This is to certify that the
thesis entitled

SUSCEPTIBILITY OF COLLEGIATE STUDENT ATHLETES
TO THE AFFECTS OF STEREOTYPE THREAT

presented by

Richard Schneider

has been accepted towards fulfillment
of the requirements for the

M.S. degree in Kinesiology

Deborah L. Feltz
Major Professor's Signature

March 13, 2009
Date

SUSCEPTIBILITY OF COLLEGIATE STUDENT ATHLETES TO THE EFFECTS OF STEREOTYPE THREAT

BY

Richard Schneider

A THESIS

Submitted to
Michigan State University
In partial fulfillment of the requirements
For the degree of

MASTER OF SCIENCE

Kinesiology

2009

ABSTRACT

SUSCEPTIBILTY OF COLLEGIATE STUDENT-ATHLETES TO THE AFFECTS OF STEREOTYPE THREAT

By

Richard Schneider

The purpose of this research was to determine if collegiate student-athletes are susceptible to the effects of stereotype threat. The primary hypothesis was that student-athletes who have both a high athlete identity and a high academic identity are more susceptible to stereotype threat than athletes with a low athlete identity or low academic identity. Also hypothesized was that athletes who are male, in Division I sports, minority, in high visibility sports, or freshman/sophomore status and who have a high athlete identity and a high academic identity are more susceptible to stereotype threat than athletes who are not. Survey responses were received from 318 student-athletes. Results did not support the primary hypothesis. Linear regression analysis indicated high visibility sport type; racial minority status; divisional status; and coach's regard for academic ability were predictive of susceptibility to stereotype threat. Results also indicated student-athletes who compete at the Division I level; compete on high visibility sports teams; and have a coach with a low regard for academic ability were more susceptible to stereotype threat. Future research should investigate stereotype threat in student-athletes in academic settings in an experimental design.

ACKNOWLEDGEMENTS

I would like to thank my Thesis committee members, Dr. Deb Feltz, Dr. Marty Ewing and Mr. Jim Pignataro. Your support, advice and tireless pursuit of knowledge has made you pillars of the academic community at Michigan State University and was invaluable to the advancement of this Thesis. I would particularly like to thank Dr. Feltz for her strong encouragement and thoughtfulness while I completed this Thesis. Your unwavering belief in my ability was a source of strength.

I would like to thank all of the Graduate students at Michigan State, particularly Ryan Flett and Teri Hepler. Your assistance with the various phases of this Thesis and advice for presentation was greatly appreciated and aided in its completion. I would particularly like to thank Terri for her help with the IRB approval letter and assistance with the statistical calculations. Your collaborate spirit and patience is a credit to our profession and will serve you well in the future.

I would like to thank my family and friends for all of their support. I would especially like to thank my mother and father Ann Marie, and Pat Schneider. Without your help and encouragement, sacrifice throughout the years, I could have never reached this point in my life. Your love and support has made me who I am today.

Last, but certainly not least, I would like to thank my wife Alexis. You are my very best friend and were always there to provide just the right amount of motivation, support and tough love to complete this thesis. I couldn't have done any of this without you and know that you helped make this all possible.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1

Introduction

Nature of problem.

If one were to look back at the sport pages over the past 20 years, there would be no shortage of examples of athletes performing poorly in school. Editorials from concerned and frustrated professors have been published in the *Chronicle of Higher Education* giving example after example of student-athletes showing apathy toward course work as well as a general air of contempt for academics, doing just enough to remain eligible. Through this interaction and non-interaction between student-athletes and professors, a stereotype has been developed regarding student-athletes in the classroom. This stereotype, commonly called the dumb jock stereotype, along with other tensions between faculty and the university Athletic Department (Sperber, 2001) has created a general mistrust of intentions on both sides. The question regarding the academic performance of student-athletes still remains. What are some of the causes for decreased academic performance in the college student-athlete population? One possible explanation could be that some athletes experience the effects of stereotype threat.

Steele (1997) theorized that when there is a negative stereotype about a group that an individual is a part of, the individual will feel increased pressure to perform well in the situation to avoid confirming the stereotype. It is this increased threat to performance that is termed stereotype threat. If students feel that the highly identified situation is a threat to their sense of self, they will begin to disidentify and disengage from the situation, which brings about decreases in performance. (Finn, 1989; Steele, 1992). This disidentification is detrimental to their academic well-being (see Hansford, & Hattie, 1982 for review).

The issue of collegiate student-athletes' chronic underperformance compared to the general student body in academic settings has been studied for nearly 2 decades. Since the early 1980's, researchers and members of the academic community have raised concerns about the under preparedness of student-athletes (Adler & Adler, 1985, 1987; Glasser, 2002a; Murphy, Petitpas, Brewer, 1996; Purdy, Eitzen & Hufnagel, 1982; Shulman & Bowen, 2001).

While it was long believed that the academic shortcomings of athletes were relegated to the Division I level, recent research by the Knight Commission (Knight Foundation Commission, June 2001) and others has shown parallel trends at the Division III level (Richards & Aries, 1999). Specifically, Richards and Aries (1999) found student athletes who competed at the Division III level, a level of collegiate athletics which does not provide athletic scholarships, still held negative views toward academics.

This academic under preparedness has led those in academia to see college athletes as having great athletic ability but poor academic ability (Long, 1991). This perception has led to the creation of the dumb jock stereotype. This stereotype generally suggests that student-athletes, particularly minority males in high profile "revenue" sports, are enrolled in colleges and universities only with the intentions of playing sports and have little or no interest in academia (Davis, 1991; Edwards, 1983).

The race of the student-athlete can also play a role in the susceptibility to stereotype threat. Steele and Aronson (1995) found African American males were more susceptible to stereotype threat than their Caucasian counterparts. In addition, research by Davis (1991) and Edwards (1983) has suggested that academia, and by extension society as a whole, believe minority student-athletes are only able to gain admittance to a college

or university due to their athletic prowess, rather than academic ability. This scenario is compounded by the potential for "stacking" which may further segregate various college sports along racial lines (Eitzen & Furst, 1989) and is demonstrated by the 2006 NCAA Race and Ethnicity Report which showed, across all Divisions, African American student-athletes reported high participation percentages in high profile sports such as men's basketball (42.6%), women's basketball (29%), and football (33.0%), while all other sports reported less than double digit percentage participation rates except for men's and women's indoor track (20.4% for both sports teams); men's and women's outdoor track (20.7% and 20.0% respectively); women's badminton (10%); and women's bowling (51.7%) (Vicente, 2006).

Some researchers have suggested that the participation of students in "big time" collegiate athletics can become consuming to the point that the athlete identity becomes detrimental to the academic identity. Cockley and Roswal (1994) found professors at Division I institutions held a more negative view of collegiate athletics as compared to Division II and Division II as compared to Division III. This research also indicated that these same professors who held a negative view of collegiate athletics were also less knowledgeable of policies and commitments that student-athletes were required to follow. In addition, other researchers have found that student-athletes' participation in sport leads to an underdeveloped strategy for life post sport. This research has primarily focused on student-athletes' career choices post sport (Brown, Glasteter-Fender, & Shelton, 2000; Murphy et al., 1996) as well as the general struggle for some college athletes to transition out of competitive sports (Parker, 1994). Namely, student-athletes who compete in high profile sports are more likely to emphasize their athletic

identification at the expense of other ways to identify themselves while attending college, thus leading to a lowered emphasis of academic studies and a lessening of the academic identification.

The gender of the student-athlete is also believed to play a role in the susceptibility to stereotype threat. While the general female student body has been subjected to unfavorable stereotypes surrounding academic performance (namely, math and the sciences) female student-athletes have been thought of favorably by college professors (Cockley & Roswal, 1994). While some may speculate this is due to their comparison to male student-athletes, it is more likely that the supportive environment surrounding women's athletics (Meyer, 1990) and the lack of professional women's sports beyond college for many collegiate teams plays a strong reinforcing role in the development of the academic identification of female student-athletes.

Due to the unique role athletics plays in a collegiate student-athlete's life, one would suspect the head coach of the student-athlete would be poised to play a determining role in the development of the student-athlete's self identification. Stephan and Brewer (2007) found coaches were a driving force in the development of athletic identification, which supports qualitative research from Adler and Adler (1985, 1987). This influence is due in part to the atmosphere the coach chooses to create surrounding their athletes, but is also influenced by the actions of the coach. As theorized by Bandura (1977), one of the main sources of reinforcement for an action (or in this case, individual identity) will be the coaches because they are often viewed as a trusted source by their student-athletes.

With many athletes characterized by the academic faculty (Cockley & Roswal, 1994), and the general student body (Engstrom & Sedlacek, 1991) as a dumb jock, the student-athlete is placed in the precarious position of being susceptible to stereotype threat. Stereotype threat is a psychological phenomenon that is situationally specific and has been shown to effect individuals negatively who identify with a situation where a stereotype exists about a group with which they identify (Steele, 1997; Steele & Aronson, 1995). Stereotype threat has been demonstrated in many different groups who are subject to negative stereotypes including women (Brown & Josephs, 1999; Inzlicht & Ben-Zeev, 2000; Seibt & Forster, 2004; Spencer, Steele, & Quinn, 1999), African Americans (Steele & Aronson, 1995; Stricker & Bejar, 2004), and even white men who were led to believe they were in a situation where a negative stereotype existed about being a white male (Aronson, et al., 1999; Koenig & Eagly, 2005; Michel Desert, Croizet, & Darcis, 2000). Similarly, stereotype threat can also increase performance if a positive stereotype exists about a group in a specific situation. Shih, Pittinksy, and Ambady (1999) found Asian women experienced an increase or decrease in mathematical performance dependent on which identity was primed, ethnic identity (thought to be positive toward mathematical performance) or gender identity (thought to be negative toward mathematical performance). Yopyk and Prentice (2005) found supporting evidence to the dichotomous role the student identity and athlete identity plays in academic performance. By priming either the academic identity or athletic identity, Yopyk and Prentice found performance increased or decreased, respectively, on academic tasks.

There is a lack of research investigating the susceptibility of student-athletes to the effects of stereotype threat. This thesis attempted to extend Yopyk and Prentice's

work by determining if student-athletes were susceptible to stereotype threat in a cognitive setting.

The dumb jock stereotype covered above indicates a number of factors that may increase an athlete's susceptibility to stereotype threat as determined by Steele's (1997) theory. Factors that may influence the susceptibility of athletes to stereotype threat are the strength of the athlete's identification with being an athlete, the athlete's identification with academic settings, race/ethnicity, NCAA divisional status, gender, and class level status.

Purpose Statement

The purpose of this research was to determine if collegiate student-athletes are susceptible to the effects of stereotype threat. Student-athletes who compete in a NCAA varsity sport were assessed to determine their athlete identity, self-concept of academic ability, and their susceptibility to stereotype threat. By demonstrating the relationship between stereotype threat and athletic self-identity, groundwork can be developed for future research involving stereotype threat and its effects on college athletes.

Hypotheses

1. Student-athletes who have both a high athlete identity and a high academic identity are more susceptible to stereotype threat than athletes with a low athlete identity or low academic identity.

2. Male student-athletes are more susceptible to stereotype threat than female student-athletes.

3. Division I student-athletes are more susceptible to stereotype threat than Division II or Division III student-athletes.

4. Minority student-athletes are more susceptible to stereotype threat than Caucasian student-athletes.

5. Student-athletes who participate in a high visibility sport are more susceptible to stereotype threat than student-athletes who participate in low visibility sports.

6. Lower academic class student-athletes are more susceptible to stereotype threat than upper academic class student-athletes.

7. Student-athletes who believe their coach has a high regard for their academic ability are less susceptible to stereotype threat than student-athletes who believe their coach has a low regard for their academic ability.

8. Student-athletes who plan on participating in competitive sports beyond the collegiate level are more susceptible to stereotype threat than student-athletes who do not plan on participating in competitive sports beyond the college level, or student-athletes who are uncommitted to participating in sports beyond the college level.

9. Student-athletes who receive only athletic financial aid are more susceptible to stereotype threat than student-athletes who receive only academic aid, a combination of athletic and academic aid, or athletes who receive no financial assistance.

For exploratory purposes, the predictive strength of athletic identity, academic identity, gender, divisional status, racial minority status, sport visibility type, academic class standing and coach's regard for academic ability on susceptibility to stereotype threat in collegiate student-athletes was analyzed.

Delimitations

The participants in this study were at the college level. The responses of these participants may not be generalizable to athletes at other levels of education.

Limitations

This study was limited by several uncontrolled factors:

1. All measures were self-report based measures, and,
2. Participation was voluntary, potentially causing a subject self-selection bias.

Definition of Terms

High visibility sports – Men's football, Men's basketball, Women's basketball.

Lower Academic Class – A combination of freshmen and sophomore grade level student-athletes.

Low visibility sports – All other varsity sports not identified as high visibility sports.

Upper Academic Class – A combination of junior and senior grade level student-athletes.

CHAPTER 2

Literature Review

The development and examination of stereotype threat have begun to receive wide attention in social and educational psychology literatures (Brown & Josephs, 1999; Inzlicht & Ben-Zeev, 2000; Seibt & Forster, 2004; Steele, 1997; Steele & Aronson, 1995). Another area of educational psychology that has received review is the importance of self-concept in academics (Marsh, Byrne, & Shavelson, 1988; Marsh & Shavelson, 1985) and its effects on academic performance (Finn, 1989; Hansford & Hattie, 1982; Osborne, 1997; Steele, 1988). Individuals who hold a high academic self-concept will be more likely to experience stereotype threat in the classroom because they will want to perform at their best even though they will attempt this performance while being stereotyped. Research has also been conducted on the academic attainment of collegiate student-athletes and how these individuals are perceived by academic faculty and their non-athletic peers. Some areas that have been researched include the stereotype of the "dumb jock" (Edwards, 1983; Davis, 1991; Long, 1991; Sailes, 1993), student-athletes' interactions with both college faculty (Baucom, & Lantz, 2001; Cockley & Roswal, 1994), and the general student body (Engstrom & Sedlacek, 1991), and academic performance (Adler & Adler, 1985, 1987; Bowen & Levin, 2003; Purdy et al., 1982).

There are three main purposes of this literature review. The first purpose is to familiarize the reader with the theory of stereotype threat and how it has been shown to affect a wide range of individuals in academic, social, and sporting environments. The second purpose is to discuss the importance of academic self-concept, how it can either

be beneficial or detrimental to academic performance, and how it relates to stereotype threat.

Stereotype Threat

Stereotype threat theory. Steele (1997) was the first to author a theory on stereotype threat. This theory was created in large part from a series of investigations conducted by Steele and Aronson (1995), which examined the effects of priming race in a group of college graduate students to determine its effects on academic performance. The results were quite surprising. Participants were informed that the test showed racial differences, as a way of priming participant's racial identity, and African American students performed considerably lower than their Caucasian counterparts. When race was not primed, there was no difference between the performance of Caucasian and African American students. It was this work that led to the development of the stereotype threat theory.

The stereotype threat theory (Steele, 1997) states that a threat to the self-concept of the individual will arise when the individual is in an environment or specific situation where a negative stereotype exists about the individual and the environment is important to the individual. When members of a negatively stereotyped group perceive a threat and identify with the domain, the predicament can cause a decrease in performance. An example of this theory is one in which a woman, who believes math is very important to her self-concept and knows that women are not expected by society to do well in math, would be susceptible to the effects of stereotype threat while participating in a math class and could experience decreased performance. It is important to note that stereotype threat

is strictly a situational threat and the threat does not depend on the cueing of an internalized anxiety or expectancy.

Another important point to recognize is that one does not need to subscribe to the negative stereotype to experience its effects (Michel Desert et al., 2000). Steele maintains that the effort needed to overcome the stereotype is extremely difficult for an individual to sustain. These efforts will only be seen as an anomaly in society and will not necessarily create positive perceptions that will apply to the individual in a similar situation at a different time. This constant effort to overcome the stereotype will eventually lead to the individual devaluing the situation as a means of rationalization to protect his or her sense of self (Steele, 1988).

Furthermore, negative stereotypes can hurt performance even when they are baseless in fact. Beilock, Jellison, McConnell, and Carr (2003) found that male golfers succumbed to a negative stereotype that "men are generally poorer putters than women," which had no basis in actual fact.

Stereotype threat in academic settings. A large amount of the research that has been conducted on stereotype threat has been in academic settings. As noted earlier, Steele and Aronson (1995) found that African American males performed significantly worse when race was primed than when race was not primed. The priming of race had no effect on the academic performance of Caucasians. Stricker and Bejar (2004) later confirmed these results by determining that changing the difficulty of the test used to assess performance did not decrease the effect of stereotype threat on the performance. Other racial groups that have been shown to experience stereotype threat have been

Latinos (Schmader & Johns, 2003), and in some instances, Caucasians (Aronson et al., 1999).

Stereotype threat has also been shown to affect the performance of women in some academic fields, specifically the math and science fields. Spencer et al. (1999) conducted a series of experiments to determine if women who identified with the academic areas of math and science were susceptible to the effects of stereotype threat. Similar to studies investigating race and stereotype threat, the researchers indicated that the test showed differences in gender. The results found that women significantly underperformed compared to their male counterparts and other females in the control group when gender was primed. The authors were also able to conclusively rule out the existence of sex-linked ability differences as well as reinforce the hypothesis that stereotype threat negatively affects women's math performance with subsequent research studies. The influence of stereotype threat on performance is so powerful that it has been shown to decrease performance without specifically priming the perceived negative characteristic (Inzlicht & Ben-Zeev, 2000). The decreased performance of women in math as a product of the interaction between stereotype threat and self-concept was later shown to decrease if participants were provided an opportunity to engage in self-handicapping to explain their poor performance (Brown & Josephs, 1999).

The performance of Caucasian men can also be affected by stereotype threat. Aronson et al. (1999) found that the introduction of a negative stereotype (Asian males are better at math than Caucasian males) caused significantly lower performance on a math test compared to the control condition, which did not include a negative stereotype. Caucasian men also showed decreased performance on a social sensitivity exercise when

gender was primed (Koenig & Eagly, 2005). These examples further support the position of Steele (1997) and Michel Desert et al. (2000) who indicate that a history of being a member of a stigmatized group and belief in a stereotype is not needed for an individual to feel the effects of stereotype threat.

Interestingly, Yopyk and Prentice (2005) have also investigated stereotype threat in student-athletes. Yopyk and Prentice (2005) found student-athletes would increase their performance on an academic task if their student identity was primed, but would experience a decrease in performance if their athlete identity was primed. If identity was not primed, the student-athletes would demonstrate an identity that was most adaptive and associated with the task at hand. Yopyk and Prentice (2005) also found task performance would positively influence the saliency of the corresponding individual identity. This process may be similar to the development and reinforcement of self-efficacy detailed by Bandura (1977).

While the effects of stereotype threat have been well documented, the means by which performance is decreased has been more elusive to determine. Self-affirmation, working memory capacity, group status, completion strategy, and self-efficacy have all been suggested as mediators of performance in the presence of stereotype threat.

Through a series of experiments in the late 1980's, researchers found that when a specific threat confronts a person's sense of self, the individual will attempt to reaffirm his or her general sense of self rather than address the specific threat (Steele, 1988). An example of self-affirmation could be a person rationalizing her poor performance on a test by saying that the test really is not that important and that she will not need this information in the "real world". This thought process would protect people's general

concept of self without addressing their poor performance on the test. In the instances of stereotype threat, it can be expected that people who experience this very specific threat will decrease the importance of this realm to their sense of self, which can lead to drop out and decreased performance. Programs that have been used to increase self-affirmation have been shown to increase academic performance in the presence of stereotype threat (Martens, Johns, Greenberg, & Schimel, 2006).

Some researchers have found support for stereotype threat causing a decrease in working memory capacity. Schmader and Johns (2003) found that when participants were placed into a high stereotype threat condition, reductions in working memory capacity mediated the reduced performance on some standardized tests. Croizet, Despres, Huguet, Leyens, and Meot (2004) supported these findings by illustrating that environmental factors also decreased mental capacity.

Other researchers believe that stereotypes dictate a completion strategy. Seibt and Forster (2004) found that speed and accuracy are influenced in different directions by positive and negative stereotypes. These results suggested that creative thinking was fostered under positive stereotypes and less creative thinking under negative stereotypes as compared with a control group without stereotype activation. While the mechanisms for decreased performance due to stereotype threat are still being investigated, it is important to realize the consequences of stereotype threat and its effects on stigmatized groups.

Level of self-efficacy has also been considered as a mechanism for stereotype threat. Milner and Hoy (2003) conducted a qualitative case study examining the effects of self-efficacy on the perception of stereotype threat. Although the authors found that high

self-efficacy was beneficial to sustaining effort in the presence of stereotype threat, the authors did not empirically examine self-efficacy. The results found by these authors may also lack generalizability because the qualitative study that was conducted consisted of a single subject. This gap within the stereotype threat research may warrant future examination.

Stereotype threat effects on physical performance. Research in stereotype threat has also been extended into the realm of physical performance, though only a few studies have been conducted so far. Stone, Lynch, Sjomeling, and Darley (1999) showed that when Caucasian participants believed they were being evaluated on their mental ability in a putting task, they performed significantly better than when they believed they were being judged on natural athletic ability. For Black participants, performance was significantly better when the putting task was framed as a measure of athletic ability rather than when the test was framed as a measure of sports intelligence.

Stone (2002) also found that if Caucasians were exposed to a stereotype threat condition and believed themselves to be athletic, these participants would spend less time practicing a golf putting skill than a control group that was not exposed to a stereotype condition. Interestingly, Stone also found that when these participants were given a self-handicapping opportunity (i.e., if a person were told that their performance on a high jump test would be hindered by eating a large meal, the person may choose to eat a large meal to give themselves an excuse for poor performance rather than accept their performance as their true high jumping ability), Caucasian participants spent significantly more time in practice than those who were not given the option of self-handicapping. This lends more credence to the importance of self-concept to the stereotype threat

theory. If participants believed there was an opportunity to assign blame for poor performance on an external source, and protect their self-concept, practice time would be increased in an effort to prove the stereotype wrong. When participants were not given the chance to place blame for poor performance on an external source, these participants would practice less, which would give them an inherent excuse for poor performance. It is the protection of self-concept in the face of stereotype threat that influences behavior.

Stereotype threat also seems to affect experts more than novices in sport performance. Beilock et al. (2003) had novice and expert male golfers, all highly identified with athletics, perform golf putts on an indoor green before and after receiving either a negative stereotype about golf putting (i.e., "men are poorer putters than women") or control information (i.e.," putting performance differs as a function of skill level"). Novices who received the stereotype were not adversely affected by it; whereas, experts who received the stereotype putted significantly worse than control group experts.

Although the specific means for a decrease in physical performance has not been fully investigated, Beilock and McConnell (2004) have theorized that athletes increase their focus on the procedural aspects of physical performance when confronted with stereotype threat in athletic situations. The authors hypothesize that stereotype threat may act in a similar manner to choking under pressure when concerned with physical performance.

Academic Self-Concept

The stereotype threat theory, which has been outlined above, indicates that an individual will be more likely to experience the effects of stereotype threat if his or her performance in the specific domain holds some inherent value. If the situation has no

inherent value to the individual, the participant will be less likely to persist in the face of the stereotype threat and disengage from the situation. Previous research that has been conducted on stereotype threat has measured participants' identification with a situation in a number of ways, including academic performance (Martens et al., 2006; Michel Desert et al., 2000; Steele & Aronson, 1995), academic importance (Aronson et al., 1999; Spencer et al., 1999), and attitudinal measures (Ford, Ferguson, Brooks, & Hagadone, 2004; Josephs, Newman, Brown, & Beer, (2003). Due to the unique time and social constraints that affect collegiate student-athletes, college student-athletes may theoretically have a high academic self-concept, but experience moderate or even poor academic performance. Thus, for the purposes of this thesis, the academic self-concept literature is reviewed.

Multifaceted structure of self-concept. The research to this point on the self and an individual's development of personal identity has under gone a number of changes and remains a subject of debate today. One of the factors that has created a discord among the researchers is the definition of self-concept. Shavelson, Hubner, and Stanton (1976) identified a number of efforts to determine the nature of self-concept. These efforts often lacked generalizability because authors' definitions of self-concept were imprecise and varied by researcher. Secondly, researchers often developed measures that were used for the assessment of self-concept for the express purposes of that study, flooding the field with measures that had not been tested to determine construct validity across measures. Finally, Shavelson et al. (1976) indicated, "data are not available to test rival counter interpretations" (pg. 409). For the purposes of this thesis, the definition of self-concept outlined by Marsh and Shavelson (1985) is used, which states that self-concept is a

person's perceptions of him or herself. This sense of self is formed through the individual's interactions with his or her environment and is influenced and reinforced by significant others and the actions of the individual respectively.

Shavelson et al. (1976) went on to develop a theoretical model of academic self-concept. This model identifies a number of specific subject areas (i.e., math, science, reading), which lead to broader subject areas (analytical, verbal) and eventually influence an overarching general academic self-concept. General academic self-concept and other non-academic self-concepts (i.e., social self-concept, emotional self-concept, and physical self-concept) are then believed to cumulatively affect an individual's general sense of self. This model has come under scrutiny by Marsh et al. (1988) who found that verbal and analytical academic self-concepts were weakly correlated compared to what would be expected if they truly summed to an overarching general self-concept. Marsh and colleagues believe that these two portions of academic self-concept should thus be investigated separately. This point was subsequently refuted by Strein (1993) who argued that although the research indicates that these two areas of academic self-concept are not as strongly correlated as would have been expected, they do cumulatively affect the individual's sense of self and are generalized by individuals to affect their sense of self in academic situations, which is where they could experience stereotype threat.

Self-Identification with Academics and Disidentification. Although the structure of academic self-concept has been debated, a constant finding in much of the research is that a person's identification with the situation will impact his or her performance and persistence in that situation. In a review of the literature on academic disidentification, Finn (1989) found that academic disidentification stemmed largely from a lack of success

in school outcomes that, over time, present a threat to the individual's perception of self-value. This process would lead to a decrease in the value of school as a defense mechanism and eventually lead to dropping out of school altogether. This theory is very similar to Steele's work on self-affirmation (Steele, 1988) and supported by results found by Hansford and Hattie's (1982) meta-analysis regarding the self and academic achievement. Finn (1989) also developed a model of academic identification that did not rely solely on academic performance. Finn believed that showing aptitude in other areas such as drama, athletics, and volunteer efforts would increase a student's identification with academics so long as the school reinforced the importance of these non-academic areas. This model was later supported by an extensive literature review by Fredricks, Blumenfeld, and Paris (2004) who found that many factors, both academic and non academic, can lead to engagement or withdrawal from academic situations and warrant further research.

The development of academic identification and disidentification has been shown to vary by race. While numerous studies have consistently shown lower socio-economic status being a large contributor to disidentifying with academics, Osborne (1997) found that when socio-economic status was controlled, African American boys were still more likely than any other group to disidentify with academics from the end of grade school to the end of high school. Osborne also found that African American girls disidentified to a much lesser degree. Caucasians, particularly females, were found to show significant increases in academic identification across time and subject areas. Perhaps just as interestingly, Osborne found that as academic identification decreases, other areas of identification increase, including athletics.

Role conflict as a means of self-preservation. As has been illustrated above, an individual's sense of self is very complex and draws from a whole host of sources in its development. These different identifications can at times conflict with each other, thus creating a source of discord for the individual. It is this discord that will often lead to the disidentification (Finn, 1989; Steele, 1988) and decreases in performance depending on which self-identify is held salient by the individual in a given situation (Shih et al., 1999). Settles, Sellers, and Damas (2002) found that student-athletes who held a central athletic identity were more likely to place less importance on performing well academically, experienced more role conflict, viewed the role of athlete and student as one role, and experienced lower levels of psychological well-being. Student-athletes who viewed being an athlete and student separately experienced significantly higher levels of psychological well-being. Ryska (2003) found that sport involvement could lead to a highly exclusive identification with sport and low personal autonomy, which is generally related to poor academic performance. Based on these findings, it is possible to conclude that student-athletes could experience role conflict between being an athlete and being a student and decrease academic identification to preserve their sense of self and insulate themselves from negative stereotypes about their performance in academics.

Student-Athletes in Academia

Since the turn of the century, there has been a tenuous relationship between the athletic departments and the other academic departments on college campuses. Sperber (2001) indicated that the academic portions of universities and colleges often see college athletes as uninterested, under-prepared students who only marginally attend class and contribute little to the educational mission of the university. These anecdotal experiences

coupled with educational attainment reports produced by the Knight Foundation (2001) as well as special admissions requirements reported by Bowen and Levin (2003) has led to the creation and dissemination of the "dumb jock stereotype" (Edwards, 1983; Long, 1991; Sailes, 1993). This stereotype holds that college athletes are only attending college as a means of participating in sport with little interest in academic pursuits and would not be enrolled in post secondary education if not for sport participation. Long indicated that "the dumb jock is male, physically large and strong, slow thinking, with few intellectual interests beyond academic eligibility" (pg. 228-229). Research has indicated that these beliefs are held by a number of groups within academia and extend across levels of competition (Cockley & Roswal, 1994), gender (Petrie & Stoever, 1997), and revenue production (Engstrom, Sedlacek, & McEwen, 1995).

Creation of the dumb jock stereotype. The existence of a dumb jock stereotype has persisted for nearly as long as sporting events have been associated with education. The dumb jock stereotype generally says that any student who participates in varsity college athletics is somehow intellectually inferior to the general student body. College athletes are only interested in maintaining their eligibility and are not interested in graduating or contributing to the social and intellectual fabric of the university (Long, 1991; Sperber, 2001).

Some authors contend that the dumb jock stereotype is an offshoot of racism (Edwards, 1983). Edwards believes that this was due in large part to the belief that intellectual and physical ability were mutually exclusive. Because African Americans were believed to be physically superior due to some fictitious race-based characteristic, they were also mentally inferior to their Caucasian counterparts. Long (1991) indicated

that dumb jocks are also thought to participate in sports that require greater physical strength (football, boxing, basketball) rather than sports needing less physical size (swimming, tennis, golf). Interestingly, the sports that Long has identified as being most associated with the dumb jock stereotype are also sports that have large participation rates of African Americans.

The preoccupation with race and the development of "genetic differences" have been found to reinforce racism (Davis, 1991). More recent research has indicated that there is little support for a stratification of stereotyping based on race and gender, indicating that all student-athletes fall under the umbrella of the dumb jock stereotype (Sailes, 1993). Whether race is an antecedent for a personal belief in the dumb jock stereotype is, in reality, a non-issue because the person need only be aware of the existence of the stereotype for the person to experience stereotype threat.

Performance of college athletes in academia. As with a number of different stereotypes, the dumb jock stereotype is rooted in both anecdotal experiences and reported performance figures that may not show the full performance of the college student-athlete. Ryan (1989) found that the contribution of athletics to the goals of higher education has come under fire by educational administrators and faculty. U.S. News and World Report (2002) found that for two of the most identifiable sports played in college (men's basketball and men's football) only 40% of Division I men's basketball (35% for African American) and 51% of Division I men's football student-athletes graduated after 6 years. A 10-year study that included all sports offered at a prominent Division I institution indicated that collegiate student-athletes had poorer academic backgrounds, received lower grades and had a lower graduation rate (Purdy et al., 1982). The results

also indicated that males who participated in football and basketball had the lowest academic performance and attainment compared with their athletic and academic peers.

A specific example of this academic underperformance can be seen in the case of the 2000 Ohio State football team who would have had 23 players ineligible to play after the first of the year due to poor academic performance. This situation was further exacerbated by the fact that the university had spent nearly half of its capital budget on athletic facilities over the past 4 years (Glasser, 2002a). Blann (1985) also found that participation in prominent college athletics was detrimental to the development of mature career plans and goals.

Another wedge that has been driven between the academic and athletic portions of the college campus is the perception that college athletes could not gain admission to the university if not for their athletic ability. Shulman and Bowen (2001) found that male athletes had a 48% higher chance of being admitted to elite universities, while female student-athletes had a 53% higher chance of admittance to the university if they were athletes. In general, the recruited college athlete gains a large, positive, and significant likelihood of admission to elite colleges over their non-athletic peers (Bowen & Levin, 2003).

The academic underperformance of college athletes has not gone unnoticed by the NCAA. Miles Brand has set out on an ambitious plan to increase the academic performance and attainment of all student-athletes (Brand, 2006; see Meyer, 2005 for review). The effectiveness of these reform measures has yet to be fully realized. Although these reforms have been seen as a step in the right direction, the dumb jock stereotype persists.

Male student-athletes have often been sighted as having the lowest academic performance as compared to their female counterparts. While there are many possible factors for this occurrence, a series of studies by Adler and Adler (1985, 1987) found that male athletes had many misconceptions of the requirements needed to participate in college athletics. The Adlers investigated a prominent college men's basketball team and found that male athletes entered college with an idealistic expectation of academic attainment to the point that many marginal student-athletes felt they could complete a professional degree on top of the time requirements needed for their sport. As these athletes realized this would not be possible, they became disillusioned and began to withdraw from academic ventures. Many student-athletes also felt that they were isolated from the general student body and that a majority of their time revolved around athletics in one form or another.

Similar results were also found in college football where the student-athletes received either implicit or explicit directions that their main purpose for being on campus was to participate in athletics, and academics were not to be a concern (Benson, 2000). Benson also found that many of the student-athletes' behaviors corresponded with the dumb jock stereotype, namely, the avoidance of classes and teachers deemed to be difficult, and emphasizing eligibility rather than educational attainment. It is often this exploitation of student-athletes, along with prior experiences from secondary schooling, which leads to a devaluing of education and feeds the dumb jock stereotype (Ervin, Saunders, Gillis, & Hogrebe, 1985).

Female student-athletes have been researched to a much lesser extent than their male counterparts. Evidence has shown that while both groups entered school with

idealistic attitudes toward academics, women's optimism continued through the first year of participation in athletics (Meyer, 1990). In fact, Meyer indicated that the women who participated in the study, engaged in a pro intellectual environment, were encouraged to attain high grades by their peers, and frowned on receiving special treatment from faculty. These results seem to run in stark contrast to those outlined by both Adler studies presented previously. A major non-academic contributor to the persistence and reinforcement of academic ideals may be the social support received by female athletes their freshman year which has been shown to be a significant positive predictor of academic performance (Petrie & Stoever, 1997).

Rebuttals to the existence of the dumb jock stereotype. Some authors have made the argument that there is no such thing as a dumb jock stereotype and that there is no implicit harm in the participation or consumption of college athletics. Pascarella and Smart (1991) found that participation in college athletics had a positive impact on student-athletes both in the short term and in their post-collegiate careers. These results are not surprising as the environment that many of these student-athletes are sequestered into would promote a strong sense of social support and reinforces group processes (Adler & Adler, 1987). One could argue the belief that there were no possible drawbacks to the large time commitment needed for participation in college athletics could be due in part to a lack of a full perspective in regard to the life of a college athlete or a need to reaffirm the self (Steele, 1988).

Others have argued that student-athletes outperform the general student body when transfers and selection into professional sports are taken into consideration (Rishe, 2003). While this may be the case in some instances, the author also acknowledges that

athletic success is due in part to decreased educational exploration and to institutional controls that work to maintain an athlete's eligibility. Without these academic controls, student-athlete success could be jeopardized.

Influence of Athletic Coaches on Athletic and Academic Identity. Coaches play a very important role in the athletic and academic development of student-athletes. As theorized by Bandura (1977), college coaches are uniquely positioned to either positively or negatively influence the development of academic and athletic identity because they are seen by student-athletes as a source of self-efficacy in academic and athletic pursuits. If a student-athlete hasn't had the life experience of completing a difficult collegiate program and their peers are not providing a model of how one would complete a difficult course, the coach, often acting as a surrogate parental figure, would be the most likely source of encouragement and development of academic self-efficacy which would lead to academic self-identification. If student-athletes perceive, correctly or incorrectly, that their coach does not believe they have a high degree of academic ability, they could be more likely to devalue their academic identification for their athletic identification.

It is difficult to overestimate the role a college coach has in the development of the social atmosphere surrounding their athletic team. Adler and Adler (1985) found coaches were primarily responsible for the athletic (playing time), academic (which classes athletes enroll in), and social environments (curfew and housing arrangements) found on their team. Adler and Alder also found college coaches would often reassure student-athletes of the importance of academics but neglected to fully explain the time demands associated with collegiate athletics. This led many student-athletes to believe they could achieve academic success in challenging collegiate programs in addition to

their athletic pursuits, only to become disillusioned once they realized their coaches were primarily concerned with their athletic performance. Similarly, Hughes and Coakley (1991) found student-athletes were more likely to adapt similar views as their coaches even if these views led to deviant behavior such as abusing performance enhancing drugs in the attempt to excel in athletics.

Coaches play a primary role in the development of a student-athlete's athletic identity. Stephan and Brewer (2007) found coaches and other sport staff were a driving force in the reinforcement of athlete identification, sometimes at the expense of other types of personal identification. In addition, Grove, Fish, and Eklund (2004) found that a coach's actions, namely team selection, have a detrimental effect on athletic identity for athletes who are not selected to be members of a team. Coaches are also viewed by their student-athletes as being a primary contextual force in determining the student-athlete's academic identity. Woodruff and Schallert (2008) conducted a series of qualitative interviews with student-athletes to assess the factors influencing academic and athletic motivation. The researchers found student-athletes who identified as having a lower sense of academic motivation had stronger social bonds with their coaches while athletes with higher academic motivation had weaker bonds with their athletic coaches, suggesting an inverse relationship between interactions with athletic coaches and academic motivation. Interestingly, athletes that identified as having a strong athletic and academic motivation felt that coaches played a positive role in their development as a student-athlete. While not fully discussed in the literature, it can be surmised that coaches who do not provide positive reinforcement of academic pursuits, particularly if they run counter to the culture within the team, would be less likely to emphasize the development of student-athlete's

academic identity. While this research has provided a data that was rich in detail, further research is needed to address the relative small sample size of the qualitative research (N=9).

While collegiate athletics has not always provided a conducive environment for the full development of academic and athletic identification, recent rule changes instituted by the NCAA have provided greater assistance to student-athletes. Actions such as increased visibility of student-athlete support services, increased minimum qualifications, and increased oversight from the Athletics Department have all provided sources of reinforcement for academic pursuits. While these sources have gained prominence, the influence of the coach still remains as the main determinant of the athletic, academic and social well being of student-athletes.

Faculty and general student body opinions of student-athletes. While the experiences of male and female student-athletes have been extensively reported on as presented above, the educational environment in which these student-athletes find themselves has received less research attention. The research that has been conducted has shown that college faculty and some members of the general student body hold negative opinions of student-athletes, further supporting the existence of the dumb jock stereotype. Writing from the perspective of a disgruntled faculty member, Sperber (2001) illustrated a number of pitfalls to participation in college athletics both for the student-athlete, such as arranged classes and academic programs, and the institution, such as exploitation of student-athletes for commercial purposes. Faculty members have also become increasingly vocal in their opposition to the existence of college athletics (Ryan, 1989; Suggs, 2005). If student-athletes are participating in an environment where they feel that

both professors and the student body are singling them out, they are being placed into an environment where they may be susceptible to the effects of stereotype threat.

Cockley and Roswal (1994) conducted a study across athletic Divisions of the NCAA to compare faculty's perceived knowledge and satisfaction regarding NCAA athletic programs. The authors found that Division III faculty had a higher level of perceived knowledge of rules and commitments required of student-athletes. Division II and Division I faculty ranked lower in knowledge respectfully. Not surprisingly, Division III faculty members were also more satisfied with athletic department policies and procedures as compared to Division II and Division I faculty. Research has also suggested that Division III student-athletes do not significantly differ from their non-athletic peers in academic performance or campus involvement (Richards & Aries, 1999). These results seem to run counter to those presented by Bowen and Levin's 2003 book *Reclaiming the Game* and may warrant further research. The general student body has also been found to hold negative views of their athletic peers, particularly in academic situations (Engstrom & Sedlacek, 1991).

The findings of Cockley and Roswal (1994) suggest that athletes who participate in "big time" college athletic programs are most at risk to being under the threat of stereotype. This conclusion could be drawn from the decrease in faculty satisfaction as the level of competition increases. Engstrom et al. (1995) found that university faculty at a Division I level institution held prejudicial attitudes toward both revenue generating and non-revenue generating sports. Baucom and Lantz (2001) made similar findings at the Division II level citing negative attitudes held by faculty toward student-athletes regarding academic performance, financial assistance, and campus publicity as compared

to the general student body. These findings suggest that little differentiation is made between Divisions or across sport in the application of the dumb jock stereotype creating an environment ripe for student-athletes to experience stereotype threat in the classroom.

Summary

Stereotypes have been a fixture in the American social fabric before the ink dried on the Declaration of Independence. Stereotypes have been shown to negatively affect a wide array of individuals, particularly in education. The effects of stereotype have been shown to be detrimental to academic performance and completion, leading to disidentification and dropout. Because the dumb jock stereotype is strongly held by members of university faculty and the general student body, a logical conclusion is that student-athletes may be in a detrimental position to experience the effects of stereotype threat. By determining if student-athletes are susceptible to the effects of stereotype threat, corrective measures can be taken to counter their effects, increase the academic performance of student-athletes, and create a more inclusive educational environment.

CHAPTER 3

Method

Participants

The research subjects were 318 student-athletes from across the United States. Student-athletes were defined as current members of an athletic team that is recognized by the university or college that the student-athlete is currently attending. The sample included student-athletes who are currently competing in all three major divisions within the National Collegiate Athletic Association (NCAA). The majority of respondents were Female (64.2%) and Caucasian (91.5%). The majority of participants were 18 and 19 years of age (50.6%) and competed at the Division I level (55%). Student-athletes represented a number of different sports including women's soccer (11.9%), women's volleyball (9.7%), men's football (7.2%), and women's softball (6%). The average number of years attending the college or university was 2.22 years (SD = 1.26). Tables 1-4 provide detailed descriptive information on the participants.

Table 1

Means, Standard Deviations and Range for Age and Years Attending the University

Variables	Mean	SD	Range
Age of athlete	19.79	1.46	18-25
Years attending university	2.22	1.26	1-6

Table 2

Frequency Table for Sex and Ethnicity

Sex	Frequency	Percent
Male	111	34.9
Female	204	64.2
Missing	3	.9
Ethnicity	**Frequency**	**Percent**
Asian	2	.6
Caucasian	291	91.5
African American	13	4.1
Hispanic, Non-Caucasian	4	1.3
Middle Eastern	1	.3
Ethnically Mixed	5	1.6
Missing	2	.6

Table 3

Sport Participation Characteristics

Level of Sport Competition	Frequency	Percent
Division I	175	55.0
Division II	51	16.0
Division III	89	28.0
Missing	3	.9
Financial Aid	**Frequency**	**Percent**
Athletic Aid Only	85	26.7
Academic Aid Only	106	33.3
Athletic and Academic Aid	71	22.3
Not Receiving any scholarship	54	17.0
Missing	2	.6
Plan to Compete in Competitive Sport beyond College	**Frequency**	**Percent**
Yes	90	28.3
No	146	45.9
Undecided	80	25.2
Missing	2	.6

Table 4

Sport Participation Frequency

Sport Type	Frequency	Percent
Men's Baseball	12	3.8%
Men's Basketball	6	1.9%
Men's Cross Country	11	3.5%
Men's Football	23	7.2%
Men's Golf	4	1.3%
Men's Ice Hockey	1	0.3%
Men's Soccer	13	4.1%
Men's Swimming	9	2.8%
Men's Tennis	1	0.3%
Men's Track, Indoor	6	1.9%
Men's Track, Outdoor	13	4.1%
Men's Wrestling	12	3.8%
Mixed Cross Country	1	0.3%
Mixed Swimming	5	1.6%
Mixed Track, Outdoor	3	0.9%
Women's Basketball	14	4.4%
Women's Cross Country	14	4.4%
Women's Diving	1	0.3%
Women's Field Hockey	9	2.8%
Women's Golf	6	1.9%
Women's Gymnastics	12	3.8%
Women's Rowing	11	3.5%
Women's Softball	19	6.0%
Women's Soccer	38	11.9%
Women's Swimming	15	4.7%
Women's Tennis	5	1.6%
Women's Track, Indoor	7	2.2%
Women's Track, Outdoor	10	3.1%
Women's Volleyball	31	9.7%
Women's Water Polo	1	0.3%
Missing	5	1.6%

Instrumentation

Demographic information was collected from the participants (Appendix A). These questions asked about participants' age, gender, race/ethnicity, the varsity sport they participated in, the conference their college is a member of, how long they have attended the university, the athlete's perception of their coach's belief in their academic ability, scholarship aid status, and future involvement in sport. The Division that the athletes participated in was derived from the institution they attended as determined by the NCAA. This was done because Divisional status may vary across sport within a given institution.

The *Athlete Identity Measurement Scale* (AIMS) (Brewer, Van Raalte, & Linder, 1993) (Appendix B) was developed in order to assess the importance of the athlete role to the individual. This measure taps into both the strength of the individual's athlete identity ("*I consider myself an athlete*" and "*Other people see me mainly as an athlete*"), and the exclusiveness of the athlete role in the individual's sense of self ("*Sport is the only important thing in my life*"). The measure consists of 10 questions that are scored on a range from 1 (*strongly disagree*) to 7 (*strongly agree*). Summing the score of each question and finding the mean score for the participant created a value for the participant's athlete identity. Possible scores range from 10 (low) to 70 (high). A high score indicates a strong athlete identity, while a low score indicates low athlete identity. Internal reliability for the AIMS was found to be $\alpha = .83$.

The College Academic Beliefs (CAB) scale was developed by Ployhart, Ziegert, and McFarland (2003) (Appendix C) to determine the susceptibility of participants to the

effects of stereotype threat. The measure was slightly modified from its original version in order to elicit responses from individuals based on their identification as athletes rather than as racial minorities as well as updating the tense of some questions for clarity. The measure consists of eight questions that are scored on a range from 1 (*strongly disagree*) to 7 (*strongly agree*) and possible scores range from 8 (low) to 56 (high). This measure contains two scales, namely, a generalized stereotype threat scale and a specific stereotype threat scale. These eight questions asked athletes about their experiences in class (e.g., *In college classes, athletes often face biased evaluations*) and how the participants are perceived by others (e.g., *I never worry that people will draw conclusions about my intelligence because I'm an athlete*). Summing the score of each question and finding the mean score created a value for the participant's susceptibility to generalized stereotype threat, specific stereotype threat, as well as an overall susceptibility to stereotype threat. Two of the questions are negatively scored (Question 2 and 5). This allowed for a corrective check to ensure that student-athletes who completed the questionnaire fully attended to the measure. A high score indicates a susceptibility to stereotype threat, while a low score indicates low susceptibility to stereotype threat. The reliability for the generalized threat scale was $\alpha = .70$.

The Michigan State Self-Concept of Ability Scale – General (MSSCA-G: Brookover, LePere, Hamachek, Thomas, & Erickson, 1965) (Appendix D) is a measure that was developed to assess a participant's self-concept of academic ability and achievement. This measure consists of 8 questions on a Guttman scale. Answers are summed to provide a score of general academic self-concept. Scores can range from 8 (low academic self-concept) to 40 (high self-concept). A high score indicates high self-

concept of academic ability, while a low score is indicative of low self-concept of academic ability. The items of the questionnaire are self-evaluative and include questions asking participants to evaluate their academic ability compared to their peers (i.e., *How do you rate yourself in school ability compared with your close friends?*) as well as their own opinions *(i.e., Where do you think you would rank in your class in college?)*. The questions are also divided into present based questions (*i.e., Do you think you have the ability to complete college?)* and future based *(i.e., In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think it is that you could complete such advanced work?)*. Internal consistency for this measure was $\alpha = .81$. One benefit for using this particular measure rather than a more recently published measure is the brevity of the measure. It was assumed that student-athletes would be more likely to complete the survey if the time commitment was relatively short due to the time constraints on student-athletes.

Procedures

Permission to conduct the study was granted by the University's Institutional Review Board. Institutions were selected based on references from experts in the field of educational athletics, snowball referencing, and random cold calling. Initial contact was made with a representative at each institution who would be able to provide the survey to all student-athletes who were attending the university. This individual was provided with basic information about the nature of the study by the lead researcher; provided a hard copy of the survey questionnaire and given access to the electronic version of the questionnaire for further review. The electronic version of the questionnaire was the one used for distribution to athletes. The majority of the discussions included contacting

assistant athletic directors as well as directors of student-athlete support, athletic directors, and lead kinesiology faculty members.

Once approval was granted at the institutional level, it became incumbent on each institution to distribute the survey through existing e-mail list serves to the student-athletes. The institution then forwarded a standardized e-mail greeting to the student-athletes, which contained an introduction to the research survey and a link to the survey. Student-athletes who chose to participate in the survey, did so by clicking on the link which redirected them to the informed consent page (Appendix F). Athletes who subsequently decided that they did not wish to complete the survey, could select themselves out of the survey without penalty. Student-athletes who decided to participate in the survey were allowed to proceed to the rest of the survey. Once the student-athletes completed the survey, they were directed to a thank-you page, which more fully informed them of the purposes of study and provided a short discussion about stereotype threat. Participants were allowed to complete the survey at their own speed and the average length of time needed to complete this survey was 6.35 minutes (*1.40).* Follow-up surveys were resent by the university 3 weeks after the initial distribution to the student-athletes. A rate of survey return was calculated at 18.32% of institutions surveyed. In general, women's teams that were defined as low visibility had a higher rate of return (i.e. women's gymnastics = 45%; women's volleyball = 22%; and women's soccer = 21%) compared to men's teams (i.e. men's ice hockey = 4%; football = 7%; and baseball = 8%).

Treatment of Data

The data were first analyzed for missing data points, outliers, and assumptions of normality. A power analysis was conducted among extreme groups on stereotype threat to detect differences between the groups for stereotype threat and revealed a strong power ($\beta = .91$). Missing data were handled by first assessing their effect and trend of missing data. Due to the large sample size ($N = 318$) and small number of non respondents ($N = 6$); there was little danger of a loss of power due to missing data. An examination of missing data determined that missing data were randomly distributed throughout the sample. Z-tests were conducted to determine if any outliers were present before data analyses were conducted. A cut point of +/- 3 z-score was used to identify outliers and four cases were removed from the analysis because they didn't finish the survey.

In order to assess the first hypothesis, "Student-athletes who have both a high athlete identity and a high academic identity will be more susceptible to stereotype threat than athletes with a low athlete identity or low academic identity." the data were filtered into an extreme groups design. Upper and lower quartile scores were identified for both academic identification on the MSSCA-G (36 and 31) and for athletic identification on the AIMS (52 and 42), respectively. Each case was then evaluated to determine if the participant fit into one of four groups: high athletic-high academic identity, high athletic-low academic identity, low athletic-high academic identity, or low athletic-low academic identity. Participants who did not fit into this extreme group design were not evaluated in the extreme group design.

Due to relatively low participation rates of discrete racial groups of minority student-athletes, the hypothesis for this group was dropped. Individual high visibility and

low visibility sports were combined in order to produce a single high visibility variable and low visibility variable. Thus, independent *t*-tests were conducted to assess significant differences in susceptibility to stereotype threat between gender, sport visibility, and academic class standing. One-way ANOVAs were conducted to assess significant differences in susceptibility to stereotype threat by athletic and academic self-identity, NCAA division, perception of coach's regard of academic ability, future pursuits in competitive sports, and the type of financial aid the student-athlete is receiving.

CHAPTER 4

Results

Preliminary Analyses

Spearman's coefficients indicated that academic and athletic identification were negatively correlated ($r = -.21$, $p < .001$). Cronbach alpha levels were established at .05. Table 5 displays the correlations between type of self identification, susceptibility to stereotype threat, and demographic variables. All subsequent analyses were conducted at the $p \leq .05$ significance level.

Table 5

Spearmen's rho Coefficient Between All Variables

	Sport participation	NCAA Divisional Status	Race	Scholarship status	Gender	Future athletic activities	Age	Coach's regard for academic ability	Academic identification	Athletic identification	Stereotype threat score	Years attending university
Sport participation[1]	1											
NCAA Divisional Status[2]	-.01	1										
Race[3]	-.05	-.14*	1									
Scholarship status[4]	.08	.07	-.08	1								
Gender[5]	.27**	.08	-.05	.04	1							
Future athletic activities[6]	.06	.04	-.09	.04	.14*	1						
Age	.03	-.01	.09	-.17**	.002	.01	1					
Coach's regard for academic ability	-.01	.10	.04	-.07	.001	-.06	.16**	1				
Academic identification	.09	.03	-.05	-.09	.04	-.04	.13*	.50**	1			
Athletic identification	-.05	-.06	.18**	-.01	-.002	-.07	-.11*	-.13*	-.21**	1		
Stereotype threat score	-.18**	-.17**	.04	.05	-.11	-.01	.05	-.15**	-.07	.03	1	
Years attending university[7]	.09	-.04	.12*	-.17**	-.01	-.01	.78**	.11	.14*	-.09	.08	1

*Significant at 0.05**
*Significant at 0.01***

Notes:

[1]Sport Participation: High visibility sport = 1, Low visibility sport = 2
[2]NCAA Divisional Status: Division I = 1, Division II = 2, Division III = 3
[3]Race: Caucasian = 1, Minority = 2
[4]Scholarship Status: Athletic aid = 1, Academic aid = 2, A combination of both = 3, Receiving no scholarship = 4
[5]Gender: Male = 1, Female = 2
[6]Future Athletic Activities: Includes sport = 1, Does not include sport = 2, Undecided = 3
[7]Years Attending University: 1 year = 1, 2 years = 2, 3 years = 3, 4 years = 4, 5 years = 5, 6 years = 6

Results of Hypotheses

Hypothesis 1: "Student-athletes who have both a high athlete identity and a high academic identity will be more susceptible to stereotype threat than athletes with a low athlete identity or low academic identity."

A one-way ANOVA with four groups (High Academic-High Athletic, High Academic-Low Athletic, Low Academic-High Athletic, Low Academic-Low Athletic) was conducted to assess significant differences in the susceptibility of student-athletes to stereotype threat based on their athletic and academic identification. Means and standard deviations for each group are included in Table 7. The results of the one-way ANOVA indicated that there was no significant difference between groups $F(3, 94) = .38$, $p = .77$. Thus, this hypothesis was not supported.

Table 6

Stereotype Threat of Extreme Group Design

Group	*N*	*M*	*SD*	Minimum	Maximum
High Athletic Identity High Academic Identity	16	30.31	5.17	21	40
High Athletic Identity Low Academic Identity	32	32.41	6.78	20	50
Low Athletic Identity High Academic Identity	32	31.97	7.98	15	48
Low Athletic Identity Low Academic Identity	14	31.36	3.61	25	38

Table 7

Academic Identity of Extreme Group Design

Group	*N*	*M*	*SD*	Minimum	Maximum
High Athletic Identity High Academic Identity	16	37	1.27	36	40
High Athletic Identity Low Academic Identity	32	28.53	1.72	23	30
Low Athletic Identity High Academic Identity	32	37.63	1.43	36	40
Low Athletic Identity Low Academic Identity	14	27.93	1.82	25	30

Table 8

Athletic Identity of Extreme Group Design

Group	*N*	*M*	*SD*	Minimum	Maximum
High Athletic Identity High Academic Identity	16	56.25	2.57	52	61
High Athletic Identity Low Academic Identity	32	56.19	3.71	52	67
Low Athletic Identity High Academic Identity	32	38.16	4.21	25	42
Low Athletic Identity Low Academic Identity	14	37.93	4.7	25	42

Hypothesis 2: "Male student-athletes are more susceptible to stereotype threat than female student-athletes."

An independent *t*-test was conducted to assess differences in susceptibility to stereotype threat that is experienced by male and female student-athletes. No support was found for this hypothesis regarding the susceptibility to stereotype threat in male (M = 32.25, SD = 6.15) and female (M = 31.08, SD = 6.58) student-athletes, $t(313) = 1.55$, p = .12.

Hypothesis 3: "Division I student-athletes will be more susceptible to stereotype threat than Division II or Division III student-athletes."

A one-way ANOVA with three groups was conducted to assess significant differences in the susceptibility of student-athletes to stereotype threat based on the NCAA Divisional level their sport. There was a significant difference between the susceptibility to stereotype threat based on NCAA Divisional level $F(2, 312) = 3.16$, p = .044. Tukey Post Hoc analysis indicated that student-athletes who compete at the Division I level (M = 32.17, SD = 5.87) were more susceptible to stereotype threat than student-athletes who compete at the Division III level (M = 30.10, SD = 6.07), thus partially supporting this hypothesis. There was not a significant difference between student-athletes who compete at the Division I or III level and their peers who compete at the Division II level (M = 31.20, SD = 8.19).

Hypothesis 4: This hypothesis was dropped.

Hypothesis 5: "Student-athletes who participate in a high visibility sport will be more susceptible to stereotype threat than student-athletes who participate in low visibility sports."

An independent *t*-test was conducted to assess differences in susceptibility to stereotype threat that is experienced by student-athletes who compete in high visibility and low visibility sports. Student-athletes who compete in high visibility sports indicated higher susceptibility to stereotype threat ($M = 33.98$, $SD = 5.33$) than student-athletes who compete in low visibility sports ($M = 31.07$, $SD = 6.55$), $t(311) = 2.76$, $p = .006$. Thus, this hypothesis was supported.

Hypothesis 6: "Lower academic class student-athletes will be more susceptible to stereotype threat than upper academic class student-athletes"

An independent *t*-test was conducted to assess differences in susceptibility to stereotype threat that is experienced by underclassmen and upperclassmen student-athletes. No support was found for this hypothesis regarding the susceptibility to stereotype threat in upperclassmen ($M = 32.13$, $SD = 6.6$) and underclassman ($M = 31.10$, $SD = 6.13$) student-athletes, $t(311) = -1.39$, $p = .17$.

Hypothesis 7: "Student-athletes who believe their coach has a high regard for their academic ability will be less susceptible to stereotype threat than student-athletes who believe their coach is neutral or has a low regard for their academic ability."

A one-way ANOVA with four groups was conducted to assess significant differences in the susceptibility of student-athletes to stereotype threat based on their perceptions of their coach's regard for the athlete's academic ability. There was a significant difference between the susceptibility to stereotype threat dependent on athletes' perceptions of their coach's regard for their academic ability $F(4, 312) = 4.02$, $p = .001$. Tukey Post Hoc analysis indicated that student-athletes who somewhat disagreed with the statement that their coach has a high regard for their academic ability ($M =$

37.45, *SD* = 9.18) were significantly more susceptible to stereotype threat than student-athletes who did not agree/nor disagree (*M* = 31.00, *SD* = 6.19), agreed (*M* = 31.18, *SD* = 5.76) or strongly agreed (*M* = 30.43, *SD* = 6.7) that their coach had a high regard for their academic ability. No participants indicated that they strongly disagreed with the statement of coach's regard for academic ability. These results supported the hypothesis that athletes who perceived that their coach has low regard for their academic ability were more susceptible to stereotype threat.

Hypothesis 8: "Student-athletes who plan on participating in competitive sports beyond the collegiate level will be more susceptible to stereotype threat than student-athletes who do not plan on participating in competitive sports or student-athletes who are uncommitted to participating in sports beyond the college level."

A one-way ANOVA with three groups was conducted to assess significant differences in the susceptibility of student-athletes to stereotype threat based on their plans on participating in competitive athletics beyond the college level. The results indicated there was no significant difference between student-athletes who plan on participating in competitive athletics beyond college (*N* = 90) (*M* = 31.86, *SD* = 5.70) and student-athlete who do not plan on participating in competitive sports (*N* = 146) (*M* = 30.91, *SD* = 6.51) or student-athletes who are uncommitted to participating in sports beyond the college level (*N* = 80) (*M* = 32.08, *SD* = 7.07), $F(2, 313) = 1.06$, $p = .35$. This hypothesis was not supported.

Hypothesis 9: "Student-athletes who receive only athletic financial aid will be more susceptible to stereotype threat than student-athletes who receive only academic aid, a combination of athletic and academic aid, or athletes who receive no financial assistance."

A one-way ANOVA was conducted to assess significant differences in the susceptibility of student-athletes to stereotype threat based on the type of financial aid they were receiving (athletic aid only, academic aid, a combination of athletic and academic aid, no financial aid). The results of the one-way ANOVA indicated that there was a significant difference between the susceptibility to stereotype threat dependent on the type of financial aid the student-athlete was receiving, $F(3, 312) = 5.44$, $p = .001$. Tukey Post Hoc analysis indicated that student-athletes who were not receiving any financial assistance ($M = 33.48$, $SD = 7.57$) or were receiving athletic aid only ($M = 32.32$, $SD = 5.83$) were significantly more susceptible to stereotype threat than student-athletes who were receiving academic aid only ($M = 29.61$, $SD = 5.84$). Thus, this hypothesis was only partially supported. No other significant differences were found.

Exploratory Analyses

For exploratory purposes, the predictive strength of athletic identity, academic identity, gender, divisional status, racial minority status, sport visibility type, academic class standing and coach's regard for academic ability on susceptibility to stereotype threat in collegiate student-athletes.

A linear multiple regression analysis utilizing simultaneous input was used for the analysis. The result of the linear regression analysis was significant, $F(1, 298) = 3.11$, $p = .001$. These variables have a moderate positive correlation ($R = .29$) and accounted for

8.6% (R^2 = .09) of the variance in stereotype threat scores. The variables that had a significant effect on susceptibility to stereotype threat score included: visibility sport type β = -.15, t (298) = -2.62 p = .009; racial minority status β = -.13, t (298) = -2.22 p = .03; divisional status β = -.12, t (298) = -2.18 p = .03; and coach's regard for academic ability β = -.13, t (298) = -2.04 p = .04. Thus, these athletes who were in high visibility sports, were a racial minority, were in Division I, and had a coach with low regard for academic ability were more susceptible to stereotype threat.

CHAPTER 5

Discussion

Steele's (1997) theory predicted that individuals would experience decreased performance when they participated in an environment where a negative stereotype exists about a group with which they can readily identify. Steele also indicated that this is a situational threat, which would be strongly influenced by the participant's perceptions of importance of performance to the concept of self and does not rely on the individual receiving an external threat. The stereotype that was proposed to have the greatest influence on student-athletes is the "dumb jock" stereotype. In general, the dumb jock stereotype paints college athletes as marginal students with little academic ability and contributors of even less in the classroom. Long (1991) further illustrated the "dumb jock" as being male, physically gifted, with few academic skills. The results from this survey showed that the phenomenon exists among student-athletes, at least to a moderate degree on average. With a possible range of 8 to 56 on the stereotype threat measure, the average stereotype threat score was near the mid-point of the scale (32) and 9% of the scores were above 40.

Although stereotype threat was perceived by student-athletes, the hypothesis that student-athletes who have a high academic identification and a high athletic identification would be more susceptible to stereotype threat than those who had only a high academic or high athletic identification was not supported by the research. In fact, student-athletes in the high athletic, high academic identification groups had a lower group mean than all other groups. This runs counter to previous literature which has shown a dichotomous relationship between the athlete identity and student identity. One potential reason for the

lack of support for this hypothesis was due to the relatively small sample sizes of the extreme group design. By filtering all individual responses into one of four groups based on their scores compared to the survey sample led to the majority of participants being removed from the analysis. Another potential issue could be the lack of effectively priming the individual's athlete or student identity. While Yopyk and Prentice (2005) were able to find significant differences between the stereotype threat experienced based on which identity was primed in student-athletes, an effective procedure for priming student-athletes could not be implemented in a survey format. In addition, the Spearman's rho conditions also showed no correlation of stereotype threat with either athletic or academic identification. Even with this limitation, stereotype threat was indicated by the student-athletes who participated in this survey.

Despite the inability of athletic identification and academic identification to predict susceptibility to stereotype threat, a number of demographic variables were predictive of susceptibility to stereotype threat. This research found that participation in high visibility sports, race, Divisional status, and the coach's low regard for athletes' academic ability were significant predictors of athletes' perceived stereotype threat. These findings are not really surprising as many student-athletes who compete at the Division III level and nonrevenue sports are often seen as being "traditional students" who happen to compete in sports (Richards & Aries, 1999). Racial minority status was also predictive of perceived stereotype threat of being a student-athlete. This finding supports prior research that indicated racial minority student-athletes felt they were more likely to be perceived as dumb jocks who were only interested in athletics and unable to

gain admission to the college or university without their student-athlete status (Adler & Adler, 1985, 1987; Edwards, 1983).

The data did show a significant difference between the susceptibility to stereotype threat experienced by student-athletes and the NCAA Division they compete in. The results indicate student-athletes who compete at the Division I level are significantly more susceptible to stereotype threat than their peers who compete at the Division III level. This may be due to a number of factors including increased exposure and time commitment for competing at the Division I level; positive attributes attributed to student-athletes at the Division III level; and a more accepting and personal climate at the Division III level (Benson, 2000; Richard & Aries, 1999).

Similarly, student-athletes who compete in high visibility sports were significantly more susceptible to stereotype threat than student-athletes who compete in low visibility sports. These findings support prior research conducted by Adler & Adler (1985) and Long (1991) which have indicated that student-athletes who are most at risk for poor performance in academic courses are those athletes who compete in high visibility sports which require a large portion of student-athlete's time, energy, and attention. Future research should examine the coping skills and study techniques of successful student-athletes who compete in high visibility sports to determine if any best practices can be generalized to future students.

This research also showed the very strong role coaches play in the development of their student-athletes' susceptibility to stereotype threat. The results showed that student-athletes who felt their coach had a low regard for their academic ability were significantly more susceptible to stereotype-threat than student-athletes who felt their coach held a

high regard for their academic ability. These results support prior research (Adler & Adler, 1985; Woodruff & Schallert, 2008) which found coaches play a strong role in the development of the academic culture found within the athletic teams as well as providing a trusted reference for academic self-efficacy as described by Bandura (1977). Coaches also play a very strong role in the thought processes of athletes at all levels of sport development (Guivernau & Duda, 2002; Jowett & Cockerill, 2003; Pratt & Eitzen, 1989; Smith, Smoll, & Cumming, 2007) and these findings support the need for further research into the role coaches could take in mediating the effects of stereotype threat.

Finally, this research found the type of academic aid a student-athlete receives can also play a role in determining susceptibility to stereotype threat. The data indicate that student-athletes who receive either athletic aid or no aid at all were significantly more susceptible to stereotype threat than student-athletes who receive academic aid only. Since the type of aid a student-athlete receives can serve as a type of extrinsic motivator for performance (see Ryan & Deci, 2000 for review), it can be assumed that student-athletes will feel a justification for their sense of academic identification or athletic identification based on their receiving a scholarship for their performances.

Interestingly, student-athletes who received no financial assistance demonstrated an increased susceptibility to stereotype threat. While further research is needed, a potential explanation may be that student-athletes who compete in collegiate athletics without the external rewards of financial assistance may compete primarily for the internal rewards of being a member of the team and for their love of the game. Individuals who compete for the sheer love of the game may be more likely to identify with their athletic role and thus, be just as susceptible to stereotype threat as student-

athletes who receive athletic aid. Another contributing factor may be the ability of student-athletes who are receiving some form of aid to compartmentalize their roles as either student or athlete indicated by the type of financial assistance they are receiving, thus shielding their psyche from the assaults of stereotype threat.

Limitations

There are several limitations to this study which should be considered before generalizing these results to other populations. First, participation in this survey was not mandatory, nor were participants given any reason to complete this survey. Because athletes were able to decide their level of commitment to participate in the study, student-athletes who may have been most susceptible to stereotype threat may have been more likely to avoid participating in scholarly research as a means of protecting their concept of self-worth. One could presume student-athletes who feel the most threat to their self-worth would avoid situations where the student-athlete has a history of experiencing threat. A similar limitation is the self-response nature of the survey. Even though student-athletes were assured there would be no way to later connect answers with individuals, it still stands to reason some student-athletes could have started the survey with the best of intentions, but felt threatened by the very nature of the questions, thus changing their responses as a means of identity protection.

Secondly, there was little variability in scores on the athletic identity measure. With a possible range of 10 to 70, 313 responses were above the mid point of the scale, with 40% responses above 50. To date, the AIMS is one of the most widely used measures of athletic identification in sport psychology research. The scale of the measurement, however, may not be sensitive enough to evaluate small differences in

athletic identification for use in stereotype threat research. If the measure was not sensitive enough to discriminate the athletic identification of athletes, segregating participants into the extreme groups design would produce a non-significant finding. Further research should be undertaken to evaluate the predictive ability of the AIMS and its ability to predict susceptibility to stereotype threat.

Implications for Student-Athlete Development Programs

One important aspect of this research is the implication of student-athlete development programs and which groups are most susceptible to stereotype threat. Based on the results of the linear regression analysis, student-athletes who compete at the Division I level, are racial minorities, compete in high visibility sports, and have a coach with low regard for academics are most susceptible to stereotype threat. This is important because current programs that have been developed have reached out to many athletes regardless of their identification with any of these demographic groups. This can be problematic because scarce university resources may be used on student-athletes who are not as susceptible to stereotype threat as other student-athletes. Future programs should take into account the demographic variables of the projected student-athletes and ensure that the priority resources and support are distributed to groups that have the greatest potential for experiencing the negative effects of stereotype threat.

Future Research

This exploratory research attempted to determine if student-athletes are susceptible to stereotype threat and which sub groups of student-athletes are more likely to experience stereotype threat. Given the results of this research, future researchers should conduct experimental research to determine if being a student-athlete is a

significant indicator of experiencing stereotype threat. If it can be shown that cueing the student-athlete identification is enough to hinder academic success, similarly to Steele and Aronson's (1995) work with African Americans, outreach programs should be developed to address stereotype threat experienced by student-athletes.

APPENDIX A

Demographic Survey

1. How many years have you been at your University?
   ____ 1 year
   ____ 2 years
   ____ 3 years
   ____ 4 years
   ____ 5 years
   ____ 6 years

2. Which sport do you primarily participate in? _____

3. What is the name of the Conference your sport participates in (i.e., Big 10, Pac 10)? _____

4. What Division is your sport in?
   ____ Division I
   ____ Division II
   ____ Division III

5. What is your Race/Ethnicity?

   ____ Asian
   ____ African American
   ____ Hispanic, non Caucasian
   ____ American Indian/Pacific Islander
   ____ Caucasian
   ____ Middle Eastern
   ____ Ethnically Mixed

6. Are you receiving a scholarship?
   ____ Athletic Aid
   ____ Academic Aid
   ____ Combination of both
   ____ None

7. My coach has a high opinion of my academic ability.

Strongly Disagree			**Neither agree or disagree**			**Strongly Agree**
1	2	3	4	5	6	7

8. Sex: (Circle one) M F

9. Do your future pursuits involve participating in competitive sports?
   ____ Yes
   ____ No
   ____ Undecided

10. Age: (Round to the nearest year) _____

APPENDIX B

Athlete Identity Measurement Scale

Instructions: The Athlete Identity Measurement Scale (AIMS) is a short questionnaire that will ask some questions regarding your feelings about yourself and sports. Your ratings will be made on a seven point scale, where *one* is a rating of strongly disagree end of the scale and seven is the strongly agree end of the scale. Read each statement below and circle the appropriate number from the scale provided to indicate the degree to which the statement applies to you. Remember, if you strongly disagree with a statement, a rating of 1 should be given; if you strongly agree with a statement, a rating of 7 should be given. Remember, there is no right or wrong answer, so please answer as accurately as possible.

1. I consider myself an athlete.

Strongly Disagree			**Neither agree or disagree**			**Strongly Agree**
1	2	3	4	5	6	7

2. I have many goals related to sport

Strongly Disagree			**Neither agree or disagree**			**Strongly Agree**
1	2	3	4	5	6	7

3. Most of my friends are athletes

Strongly Disagree			**Neither agree or disagree**			**Strongly Agree**
1	2	3	4	5	6	7

4. Sport is the most important part of my life

Strongly Disagree			**Neither agree or disagree**			**Strongly Agree**
1	2	3	4	5	6	7

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

Strongly Disagree			**Neither agree or disagree**			**Strongly Agree**
1	2	3	4	5	6	7

6. I need to participate in sport to feel good about myself.

Strongly Disagree			**Neither agree or disagree**			**Strongly Agree**
1	2	3	4	5	6	7

7. Other people see me mainly as an athlete.

Strongly Disagree			**Neither agree or disagree**			**Strongly Agree**
1	2	3	4	5	6	7

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

Strongly Disagree			**Neither agree or disagree**			**Strongly Agree**
1	2	3	4	5	6	7

9. Sport is the only important thing in my life.

Strongly Disagree			**Neither agree or disagree**			**Strongly Agree**
1	2	3	4	5	6	7

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

Strongly Disagree			**Neither agree or disagree**			**Strongly Agree**
1	2	3	4	5	6	7

APPENDIX C

College Academic Beliefs

Instructions: This short questionnaire will ask you about some of your opinions and experiences in your academic classes. Your ratings will be made on a seven point scale, where *one* is a rating of strongly disagree end of the scale and seven is the strongly agree end of the scale. Read each statement below and circle the appropriate number from the scale provided to indicate the degree to which the statement applies to you. Remember, if you strongly disagree with a statement, a rating of 1 should be given; if you strongly agree with a statement, a rating of 7 should be given. Remember, there is no right or wrong answer, so please answer as accurately as possible.

1. Some people feel I have less academic ability because I am an athlete.

Strongly Disagree			**Neither agree or disagree**			**Strongly Agree**
1	2	3	4	5	6	7

2. Classes may be easier for athletes.

Strongly Disagree			**Neither agree or disagree**			**Strongly Agree**
1	2	3	4	5	6	7

3. Professors expect me to do poorly because I am an athlete.

Strongly Disagree			**Neither agree or disagree**			**Strongly Agree**
1	2	3	4	5	6	7

4. In college classes, athletes often face biased evaluations.

Strongly Disagree			**Neither agree or disagree**			**Strongly Agree**
1	2	3	4	5	6	7

5. I never worry that people will draw conclusions about my intelligence because I'm an athlete.

Strongly Disagree			**Neither agree or disagree**			**Strongly Agree**
1	2	3	4	5	6	7

6. Some tests have been used to discriminate against athletes.

Strongly Disagree			**Neither agree or disagree**			**Strongly Agree**
1	2	3	4	5	6	7

7. When I take a test, I want to show that athletes can perform well on it.

Strongly Disagree			**Neither agree or disagree**			**Strongly Agree**
1	2	3	4	5	6	7

8. A negative opinion exists about how athletes perform on college tests.

Strongly Disagree			**Neither agree or disagree**			**Strongly Agree**
1	2	3	4	5	6	7

APPENDIX D

The Michigan State Self-Concept of Ability – General

Instructions: The Self-Concept of Ability-General questionnaire is a short questionnaire that will determine your perceptions of your ability in academics. Each of the following questions asks the participant to select an answer from the provided answers that best fits their own perceptions of ability. Please be sure to read all of the questions and possible answers before selecting one answer. There is no right or wrong answer for any of the questions and you can take as much time as you would like.

1. How do you rate yourself in school ability compared with your close friends?

    a. I am the best
    b. I am above average
    c. I am average
    d. I am below average
    e. I am the poorest

2. How do you rate yourself in school ability compared with those in your class at school?

    a. I am among the best
    b. I am above average
    c. I am average
    d. I am below average
    e. I am among the poorest

3. Where did you rank in your class in high school?

    a. Among the best
    b. Above average
    c. Average
    d. Below average
    e. Among the poorest

4. Do you think you have the ability to complete college?

    a. Yes, definitely
    b. Yes, probably
    c. Not sure either way
    d. Probably not
    e. No

5. Where do you think you would rank in your class in college?

    a. Among the best
    b. Above average
    c. Average
    d. Below average
    e. Among the poorest

6. In order to become doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think it is that you could complete such advanced work?

    a. Very likely
    b. Somewhat likely
    c. Not sure either way
    d. Unlikely
    e. Most unlikely

7. Forget for a moment how others grade your work. In your own opinion how good do you think your work is?

    a. My work is excellent
    b. My work is good
    c. My work is average
    d. My work is below average
    e. My work is much below average

8. What kind of grades do you think you are capable of getting?

    a. Mostly A's
    b. Mostly B's
    c. Mostly C's
    d. Mostly D's
    e. Mostly E's

APPENDIX E

Letter of Informed Consent

Hello,

My name is Richard Schneider and I am a Graduate Student at Michigan State University. I am working on my Thesis and you have been randomly selected to participate in a survey. The purpose of this survey is to gain insight into the educational experiences of NCAA college athletes.

The survey consists of a demographic page and 26 multiple-choice questions. The survey will take less than 10 minutes to complete and will not ask for your name, social security number, or other identifying information. The survey results will be kept confidential. Participation in this research is completely voluntary and no negative consequences will occur if you decide against participating in this survey. By signing the line below, you are agreeing that your results may be used in scientific and sport specific journals as long as your privacy is maintained.

If you would like to complete this survey, please sign on the signature line. You can then proceed to complete the survey on the subsequent pages. If you do not complete the signature line, your answers will not be used in this survey.

If you have any questions, please feel free to contact me at the information provided below.

Thank you all for your time and consideration of this research.

I have read the above statement and agree to participate in the study

Name: _____ **Signature:** _____

Date: _____

Richard Schneider
Graduate Student
Department of Kinesiology
Michigan State University
schne185@msu.edu

Dr. Deb Feltz
Department Chairperson
Department of Kinesiology
Michigan State University
(517) 353-1824
dfeltz@msu.ed

REFERENCES

Adler, P., & Adler, P. A. (1985). From idealism to pragmatic detachment: The academic performance of college athletes. *Sociology of Education, 58*(4), 241-250.

Adler, P., & Adler, P. A. (1987). Role conflict and identity salience: College athletics and the academic role. *The Social Science Journal, 24*(4), 443-455.

Aronson, J., Lustina, M., Good, C., Keough, K., Brown, J. L., & Steele, C. M. (1999). When white men can't do math: Necessary and sufficient factors in stereotype threat. *Journal of Experimental Social Psychology, 35*, 29-46.

Bandura, A. (1977). Social Learning Theory. New York: General Learning Press.

Baucom, C., & Lantz, C. D. (2001). Faculty attitudes toward male division II student-athletes. *Journal of Sport Behavior, 24*(3), 265-276.

Beilock, S. L., Jellison, W. A., McConnell, A. R., & Carr, T. H. (2003, June). *When negative stereotypes lead to negative performance outcomes: Understanding the stereotype threat phenomenon in sensorimotor skill execution.* Paper presented at the North American Society for the Psychology of Sport and Physical Activity. Savannah, GA.

Beilock, S. L., & McConnell, A. R. (2004). Stereotype threat and sport: Can athletic performance be threatened. *Journal of Sport & Exercise Psychology, 26,* 597-609.

Benson, K. F. (2000). Constructing academic inadequacy: African American athletes' stories of schooling. *The Journal of Higher Education, 71*(2), 223-246.

Blann, F. W. (1985). Intercollegiate athletic competition and students' educational and career plans. *Journal of College Student Personnel, 26,* 115-118.

Bowen, W. G., & Levin, S. A. (2003). *Reclaiming the Game.* Princeton: Princeton University Press.

Brand, M. (2006). *2006 NCAA state of the association address: The principles of intercollegiate athletics*.Retrieved August 31, 2006, from http://www.ncaa.org/wps/portal/!ut/p/kcxml/04_Sj9SPykssy0xPLMnMz0vM0Y_QjzKLN4j3CQXJgFjGpvqRqCKOcAFfj_zcVH1v_QD9gtzQiHJHRUUAc0tpTA!!/delta/base64xml/L3dJdyEvUUd3QndNQSEvNElVRS82XzBfTFU!?CONTENT_URL=http://www2.ncaa.org/portal/media_and_events/press_room/2006/january/20060107_soa.html.

Brewer, B. W., Van Raalte, J. L., & Linder, D. E. (1993). Athletic identity: Hercules' muscles or Achilles heel? *International Journal of Sport Psychology, 24,* 237-254.

Brookover, W. B., LePere, J. M., Hamachek, D. E., Thomas, S., & Erickson, E. L. (1965). *Self-Concept of Ability and School Achievement: Second Report on the Continuing study of the Relationships of Self-Concept and Achievement.* East Lansing, Michigan: Education Publication Services.

Brown, C., Glastetter-Fender, C., & Shelton, M. (2000). Psychosocial identity and career control in college student-athletes. *Journal of Vocational Behavior, 56*, 53-62.

Brown, R. Y., & Josephs, R. A. (1999). A burden of proof: Stereotype relevance and gender differences in math performance. *Journal of Personality and Social Psychology, 76*, 246-257.

Cockley, W. T., & Roswal, G. M. (1994). A comparison study of faculty members' perceived knowledge and satisfaction regarding NCAA athletic programs. *Journal of Sport Behavior, 17*(4), 217-221.

Croizet, J. –C., Despres, G., Huguet, P., Leyens, J. –P., & Meot, A. (2004). Stereotype threat undermines intellectual performance by triggering a disruptive mental load. *Personality and Social Psychology Bulletin, 30*(6), 721-731.

Davis, L. (1991). The articulation of difference: White preoccupation with the question of racially linked differences among athletes. *Sociology of Sport Journal, 7*(2), 179-187.

Edwards, H. (1983). The black "dumb jock": An American sports tragedy. *College Board Review, 131,* 8-13.

Eitzen, D. S., & Furst, D. (1989). Racial bias in women's collegiate volleyball. *Journal of Sport and Social Issues, 13*, 46-51.

Engstrom, C. M., & Sedlacek, W. E. (1991). A study of prejudice toward university student-athletes. *Journal of Counseling and Development, 70*(1), 189-193.

Engstrom, C. M., Sedlacek, W. E., & McEwen, M. K. (1995). Faculty attitudes toward male revenue and nonrevenue student-athletes. *Journal of College Student Development, 36*(3), 217-227.

Ervin, L., Saunders, S. A., Gillis, H. L., & Hogrebe, M. C. (1985). Academic performance of student-athletes in revenue-producing sports. *Journal of College Student Personnel, 26,* 119-124.

Finn, J. D. (1989). Withdrawal from school. *Review of Educational Research, 59,* 117-142.

Ford, T. E., Ferguson, M. A., Brooks, J. L., & Hagadone, K. M. (2004). Coping sense of humor reduces effects of stereotype threat on women's math performance. *Personality and Social Psychology Bulletin, 30,* 643-653.

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*(1), 59-109.

Glasser, J. (2002a). King of the hill: in big-time college sports, athletic directors-like Ohio State's Andy Geiger- rule. *U.S. News & World Report, 132*(8), 52-60.

Grove, J. R., Fish, M., & Eklund, R. C. (2004). Changes in athletic identity following team selection: Self-protection versus self-enhancement. *Journal of Applied Sport Psychology, 16*, 75–81.

Guivernau, M., & Duda, J. L. (2002). Moral atmosphere and athletic aggressive tendencies in young soccer players. *Journal of Moral Education, 31,* 67-85.

Hansford, B., & Hattie, J. (1982). The relationship between self and achievement performance measures. *Review of Educational Research, 52,* 123-142.

Hughes, R., & Coakley, R. H. (1991). Positive deviance among athletes: The implications of overconformity to the sport ethic. *Sociology of Sport Journal, 8*, 307-325.

Inzlicht, M., & Ben-Zeev, T. (2000). A threatening intellectual environment: Why females are susceptible to experiencing problem-solving deficits in the presence of males. *Psychological Science, 11*(5), 365-371.

Josephs, R. A., Newman, M. L., Brown, R. P., & Beer, J. M. (2003). Status, testosterone, and human intellectual performance: Stereotype threat as status concern. *Psychological Science, 14*(2), 158-163.

Jowett, S., & Cockerill, I. M. (2003). Olympic medallists' perspective of the althlete-coach relationship. *Psychology of Sport and Exercise, 4*(4), 313-331.

Knight Foundation Commission On Intercollegiate Athletics. (June 2001). A call to action: Reconnecting college sports and higher education. Miami: John S. and James L. Knight Foundation.

Koenig, A. M., & Eagly, A. H. (2005). Stereotype threat in men on test of social sensitivity. *Sex Roles, 52*(7/8), 489-496.

Long, G. T. (1991). Social perceptions of sport figures: Dumb jocks, flawed heroes, and superstars. In L. Diamant (Ed.), *Psychology of Sport, Exercise and Fitness: Social and Personal Issues* (pp. 227-236). Washington D. C.: Hemisphere Publishing Corp.

Marsh, H. W., & Shavelson, R. J., (1985). Self-concept: Its multifaceted, hierarchical structure. *Educational Psychologist, 20*(3), 107-123.

Marsh, H. W., Byrne, B. M., & Shavelson, R. J. (1988). A multifaceted academic self-concept: Its hierarchical structure and its relation to academic achievement. *Journal of Educational Psychology, 80*(3), 366-380.

Martens, A., Johns, M., Greenberg, J., & Schimel, J. (2006). Combating stereotype threat: The effect of self-affirmation on women's intellectual performance. *Journal of Experimental Social Psychology, 42*, 236-243.

Meyer, B. B. (1990). From idealism to actualization: The academic performance of female collegiate athletes. *Sociology of Sport Journal, 7,* 44-57.

Meyer, S. K. (2005). NCAA academic reforms: Maintaining the balance between academics and athletics. *Phi Kappa Phi Forum, 85*(3), 15-18.

Michel Desert, J-P. L., Croizet, J-C., & Darcis, C. (2000). Stereotype threat: Are lower status and history of stigmatization preconditions of stereotype threat. *Personality and Social Psychology Bulletin, 26*(10), 1189-1199.

Milner, H. R., & Hoy, A. W. (2003) A case study of an African American teacher's self-efficacy, stereotype threat, and persistence. *Teaching and Teacher Education, 19,* (263-276.

Murphy, G. M., Petitpas, A.J., Brewer, B. W. (1996). Identity foreclosure, athletic identity, and career maturity in intercollegiate athletes. *The Sport Psychologist,* 10(3), 239-246.

Osborne, J. W. (1997). Race and academic disidentification. *Journal of Educational Psychology, 89*(4), 728-735.

Parker, K. B. (1994). Has-beens and wanna-bes: Transition experiences of former major college football players. *The Sport Psychologist, 8*(3), 287-304.

Pascarella, E. T., & Smart, J. C. (1991). Impact of intercollegiate athletic participation for African American and Caucasian men: Some further evidence. *Journal of College Student Development, 32,* 123-130.

Petrie, T. A., & Stoever, S. (1997). Academic and non-academic predictors of female student-athletes' academic performance. *Journal of College Student Development, 38,* 599-608.

Ployhart, R. E., Ziegert, J. C., & McFarland, L. A. (2003). Understanding racial differences on cognitive ability tests in selection contexts: An integration of

stereotype threat and applicant reactions research. *Human Performance, 16*(3), 231 - 259.

Pratt, S. R., & Eitzen, D. S. (1989). Contrasting Leadership-Styles and Organizational – Effectiveness – The Case of Athletic Teams. *Social Science Quarterly, 70*(2), 311-322.

Purdy, D. A., Eitzen, D. S., & Hufnagel, R. (1982). Are athletes also students? The educational attainment of college athletes. *Social Problems, 29*(4), 439-448.

Richards, S., & Aries, E. (1999). The division III student-athlete: Academic performance, campus involvement, and growth. *Journal of College Student Development, 40*(3), 211-218.

Rishe, P. J. (2003). A reexamination of how athletic success impacts graduation rates: Comparing student-athletes to all other undergraduates. *American Journal of Economics and Sociology, 62*(2), 407-427.

Ryan, F. (1989). Participation in intercollegiate athletics: Affective outcomes. *Journal of College Student Development, 39,* 122-128.

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25, 54–67.

Ryska, T. A. (2003). Sport involvement and perceived scholastic competence in student-athletes: A multivariate analysis. *International Sports Journal, 7*(1), 155-171.

Sailes, G. A. (1993). An investigation of campus stereotypes: The myth of Black athletic superiority and the dumb jock stereotype. *Sociology of Sport Journal, 10,* 88-97.

Schmader, T., & Johns, M. (2003). Converging evidence that stereotype threat reduces working memory capacity. *Journal of Personality and Social Psychology, 85*(3), 440-452.

Seibt, B., & Forster, J. (2004). Stereotype threat and performance: How self-stereotypes influence processing by inducting regulatory foci. *Journal of Personality and Social Psychology, 87*(1), 38-56

Settles, I. H., Sellers, R. M., & Damas, A. (2002). One role or two? The function of psychological separation in role conflict. *Journal of Applied Psychology, 87*(3), 574-582.

Shavelson, R. J., Hubner, J. J., & Stanton, G. C. (1976). Self-concept: Validation of construct interpretations. *Review of Educational Research, 46*(3), 407-441.

Shih, M., Pittinksy, T. L., & Ambady, N. (1999). Stereotype susceptibility: Identity salience and shifts in quantitative performance. *Psychological Science, 10*(1), 80-83.

Shulman, J. L., & Bowen, W. G. (2001). How the playing field is encroaching on the admissions office. *The Chronicle of Higher Education, 47*(20) b8-b10.

Smith, R. E., Smoll, F. L., & Cumming, S. P. (2007). Effects of a motivational climate intervention for coaches on young athletes' sport performance anxiety. *Journal of Sport and Exercise Psychology, 29*(1), 39-59.

Spencer, S. J., Steele, C. M., & Quinn, D. M. (1999). Stereotype threat and women's math performance. *Journal of Experimental Social Psychology, 35,* 4-28.

Sperber, M. (2001). College sports inc.: The athletic department vs. the university. In A. Yiannakis, & M. J. Melnick. (Eds.), *Contemporary Issues in Sociology of Sport* (147-159). Champaign, IL: Human Kinetics.

Steele, C. M. (1988). The psychology of self-affirmation: Sustaining the integrity of the self. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (pp. 261-302). New York: Academic Press Inc.

Steele, C. M. (1992). Race and the schooling of African-American Americans. *The Atlantic Monthly, 269*(4), 68-78.

Steele, C. M. (1997). A threat in the air: How stereotypes shape intellectual identity and performance. *American Psychologist, 52*(6), 613-629.

Steele, C. M., & Aronson, J. (1995). Stereotype threat and the intellectual test performance of African Americans. *Journal of Personality and Social Psychology, 69*(5), 797-811.

Stephan, Y, & Brewer, B. W. (2007) Perceived determinants of identification with the athlete role among elite competitors. *Journal of Applied Sport Psychology, 19*(1), 67-79.

Stone, J. (2002). Battling doubt by avoiding practice: The effects of stereotype threat on self-handicapping in white athletes. *Personality and Social Psychology Bulletin, 28*(12), 1667-1678.

Stone, J., Lynch, C. I., Sjomeling, M., & Darley, J. M. (1999). Stereotype treat effects on black and white athletic performance. *Journal of Personality and Social Psychology, 77*(6), 1213-1227.

Stricker, L. J., & Bejar, I. I. (2004). Test difficulty and stereotype threat on the GRE general test. *Journal of Applied Social Psychology, 34*(3), 563-597.

Strein, W. (1993). Advances in research on academic self-concept: Implications for school psychology. *School Psychology Review, 22*(2), 273-284.

Suggs, W. (2005). Faculty group calls for academic integrity as basis for athletics reform. *The Chronicle of Higher Education, 51*(22), A31.

U.S. News & World Report, (2002). Graduation blues: Sheepskin totals obscure major failures in big money sports like football and men's basketball. *U.S. News & World Report, 132*(8), 69-71.

Vicente, R. (2006). 1999-00 – 2005-06 NCAA STUDENT-ATHLETE RACE AND ETHNICITY REPORT. Retrieved 11-20-2006 from http://www.ncaapublications.com/Uploads/PDF/2005-06_race_ethnicity_reportf05055c6-deb3-45de-ab1c-cbeeb4c19584.pdf

Woodruff, A., L., & Schallert, D. L. (2008). Studying to play, playing to study: Nine college student-athletes' motivational sense of self. *Contemporary Educational Psychology, 33, 34-57.*

Yopyk, D. J. A., & Prentice, D. A. (2005). Am I an athlete or a student? Identity salience and stereotype threat in student-athletes. *Basic and Applied Social Psychology, 27*(4), 329-336.