worth is resilient from season to season. This would be a definite strength for female collegiate athletes (Richman & Shaffer, 2000; Marsh, 1998). The resilience would help to control for problems that may arise from the fluctuation of physical self-esteem. The findings may also suggest that there are little differences in physical self-perceptions in-season versus out-of-season. This may be because the detrimental changes occur only in athletes who are at the end of their career or who have unexpected transition out of sport (i.e. Injury). However, transition in athletics for female athletes should continue to be examined and programs or interventions should be developed to help the psychological impact from transitions in athletics.

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APPENDIX A

Letter of Correspondence

Changes in female athletes' physical self-esteem as a function of their athletic identity.

Principal Investigator: Michelle Reed
 Dept. of Physical Education
 Eastern Illinois University
 581-7135 or 348-5439

Study Description

This project is being undertaken by Michelle Reed to examine the relationship between female collegiate athletes' physical self-perception during the in-season and off-season as a function of their athletic identity. Researchers have studied the relationship of physical self-perception and participation in exercise and sports in general. However, there is limited research on the differences in physical self-perception in-season and out-of-season and how individual athletic identity can affect those differences. Physical self-perception is a domain of global self-esteem and can be affected separately. Athletic identity is the degree in which an individual identifies with the athlete role. The degree of athletic identity and the time of year (in-season/out of season) for an athlete may make a difference in how physical self-perception is affected. These variables will be brought together to determine if any relationships exist.

Your participation in this study would involve the completion of the demographics information on the second page followed by the questionnaire.

Consent:

1. I hereby consent to take part in research conducted by Michelle Reed within the Physical Education Department. I understand that other persons may assist her or be associated with her.
2. I understand that the purpose of this project is to investigate the relationship between physical self-perception, time of year (in-season, off-season), and athletic identity.
3. My participation consists of completion of the survey packet administered by Michelle Reed.
4. There is no reasonable basis for expecting my participation in this research to expose me to serious risk of discomfort.
5. There is no other way to get the information for this research.
6. Participation is voluntary and I may refuse participation at any time; my data will also remain anonymous.
7. The results of this research may be published, but I will not be identified in any such publication.
8. My questions about this project have been answered.
9. I further allow Michelle Reed to obtain my assessment; report her findings to government agencies, manufacturers, or scientific bodies, and to publish her findings.

Volunteer _____ Date _____

APPENDIX B

Demographic Information Form

Demographic Information:

1. Name _____
2. Age _____
3. Sport _____
4. In-Season _____ Or Off-Season _____ (Please Check)
5. Racial Background (please check)
Caucasian _____ African-American _____ Hispanic-American _____
Asian-American _____ Other (please specify) _____
6. Number of Years Experience within this Sport _____
7. Expected Date of Degree Completion _____
8. Eligibility Deadline _____
9. Did Injury Interrupt Your Season? _____ (If yes, please answer 10 & 11)
10. Date of Injury _____
11. Date of Return _____

APPENDIX C

Physical Self-Perception Profile

THE PHYSICAL SELF PERCEPTION PROFILE (PSPP)

WHAT AM I LIKE?

These are statements which allow people to describe themselves.
There are no right or wrong answers since people differ a lot.

First, decide which one of the two statements best describes you.

Then, go to that side of the statement and check if it is just
"sort of true" or "really true" FOR YOU.

Really True for Me	Sort of True for Me	EXAMPLE		Sort of True for Me	Really True for Me
<input type="checkbox"/>	<input type="checkbox"/>	Some people are very competitive	BUT	Others are not quite so competitive	<input checked="" type="checkbox"/> <input type="checkbox"/>

REMEMBER to check only ONE of the four boxes

1.	<input type="checkbox"/>	<input type="checkbox"/>	Some people feel that they are not very good when it comes to playing sports	BUT	Others feel that they are really good at just about every sport	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	Some people are not very confident about their level of physical conditioning and fitness	BUT	Others always feel confident that they maintain excellent conditioning and fitness	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>	Some people feel that compared to most, they have an attractive body	BUT	Others feel that compared to most, their body is not quite so attractive	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>	Some people feel that they are physically stronger than most people of their sex	BUT	Others feel that they lack physical strength compared to most others of their sex	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>	Some people feel extremely proud of who they are and what they can do physically	BUT	Others are sometimes not quite so proud of who they are physically	<input type="checkbox"/>	<input type="checkbox"/>
6.	<input type="checkbox"/>	<input type="checkbox"/>	Some people feel that they are among the best when it comes to athletic ability	BUT	Others feel that they are not among the most able when it comes to athletics	<input type="checkbox"/>	<input type="checkbox"/>

- | | Really
True
for Me | Sort of
True
for Me | | | Sort of
True
for Me | Really
True
for Me | |
|-----|--------------------------|---------------------------|---|-----|---|--------------------------|--------------------------|
| 7. | <input type="checkbox"/> | <input type="checkbox"/> | Some people make certain they take part in some form of regular vigorous physical exercise | BUT | Others don't often manage to keep up regular vigorous physical exercise | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. | <input type="checkbox"/> | <input type="checkbox"/> | Some people feel that they have difficulty maintaining an attractive body | BUT | Others feel that they are easily able to keep their bodies looking attractive | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. | <input type="checkbox"/> | <input type="checkbox"/> | Some people feel that their muscles are much stronger than most others of their sex | BUT | Others feel that on the whole their muscles are not quite so strong as most others of their sex | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. | <input type="checkbox"/> | <input type="checkbox"/> | Some people are sometimes not so happy with the way they are or what they can do physically | BUT | Others always feel happy about the kind of person they are physically | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. | <input type="checkbox"/> | <input type="checkbox"/> | Some people are not quite so confident when it comes to taking part in sports activities | BUT | Others are among the most confident when it comes to taking part in sports activities | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. | <input type="checkbox"/> | <input type="checkbox"/> | Some people do not usually have a high level of stamina and fitness | BUT | Others always maintain a high level of stamina and fitness | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. | <input type="checkbox"/> | <input type="checkbox"/> | Some people feel embarrassed by their bodies when it comes to wearing few clothes | BUT | Others do not feel embarrassed by their bodies when it comes to wearing few clothes | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. | <input type="checkbox"/> | <input type="checkbox"/> | When it comes to situations requiring strength some people are one of the first to step forward | BUT | When it comes to situations requiring strength some people are one of the last to step forward | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. | <input type="checkbox"/> | <input type="checkbox"/> | When it comes to the physical side of themselves some people do not feel very confident | BUT | Others seem to have a real sense of confidence in the physical side of themselves | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. | <input type="checkbox"/> | <input type="checkbox"/> | Some people feel that they are always one of the best when it comes to joining in sports activities | BUT | Others feel that they are not one of the best when it comes to joining in sports activities | <input type="checkbox"/> | <input type="checkbox"/> |

- | | Really
True
for Me | Sort of
True
for Me | | | Sort of
True
for Me | Really
True
for Me | |
|-----|--------------------------|---------------------------|--|-----|--|--------------------------|--------------------------|
| 17. | <input type="checkbox"/> | <input type="checkbox"/> | Some people tend to feel a little uneasy in fitness and exercise settings | BUT | Others feel confident and at ease at all times in fitness and exercise settings | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. | <input type="checkbox"/> | <input type="checkbox"/> | Some people feel that they are often admired because their physique or figure is considered attractive | BUT | Others rarely feel that they receive admiration for the way their body looks | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. | <input type="checkbox"/> | <input type="checkbox"/> | Some people tend to lack confidence when it comes to their physical strength | BUT | Others are extremely confident when it comes to their physical strength | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. | <input type="checkbox"/> | <input type="checkbox"/> | Some people always have a really positive feeling about the physical side of themselves | BUT | Others sometimes do not feel positive about the physical side of themselves | <input type="checkbox"/> | <input type="checkbox"/> |
| 21. | <input type="checkbox"/> | <input type="checkbox"/> | Some people are sometimes a little slower than most when it comes to learning new skills in a sports situation | BUT | Others have always seemed to be among the quickest when it comes to learning new sports skills | <input type="checkbox"/> | <input type="checkbox"/> |
| 22. | <input type="checkbox"/> | <input type="checkbox"/> | Some people feel extremely confident about their ability to maintain regular exercise and physical condition | BUT | Others don't feel quite so confident about their ability to maintain regular exercise and physical condition | <input type="checkbox"/> | <input type="checkbox"/> |
| 23. | <input type="checkbox"/> | <input type="checkbox"/> | Some people feel that compared to most, their bodies do not look in the best of shape | BUT | Others feel that compared to most their bodies always look in excellent physical shape | <input type="checkbox"/> | <input type="checkbox"/> |
| 24. | <input type="checkbox"/> | <input type="checkbox"/> | Some people feel that they are very strong and have well developed muscles compared to most people | BUT | Others feel that they are not so strong and their muscles are not very well developed | <input type="checkbox"/> | <input type="checkbox"/> |
| 25. | <input type="checkbox"/> | <input type="checkbox"/> | Some people wish that they could have more respect for their physical selves | BUT | Others always have great respect for their physical selves | <input type="checkbox"/> | <input type="checkbox"/> |
| 26. | <input type="checkbox"/> | <input type="checkbox"/> | Given the chance, some people are always one of the first to join in sports activities | BUT | Other people sometimes hold back and are not usually among the first to join in sports | <input type="checkbox"/> | <input type="checkbox"/> |

- | | Really
True
for Me | Sort of
True
for Me | | | Sort of
True
for Me | Really
True
for Me | |
|-----|--------------------------|---------------------------|---|-----|---|--------------------------|--------------------------|
| 27. | <input type="checkbox"/> | <input type="checkbox"/> | Some people feel that compared to most they always maintain a high level of physical conditioning | BUT | Others feel that compared to most their level of physical conditioning is not usually so high | <input type="checkbox"/> | <input type="checkbox"/> |
| 28. | <input type="checkbox"/> | <input type="checkbox"/> | Some people are extremely confident about the appearance of their body | BUT | Others are a little self-conscious about the appearance of their bodies | <input type="checkbox"/> | <input type="checkbox"/> |
| 29. | <input type="checkbox"/> | <input type="checkbox"/> | Some people feel that they are not as good as most at dealing with situations requiring physical strength | BUT | Others feel that they are among the best at dealing with situations which require physical strength | <input type="checkbox"/> | <input type="checkbox"/> |
| 30. | <input type="checkbox"/> | <input type="checkbox"/> | Some people feel extremely satisfied with the kind of person they are physically | BUT | Others sometimes feel a little dissatisfied with their physical selves | <input type="checkbox"/> | <input type="checkbox"/> |

APPENDIX D

Athletic Identity Measurement Scale

Athletic Identity Measurement Scale (AIMS)
(Brewer, Van Raalte, and Linder, 1993)

Circle the degree in which the statement pertains to you.

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