

A COMPARISON STUDY BETWEEN MALE AND FEMALE DIVISION I ATHLETES  
ASSESSING IDENTITY

THESIS

Presented in Partial Fulfillment of the Requirements for  
the Degree Master of Science in the Graduate School  
of The Ohio State University

By

Ernest G. Eugene, B.S.

\*\*\*\*\*

The Ohio State University  
2007

Thesis Committee:

Dr. Mark A. Merrick, Adviser

Dr. Laura Harris

Dr. Kay Wolf

Approved by



Adviser

Graduate Program in Allied Medical Professions

## ABSTRACT

**Study Design:** A survey questionnaire design was used in this comparative study. The independent variables were gender (male, female), scholarship status (scholarship, walk-on), reason for attending OSU (academic, athletic, other) and sport (soccer, baseball/softball, track, tennis, basketball). The dependent variables are student (SIM) and athletic (AIM) identity scores.

**Objective:** The primary objective of this study is to both describe and compare athletic identity and student identity among male and female Division I student-athletes. This comparison is necessary by sport, gender, and identity type.

**Background:** Sport Psychology is a field that studies both the mental and psychological attributes that affect sport, exercise and physical activity. An increase focus has recently emerged in the psychology of athletic injury rehabilitation and treatment. The evolution of Title IX in the late 20<sup>th</sup> Century has focused our efforts on both male and female collegiate athletics.

**Methods and Measures:** Subjects consisted of 248 student-athletes from The Ohio State University that were members of the above-mentioned teams. Using a 7-point Likert scale, all subjects completed a 14-question instrument. With written authorization, the first 7 questions was the Athletic Identity Measurement Scale (AIMS) survey designed by Dr.

Britton Brewer and his colleagues in 1993. The last seven questions was the Student Identity Measurement Scale (SIMS). The questionnaire survey was provided to all subjects with a packet that consisted of a cover letter, anonymous demographics questionnaire and the 14-question survey instrument. Upon completion of the survey questionnaire, the subjects placed the demographics questionnaire and 14-question survey instrument in a sealed special letterhead envelope and forwarded the envelope to the team athletic trainer. Upon receipt of the envelopes, the athletic trainer placed them in a larger envelope for the principal and/or co-investigator to pick up at a later time.

**Results:** A total of 181 of 248 survey questionnaires were returned. However, only 180 (72.6%) surveys were complete and able to be used for data analysis. Of the 180 surveys used, 103 (57%) were male student-athletes and 77 (43%) were female student athletes. The highest response rates (96%) were men's and women's soccer. The mean age of the respondents was 20.4 years of age, ranging from 18-23. Scholarship athletes consisted of 127 (71%) respondents and 118 (66%) respondents attended OSU for athletic reasons.

**Conclusions:** A vast majority of the participants attended OSU for athletic reasons and/or an athletic scholarship brought them to OSU. However, the difference between those that attended for athletics vs. academics is not a very big difference.

**Key Words:** Sport Psychology, Title IX Legislation, Athletic Identity

## DEDICATION

Dedicated to my parents, Marquet and Lucette Eugene, for the continued love, guidance and support. Thanks for always believing in me and my abilities, especially at times when I found it difficult to believe in myself. Thanks for always guiding me down the right path and instilling within me a strong value of faith. To you both, I owe everything!!

## ACKNOWLEDGMENTS

I would like to thank my academic advisor, Dr. Mark Merrick, Ph.D, ATC, for his guidance, support and invaluable contribution in the development of my thesis.

I would also like to thank my committee members Dr. Laura Harris and Dr. Kay Wolf for their insight, encouragement, assistance and patience throughout the process of preparing my thesis.

I would also like to thank Dr. Jill Clutter for her continued support and guidance throughout my educational career at The Ohio State University.

## VITA

December 21, 1978.....Born- Washington, D.C.

2000.....B.S., The George Washington University  
Washington, D.C.

2000-2001.....Intern Athletic Trainer  
United States Naval Academy  
Annapolis, MD

2001-2003.....Graduate Assistant Athletic Trainer  
The Ohio State University

## FIELDS OF STUDY

Major Field: Allied Medicine

## TABLE OF CONTENTS

	<u>Page</u>
Abstract .....	ii
Dedication .....	iv
Acknowledgements .....	v
Vita .....	vi
List of Tables .....	ix
Chapters:	
1. Introduction 1	
1.1 Background of the Problem .....	1
1.2 Statement of the Problem .....	3
1.3 Purpose of the Study .....	5
1.4 Objective of the Study .....	5
1.5 Significance of the Study .....	5
1.6 Limitations and Delimitations of the Study .....	6
1.7 Definition of Terms .....	6
2. Literature Review .....	10
2.1 Introduction .....	10
2.2 Gender Equity/Title IX .....	10
2.3 Athletic Injuries and Athletic Trainers .....	12
2.4 Psychological Effects of Athletic Injuries .....	13
2.5 Athletic Identity .....	14
2.6 Situational Factors & Personal Factors .....	16
2.7 Identity Foreclosure & Cultural Influences .....	20
2.8 Women in Athletics .....	23
2.9 Self-Efficacy and Self-Confidence .....	23
2.10 Summary of Literature Review .....	25

3.	Methodology .....	26
3.1	Introduction .....	26
3.2	Research Design .....	26
3.3	Instrumentation .....	27
3.4	Population and Subject Selection .....	29
3.5	Data Collection .....	30
3.6	Statistical Analysis .....	31
4.	Results .....	32
4.1	Population Demographics .....	32
4.2	Gender .....	34
4.3	Scholarship Status .....	35
4.4	Reason for Attending Ohio State .....	36
4.5	Sport Type .....	38
5.	Discussion .....	40
5.1	Interpretation/App. of Findings: Gender .....	41
5.2	Interpretation/App. of Findings: Scholarship Status .....	44
5.3	Interpretation/App. of Findings: Reason for attending OSU .....	46
5.4	Interpretation/App. of Findings: Sport Played .....	47
5.5	Implications .....	48
5.6	Conclusion .....	50
Appendices:		
	Appendix A, “Informational Letter to the Certified Athletic Trainer .....	52
	Appendix B, “Cover Letter for the Student-Athlete .....	55
	Appendix C, “Demographics Information Sheet .....	57
	Appendix D, “Survey Instrumentation .....	59
	Appendix E, “Follow-Up/Thank You Letters to Certified Athletic Trainer .....	62
	Bibliography .....	64



## LIST OF TABLES

<u>Table</u>	<u>Page</u>
3.1 Fit Indices for CFA Model E .....	29
4.1 Rate of Response (Per Team) .....	33
4.2 Subject Demographics (number & percentage of total sample) .....	34
4.3 Athletic & Student Identity Scores (Gender) .....	35
4.4 Athletic & Student Identity Scores (Scholarship Status) .....	36
4.5 Athletic & Student Identity Scores (Reason for attending OSU) .....	38
4.6 Athletic & Student Identity Scores (Sport Played) .....	39

## CHAPTER 1

### INTRODUCTION

#### 1.1 Background of the Problem

The term *sport psychology* is defined as the study of psychological and mental factors affecting participation in sport, exercise, and physical activities, and the application of the knowledge thus gained to everyday setting (LeUnes & Nation, 2002). Coleman Griffith, the father of sport psychology, introduced the concept of sport psychology in 1925 by teaching the first sport psychology class at the University of Illinois. Today, the field of sport psychology continues to make positive contributions to both competitive athletics and the world of sports.

An area of sport psychology that has seen an increase of focus recently is the psychology of athletic injury rehabilitation and treatment. There are many types of injuries or conditions that may prohibit an athlete from continuing to compete in his/her respective sport. Along with the physical rehabilitation that is required, there is also mental rehabilitation that must take place. An athlete must first believe that he/she will return to his/her previous level of competition in order for any rehabilitation program to be more than minimally successful. Investigators have observed that athletes, following physical injury,

experience predictable psychological reactions such as depression, anxiety, and impaired self-esteem, which may reach clinically meaningful proportions (Crossman, 1985; Eldridge, 1983; Wiese & Weiss, 1987).

Beginning the second half of the 20<sup>th</sup> Century, there has been a significant increase in the opportunities for women to compete in athletics at the most elite levels of play. The passage of Title IX of the Educational Amendments of 1972 attempted to provide women the same opportunities as men in both educational programs and activities funded by federal financial assistance. The participation of a larger number of women in athletics and their somewhat different physiological and psychological make-ups forces health care providers and sport psychologists to question whether the same innovative rehabilitation approaches used for men will also be effective for women who sustain athletic injuries. “At the average higher education institution, the female share of undergraduates is 55.8% while the female share of athletes is 41.7%” ([www.womenssportsfoundation.org](http://www.womenssportsfoundation.org)). Although female athletes have been shown to have a lesser sense of identity foreclosure than their male counterparts, no gender comparisons have been made to date in the context of sport participation (Brewer et al, 1993). The term identity helps an individual define who he is and his make-up. This assessment of a student-athlete’s (male or female) identity may contribute greatly to the effectiveness of a rehabilitation program after sustaining an athletic injury.

Athletic injury rehabilitation specific to women is an area of research that has been only slightly touched upon and needs more focus as Title IX continues to grow and women’s athletics mature. Unlike many male athletes, most female athletes have other characteristics

that help identify who they are. Many college-age women have goals of going to Graduate/Professional School and starting a professional career outside of athletics. Although there are some women that are similar to men in that they view athletic success as a priority, many realize that being an athlete is not their exclusive form of identity. These women would love to have the opportunity to continue in their sports professionally, but many limitations exist that does not allow this to occur (i.e. limited professional opportunities). As a result, one would expect to see different reactions to injury from a female Division I athlete compared to a male Division I athlete. This could potentially also result in different approaches in both physical and psychological rehabilitation and ultimately returning to sport participation.

## 1.2 Statement of the Problem

Because there is only a limited body of research regarding injury and rehabilitative psychological differences between genders, it is extremely important that researchers continue to examine this topic. Many male athletes that participate in revenue-producing sports tend to experience a sense of foreclosed identity. These are the athletes that attend colleges/universities for the sole reason of making it to the professional level in their respective sports. One can assume that making it to the professional ranks, for these athletes, marks a sense of achievement and success. To these same athletes, the attainment of a post-secondary degree is assumed to be less relevant and sometimes even perceived as an

obstacle. The opportunity to play in the NBA or NFL spells success for such an athlete almost to the exclusion of everything else.

On the other hand, there has been only a limited amount of research examining female athletes who participate in revenue-producing sports that attempts to identify their identity type as being either an athlete or a student. Limited research already performed in this area suggests that most female athletes view athletics as only an aspect of their life and not their sole identity. Prior to the evolution of Title IX, the opportunity for women to receive a college education was considered to be an honor and the attainment of a college degree, a milestone. The conception of Title IX changed this to the extent that college is now viewed as a normal expectation for most American women. “There were actually more male high school graduates in 1998 than female:...However, the college enrollment rate was markedly higher for the young women- 69.1 percent were enrolled in college while only 62.4 percent of the young men were enrolled” ([www.bls.gov](http://www.bls.gov)). However, one can assume that women value education more than men because of their past struggles to obtain a formal education. Although athletics is a huge part of a female athlete’s collegiate experience, our assumptions suggest that education is their primary reason for attending college.

The recent rise of women’s professional sports has allowed many more women the opportunity to continue in athletics after college. As a result of more women in competitive elite sports, we will also see a higher incidence of women sustaining microtraumatic, macrotraumatic, and career terminating injuries. For this reason, it is of extreme importance to focus on the mental aspects of rehabilitating female athletes, especially those who sustain

career-terminating injuries. Will this injury affect their identity? If not career terminating, can women make an effective return-to-play? Do these injuries have a different effect on women than they do on men? These are all questions that need to be answered and clarified.

### 1.3 Purpose of the Study

The purpose of this study is to assess and compare self-perception of athletic identity and student identity among male and female Division I collegiate athletes in similar sports and explore how identity will effect the rehabilitation of an injured athlete.

### 1.4 Objective of the Study

The primary objective of this study is to both describe and compare athletic identity and student identity among male and female Division I student-athletes. The comparison is by sport, gender, and identity type.

### 1.5 Significance of the Study

The field of sport psychology has just recently been introduced as an adjunct to the fields of sports medicine and athletic training. However, there is still limited work incorporating elements of sports psychology into rehabilitative programs. Similarly, the rise of Title IX has provided another reason for such a study. Most of the research that has taken place in sport psychology has been a representation of male elite athletes. With the rise of women athletics in colleges and universities throughout the United States, one can expect to

see a difference in how an athletic injury will affect athletic identity in male versus female elite athletes.

This study is significant because it is among the first to attempt to define the balance of identity in female athletes in the traditionally high profile sports at the NCAA Division I level and compare this sense of identity to their male counterparts.

#### 1.6 Limitations and Delimitations of the Study

The population that will be used in this study will be limited to The Ohio State University Department of Athletics. This can potentially allow for an unwanted regional and institutional bias to be expressed in the results of this comparative study and will affect our ability to generalize to a larger population.

#### 1.7 Definition of Terms

##### Selective Optimization

This term is defined as the preliminary selection of an activity or event for which you want to be the best competitor. This predisposition, similar to identity foreclosure, can be pre-determined based on your cultural background or familial surroundings.

### Athletic Identity

Refers to the individual who predominantly sees himself as an athlete. This self-view is especially true of student-athletes that see athletics as their sole purpose for going to school, especially college. These individuals are commonly referred to, by society, as “athlete-students” instead of student-athletes. Removing athletics from their lives would give them a lack of meaning towards existence.

### Student Identity

Refers to the individual who predominantly views himself as a student. This view is particularly true of those individuals that see academics as their primary purpose for attending a college or university. They view their participation in athletics as an extra-curricular activity. Although athletic success may be of great importance, their success in the classroom is of greater importance.

### Self-Efficacy

Refers to people’s judgment of their capabilities to organize and execute courses of action required to attain designated types of performances (Bandura, 1986). In other words, it involves how one believes a particular task or chore should be achieved.



### Title IX Legislation

A significant landmark in the development of women's athletics in the United States that was passed in 1972. Title IX states: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving federal financial assistance" (Title IX of the Educational Amendments of 1972). The primary objective of its passage allowed for gender equity within collegiate athletic departments throughout the United States.

### Microtrauma

Overuse/chronic type injuries that can occur as a result of athletics. Common examples of microtraumatic injuries are patellar tendonitis, Achilles tendonitis, etc.

### Macrotrauma

Acute injuries that can occur as a result of acute trauma during athletics. Common examples of macrotraumatic injuries are shoulder dislocations, lower leg fractures, etc.

### Situational Factors

This term is defined as the physical and external factors that can play a role in the success of an injured athlete's rehabilitation program. These factors range from the

environment of the athletic training room to the social support services available to the athletes as they undergo their rehabilitations.

### Personal Factors

This term refers to the internal qualities that the athlete possesses that can and (usually) will play a role in the success of the injured athlete's rehabilitation. These internal factors range from self-efficacy to self-confidence.

### Identity Foreclosure

Rooted in Erikson's (1959) theory of psychosocial development, identity foreclosure is a construct used to describe people who have committed to an occupation or an ideology without first engaging in exploratory behavior (Marcia, 1966; Petitpas, 1978). Identity foreclosure can sometimes be based on an athlete's cultural background.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Introduction

Athletics has become one of the most intense areas of focus for society within the late 20<sup>th</sup> Century. There has also been an increase in equity between women and men in collegiate athletics as a result of Title IX of the Educational Amendments of 1972. Leddy et al (1994) suggested that future research focus on the psychological consequences of athletic injury in a variety of additional samples, including women. With this rise in athletic participation, especially at the collegiate levels, there has also been a related increase in athletic injuries. For this very reason, the need for highly skilled and educated athletic health care providers has also grown dramatically in recent years. Injuries to elite performers not only affect these athletes physically, but also psychologically. As a result of injury, an athlete's sense of personal identity can become comprised once the ability to compete in his/her respective sport is impacted.

#### 2.2 Gender Equity/Title IX

The world of collegiate athletics has expanded in the last thirty years and continues to do so. The passage of the Title IX legislation in 1972 played a big role in the initial growth

of women's collegiate athletics. Although the evolution of Title IX had an impact on collegiate athletics, it also affected educational opportunities for women. In 1972, the enactment of Title IX prohibited gender discrimination in any education programs or activity within an institution receiving any type of Federal financial assistance. "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied benefits of, or be subject to discrimination under any educational program or activity receiving federal financial assistance" (Title IX of the Educational Amendments of 1972). According to Parham (1993), the role of females in athletics and to what extent they should be involved has always been questioned. Questions have evolved from whether a women's participation in sports will be harmful to her reproductive system and will she become more masculine in appearance and attitude, to whether females value competition or independence, and do they have the same needs to feel part of a group or team (Butt, 1987; McPherson, Curtis, & Loy, 1989).

According to the US Department of Education (1997), women now make up the majority of students in America's colleges and universities in addition to making up the majority of recipients of master's degrees. Indeed, the United States has become a world leader in giving women the opportunity to receive a higher education. As a result, there has been a rise in female collegiate athletes and associated athletic injuries. According to Leadbetter (1994), gender comparison studies show a difference in the types and severity of injuries that occur to both male and female athletes. "Female athletes are at increased risk for certain sports-related injuries, particularly those involving the knee" (NCAA, 1996).

Walter et al (1985) also discovered that there is a dramatic difference in how men and women seek medical care for injuries. Men are more likely to try to cope with the injury and can sometimes worsen the initial injury. Women, on the other hand, are more likely to report an injury immediately in hopes of not making it worse. With an increase in the number of female athletic teams present at the collegiate level, this brings about a higher assumed risk of injury.

### 2.3 Athletic Injuries and Athletic Trainers

With the rise of collegiate athletic participation among men and women, there has also been a rise in the types and severity of injuries that take place in athletics. According to Kraus and Conroy (1984), there were 6,045 athletically/recreationally related deaths in 1978 and an estimated 3-5 million nonfatal athletic injuries each year since 1978 in the United States. Sports medicine is one of the newest medical specialties that has addressed this health problem. According to the National Athletic Trainers' Association (2003), a Certified Athletic Trainer is a highly educated and skilled professional specializing in athletic health care. "The field of athletic training is a major link between the sports program and the medical community (Arnheim & Prentice, 2000). In 1991, "Athletic Training [became] recognized by the American Medical Association (AMA) as an allied health care profession, and the AMA recommends Certified Athletic Trainers in every high school to keep America's youth safe and healthy" (NATA, 2003).

Athletic Trainers witness both microtraumatic and macrotraumatic injuries daily. According to Noyes et al (1988), a sport related injury/illness could potentially keep a player out of practice or competition on the day or days following the injury. Such injuries require medical attention or care beyond icing and wrapping (Noyes et al, 1988). Microtraumatic injuries are overuse/chronic type injuries that can take place in athletics (i.e. rotator cuff tendonitis). On the other hand, macrotraumatic injuries are acute injuries that take place suddenly in athletics (i.e. shoulder dislocation). In treating athletic injuries, athletic trainers must be aware that “rehabilitation is both a mental and physical process” (Rotella et al, 1986) regardless of the type of injury. As a result, athletic trainers must also be aware of psychosocial influences on the outcomes of their patients.

#### 2.4 Psychological Effects of Athletic Injuries

According to Kubler-Ross (1969), there is a sequential “grief” model that injured athletes work through when reacting to an injury. This 5-sequence model includes denial, anger, bargaining, depression, and acceptance. Once the athlete suddenly becomes disabled and/or unable to perform the necessary tasks of the sport, the denial stage immediately takes place. In the denial stage, the athlete begins to experience stages of mood alteration. “It appears that athletes may experience a brief period of mood disturbance (increased tension, depression, and anger with decreased levels of vigor) following an injury but returns to normal when they perceive they are making progress toward recovery” (McDonald & Hardy, 1990; Smith, Scott, O’Fallon, & Young, 1990). The fifth and final stage of the model is the

acceptance stage, which tends to be a positive stage for the athlete. “Ideally, [the] depression stage should be followed by that of acceptance and hope, but various factors may intervene to delay or prevent this from happening” (Rotella, 1982). However, all individuals are different and not every athlete will respond as previously stated. “One weakness of stage approaches is the difficulty they have in accounting for individual differences (Brewer, 1994; Smith et al, 1990).

## 2.5 Athletic Identity

One can assume that a vast majority of Division I collegiate athletes participate in college athletics with aspirations of performing at an even higher level of play in the future. According to Good et al (1993), “...it might be anticipated that some of the findings of this study might be even more pronounced among students at Division I institutions, where the expectation of ‘turning pro’ by student-athletes is probably much higher than at NCAA Division II and Division III institutions.” They concentrate on their respective sport with the frame of mind that no other task or activity is of equal or greater importance. One reason why college student-athletes may show lower levels of psychosocial maturity is that they engage in selective optimization (Danish, 1983). Selective Optimization is defined as preliminarily choosing an activity or event in which one wants to be the best competitor. According to Brewer et al (1993), this is when an athlete “concentrate(s) on a sport to the exclusion of other activities during their involvement in the sport.” This predisposition leads to identity foreclosure, which causes an athlete to have an exclusive athletic identity.

“Rooted in Erickson’s (1959) theory of psychosocial development, identity foreclosure is a construct used to describe people who have committed to an occupation or an ideology without first engaging in exploratory behavior (Marcia, 1966; Petitpas, 1978).

Any type of an injury or condition that may remove an athlete from participation in his/her respective sport will also affect his/her identity. Hinitz (1988) found that retired gymnasts who strongly identified with the role of ‘gymnast’ and who considered participation in gymnastics to be a central source of self-definition experienced difficulty adjusting to athletic retirement (Good, Brewer et al, 1993). Most Division I athletes believe that they are at their respective college/university to play their respective sports first and then to receive a college education second. “It is possible that the demands of sport participation and the restrictive, sheltered nature of the competitive sport environment discourage student-athletes from exploring alternative identities” (Good, Brewr et al, 1993). These types of athletes are called “athlete-students” instead of student-athletes. According to Parham (1993) “...athletic pursuits are most often given the greater amount of time and attention (American Institute of Research, 1989a).” As a result, “graduation rates of student-athletes also continue to be unacceptably low, and this fact seems especially true for student-athletes of African American descent” (Parham, 1993). According to the 2007 NCAA Graduation Rate Report, the current graduation rate is at 77% and the revenue-producing sports (i.e. football, men’s basketball, etc) have seen slight improvements for the second year in a row. One can speculate that this increase can be contributed to many different factors (familial values and teaching, university athletic staff, etc).



However, there tends to be an enormous difference in this belief between female athletes vs. male athletes that compete in Division I collegiate athletics. While many male collegiate athletes believe that athletics is their life, most female athletes believe that they are really in college for an education and tend to see athletics as only an aspect of their life that aides in them enjoying their collegiate experience. Most females have high aspiration of going to law school, medical school, etc before thinking about playing at the professional or international level.

While the percentage of master's, doctoral, and first-professional degrees earned by women increased substantially in all fields between 1970 and 1996, women earned a majority of the master's and doctoral degrees in education and health in 1996, and men earned nearly three-quarters of the degrees in computer science and a higher proportion in engineering. In addition, 44 percent of law degrees, 41 percent of medical degrees and 36 percent of dentistry degrees were awarded to women.

[www.nces.ed.gov](http://www.nces.ed.gov)

## 2.6 Situational Factors & Personal Factors

There are many factors and responses that play a role in affecting the identity of athletes. Of the many factors that play a role in athletic identity of collegiate athletes, the two of primary importance are situational factors and personal factors. Situational factors, such as the climate of the athletic training room and the sources of support athletes perceive during injury rehabilitation, have also been purported to have an impact on athletes' interpretations of and responses to sport injury and rehabilitation (Ewart, 1990; Taylor &

Taylor, 1997; Udry, 1996; Wiese-Bjornstal et al, 1998). On the other hand, personal factors, such as self-confidence and self-efficacy play a role in helping athletes identify with themselves and knowing who they are. For example, when an athlete sustains an injury, questions arise internally of whether or not they will be ever able to compete at the same level or higher. It is the entire rehabilitation process that helps answer this question for the athlete.

...efficacy restoration was defined in the current work as the restoration of self-confidence about successfully performing in sport that is to a level where the individual feels confident enough to return to competition following the completion of injury rehabilitation.

(Magyar & Duda, 2000)

Of the situational factors that surround an athlete in his/her return to athletic competition, the biggest tends to be the social support that he/she receives. “Social support in rehabilitation from athletic injury appears to be a critical environmental factor” (Magyar et al, 2000). According to Udry (1996), athletes tend to turn to others in hope of minimizing their sense of loss following an injury. Perceived social support is a positive predictor of adherence to one’s rehabilitation protocol (Duda, Smart, & Tappe, 1989).

“Social support was defined merely as the number of friendships, close relatives, or organizational involvements” (Udry, 1996). According to Pines and Aronson (1988), there are six important forms of social support: listening support, emotional support, emotional

challenge, technical appreciation, technical challenge, and shared social reality. Investigators have documented that athletes receive an enormous amount of social support from many different sources. According to Rosenfeld et al (1989), athletes felt that their coaches provided them with the technical support that they needed while their teammates gave them the shared social reality and listening support. For those athletes that fail to have any social support or only a few ties were the athletes who were more likely to commit suicide. According to Durkheim (1952), it was found that suicides were more common among individuals with few social ties.

According to the direct-effect model, social support has beneficial effects regardless of whether individuals are under stress. As the effectiveness of individuals' social support systems increases, so does their mental and physical functioning. Alternatively, when social support systems are inadequate, psychological and physiological functioning decreases.

(Udry, 1996)

As a result, the direct-effect model has a direct correlation with the level of social support that an athlete receives.

Social support becomes important to athletes when they experience a loss that has been a part of their identity for many years. An example of such a tragedy is an athlete sustaining a career ending injury. "Career termination can be conceptualized as a complex interaction of stressors. Whether the stressors are financial, social, psychological or physical,

their effects may produce some form of trauma” (Ogilvie and Taylor, 1993). There are many cases where a career-ending injury occur which results in an athlete being unable to participate in a sport. According to Coakley (1983), this has been conceptualized as a form of “social death.” The term “social death” signifies when an individual is suddenly taken away from an environment to which he is accustomed and in which he socializes. This is what typically happens to elite collegiate and professional athletes when they are removed from their respective sports for any reason at all. Kleiber and Brock (1992) reported that “among college student-athletes who had experienced athletic career-ending injuries, only those who were invested in playing professional sports experienced a decrease in self-esteem and life satisfaction” (Brewer et al, 1993). The above statement signifies that an increase in athletic identity can result in a decrease in self-esteem when a career-ending injury is sustained.

Fisher et al (1988) studied the psychosocial factors related to rehabilitation adherence between injured athletes that adhered to the rehabilitation versus those who did not. It appeared that those athletes who displayed a higher level of compliance were more likely to “perceive social support for their rehabilitation, believe in the efficacy of their treatment, report higher levels of self-motivation, and adopt a mastery or goal orientation toward sport participation” (Udry, 1996).

On the other hand, personal factors tend to be the weakest link of the two. Both self-efficacy and self-confidence tend to be affected by demographic location, age, gender, and socioeconomic status. Frequently, these characteristics tend to funnel athletes into pre-

determined sports in which they believe they should compete or in which they believe society feels that they should compete. Danish (1983) identified this process as an example of selective optimization. In example, an individual from an urban environment is more likely to participate in basketball versus soccer because of the surrounding influences of role models and society.

## 2.7 Identity Foreclosure & Cultural Influences

A student will begin to create their identity in late adolescence. In creating identity, one must first “actively explore various alternative possibilities of adult life... [and then] one must make freely chosen commitments to those ideological and occupational alternatives that seem most consistent with their personal needs, values, interests, and skills” (Petitpas & Champagne, 1988). Cultural expectation occurs in sports daily. Examples range from an African-American athlete being able to perform a certain task/skill to that same athlete being able to take their game to the next level. According to Nixon (1993), athletes that participate in certain high-profile sports must be able to take part in high-risk behaviors, because of the cultural norms of that sport. An example of this is an African-American athlete being able to “dunk” a basketball.

As stated earlier, “...identity foreclosure is a construct used to describe people who have committed to an occupation or an ideology without first engaging in exploratory behavior” (Marcia, 1966; Petitpas, 1978). Identity foreclosure can sometimes also be based on an athlete’s cultural background. Identity foreclosure occurs especially in the African-

American community and their involvement in sports. “It is interesting that many people use ‘racial theories’ to explain the success of people with black skin and the failures of people with white skin in certain sports...” (Coakley, 1998). Most African-American people are associated with the sports that involve a majority of African-Americans. Some of these sports include, but are not limited to, football and basketball. It is assumed that African-Americans immediately associate themselves with sports that predominantly include individuals of their similar race and/or ethnicity (i.e. football, basketball) at such a young age. However, “it has been hypothesized that maintaining a strong and exclusive athletic identity can produce problems in adjustment to common sport-related transitions such as terminating competitive sport involvement, dealing with injury, and being cut from a team” (Baillie & Danish, 1992; Blinde and Greendorfer, 1985; Pearson and Petitpas, 1990). It has also been “suggested” that athletes in certain high-performance sports may be induced to engaging in high-risk behaviors because the cultural norms of the sport reinforce these behaviors (Nixon, 1993).

On the other hand, there are individuals that have always been affiliated with being a member of a country club and participating in country club sports (i.e. tennis, golf, etc). The majority of these individuals are probably of Caucasian descent. It can also be assumed that these individuals usually make up the majority of these sports in collegiate athletics. Similar to African-American student athletes, one can speculate that these individuals participate in these sports with hopes of succeeding and elevating to a higher level of play. However, in their eyes, this is probably not their only way to elevate to a level of success and

accomplishments. Based on their socioeconomic background, one can predict that these individuals have aspirations of going on to law school, medical school. etc. One can assume that a majority of the individuals that belong to country clubs have succeeded, not because of sports, but because of their educational background. “At the top-tier institutions, 90 percent of students from the highest socioeconomic status quartile families graduated, while only 76 percent of those from the lowest socioeconomic status quartile graduated.”

[www.tcf.org/Publications/Education/carnrose](http://www.tcf.org/Publications/Education/carnrose))

Brewer et al (1993) studied 502 students from four small colleges and universities in the northeast region of the United States. Identity foreclosure was determined using the foreclosure subscale of the Objective Measure of Ego Identity Status. After the survey was completed and evaluated, it was discovered “that student-athletes are susceptible to identity foreclosure, as foreclosure scores increased with the level of athletic involvement” (Brewer et al, 1993).

As earlier indicated, “individuals who make commitments to roles without engaging in exploratory behavior are said to be in a state of identity foreclosure” (Marcia et al, 1993). Identity foreclosure applies to both age and ethnic background. According to Blustein & Phillips (1990), identity foreclosure is commonly associated with a dependent style of decision-making, in which important decision-making is commonly made by others. In the case of many young athletes, this tends to be their parents. There are many parents that try to push their kids to succeed in sports and to concentrate on that aspect of their lives only.

These are probably those parents that are likely to view athletics as a productive avenue for success.

## 2.8 Women in Athletics

“Historically, women’s role in athletics, including the extent of their involvement, has always been questioned” (Parham, 1993). Female athletes are not only athletes, but also care equally about their education and their role in the classroom. While on the other hand, “... male varsity student-athletes in revenue-producing sports may be at particular risk for restricted career development” (Murphy et al, 1996). Female student-athletes tend to see sports as being only one aspect of their lives, while male athletes see it as one of the biggest stressors that they will encounter. As a result, studies show that males are more prone to injuries than females because of their higher level of stress. Hardy et al (1991) found that males with higher levels of stress as opposed to their female counterparts had a higher frequency of injury. Specifically, injury frequency increased as the level of total life change and the number of providers of shared social reality support decreased (direct effect).

## 2.9 Self-Efficacy & Self-Confidence

According to Bandura (1986), self-efficacy is defined as people’s judgment of their capabilities to organize and execute courses of action required to attain designated types of performances. “Bandura hypothesized that self-efficacy affects choice of activities, efforts, persistence, and achievement” (Schunk, 1995). Self-efficacy can be acquired through



performances/experiences and knowledge of others. According to Bandura (1986), success is known to raise efficacy while failure decreases it. However, once a strong sense of efficacy is established, failure can no longer have an impact on it. On the other hand, self-efficacy can also rise from the knowledge of others through social comparison. “Those who observe similar peers perform a task are apt to believe that they, too, are capable of accomplishing it. To remain credible, however, information acquired vicariously requires validation by actual performance” (Schunk, 1995).

“When an injury occurs, the athlete should be encouraged to view it in a rational, self-enhancing way rather than from a self-defeating perspective” (Rotella, 1982). The athlete must be an optimistic individual, rather than pessimistic. They must view getting through this injury as a positive challenge and allow the injury to serve as a motivating factor. However, all individuals are different and all athletes perceive injuries in different ways. Some perceive it in a positive light, while many in a negative connotation. According to Rotella (1982), an athlete that possesses emotional self-control will better cope with his injury. He will tend to be more rationale and less overwhelmed by it. In coping with an injury, an athlete’s initial impression will usually determine the behavior throughout the coping process. If an athlete feels that they will never get better and that the athletic career will be ruined, that has a tendency to become a self-fulfilling prophecy. On the contrary, we also have athletes that feel that they will get back to where they once were or even better. These athletes tend to keep this level of focus throughout their rehabilitation process and use that attitude as a motivating factor.

There are many methods that are used to help one cope with an injury and not lose their identity. According to Kleiber et al (1987), the quality of performance during the final phases of role enactment might well affect one's sense of well-being and life satisfaction in the periods immediately following the role completion. It is always a plus to end any task that you perform or complete on a positive note. That usually helps the performer view his role in the activity and sport, as always positive. A prime example of such a situation is a senior Division I collegiate football player who wins the national championship and earns the MVP award in his final collegiate athletic performance or experience.

#### 2.10 Summary of Literature Review

Although there is an enormous amount of information presented on this topic, there is a conspicuous absence of literature comparing males to females in Division I collegiate athletics. With the recent rise of Title IX over 30 years ago; there is a great need for more research that compares men vs. women in Division I athletics. Key points that need to be determined are how the two groups view themselves pre-injury, during the rehabilitation process of an injury and post-injury/return to play. One question that needs to be answered is whether a larger percentage of males or females lose their identity following injury and what amount athletics contributes to their identity. In view of these issues, the effects of culture and surroundings must also be considered. With the rise of Title IX, one should expect to see very interesting statistics.

## CHAPTER 3

### METHODOLOGY

#### 3.1 Introduction

The purpose of this study was to assess and compare self-perception of athletic identity and student identity among male and female Division I collegiate athletes. This comparative study attempted to illustrate the similarities and differences in an individual's identity and its role in athletic injury and treatment.

#### 3.2 Research Design

This research is a comparative study describing NCAA Division I collegiate level athletes, both male and females. The differences in individual perception of identity between men and women was determined using two dependent variables measured using a 14-question instrument. The first 7 questions was the Athletic Identity Measurement Scale (AIMS) survey designed by Dr. Britton Brewer and his colleagues in 1993. "Athletic Identity was assessed with a retrospective version of the Athletic Identity Measurement Scale" (Brewer et al., 1993; Hale, 1995). The final seven questions were used as a form of exploratory research. The independent variables of the study are gender (male, female), scholarship status (scholarship, walk-on), reason for attending OSU (academic, athletic,

other) and sport (soccer, baseball/softball, track, tennis, basketball). The dependent variables are student (SIM) and athletic (AIM) identity scores. These nominal dependent variables are descriptive in nature. Both the SIM and AIM scores will be calculated independently of each other using the 7-point Likert scale.

### 3.3 Instrumentation

With written authorization, the 7-point Likert Athletic Identity Measurement Scale (AIMS) produced by Britton et al (1993) was used to assess each subject, as well as an additional 7 questions. A pilot test conducted by Britton et al (1993) on four subjects through confirmatory factor analytic (CFA) methods validated the reliability and validity of the actual instrumentation.

Survey packets were sent and consisted of the following: a cover letter explaining the purpose of the study, an anonymous demographics questionnaire and a 14-question survey instrument. The 14-item survey consisted of seven AIM questions (revised version) and seven SIM questions. “The 10-item instrument, which is scored by summing responses on a 7-point Likert type scales such that higher values indicate a stronger identity with the athlete role, has shown strong internal consistency in previous research” (Brewer et al., 1993; Hale, 1995).

The AIMS questionnaire was originally composed of 10 items to assess athletic identity among athletes. The score calculated is the sum of the item scores, which is based on a 7-point Likert scale. According to Brewer et al (1993), a study was performed to

examine the factorial invariance of the Athletic Identity Measurement Scale (AIMS).

“Results indicated that a multidimensional model in which three highly correlated first order factors (social identity, exclusivity, and negative affectivity) are subordinate to a higher order athletic identity factor demonstrated factorial invariance across genders and athletic statuses” (Brewer & Cornelius, 2001). The findings also inferred that a 7-item composite AIMS (Model E) score would be appropriate in the assessment of athletic identity in both males and females.

“A higher order model, which includes 7 of the 10 original AIMS items, was developed and then cross-validated with a large sample from many different sports and levels of competition, and found superior to other one-dimensional and multidimensional models” (Brewer and Cornelius, 2001). Within the 7-item composite AIMS instrumentation, items 1-3 were measurements of social identity; items 4 and 5 were measurements of exclusivity; and items 6 and 7 (originally 8 and 10) were measurements of negative affectivity (Brewer & Cornelius, 2001). Despite the loss of three survey items, the internal consistency of the 7-item instrument was still high (Cronbach’s alpha = .81). Brewer & Cornelius (2001) found that evidence from their current study shows that the revised 7-item scale (in its current state) is accepted as a “brief measure of the higher order athletic identity construct without the need for additional items.”

Model	$\chi^2$	df	SRMR	CFI	AIC
Model E	163.75	11	.03	.97	197.74

Note. SRMR = Standardized Root Mean Square Residual; CFI = Comparative Fit Index; AIC = Akaike Information Criterion (Brewer & Cornelius, 2001)

**Table 3.1: Fit Indices for CFA Model E**

### 3.4 Population and Subject Selection

The population of interest consisted of Men's and Women's Division I collegiate athletes from The Ohio State University in the following sports: men's basketball (18), women's basketball (15), men's soccer (25), women's soccer (27), baseball (36), women's softball (20), women's track (37), men's track (51), men's tennis (9) and women's tennis (10). The total population of this study was 248 student-athletes combined from all of the teams listed. We selected these sports because both male and female teams are fielded in each at The Ohio State University (e.g. baseball & softball). These sports are also where the opportunities lie for these athletes to continue in their respective sports at the termination of their collegiate athletic careers. All subjects (N=248) were given the opportunity to complete a survey packet. All survey packets were distributed by supervising athletic trainers of the respective sports as the athletes entered the athletic training rooms. All supervising athletic trainers were informed that their assistance is strictly voluntary and no form of compensation or reimbursement will follow their efforts. All subjects also signed a consent form, prior to

completing their survey packets. This administering of this survey was approved by the Institutional Review Board (IRB) of The Ohio State University.

### 3.5 Data Collection

The Ohio State University supervising athletic trainers for the respective sports received a preliminary information letter explaining the research study and upcoming materials to be received. Following this preliminary information letter, the supervising athletic trainers received a certain number of survey packets to be completed by their respective athletes. The survey packet consisted of a cover letter that explained the purpose of the study, an anonymous demographics questionnaire and the 14-question survey instrument. The number of survey packets distributed to each supervising athletic trainer was based upon the number of athletes per sport being considered. As athletes entered the respective athletic training rooms, they were requested (by their supervising athletic trainer) the opportunity to participate in the research study. The athlete was informed that participation within this study was strictly confidential and voluntary. The athletes, that wish to participate, completed the demographics questionnaire and survey materials. Upon completion, they were prompted to place the completed materials in a sealed special letterhead envelope. After placing the materials into the sealed envelope, the athlete presented the sealed special letterhead envelope to the team athletic trainer, who placed all sealed envelopes in a larger envelope that was picked up by an investigator at a later date. This ensured the confidentiality and anonymity of the subjects' shared information. The

supervising athletic trainers did not receive any form of compensation or benefits for the administration of the survey to their individual athletes. The survey packets were distributed in the athletic training room both pre-practice and post-practice. As previously stated, the athletes completed the survey packets both voluntarily and confidentially.

After receiving the survey packet, the supervising athletic trainers received a follow-up/thank you letter that re-emphasized the importance of this survey. This letter was sent approximately 10-14 days after receiving the initial letter and stated both the date and time that the completed surveys were to be picked up. After all surveys were collected and data calculated and submitted, all subjects and supervising athletic trainers were given access to the findings of the study. The data allowed us to determine if male and female Division I collegiate athletes in the same sport have differing perceptions of self-identity. These results will only be provided upon request. However, no subjects or supervising athletic trainers requested any findings of this study.

### 3.6 Statistical Analysis

Descriptive statistics were used to summarize, organize, and describe the data submitted by the subjects. A Mixed Model Factorial ANOVA was used to determine differences between gender and sport groups on identity type (athletic and student). Both AIM scores and SIM scores are separate dependent variables. The above calculations are used in the assessment of identity of each subject.



## CHAPTER 4

### RESULTS

For each of the two dependent variables (athletic identity score and student identity score), data were analyzed using separate 2x2x3x5 fixed model Analyses of Variance (gender x scholarship status x why attending OSU x sport). Separate ANOVAs were performed instead of a MANOVA because we were interested in each dependent variable separately rather than the linear combination of the two dependent variables. Descriptive data for each variable are found in tables 1-6.

#### 4.1 Population Demographics

The sample size consisted of 248 student-athletes at The Ohio State University. This sample size included participants from the following five sports: soccer (men's = 25, women's = 27), baseball/softball (men's = 36, women's = 20), basketball (men's = 18, women's = 15), track (men's = 57, women's = 31), tennis (men's = 9, women's = 10).

A total of 181 of 248 (73.0%) questionnaires were returned. However, only 180 surveys were complete and able to be used for the purpose of data analysis, adjusting the return rate to 72.6%. A male basketball athlete did not list his scholarship status and, as a result, his information was omitted. We considered the response rate to be adequate to generalize the data to the entire population studied (OSU athletes on selected sports teams).

The two sports with the highest response rates (96%) were men’s and women’s soccer. The response rates of each individual team can be found in Table 4-1.

Respondents reported on their respective sport, age, gender, scholarship vs. “walk-on” status and reason for choosing The Ohio State University. The mean age of the student-athletes was 20.4 years of age, with an age range of 18-23 years. This calculation was based on 179 respondents because one of the participants did not include their age within the study. Of the total number of participants within the study (180), 103 (57%) were male and 77 (43%) were female. In terms of their scholarship status, 127 (71%) respondents were scholarship athletes and 53 (29%) were walk-on athletes. Finally, the participants were also surveyed on their reason for attending OSU and the responses were as followed: 40 (22%) for academic reasons, 118 (66%) for athletic reasons and 22 (12%) for other unspecified reasons. The above demographics can be viewed in Table 4-2.

SPORT	Number of Respondents	Number of Athletes	% of Responses
Men’s Soccer	24	25	96 %
Women’s Soccer	26	27	96 %
Baseball	29	36	81%
Softball	14	20	70%
Men’s Basketball	10	18	56%
Women’s Basketball	9	15	60%
Men’s Track	33	57	58%
Women’s Track	19	31	65%
Men’s Tennis	7	9	78%
Women’s Tennis	9	10	90%
TOTAL	180	248	73%

Table 4.1: Rate of Response (Per Team)

Gender	Scholarship Status		Sport Played					Reason for attending the Ohio State University		
	scholarship	walk-on	soccer	baseball/ softball	basketball	track	tennis	athletics	academics	other
Male (n=103)	73	30	24	29	10	33	7	67	21	15
Female (n=77)	54	23	26	14	9	19	9	51	19	7
Total (N=180)	127	53	50	43	19	52	16	118	40	22
%	70.6	29.4	27.8	23.9	10.6	28.9	8.9	65.6	22.2	12.2

\*\*One male subject was non-responsive to scholarship status

Table 4.2: Subject Demographics (number & percentage of total sample)

## 4.2 Gender

The implementation of Title IX has brought about an increase in the number of women participating in athletics, particularly at the collegiate level. Of the 180 subjects surveyed, 77 (43%) were females and 103 (57%) were males. Women's soccer (n=26, 96%) was the female sport with the highest percentage response rate. Men's soccer (n=24, 96%) was the male sport with the highest percentage response rate. On the other hand, men's basketball (n=10, 56%) and women's basketball (n=9, 60%) were the male and female sports with the lowest percentage response rates. Table 4-3 describes the identity scores by gender for all respondents.

A main effect for gender was observed for student identity ( $F_{1,136} = 23.49, P = 0.000, \eta^2 = 0.15, 1-\beta = 1.0$ ). Male athletes' perception of their identity was much less tied to their

academic efforts ( $SIM = 29.47 \pm 7.87$ ) than that of their female counterparts ( $SIM = 37.70 \pm 6.63$ ). Gender explained 15% of the differences between individuals' SIM scores as indicated by the partial eta squared value for the ANOVA.

In addition, another main effect for gender was observed for athletic identity ( $F_{1,136} = 18.11, P = 0.000, \eta^2 = 0.12, 1-\beta = 0.99$ ). In a reversal of the findings for student identity, male athletes' perception of their identity was more highly tied to their athletic participation ( $AIM = 40.8 \pm 5.6$ ) than that of their female counterparts ( $AIM = 37.3 \pm 6.9$ ). Gender explained 12% of the differences between individuals' AIM scores as indicated by the partial eta squared value of the ANOVA.

Gender	Athletic Identity Score	Student Identity Score
Male (n = 103)	40.8 ± 5.6	29.47 ± 7.87
Female (n = 77)	37.3 ± 6.9	37.70 ± 6.63

Table 4.3. Athletic and Student Identity Scores categorized by Gender (Mean ±SD)

#### 4.3 Scholarship Status

As noted earlier, there were 127 (71%) scholarship athletes and 53 (29%) walk-on athletes. The percentage of scholarship recipients that were females (n=54) in the study was 42.5%. Its counterpart, male scholarship recipients (n=73) accounted for 57.5%. One male athlete did not respond to their scholarship vs. walk-on status, and as a result, was omitted in

the data analysis. Table 4-4 describes the identity scores by scholarship status for all respondents.

A main effect was observed for scholarship status ( $F_{1,136} = 24.48, P = 0.000, \eta^2 = 0.15, 1-\beta = 1.0$ ). Scholarship athletes' sense of athletic identity ( $AIM = 41.6 \pm 5.1$ ) was much greater than that of athletes who walked-on to their teams ( $AIM = 34.0 \pm 6.2$ ). Although the difference was large, scholarship status alone only explained 15% of the differences between individuals' AIM scores as indicated by the partial eta squared value of the ANOVA.

Unlike athletic identity, there was no statistical difference in student identity between scholarship and walk-on athletes ( $F_{1,136} < 1.0, P = 0.354, \eta^2 = 0.006, 1-\beta = 0.152$ )

Scholarship Status	Athletic Identity Score	Student Identity Score
On Scholarship (n = 127)	41.6 ± 5.1	31.1 ± 8.2
Walk-on (n = 53)	34.0 ± 6.2	36.5 ± 7.1
Not Reported (n = 1)	N/A	N/A

Table 4.4. Athletic and Student Identity Scores categorized by Scholarship Status (Mean ±SD)

#### 4.4 Attending Ohio State

The subjects' reasons for attending The Ohio State University were also compared. Athletics (n=118, 66%) was the most common reason why these individuals attended The Ohio State University. Academics (n=40, 22%) was the second most followed by other,

unspecified reasons (n=22, 12%). Of the 118 athletes attending primarily for athletics reasons, 67 (57%) were male and 51 (43%) were female. Of the 40 athletes attending OSU for academic reasons, 21 (52.5%) were male and 19 (47.5%) were female. Lastly, 22 athletes indicated that they were attending OSU for other, unspecified reasons. Of those individuals, 15 (68%) were males and 7 (32%) were female. Table 4-5 describes the identity scores by reason for attending for all respondents.

A main effect was observed for “why I came to Ohio State” on the sense of athletic identity ( $F_{2,136} = 13.91, P = 0.000, \eta^2 = 0.17, 1-\beta = 1.0$ ). Tukey post-hoc testing revealed that all three groups (athletics, academics, other) differed from each other on their AIM scores as follows. Athletes who identified themselves as coming to Ohio State for athletics had athletic identities ( $AIM = 41.7 \pm 4.8$ ) that were statistically greater than athletes who came for “other” reasons or academic reasons ( $AIM = 37.5 \pm 6.6$ ) and both the “athletics” and “other” groups had greater athletic identities than those who came for academics ( $AIM = 33.3 \pm 6.5$ ). The eta squared value indicates that the athlete’s reasons for attending Ohio State explained 17% of the differences in individual AIM scores. This is the single largest factor explaining differences in athletic identity for our subjects.

A main effect was also observed for “why I came to Ohio State” on the sense of student identity ( $F_{2,136} = 25.21, P = 0.000, \eta^2 = 0.27, 1-\beta = 1.0$ ). Tukey post-hoc testing revealed that all three groups (athletics, academics, other) differed from each other on their SIM scores as follows. Athletes who indicated that they came to Ohio State for academic reasons had student identities ( $SIM = 41.7 \pm 4.7$ ) that were statistically greater than athletes

who came for “other” reasons ( $SIM = 33.8 \pm 7.4$ ) and dramatically greater than athletes who identified themselves as coming to Ohio State for athletics ( $SIM = 29.9 \pm 7.4$ ). The “other” also had a statistically greater student identity than the “athletic” groups. The eta squared value indicates that the athlete’s reasons for attending Ohio State explained 27% of the differences in individual SIM scores. As was the case for the athletic identity scores, “why I came to OSU” is the single largest factor explaining differences in student identity for our subjects.

Reason for attending The Ohio State	Athletic Identity Score	Student Identity Score
Athletics (n = 118)	41.7 ± 4.8	29.9 ± 7.4
Academics (n = 40)	33.3 ± 6.5	41.7 ± 4.7
Other (n = 22)	37.5 ± 6.6	33.8 ± 7.4

Table 4.5. Athletic and Student Identity Scores categorized by reason for attending The Ohio State University (Mean ±SD)

#### 4.5 Sport Type

This study examined ten teams consisting of the male and female counterparts for 5 different sports. Table 4-6 describes the identity scores by sport for all respondents.

A main effect for sport on athletic identity was also observed ( $F_{4,136} = 3.92, P = 0.005, \eta^2 = 0.10, 1-\beta = 0.90$ ). Tukey post-hoc testing revealed that tennis athletes and basketball athletes AIM score ( $35.5 \pm 6.5$  and  $38.4 \pm 6.2$  respectively) was statistically lower than that of all other athletes. None of the AIM scores for the other sports differed from each

other. The specific sport of the athlete only explained 10% of the differences between individuals' AIM scores as indicated by the eta squared value.

Sport Played	Athletic Identity Score	Student Identity Score
Soccer (n = 50)	40.8 ± 5.3	33.0 ± 9.2
Baseball / Softball (n = 43)	40.1 ± 6.4	34.0 ± 7.7
Basketball (n = 19)	38.4 ± 6.2	28.0 ± 5.8
Track (n = 52)	38.7 ± 7.1	32.3 ± 8.2
Tennis (n = 16)	35.5 ± 6.5	38.1 ± 8.4

Table 4.6. Athletic and Student Identity Scores categorized by Sport Played (Mean ±SD)



## CHAPTER 5

### DISCUSSION

The field of sports psychology is a relatively new area for which there is still rather limited research and that is beginning to influence the field of sports medicine. “Psychological factors are increasingly being recognized by sports medicine professionals as important in the rehabilitation of sport injuries” (Brewer et al, 1991). The area of sport psychology is important for all sports medicine professionals and especially athletic trainers to understand and comprehend. The National Athletic Trainers’ Association identifies Athletic Trainers as “...health care professionals who specialize in preventing, recognizing, managing and rehabilitating injuries that result from physical activity” (<http://www.nata.org>). They work with the patient from the point of their initial injury to their return to full participation of their respective sport. Many advocates of psychological intervention strategies have suggested that “...athletic trainers (are) in the ideal position to handle the psychological aspect of athletic injuries and rehabilitation” (Pedersen, 1986). An important part of this intervention was to understand the personal identity factors for their athletes.

In this descriptive study, we performed an assessment and comparison of self-perception of athletic identity and student identity among male and female Division I collegiate athletes on similar sports teams at a single university. However, we did not investigate the effects of identity on the rehabilitation of an injured athlete. We speculate

that an individual with a stronger athletic identity is likely to take a more focused approach towards the rehabilitation process because they are more likely to assume that their future is contingent upon the success of their athletic career.

### 5.1 Interpretation/Application of Findings: Gender

We observed higher athletic identity scores for males ( $40.8 \pm 5.6$ ) than for females ( $37.3 \pm 6.9$ ). In contrast, we observed higher student identity scores for females ( $37.70 \pm 6.63$ ) than for males ( $29.47 \pm 7.87$ ). Although Division I collegiate male athletes are more likely to emphasize their athletic identity than are their female counterparts, the difference in the score was not as great as that of student identity comparison scores between males and females.

The recent evolvement of Title IX over twenty-five years ago required “educational institutions to maintain policies, practices and programs that do not discriminate against anyone based on sex” ([www.american.edu/sadker/titleix.html](http://www.american.edu/sadker/titleix.html)). This law also required that all students received equal and fair treatments in all areas, including athletic scholarships. One can speculate that the success of female student-athletes in their respective sports and classroom is of great importance because it was a right granted to females not long ago. Not until the 19<sup>th</sup> Century did the first opportunity for females to receive a formal education present itself. “...in 1833; Oberlin College was founded. It was the nation’s first university to accept women and black students...In 1980 women exceeded men in numbers enrolled in colleges with 51 percent” ([www.ncaa.org](http://www.ncaa.org)).

Not only do female athletes value their opportunity to receive a formal college education, but also to compete at such an elite level (i.e. Division I athletics) because of the limited amount of opportunities to do so. One can speculate that these limited opportunities have taught female student-athletes to value both sides of this collegiate experience because less than 200 years ago, females were unable to have the opportunity to be formally educated. The evolution of Title IX states that “No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any educational program or activity receiving Federal Financial assistance” (Title IX of the Educational Amendments of 1972 o the 1964 Civil Rights Act). As a whole, one would assume female student-athletes don’t believe in a second chance to make a first impression. They believe that they either do it right the first time or lose the opportunity all together. This applies to both spectrums: education and athletics.

Females are much more likely to identify themselves as “student-athletes”, versus males who are more likely to classify themselves as “athlete-students.” This was not only true in revenue producing sports, but in all sports studied. The evolution of Title IX and gender equality in collegiate athletics has probably contributed to the AIM of females and allowed for female athletes to possess more of an athletic identity. The expansion of professional sport opportunities for females has also had a positive effect in female athletes having a stronger athletic identity. According to the 2007 Women’s National Basketball Association salary scale, the minimum and maximum season salary was \$32,400 and \$93,000, respectively. On the other hand, the minimum salary during the 2006-07 season for

the NBA was \$349,458 ([www.usatoday.com](http://www.usatoday.com)). However, based on the struggles fought for females to receive a formal education, one can speculate that opportunity for females to receive a formal education is of equal importance as the opportunity to participate in Division I collegiate athletics and professional athletics. According to the 2007 NCAA Graduation Rate Reports, 77% of all scholarship collegiate student-athletes graduate within six years. “Women have higher graduation rates than men in general, and this gender graduation gap is exacerbated when focusing on student-athletes at schools with the most prominent athletic programs” (Goidel and Hamilton, 2006).

On the other hand, our data questionnaire shows that the majority of Division I male student-athletes seem to always perceive themselves as “athlete-students.” They believe that they attend these Division I institutions to first play their respective sport and then receive an education. Although this was not studied, one can speculate many different reasons why male student-athletes value their athletic involvement more than their educational experience. Speculations can range from their socio-economic status, the values instilled upon education and/or athletics by parents/guardians, and the way these male student-athletes are perceived by the instructors/professors. Before society can hypothesize on why male student-athletes don’t succeed in the classrooms at such a high rate as their female counterparts, the above speculations need to be studied to produce factual information. These future studies should even go a step further and study these athletes based on race/ethnicity.

## 5.2 Interpretation/Application of Findings: Scholarship Status

The subjects that were on athletic scholarships had a stronger athletic identity (AIMS =  $41.6 \pm 5.1$ ) compared to their counterparts that were not on any form of an athletic scholarship (AIMS =  $34.0 \pm 6.2$ ). In terms of student identity, the individuals that were classified as “walk-on” athletes received a higher score (SIMS  $36.5 \pm 7.1$ ) versus the scholarship athletes (SIMS  $31.1 \pm 8.2$ ). This signifies that the walk-on individuals classify themselves more as students. As a whole, one can assume that these student-athletes that attended OSU on an athletic scholarship believe that their main reason for coming to Columbus was to be able to make it to the next level and compete professionally in their respective sports. For these athletes, one can assume that athletics is their doorway to success. There are probably instances where parents put extra pressure on these scholarship student-athletes to make sure that they do all within their power to compete professionally in their respective sports. These are the parents that probably believe that their future professional athletes will one day be able to give back to them. Being that many student-athletes that go on to compete professionally come from low socio-economic status, these parents feel that their son/daughter will one day be able to provide for them and get them out of poverty, poor living conditions and unsafe neighborhoods.

However, the difference in SIMS score between the two groups is not as significant as their AIMS score. Athletes today understand the importance of a quality and solid education. They understand that when their athletic careers are over, they must use their classroom knowledge to continue to survive and provide for themselves and their families.

This attitude has become apparent with the rapid increase of graduation rates among student-athletes, as a whole. According to the NCAA, the 2007 graduation rate has increased to an all-time high of 77%. This is an increase of two percentage points higher than the previous year and three percentage points better than the overall student population. Athletes now understand that careers in athletics can be taken away at any moment due to injury, folding of the sport at the professional level, etc. The possibility of not being able to participate in your sport professionally has made many student-athletes value the importance of education and the attainment of a college degree. The athletic compliance staff has also played a big role in helping these student-athletes comprehend the importance of being educated. This displays a level of maturity, accountability and responsibility in our collegiate athletes and the helps emphasize the importance of a dedicated and informed athletic compliance staff. These are two entities that have seen a growing presence in collegiate athletics.

The athletes termed “walk-on” athletes are those athletes that do not have the pressure of success inscribed on the athletic surface. However, these student-athletes still have to succeed in the classroom. Lack of success in the classroom also signifies their inability to succeed (i.e. medical school, law school, etc). They also encounter the same pressures to succeed but in a different atmosphere. “Researchers analyzed subjects’ self-reported reasons for college attendance, finding that parental encouragement, preparation for graduate school and potential financial and career growth were all cited as very important to first-generation college-goers” ([www.ucsdguardian.org](http://www.ucsdguardian.org)). With these pressures being similar to those of scholarship athletes, one can speculate that these athletes participate in collegiate athletics as

a way to get away from the pressures of success and a means of relaxation. All arenas provide pressure for success, regardless if it is found in the athletic venues or classroom settings.

### 5.3 Interpretation/Application of Findings: Reason for attending OSU

There are many possible reasons that attract individuals of both identity types to The Ohio State University. While the predictable majority of OSU athletes identified athletics (n= 118, 66%) as their reason for attending over academics (n= 40, 22%), we were surprised to see as many selecting “other” (n= 22, 12%) as we did. Although we did not further partition the reasons under “other”, these reasons are likely to have included both tradition and location. Not only is The Ohio State University located in the capital city of the state, but it seems to always attract students whose parents were also Buckeyes. One can assume that this is especially true when looking at athletics. There are many well-known instances where a student-athlete decided to become a Buckeye based on the past experiences of family members also being former Buckeyes. People are always more comfortable being in a place that they are custom to.

As would be expected, the AIMS score ( $41.7 \pm 4.8$ ) for those that attended the university for athletic reasons was higher than for those that attended for either academic ( $33.3 \pm 6.5$ ) or other reasons ( $37.5 \pm 6.6$ ). Also as would be expected, those that attended the university for academic reasons have a significantly higher SIMS score ( $41.7 \pm 4.7$ ) than the other two groups. We speculate that these individuals not only attended for academic reasons but also

because of tradition and excellence. They may have also had past family members that may have been successful in their educational ventures through OSU and are following in their footsteps. Many individuals enrolled in the university are residents of the state of Ohio and one can assume that one of the major contributing factors to why the “other” group attended the university is because of location. “About 16% of Columbus campus students come from outside of Ohio, representing every US state and territory and 24 countries” ([www.osu.edu](http://www.osu.edu)). This signifies that 84% of the student population that attend OSU are from the state of Ohio. That being said, there is strong assumption that OSU attracts a lot of candidates within the state of Ohio.

#### 5.4 Interpretation/Application of Findings: Sport Played

The final independent variable was the subjects’ sports played. In this study we chose to only investigate sports for which both a male and a female team are fielded (i.e. soccer, baseball/softball, basketball, track, and tennis). For all but one of these sports, we observed a higher AIMS score than SIMS score. The exception was tennis. Based on these findings, one can speculate that the probable reason why all these sports displayed a higher AIMS score, with the exception of tennis, is because many athletes that attend OSU come here to succeed and make it to the professional level in their respective sports. The Ohio State University is recognized both nationally and internationally as an institution that succeeds in athletics annually. “Ohio State’s rich athletic heritage includes national championships by the baseball, men’s basketball, fencing, football...with 36 varsity sports, Ohio State has the



largest fully funded athletics program in the country” ([www.ohiostatebuckeyes.com](http://www.ohiostatebuckeyes.com)). One can also speculate that many past OSU athletes are very well known in their respective sports at the professional levels, due to their many accomplishments at that level (i.e. MVP honors, hall of fame recognition, all-star status, etc. However, the fact that tennis has a higher SIMS score may be significant of the fact that there are limited opportunities to play tennis at the professional level and/or that more than half of those athletes are not scholarship athletes. As a result, these athletes have more of a student identity and less of an athletic identity.

#### 5.5 Implications

We looked at four different independent variables (gender, scholarship status, reason for attending OSU, sport played) to help explain student-athletes’ sense of identity as both a student and an athlete. The group with the highest athletic identity score was those who self-identified that they attended OSU primarily for athletics. On the other hand, the group with the highest student identity scores was those individuals who self-identified that they attended OSU primarily for academic reasons. Those athletes on athletic scholarships also possessed a high athletic identity score. Although walk-on athletes possess a higher SIM, they are similar to their counterparts (the athletic scholarship athletes) because they probably have both been competing in their respective sports since youth sports. However, what separates the SIM athletes from the AIM athletes is that the SIM (walk-on) athletes were probably not considered “first-tier” athletes in their respective sports. As a result, they were not offered a scholarship coming out of high school which may have weakened their athletic

identity. On the other hand, the AIM (scholarship) athletes were more than likely considered “first-tier” athletes and provided the opportunity to compete past high school via an athletic scholarship. For this reason, the scholarship athletes possess a stronger athletic identity than their counterparts.

The Ohio State University is a place where athletic success and excellence is a well documented and stated tradition. Our data lead us to conclude that although OSU student-athletes may consider themselves Division I “athletes”, being a student in the classroom also helps make up their identity. At the Division I level, it is assumed that these student-athletes attend their respective college/university with hopes of elevating to the professional level. However, our data leads us to conclude that although athletics plays a major role in identifying these student-athletes, their success in the classroom is also of importance. One can assume that the importance of education are qualities that were instilled into these student-athletes by positive role models within their lives. These influences may range from parent/guardians, coaches, siblings, athletic department staff, etc. This positive view on education is probably the reason why we have seen an increase in graduation rates, within the NCAA.

The Ohio State University attracts a wide array of students from all over the United States, its territories and foreign countries. Aforementioned, 84% of the student population in Columbus are from the state of Ohio. This high percentage of Ohio based residence attending OSU probably signifies a strong bond and connection to the university. One can assume that student-athletes that attend OSU and that are from the state of Ohio come to

OSU, not only for the opportunity to succeed in their respective sport but also because of the tradition of being an Ohio State Buckeye. It is also very probable that these student-athletes grew up following OSU athletics, idealize many past Buckeye athletes and always envisioned themselves being a Buckeye, as well. When provided the opportunity to live out this dream, one can assume that this was welcomed with open arms. Many of these students probably only knew Buckeye athletics while growing up and this long standing tradition made them want to always be a part of this special bond. Many of these athletes want to come to OSU and give something back to the state (i.e. a national championship, academic excellence, etc). On the athletic fields and in academic bowls/competition, many of these individuals are competing against people that they may have competed against in high school or friends that they may have grown up with. Although the traditions of OSU are sacred and strong, these high school rivalries and childhood relationships mean more when competing and representing OSU. There are many reasons people attend OSU and give back to their alma mater, but tradition is the number one reason why people come to OSU and return to OSU.

## 5.6 Conclusion

The importance of taking this study to the next step is very critical to understanding the relationship between athletic identity and student identity among student athletes throughout the NCAA and United States of America. This study must now be administered consisting of subjects within a particular athletic conference or even between conferences.

When we only limit our search within a particular school or conference that consists of subjects that are primarily from a particular region of the country, limitation and delimitation of studies occur. With this information available to us prior to an athlete sustaining an injury, we are better able to identify the type of athlete we are working with and better able to tend their needs both from a physical and mental standpoint.

Looking at different races/ethnic groups are also areas in which this study can be further determined, as some of the outcomes portrayed can be influenced by culture. Along the same lines of race/ethnicity, future studies should also focus on different socio-economic status. There are many different independent variables that, when studied, can influence the outcome of the study. Further research is needed in the area of athletic identity and its findings will be both beneficial and advantageous not only to the student-athletes, but also to coaches, administrators, health care practitioners and parents.

## APPENDIX A

### Informational Letter to the Certified Athletic Trainer

June 2, 2003

<<Title>> <<First Name>> <<Last Name>>  
<<Job Title>>  
<<School>>

Dear <<Title>> <<Last Name>>:

I am writing you on a very important issue that will have a significant impact on the rehabilitation and performance of your student-athletes. As you may know, the area of sports psychology has become a current issue in the field of athletic training and sports medicine, as a whole. For my master's thesis, I will be conducting a 14-question survey, with the first seven questions being the Athletic Identity Measurement Scale (AIMS). This instrumentation was designed by Dr. Britton Brewer and his colleagues in 1993, as well as revised in 2001. The additional exploratory seven questions will focus on student identity.

The purpose of this descriptive study is to compare Division I collegiate male and female athletes and explore how these student-athletes identify themselves. I feel that this is a very important and current issue that has been looked at and further thorough investigation is needed. The results of this study will be beneficial to you, as a health care provider, in the rehabilitation and performance of this student-athlete.

Accompanying this letter, you will receive a certain number of survey packets (pending on your number of athletes). The survey packet includes an informational letter to the athlete regarding the study, an anonymous demographics questionnaire, and the 14-question survey instrument. This survey packet is straightforward and takes approximately 5 minutes for each athlete to complete. An accompanying envelope will also be sent for the athletes to place their surveys in and seal prior to returning the completed survey to their athletic trainer. The information obtained from this survey will be analyzed and reviewed for usefulness in the rehabilitation and performance of a Division I student-athlete. Results of this survey will be held strictly confidential and only be reviewed by the researcher.

Upon written request, the results of the survey will be made available. If there are any questions, comments, or concerns regarding this research study, please feel free to contact the following: Ernest Eugene @ 614-292-1164, or Dr. Mark Merrick (Thesis Advisor) @ 614-247-6231.

Thank you for your time, cooperation and willingness, in advance

Sincerely,

Ernest G. Eugene, ATC/L  
Graduate Assistant Athletic Trainer  
The Ohio State University

## **APPENDIX B**

### **Cover Letter for the Student-Athlete**



June 2, 2003

Dear OSU Student-Athlete,

I am writing you regarding a very important issue that will more than likely have a direct impact on you and your sports performance. The area of sports psychology is a current area of interest in the field of athletic training and sports medicine, as a whole. For my master's thesis, I will be conducting a 14-question survey, with the first seven questions being the Athletic Identity Measurement Scale (AIMS). This instrumentation was designed by Dr. Britton Brewer and his colleagues in 1993, as well as revised in 2001. The additional exploratory seven questions will focus on student identity.

The purpose of this research study is to compare Division I collegiate male and female athletes and explore the perception of identity that these student-athletes have. As stated above, the results of this study will affect how health care providers approach a student athlete's rehabilitation program and overall, will affect the performance of this student-athlete.

Research is greatly needed in this area, and I ask you to please assist me by completing and returning the attached demographics sheet and survey instrument. This survey is straightforward, voluntary and takes approximately 5 minutes to complete. The information obtained will be analyzed and reviewed for usefulness in the rehabilitation and performance of a Division I student athlete.

Please complete the attached demographics sheet and survey, place in envelope provided and seal it prior to returning it to your athletic trainer. You may be assured of complete confidentiality. You are not required to answer any questions that you feel inappropriate or that may make you uncomfortable. Your name will not be placed on the survey. The results of the survey will be summarized and reported as a whole. The findings of this study will be made available to you upon request. If there are any questions, comments, or concerns, please feel free to contact the following: Ernest Eugene @ 614-292-1164, Dr. Mark Merrick @ 614-247-6231.

Thank you for your time, cooperation, and willingness, in advance.

Sincerely,

Ernest G. Eugene, ATC/L  
Graduate Assistant Athletic Trainer  
The Ohio State University

**APPENDIX C**

**Demographics Information Sheet**

**A COMPARISON STUDY BETWEEN MALE & FEMALE**  
**DIVISION I ATHLETES ASSESSING IDENTITY**

Demographic Information

Please answer the following questions as accurately as possible. Your responses will be held strictly confidential.

**Sex:** M / F

**Sport** \_\_\_\_\_

**Age** \_\_\_\_\_

**Year in School:** Freshman    Sophomore    Junior    Senior    5<sup>th</sup> Year Senior

**Year in Athletics:** Freshman    Sophomore    Junior    Senior    5<sup>th</sup> Year Senior

**Please circle one of the following:**    Scholarship Athlete                  Walk-on Athlete

**Participated in the above sport since:**

- a) Before high school
- b) Freshman year of high school
- c) Sophomore year of high school
- d) Junior year of high school
- e) Senior year of high school
- f) Never played this sport before collegiate athletics

**Why did you choose to attend The Ohio State University?**

---

## **APPENDIX D**

### **Survey Instrumentation**

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

---

*Please circle the number that best reflects the extent to which you agree or disagree with each statement regarding your sport participation.*

- |    |   |                   |   |   |   |   |   |   |   |                |
|----|---|-------------------|---|---|---|---|---|---|---|----------------|
| 1. | I consider myself an athlete.   | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |
| 2. | I have many goals related to sports.  | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |
| 3. | Most of my friends are athletes.  | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |
| 4. | Sport is the most important part of my life.                                | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |
| 5. | I spend more time thinking about sport than anything else.                  | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |
| 6. | I feel bad about myself when I do poorly in sport.                          | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |
| 7. | I would be very depressed if I were injured and could not compete in sport. | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |

7-Item Student Identity Measurement Scale (SIMS)

---

*Please circle the number that best reflects the extent to which you agree or disagree with each statement regarding your sport participation.*

- |     |   |                   |   |   |   |   |   |   |   |                |
|-----|---|-------------------|---|---|---|---|---|---|---|----------------|
| 8.  | I consider myself a student.                                | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |
| 9.  | I have many goals related to academics.                     | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |
| 10. | Most of my friends are students.                            | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |
| 11. | School is the most important part of my life.               | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |
| 12. | I spend more time thinking about school than anything else. | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |
| 13. | I feel bad about myself when I do poorly in school.         | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |
| 14. | I would be very depressed if I could not complete school.   | Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |

## **APPENDIX E**

### **Follow-up/Thank you Letters to Certified Athletic Trainers**

June 16, 2003

<<Title>> <<First Name>> <<Last Name>>  
<<Job Title>>  
<<Institution>>

Dear <<Title>> <<Last Name>>:

A survey packet has recently been sent to you regarding a comparison study between male and female Division I student-athletes, regarding how they identify themselves. I wanted to follow-up with you to reinforce the significance of the survey and ask you to please have your student-athletes respond to the survey, if they have not already done so. If all the surveys have been distributed to your respective athletes, I thank you for your time in doing so. If you have not yet distributed all surveys materials, I encourage you to do so. These findings will aide in the rehabilitation your student-athletes and contribute to the advancement of athletic training/sports medicine.

Due to the size of the sample, each response is of extreme importance for the data to be considered valid. The survey packets take approximately 5 minutes to complete. All survey materials (completed and remaining) will be picked up 7 days after receiving this letter. Please place all completed surveys in the envelope provided.

If for any reason you have not received copies of the survey material or are having problems with having your student-athletes complete the survey packet, please feel free to contact me at (614) 292-1164 or e-mail me at [eugene.2@osu.edu](mailto:eugene.2@osu.edu). Again, your time, participation and cooperation, regarding this research study, are greatly appreciated.

Sincerely,

Ernest G. Eugene, ATC/L  
Graduate Assistant Athletic Trainer  
The Ohio State University



## BIBLIOGRAPHY

1. Brewer BW, Van Raalte JL, Linder DE. Athletic Identity: Hercules' Muscles or Achilles Heel? *Int. J. Sport Psychol* 1993;24:237-54.
2. Schunk DH. Self-Efficacy, Motivation, and Performance. *Journal of Applied Sport Psychology* 1995;7:112-37.
3. Good AJ, Brewer BW, Petitpas AJ, Van Raalte JL, Mahar MT. Identity Foreclosure, Athletic Identity, and College Sport Participation. *The Academic Athletic Journal* 1993;(Spring):1-12.
4. Kleiber DA, Brock SC. The Effect of Career-Ending Injuries on Subsequent Well-Being of Elite College Athletes. *Sociology of Sport Journal* 1992;9:70-75.
5. Wiese DM, Weiss MR, Yukelson DP. Sports Psychology in the Training Room: A Survey of Athletic Trainers. *The Sport Psychologist* 1991;5:15-24.
6. Evans L, Hardy L, Fleming S. Intervention Strategies with Injured Athletes: An Action Research Study. *The Sport Psychologist* 2000;14:188-206.
7. Leddy MH, Lambert MJ, Ogles BM. Psychological Consequences of Athletic Injury Among High-Level Competitors. *Research Quarterly for Exercise and Sport* 1994;65(4):347-54.
8. Grove JR, Lavalley D, Gordon S. Coping with Retirement from Sport: The Influence of Athletic Identity. *Journal of Applied Sport Psychology* 1997;9:191-203.
9. Larson GA, Starkey C, Zaichkowsky LD. Psychological Aspects of Athletic Injuries as Perceived by Athletic Trainers. *The Sport Psychologist* 1996;10:37-47.
10. Davis JO. Sports Injuries and Stress Management: An Opportunity for Research. *The Sport Psychologist* 1991;5:175-82.

11. Blackwell B, McCullagh P. The Relationship of Athletic Injury to Life Stress, Competitive Anxiety and Coping Resources. *Journal of Athletic Training* (Spring) 1990;25(1):24-27.
12. Seifriz JJ, Duda JL, Chi L. The Relationship of Perceived Motivational Climate to Intrinsic Motivation and Beliefs About Success in Basketball. *Journal of Sport & Exercise Psychology* 1992;14:375-91.
13. Coakley JJ. Race and Ethnicity. *Sport in Society: Issues and Controversies* 1998;6:248-86.
14. Petitpas A, Champagne DE. Developmental Programming for Intercollegiate Athletes. *Journal of College Student Development* (September) 1988;29:454-460.
15. Weiss MR, Troxel RK. Psychology of the Injured Athlete. *Journal of Athletic Training* (Summer) 1986;104-109.
16. Andersen MB, Williams JM. A Model of Stress and Athletic Injury: Prediction and Prevention. *Journal of Sport & Exercise Psychology* 1988;10:294-306.
17. Petitpas A. Identity Foreclosure: A Unique Challenge. *Personnel and Guidance Journal* (May) 1978;558-61.
18. Tuffey S. The Role of Athletic Trainers in Facilitating Psychological Recovery from Athletic Injury. *Journal of Athletic Training* (Winter) 1991;26:346-51.
19. Evans L, Hardy L. Sports Injury and Grief Responses: A Review. *Journal of Sport & Exercise Psychology* 1995;17:227-45.
20. Rotella RJ. Psychological Care of the Injured Athlete. *The Injured Athlete* 1982; 213-24.
21. Parham WD. The Intercollegiate Athlete: A 1990s Profile. *The Counseling Psychologist* (July) 1993;21(3):411-29.
22. Udry E, Gould D, Bridges D, Beck L. Down But Not Out: Athlete Responses to Season-Ending Injuries. *Journal of Sport & Exercise Psychology* 1997;19:229-48.

23. Brewer BW, Jeffers KE, Petitpas AJ, Van Raalte JL. Perceptions of Psychological Interventions in the Context of Sport Injury Rehabilitation. *The Sport Psychologist* 1994;8:176-88.
24. Rose J, Jevne RFJ. Psychosocial Processes Associated with Athletic Injuries. *The Sport Psychologist* 1993;7:309-28.
25. Magyar TM, Duda JL. Confidence Restoration Following Athletic Injury. *The Sport Psychologist* 2000;14:372-90.
26. Ogilvie B, Taylor J. Career Termination in Sports: When the Dream Dies. *Applied Sport Psychology: Personal Growth to Peak Performance*
27. Young ML, Cohen DA. Self-Concept and Injuries Among Female College Tournament Basketball Players. *American Corrective Therapy Journal (September-October)* 1979;33(5):139-42.
28. Coakley JJ. Leaving Competitive Sport: Retirement or Rebirth? *Quest* 1983;35:1-11.
29. Kleiber D, Greendorfer S, Blinde E, Samdahl D. Quality of Exit From University Sports and Life Satisfaction in Early Adulthood. *Sociology of Sport Journal* 1987;4:28-36.
30. Hardy CJ, Richman JM, Rosenfeld LB. The Role of Social Support in the Life Stress/Injury Relationship. *The Sport Psychologist* 1991;5:128-39.
31. Wiese-Bjornstal DM, Smith AM, Shaffer SM, Morrey MA. An Integrated Model of Responses to Sport Injury: Psychological and Sociological Dynamics. *Journal of Applied Sports Psychology* 1998;10:46-69.
32. Worrell TW. The Use of Behavioral and Cognitive Techniques to Facilitate Achievement of Rehabilitation Goals. *Journal of Sport Rehabilitation* 1992;1:69-75.
33. Bandura A. Self-Efficacy: Toward a Unifying Theory of Behavioral Change. *Psychological Review* 1977;84(2):191-215.
34. Udry E. Social Support: Exploring Its Role in the Context of Athletic Injuries. *Journal of Sports Rehabilitation* 1996;5:151-63.

35. Petitpas A, Danish SJ. Caring for the Injured Athlete. *Sport Psychology Interventions*.
36. Murphy GM, Petitpas AJ, Brewer BW. Identity Foreclosure, Athletic Identity, and Career Maturity in Intercollegiate Athletes. *The Sport Psychologist* 1996;10:239-46.
37. Flint FA. Integrating Sport Psychology and Sports Medicine in Research: The Dilemmas. *Journal of Applied Sport Psychology* 1998;10:83-102.
38. LeUnes, A., & Nation, J.R. *Sports Psychology: An Introduction* (3<sup>rd</sup> Edition). Pacific Grove: Wadsworth, 2002.
39. Chickering, A.W. (1969). *Education and Identity*. San Francisco: Jossey-Bass.
40. Wiese, D.M. & Weiss, M.R. Psychological rehabilitation and physical injury: Implications for the sportsmedicine team. *The Sport Psychologist* 1987; 1: 318-30.
41. Crossman, J. Psychological factors and athletic injury. *Journal of Sports Medicine and Physical Fitness* 1985; 25: 151-54.
42. Eldridge, W.D. The importance of psychotherapy for athletic-related orthopedic injuries among adults. *Comprehensive Psychiatry* 1983; 24; 271-77.
43. Bandura, A. (1986) *Social Foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.
44. National Collegiate Athletic Association website ([www.ncaa.org](http://www.ncaa.org))
45. Erikson, E.H. *Identity and the life cycle: Selected Papers*. Psychological issues monograph, 1. New York: International Universities Press, 1959.
46. Marcia, J.E. Development and validation of the ego-identity status. *Journal of Personality and Social Psychology* 1966, 3, 551-58.
47. United States Department of Education website ([www.ed.gov](http://www.ed.gov))
48. Baillie, P.H.F., & Danish, S.J. Understanding the career transition of athletes. *The Sport Psychologist* 1992, 6, 77-98.

49. Blinde, E.M., & Greendorfer, S.L. A reconceptualization of the process of leaving the role of competitive athlete. *International Review for the Sociology of Sport* 1985, 20, 87-93.
50. Danish, S.J. Musing the personal competence: The contributions of sport, health, and fitness. *American Journal of Community Psychology* 1983, 11, 221-40.
51. McDonald, S.A., & Hardy, C.J. Affective response patterns of the injured athlete: An exploratory analysis. *The Sport Psychologist* 1990, 4, 261-274.
52. Pearson, R.E., & Petitpas, A. Transitions of athletes: Developmental and preventive perspectives. *Journal of Counseling and Development*, 69, 7-10.
53. Rotella, R., & Heyman, S. Stress, Injury, and the psychological rehabilitation of athletes. *Applied Sport Psychology: Personal Growth to peak performance*, Palo Alto, CA: Mayfield, 1986.
54. Goidel, R.K., & Hamilton, J.M. Strengthening Higher Education Through Gridiron Success? Public Perceptions of the Impact of National Football Championship on Academic Quality. *Social Science Quarterly* 2006, 87(4): 851.
55. National Athletic Trainers' Association ([www.nata.org](http://www.nata.org))
56. American University ([www.american.edu/sadker/titleix](http://www.american.edu/sadker/titleix))
57. Computer Writing and Research Lab at The University of Texas at Austin ([www.cwrl.utexas.edu/~ulrich/femhist](http://www.cwrl.utexas.edu/~ulrich/femhist))
58. University of California, San Diego ([www.ucsdguardian.org](http://www.ucsdguardian.org))
59. The Ohio State University Athletics ([www.ohiostatebuckeyes.com](http://www.ohiostatebuckeyes.com))
60. The Ohio State University ([www.osu.edu](http://www.osu.edu))
61. USA Today ([www.usatoday.com/sports/basketball/nba/2002-2003-nba-salaries-numbers](http://www.usatoday.com/sports/basketball/nba/2002-2003-nba-salaries-numbers))
62. Socioeconomic Status, Race/Ethnicity, and Selective College Admissions ([www.tcf.org/Publications/Education/carnrose](http://www.tcf.org/Publications/Education/carnrose))

63. Women's Sports Foundation ([www.womenssportsfoundation.org/cgi-bin/iowa/issues/disc/article](http://www.womenssportsfoundation.org/cgi-bin/iowa/issues/disc/article))
64. U.S. Department of Labor Bureau of Labor Statistics ([www.bls.gov/opud/ted/1999/jun/wk5/art03](http://www.bls.gov/opud/ted/1999/jun/wk5/art03))
65. US Department of Education ([www.nces.ed.gov/programs/quarterly/vol\\_2/2\\_2/qb-1.asp](http://www.nces.ed.gov/programs/quarterly/vol_2/2_2/qb-1.asp))
66. Women's Basketball Online Salary Scale ([www.womensbasketballonline.com/wnba/rosters/salary](http://www.womensbasketballonline.com/wnba/rosters/salary))