TESTING A MODEL OF FIRST-SEMESTER
STUDENT-ATHLETE ACADEMIC MOTIVATION
AND MOTIVATIONAL BALANCE BETWEEN
ACADEMICS AND ATHLETICS

A Thesis in
Counselor Education
by
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This dissertation examined the correlation between background demographic variables, high school academic variables, college situational variables, and noncognitive variables (independent variables), and academic motivation and the balance between academic and athletic motivation (dependent variables) for first-semester student athletes competing at a highly competitive Division I athletic program. The literature review established a foundation for the need of this study based on theoretical and empirical research, and the development of more stringent academic benchmarks and progress-monitoring legislation recently introduced by the National Collegiate Athletic Association (NCAA). A hierarchical regression design was created to investigate the correlations between the independent variables and academic motivation and balance between academic motivation and athletic motivation. Participants completed a survey comprised of an inventory of background variables, the Noncognitive Questionnaire (NCQ), and the Student Athletes’ Motivation toward Sports and Academics Questionnaire (SAMSAQ). The dependent variables of academic motivation and balance score were derived from subscales of the SAMSAQ. The score for academic motivation was represented by the score on the Academic Motivation subscale of the SAMSAQ. The value for balance score was created by computing the difference score between the Academic Motivation and Student Athletic Motivation subscale scores of the SAMSAQ. There were 185 participants representing 29 different sports who took the battery of surveys during the first week of classes in the fall of 2006. The results of the study indicate that three independent variables were positively and significantly correlated with balance score: high school grade point average, parent level of education, and the NCQ subscale Knowledge Acquired in a Field (which measures culturally-related educational experiences outside of school). The NCQ subscale Dealing with Racism was found to have a positive and significant correlation with academic motivation. The discussion section analyzes the results of the current study, as well as examines how the current findings relate to past theoretical and empirical research. The discussion section also outlines implications for practice for high school and college professionals and suggestions for future research.
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CHAPTER 1

INTRODUCTION

Statement of the Problem

According to the latest National Collegiate Athletic Association (NCAA) statistics, across the country Division I student athletes graduate at a higher rate than the entire student population, although athletes in the revenue sports of football and men’s basketball lag woefully behind (NCAA, 2006a). To emphasize the importance of universities’ efforts to attend to the needs of student athletes, in 2003 the NCAA introduced its most comprehensive academic reform in years (Crowley, 2006). For example, by introducing Bylaw 23.02.1 (NCAA, 2005a), which calls for the monitoring of teams’ Academic Progress Rate (APR), the NCAA will secure the means to more effectively track the academic progress of its student athletes. The NCAA (2005a) also stipulated that teams that do not retain their players or have a high number of players declared academically ineligible could face immediate sanctions from the NCAA, including loss of scholarships. Another new rule, Bylaw 14.4.3.2 or the 40/60/80 Rule (NCAA, 2005a), increased the percentage of degree requirements athletes need to complete by beginning of their third, fourth, and fifth years.

With the advent of such stringent academic requirements, high school counselors, university administrators, coaches, and academic support personnel will need to continually search for methods to improve the academic experiences of student athletes. Because there is so much at stake for athletes and their teams based on their individual and team academic progress, and because athletes in revenue sports have traditionally graduated at lower rates than both athletes in nonrevenue sports and the general student population, an investigation into how motivated athletes are toward achieving in their academic and athletic roles is warranted. Not
only must student athletes find the motivation to excel in academics and athletics, but also they need to maintain a healthy balance between the amount of time and energy they expend in these two very important domains.

The two major forces competing for athletes’ time are commitments to their academics and athletic roles. Being successful in one area does not preclude being successful in the other; however, both roles require a considerable amount of dedication from the athletes if they are going to be successful. If athletes allocate their time effectively, they should have enough time and energy to balance roles. Academics and athletics have a peculiar one-way relationship in college sports in that performing in the classroom has implications for athletes’ athletic participation. According to the NCAA (2005a) athletes who do not perform in the classroom risk being declared temporarily ineligible, or worse, losing their scholarships altogether. Sandy Meyer, the past president of the National Association for Academic Advisors for Athletics (N4A) maintained that this is not a reciprocal relationship in the sense that poor athletic performance very rarely, if ever, affects student athletes’ academic standing (S. K. Meyer, personal communication, February 11, 2006).

Student athletes constantly try to establish a balance between these two identities that are sometimes considered incompatible. Athletes at the Division I level may be motivated to excel on the playing field as evidenced by their ability to compete at the most elite collegiate level. They also have had to exhibit some degree of motivation toward academics in order to be accepted to their institutions. Being able to focus their time and efforts to each separate role may be a key to finding fulfillment in both arenas for student athletes. Settles, Sellers, and Damas’ (2002) study found that athletes who were able to identify role separation between their academic and athletic roles in a self-reported measure achieved higher levels of overall well-
being than athletes who could not. For this reason, helping first-semester student athletes recognize the importance of being academically motivated to attend to their roles as students and to maintain a healthy balance between the amount of energy and time they commit to academics and athletics are important parts of helping them successfully adjust to the college level demands in both domains.

Purpose of the Study

The focus of this study is on the academic development of student athletes, particularly in the areas of academic motivation and achieving balance between athletes’ motivation toward academics and their motivation toward athletics. Although athletic motivation is not a direct focal point of this study, investigating how motivated athletes are to excel in the athletic domain provides insight into how balanced student athletes are in their approach to college life, namely the two areas that require the most commitment, academics and athletics.

First, from the literature, I found support for including four categories of variables which have been linked to academic motivation in previous theoretical or empirical works. The first category of independent variables are demographic or background variables – characteristics of the participants over which they have no control. These variables include gender, race-ethnicity, and parent level of education (which has implications for SES). The second category of independent variables adds insight into the student athletes’ academic background in high school. These variables are high school grade point average, SAT total score and the highest level of math achieved (an indicator of academic intensity of the high school curriculum). The third category of independent variables helps illustrate the context of the student athletes’ experiences right at the beginning of their first fall semester in college. Assessed in this category are variables that represent the profile of the sport in which they participate (whether it is a
revenue sport or if the sport does not generate money for the university), whether or not their sport is classified as being in-season, whether or not the athletes attended summer session classes prior to their first fall semester, and the total number of credit hours they have scheduled for the fall semester of classes.

The last category of independent variables is called “noncognitive variables”, because they assess the ability to creatively use information and the ability adapt to new learning situations – components of intelligence that are not evaluated through traditional “cognitive” measures, such as the SAT. Tracey and Sedlacek (1984) created the Noncognitive Questionnaire (NCQ) to assess these noncognitive variables. One example of a noncognitive variable is called “knowledge acquired in a field”. This variable assesses what opportunities people have to utilize or obtain information in culturally-relevant ways outside the classroom. Another variable assessed in the NCQ is called understanding and dealing with racism. This variable assesses the ability of students to identify and handle acts of individual or systematic racism (Sedlacek, 1987). The NCQ has been used to predict academic achievement for student athletes (see Sedlacek & Adams-Gaston, 1992), and the current study presented the opportunity to test whether the subscales of the NCQ were also helpful in predicting motivation for a sample of first-semester student athletes.

For some variables, like high school grade point average, SAT score, and the noncognitive variables, there are many studies that demonstrate their link to academics, mainly academic achievement. For other variables, like the situational variables, there are relatively few studies investigating their effects on academics. The current study was a chance to see if variables related academic achievement (e.g., high school grade point average, SAT scores, and noncognitive variables) also had an effect on academic motivation. The study also gave me an
opportunity to assess whether variables that have not been heavily researched (e.g., situational variables) affect the level of academic motivation.

Another purpose of the current study was to create a way to compare the magnitude of student-athletes’ motivation toward academics and athletics. The difference score resulting from subtracting athletic motivation scores from academic motivation scores was used as the indicator of balance between student-athlete academic motivation and athletic motivation. From this point on in the study, this difference between academic motivation and athletic motivation will be referred to as the “balance score”.

Research Questions

The purpose of this study is to investigate predictors of first-semester student-athlete academic motivation and predictors of the balance athletes have between their academic and athletic roles. Two major research questions will be addressed in this study.

Research Question 1:
To what extent do background variables, high school variables, situational variables, and noncognitive variables affect student-athlete academic motivation?

Research Question 2:
To what extent do background variables, high school variables, situational variables, and noncognitive variables affect the balance between student-athlete academic motivation and student-athlete athletic motivation as represented by the academic-athletic motivation balance score?

I did not use a measure of academic achievement as a dependent variable; however, numerous studies have shown that there is a correlation between constructs of academic motivation and academic achievement. Looking at the relationship the independent variables
have with academic achievement in the literature may provide insight into how they also relate to academic motivation. Also, there is a more extensive research base that looks at academic achievement. Therefore, this study will include salient literature regarding academic achievement to augment the less-developed literature on academic motivation.

Significance of the Study

Not only will this study add to the existing knowledge base concerning first-semester student athletes by investigating variables that affect their academic motivation, but also it is hopeful that the results can be used to inform programming to address student-athletes’ academic motivation and the balance they exhibit between their motivation toward academics and athletics. The results may have implications for developing future interventions for student athletes who are identified as having low academic motivation, or demonstrate an unhealthy imbalance between their academic and athletic motivation. Also, the results will add to the literature by analyzing the psychometric constructs of a recently developed instrument – the Student Athletes’ Motivation toward Sports and Academics Questionnaire (SAMSAQ), which was developed in 2002 by Gaston-Gayles.

By investigating what variables affect student athletes’ academic motivation, helping professionals, specifically academic counselors for student athletes, may be able to identify student athletes who need to improve their level of commitment to academics before it significantly affects their academic performance. Also, by investigating what factors affect the balance between academic and athletic motivation, helping professionals may be able to identify student athletes who are at-risk of being identity-foreclosed. Identity foreclosure occurs when people make commitments to causes at the expense of addressing their personal needs in other areas (Petitpas, 1978). Overidentifying with their roles as athletes may lead to identity
foreclosure and prevent the further exploration of opportunities outside of the playing field, namely in academics.

This study will look at the balance student athletes have between their motivation to excel in the classroom and their motivation to excel in their respective sports, providing a comparative indicator of how much energy athletes devote to their two major responsibilities – academics and athletics. Observing what variables affect student-athlete academic motivation and the balance athletes have between academic motivation and athletic motivation is an important step to build on current theoretical development. Currently, most of the literature surrounding student athletes’ academic development focuses on academic achievement. The focus of this study (academic motivation) is a more proximal variable affecting the more distal goals of college GPA and graduation. This study breaks down the domain of academic achievement by investigating a core antecedent of academic achievement- academic motivation. Also, by comparing the scores athletes report on measures of academic motivation and athletic motivation, researchers will have another means to quantifiably assess the level of balance first-semester student athletes have in their lives through the indicators of academic and athletic motivation.

The first semester in college at a large university with a nationally prominent athletic program represents a significant step up competitively in both the classroom and the playing field. Because student athletes at this level have to commit a large amount of their time to two main areas, academics and athletics, knowing what variables affect these two paramount areas of focus has implications for theory and practice. Theoretically, perhaps looking at the level of motivation for academics and athletics, alone, is not enough to provide insight into how efficiently student athletes transition to their roles as college students and athletes in the
beginning of their collegiate careers. Being able to effectively allocate sufficient time and energy to both roles may be a more telling indicator of how well they are able to deal with the transition to college life. From a practical standpoint, understanding the motivational orientations of student athletes could assist parents, school counselors, and college academic advisors in establishing programming to assist athletes who have a discrepancy between their academic and athletic motivation, or stakeholders could take proactive measures to ensure that athletes have the tools and insight necessary to maintain a healthy holistic balance during their first semester as student athletes at the college level.

The indicators of academic and athletic motivation used in the current study are two subscales of the SAMSAQ, developed in 2002 by Gaston-Gayles. The two subscales used in this study are Motivation and Student Athletic Motivation. Academic motivation is one dependent variable, and the second dependent variable is the difference score between academic motivation and athletic motivation. It is a relatively new instrument; in fact, there have been only two extant studies using this instrument (Gaston-Gayles, 2002; Willis, 2005). The current study further adds to the literature concerning the reliability and validity of this instrument.

I used a correlational design with this study. Although Tabachnick and Fidell (2001) noted that correlational studies cannot prove causality, this type of study can indicate whether a change in the value of the independent variables has a significant effect on changes to the dependent variables. The results of the current study will either provide support or disconfirm the extent to which the selected independent variables predict academic motivation and the balance score between academic motivation and athletic motivation.
Definition of Terms

Student Athlete

A student athlete is an eligible member of a varsity athletic team at Division I universities. Cheerleaders, dance team members, and members of club or intramural sports are not included. The student athletes who will serve as participants in this study must be first semester freshmen athletes who are eligible to participate in their respective varsity sport at one Division I institution.

Academic Motivation

Academic motivation is defined as the degree to which student athletes devote energy toward attending to their academic tasks and roles. It is measured by the score on the Academic Motivation scale of the SAMSAQ.

Athletic Motivation

Athletic motivation is defined as the degree to which student athletes devote energy toward attending to their athletic tasks and roles. It is measured by the score on the Student Athletic Motivation scale of the SAMSAQ. Determining the athletic motivation of student athletes is not focal point of this study; however as will be explained, athletic motivation is needed to determine another dependent variable- academic-athletic motivation balance.

Academic-Athletic Motivation Balance

The academic-athletic motivation balance score (hereupon referred to as the “balance score”) is a representation of the balance student athletes have between attending to their two major roles in college- students and athletes. The balance score was operationalized as the difference between their scores on the SAMSAQ scale measuring academic motivation and the SAMSAQ scale measuring athletic motivation.
**Background Variables**

Background variables refer to the group of independent variables that represent descriptive information about the participants. Included in this grouping are gender, race or ethnicity, and Parent level of education.

*Gender*. Gender is one independent variable in this study. Gender was defined as either male or female. This item was self-reported.

*Race-ethnicity*. Race or ethnicity is defined as the self-reported racial or cultural background of the participants. Categories for this variable are: Black, White (non-Hispanic), Asian (or Pacific Islander), Hispanic, Native American, and other.

*Parent level of education*. Parent level of education represents the highest level of education that any one of the participant’s parents achieved. Choices for this variable include: less than high school graduation; high school graduation, GED, or its equivalent only; vocational, trade, or business school after graduation from high school; college program after high school; finished college; master’s degree or equivalent; and Ph.D., M.D., or other professional degree.

**High School Variables**

High school variables represent information about the participants’ high school achievement. Included in this section are high school grade-point-average (HSGPA), SAT scores, and level of academic intensity.

*High school grade point average*. This variable represents the level of academic achievement participants’ attained during their high school careers. All scores will be obtained from official student records and if they are not based on a 4.0 scale will be converted to a 4.0 scale.
SAT scores. SAT score represents the cumulative SAT score for the participants’ highest reported test score. SAT scores will be obtained from the participants’ official student records.

Academic intensity. Academic intensity refers to the self-reported level of rigorousness of participants’ high school academic math curriculum. The highest level of math will be used as the operational indicator of high school academic intensity, and the term “high school math” will be used when talking about academic intensity in this study. The following choices for level of math completed in high school will be available to define the academic intensity of student athletes: Algebra I or less, Algebra II, Trigonometry, Pre-calculus, and calculus.

Situational Variables

Situational variables represent variables that occur after high school and help define the experiences of the student athletes. Included in this grouping are the following variables: sport profile, season status, summer session enrollment, and number of credit hours taken in the fall semester.

Sport profile. Athletic teams at Division I universities fall into two main categories: revenue-producing (revenue sports) and nonrevenue-producing (nonrevenue sports). Although there may be some variation among universities regarding which sports generate income, traditionally football and men’s basketball have been regarded as revenue sports and all other sports fall into the nonrevenue category.

Season status. Season status indicates if the participants’ respective sports are in season at the time of the study. Fall sports that are considered in-season at the time of the survey include: football, men’s and women’s soccer, men’s and women’s cross-country, field hockey, and women’s volleyball. In the study, participants will list the sport played and from that written response season status will be determined.
**Summer school enrollment.** Summer school enrollment is simply whether student athletes attended summer school classes prior to the beginning of their official freshman year. The participants will denote whether or not they attended summer session classes on an item in the supplemental questionnaire. There is no indicator of how many credits student athletes took during the summer session, although according to Jim Weaver of the academic support center for student athletes on campus, in order to secure financial aid for the summer session, incoming athletes must take at least six credits if they attend one of the two summer sessions, and at least nine credits if they attend both summer sessions that are offered (J. Weaver, personal communication, August 17, 2006). It is unlikely that incoming student athletes would be able to take courses in the first summer session because it starts in May while most incoming freshmen are still enrolled in high school.

*Number of fall credit hours.* The number of credit hours taken in the fall semester is the summation of the number of credit hours taken for all their classes during the fall semester. This number indicates the number of credit hours in which the participants are enrolled at the time of the study. This variable will be assessed by an item in the supplemental questionnaire asking them to write the number of credit hours in which participants are currently enrolled.

**Noncognitive variables**

Noncognitive variables are variables that assess domains that relate to student success that are not evaluated through traditional cognitive measures (e.g., HSGPA and SAT scores). There are eight noncognitive variables measured by scores on the subscales of the NCQ. They are: (I) Positive Academic Self-concept, (II) Realistic Self-appraisal, (III) Understanding and Dealing with Racism, (IV) Availability of a Strong Support Person, (V) Preference for Long-
range Goals, (VI) Successful Leadership Experience, (VII) Demonstrated Community Service, and (VIII) Knowledge in an Acquired Field.

**Academic self-concept.** Academic self-concept is the overall sense of self-confidence in the ability to succeed academically. This variable will be measured by the score on the Academic Self-Concept scale of the NCQ.

**Realistic self-appraisal.** Realistic self-appraisal is the ability to recognize academic strengths and weaknesses, and presence of mind to acknowledge that working toward self-development is a key to personal and academic growth. This variable is measured by the score on the Realistic Self-appraisal scale of the NCQ.

**Dealing with racism.** Dealing with racism means that individuals identify racist practices in the existing system and work to improve it. Effectively dealing with racism means that students acknowledge injustices in the system, but do not use such biases as excuses in their academic development. This variable will be measured by the score on the Dealing with Racism scale of the NCQ.

**Availability of a strong support person.** Availability of a strong support person is the presence of personal resources to which students can turn in a time of personal crisis or in times when they need direction or guidance. This variable will be measured by the score on the Availability of a Strong Support Person scale of the NCQ.

**Preference for long-range goals.** Preference for long-range goals means that students are able to delay gratification and use smaller incremental goals to work up to achieving longer-term future goals. This variable will be measured by the score on the Preference for Long-Range Goals scale of the NCQ.
Successful leadership experience. Successful leadership experience refers to any culturally relevant situation in which students served in a leadership role (e.g., sports, religious groups, street gangs, or school organizations). This variable will be measured by the score on the Successful Leadership Experience scale of the NCQ.

Demonstrated community service. Demonstrated community service refers to continued active involvement in activities within the students’ cultural communities. This variable will be measured by the score on the Demonstrated Community Service scale of the NCQ.

Knowledge acquired in a field. Knowledge acquired in a field refers to culturally related ways in which students gain information and demonstrate competency in a particular area of study. This variable will be measured by the Knowledge Acquired in a Field scale of the NCQ.

Limitations

This study was conducted at a large, predominantly White, Division I, public, Research I institution in the middle Atlantic region of the U.S. The results may not be applicable to first-year student athletes at other institutions.

This study used the SAMSAQ as a measure of academic and athletic motivation. Being a new instrument, more research needs to be conducted in order to determine if the subscales of the SAMSAQ adequately represent the degree of motivation in the various domains.

Many factors affect academic motivation—some which may not be accounted for in this study. Considering how many factors could contribute to athletes’ levels of motivation in academics and athletics, and the balance they exhibit in their commitment to each area, the ability to investigate a large number of factors was not possible due to the number of participants in the study. Because the number of proposed independent variables is considerably large compared to the number of participants in the study, variables with the lowest bivariate
correlations needed to be eliminated. Although some of the variables may prove to have lower bivariate correlations (and thus be eliminated from the regression equation), they may have interactional effects with other variables in the study that further explain the levels of academic motivation and academic and athletic balance for the athletes in this study.

Another limitation is that correlational designs can allude to causal factors, but a significant correlation cannot prove that predictor factors cause athletes to be academically motivated in academics or athletics. Thus, theoretical causal linkages can only be supported or disconfirmed by the results of this study.

This study also makes use of self-report measures. Sellitz, Jahoda, Deutsch, and Cook (1959) warned that participants may be prone to furnish socially desirable responses to the questions, resulting in less accurate representations of their true motivational orientations. Heppner, Kivlighan and Wampold (1999) point out other potential drawbacks of using self-reported responses, such as the aforementioned social desirability, as well as trait negativity and transient mood states. As stated before, social desirability refers to responding to instrument items in a way that makes participants appear to engender the preferred norms of a larger social group. Trait negativity refers to being overly self-critical in responding to instrument items across all categories. Transient mood states refer to the variability in participants’ mood during the completion of the research instrument.

Because self-report measures were used in this study, observed relationships may be an artifact of method variance. Heppner et al. (1999) stated that using only one method to measure the variables, may result in the inflation of observed correlations.
The study was also conducted at the beginning of the semester, providing a snapshot of student athlete motivational tendencies at one particular point in time. As athletes progress through their college careers, their levels of motivation may change.

Summary

Athletes in Division I college sports will be subjected to more stringent legislation regarding their success in the classroom. Combined with the pressure to succeed in the athletic arena that is inherently present at the highest level of NCAA competition, athletes need to continually monitor their motivation to excel on and off the playing field. Maintaining a healthy balance between attending to the responsibilities in all areas of student life, mainly academics and athletics, is a key to ensuring the optimal level of performance in all arenas.

Because of the escalating pressure to succeed in the classroom, coaches, academic advisors, and other university officials need to have resources in place to assist today’s student athletes. Before programming can be implemented, more information is needed about the nature of the issues that affect student-athlete success. Understanding their motivational orientations toward academics and athletics is cornerstone for understanding what factors lead to academic and athletic achievement.

The purpose of this study is two-fold: first to determine to what extent background variables, high school variables, situational variables, and noncognitive variables affect student-athlete academic motivation. Secondly, this study also investigates the extent to which background variables, high school variables, situational variables, and noncognitive variables affect the academic-athletic motivation balance score representing the balance between student-athlete academic motivation and student-athlete athletic motivation.
This study is significant to the academic and athletic communities because it may reveal a relationship between certain student-athlete characteristics and their levels of academic motivation and the balance between academic motivation and athletic motivation. Having such information may assist in the development of screening practices, prevention strategies, or interventions for academic and coaching professionals for use with student athletes who demonstrate low levels of academic motivation or an imbalance in their motivational orientations toward academics and athletics.

First-semester student athletes at a major Division I institution were used in this study. Because the first semester represents a starting point for athletes in their collegiate careers, finding information about their motivational orientations is a logical starting point. If relationships can be found between characteristics of first-semester student athletes and academic motivation and the balance between academic and athletic motivation, then professionals may be able to create programming focused on helping student athletes make a more positive transition to college life, thereby setting the foundation for enduring academic and athletic success throughout their college careers.
CHAPTER 2
REVIEW OF THE LITERATURE

Introduction

Included in this chapter is a brief history of academic reform in college athletics. A main focal point in chapter two was reviewing theoretical underpinnings and empirical studies related to academic motivation, especially student athletes’ academic motivation. Chapter two starts by discussing the history of the National Collegiate Athletic Association (NCAA) academic reform, including milestones in academic legislation. Other topics covered in this section are recent legislation affecting student athletes’ eligibility, and university support services available to first-semester college student athletes. Following the history of NCAA academic reform is a section profiling today’s student athletes and the issues first-semester student athletes face at Division I universities. Included in this section is a look at how society views athletes both on and off the field, how student athletes deal with their dual roles, how the phenomena of derecruitment and identity foreclosure affect student athletes’ college experiences. The last section that looks at issues facing student athletes is a look at some current college programs designed to assist student athletes in their transition to college life.

Next, I examine academic achievement and achievement motivation and the link between the two. Included in this section is a description of academic motivation and its theoretical underpinnings.

In the next section, I discuss background variables and their connection to academic achievement and academic motivation. Background variables in this section include: gender, race or ethnicity, and Parent level of education. Following the section on background variables is a section on high school variables and how they relate to academic achievement and academic
motivation. The high school variables in this section include: high school grade point average (HSGPA), SAT scores, and academic intensity of high school course work. After high school variables is a section on situational variables, which includes sport profile, season status, summer school status, and number of credit hours taken in the fall semester. These variables are called “situational” because they depict factors that affect the current situations of first-semester student athletes.

The Noncognitive Questionnaire (NCQ) is discussed, including a description of theoretical support to justify the use of the NCQ to predict academic achievement, and the relation of each subscale of the NCQ to the domains of academic achievement and academic motivation. The eight noncognitive variables measured by the NCQ are: positive self-concept, realistic self-appraisal, dealing with racism, availability of a strong support person, preference for long-range goals, successful leadership experiences, demonstrated community service, and knowledge acquired in a field. Chapter two concludes with a look at the model to be tested, including predictions about the relationships of the independent variables to the dependent variables.

A History of NCAA Academic Reform

The NCAA, which celebrated its 100th Anniversary in 2006, was born out of reform. In 1906, President Theodore Roosevelt threatened to do away with football unless universities made major reforms to the sport, in which 18 deaths and 149 serious injuries occurred in 1905, alone (Crowley, 2006). Although originally designed to curtail the staggering numbers of injuries due to football, the NCAA also served as the governing body for other intercollegiate sports. In 1906, representatives from Midwest schools representing the Western Conference (which eventually became the Big Ten Conference) proposed what could be considered some of the first
academic reforms. Early proposals included requiring vaguely defined acceptable academic progress and that athletes actually be enrolled as students of the institutions for which they played.

In 1906, the NCAA adopted the ruling that student athletes could only participate in intercollegiate sports if they were enrolled in a full allotment of courses as determined by each university (Falla, 1981). Although this measure provided a general guideline for determining eligibility, each institution still autonomously determined what constituted full-time status for its students (Covell & Barr, 2001). In its early infancy, the NCAA lacked the power to exert its influence in regulating eligibility issues. It was created to curb the violence in football and, although it had made considerable strides in creating universally accepted reforms on the playing field, creating eligibility policies that would be universally accepted and universally enforced would take some time.

One significant obstacle to creating such universally accepted academic policies was that the NCAA left the interpretation and enforcement of its rules up to each member institution. Falla (1981) reported that for over 30 years (from 1906 to 1938) general eligibility rules were enforced in this manner. In 1939, for the first time, the NCAA gained the power to verify the eligibility of athletes participating in NCAA postseason events. From its inception until the early 1960s, the NCAA slowly developed quantifiable criteria for eligibility. One of the only criteria outlined for regulating admission standards was that incoming freshmen must be admitted to the university based on the same published regulations that applied to the general student body.

*The 1.600 Rule*

According to Crowley (2006), the origins of modern academic reform can be traced back to 1962 when the NCAA took steps toward using GPA to determine eligibility. The organization
sponsored a study to develop a way to predict the chances of academic success of incoming students once enrolled at an institution. The 1.600 Rule, which became effective on the first day of 1966, established requirements for granting aid to prospective student athletes and established requirements for eligibility of athletes currently enrolled. The committee entrusted with researching this area used a combination of HSGPA and scores on standardized tests (the ACT and the SAT) to determine the probability of college success (i.e., maintaining a 1.6 GPA). Universities could only offer athletic financial aid to prospective student athletes whose predicted college GPA was 1.6 or better. The rule also stated that in order to stay eligible for competition, student athletes must maintain a 1.6 GPA in college (Falla, 1981). In spirit, the 1.600 rule aimed to create a level playing field in the athletic arena, ensuring that the participating athletes demonstrated the skills necessary to graduate from college.

The 2.000 Rule

The implementation of the 1.600 Rule was a step in the right direction for the NCAA, but it created complications as college sports’ popularity continued to grow, and the sociopolitical climate of the country changed in the late 1960s. Covell and Barr (2001) suggested that the expanded coverage on television gave prominent college sports programs more visibility, which put even more pressure on these programs to field competitive teams. The Civil Rights Act of 1964 mandated that no institution accessing federal funding could discriminate on the basis of race, paving the way for increased minority enrollments at America’s colleges and universities. Although some colleges opted for open admissions in order to accommodate the new demographic of students, the 1.600 Rule precluded many minorities from participating in athletics even if they were able to get into college (Falla, 1981).
The NCAA repealed the 1.600 Rule in 1973 in favor of the less stringent 2.000 Rule to take a step forward in recruiting the best college athletes and to provide more opportunities to minority students (Crowley, 2006). The 2.000 Rule did away with awarding of scholarships and determining freshmen admission and eligibility standards based on predicted GPA. Instead, prospective student athletes only had to have official documentation that they graduated from high school with a 2.000 GPA. Some would criticize that the 2.000 Rule was too lenient, but for the time being, academic integrity took a back seat to improving the quality of athletic competition (Falla, 1981).

**Proposition 48**

Although the popularity and profitability of college sports flourished in the 1970s, Crowley (2006) pointed out that concern over the exploitation of athletes and low graduation rates, especially by Blacks in revenue sports, contributed to a widespread call for reform in the early 1980s. In 1983, the NCAA made drastic changes to the minimum standards student athletes needed to meet in order to be eligible to compete as freshmen at Division I institutions. The establishment of **Proposition 48** (put into effect in 1986) was a starting point for the NCAA to scrutinize the entrance qualifications of incoming freshmen more closely. Instead of only having to procure a 2.0 HSGPA in order to be eligible and receive athletic funding, students now needed to achieve minimum scores on the SAT or ACT (700 and 15, respectively) and a minimum HSGPA of 2.0 in at least 11 core courses.

Proposition 48 was not without its adversaries. Many felt that it was disproportionately unfair to minority groups, especially Blacks. The NCAA designed the legislation to reestablish credibility to the “student” in the term “student athlete” and to prevent universities from admitting players without the academic credentials to succeed in the classroom. Although
successful in this light, the ruling also prevented a number of athletes from getting the opportunity to receive a college education. Farrell (1984) found that many students who would have been admitted under the 2.000 Rule would not have been eligible according to Proposition 48.

One of the stipulations of Proposition 48 was that students could be admitted as *partial qualifiers* if they met one, but not both of the eligibility criteria (i.e., either a 2.0 HSGPA in the core courses, or a 700 on the SAT or a 15 on the ACT). Partial qualifiers could receive athletic scholarships, but would be ineligible to participate in competition during their freshmen year.

*Proposition 42*

The perceived loophole in Proposition 48 was that it allowed coaches to continue to recruit and provide athletic aid for non-qualified athletes. One conference (the Southeastern Conference), seeing the danger of perpetuating the negative press associated with taking on academic “question marks” decided to ban member institutions from providing athletic aid to partial qualifiers in 1988. The NCAA eventually imposed the same restrictions for all member schools with the passage of *Proposition 42* in 1989. A major sticking point was that some of the schools that voted to approve this legislation did so with the understanding that partial qualifiers could still receive needs-based assistance from the universities. The rule actually stated that partial qualifiers could only receive financial assistance from state and federal programs.

*Proposition 26*

Outraged coaches felt Proposition 42 was a racist policy that would prevent minorities from receiving the necessary funding to pursue a college education. Some of college basketball’s most prolific Black coaches, including Temple’s John Chaney and Georgetown’s John Thompson, vehemently protested the passage of this legislation (Cross, 1991). The NCAA tabled
Proposition 42 before it went into effect in the year 1990 (Covell & Barr, 2001). The NCAA created *Proposition 26* to clarify some of the points that seemed to be misunderstood when members voted on the passing of Proposition 42. Proposition 26 stated that partial-qualifiers could receive assistance based on financial need from their respective institutions, but could not practice or participate in any NCAA events during their first year of college.

*Propositions 14 and 16*

Proposition 48 outlined criteria for determining if prospective student athletes met the requirements of qualifiers or partial-qualifiers, based on their HSGPA in 11 core courses and SAT or ACT scores. *Propositions 14 and 16* changed the number of core courses required and the requirements for freshmen eligibility based on the combination of grades and standardized test scores. Proposition 14 increased the number of required core courses from 11 to 13, with the additional core course requirements in English, math, or in natural or physical sciences (Covell & Barr, 2001). Although Proposition 14 made eligibility requirements more rigorous, Proposition 16 lessened the severity of adding the additional course requirements by adding a sliding scale to be applied to the combination of HSGPA and standardized test score. According to Proposition 48, prospective students needed to achieve minimum scores in both domains in order to be admitted as a qualifier. Owings, McMillen, and Daniel (1995) asserted that Proposition 16 decreed that low scores in one of the categories could be offset by higher scores in the other. Students with SAT scores of 700 (or ACT scores of 17) could become eligible if they managed to achieve a HSGPA of 2.5 in the prescribed core courses. At the other end of the spectrum, students with SAT scores of 900 (or ACT scores of 21), only needed to maintain a HSGPA of 2.03 in the core courses.
Academic reform in the 1980s and 90s were an attempt to curb the abuse of student athletes at the collegiate level. Incidents like the tragic death of Maryland Basketball superstar, Len Bias, and the ensuing investigation into widespread anemic academic performance among student athletes, brought national attention to the academic problems in high profile athletic programs (Wilbon, 1987). With the passing of such bold legislation such as Proposition 48, the NCAA hoped to provide incentives for prospective student athletes to meet the minimum requirements for first-year eligibility. If students wanted to avoid losing a full year of eligibility, they would be motivated to excel in the high school classroom.

Recent NCAA Academic Legislation

Today the NCAA (2005b) continues to take steps to screen its prospective athletes so that those who are accepted come to college with the academic background necessary to successfully compete on the playing fields and in the college classroom. In 2003, the organization passed further reforms to ensure that athletes make sufficient progress toward their degree (Crowley, 2006). The NCAA (2005a) adopted more stringent continuous eligibility standards in Division I, and it has also made changes to allow first year student athletes to get a head start in the summer prior to their first fall semester by allowing athletic scholarships to cover the cost of summer classes.

NCAA Initial Eligibility Clearinghouse

All student athletes wishing to compete at Division I institutions must become eligible through the NCAA Initial-Eligibility Clearinghouse- a set of minimum standards that all prospective athletes must meet in order to be eligible to play without restrictions during their first year of college (NCAA, 2005b). In order to meet minimal qualifications for participating at a Division I school, students must have successfully completed four years of English; two years of
math; two years of natural or physical science (including at least one laboratory course if offered); two years of social science; one additional course in either math, English or the sciences; and two additional classes in any of the aforementioned areas or in foreign languages, computer science, or philosophy. On top of the curricular requirements, there is also a sliding scale that establishes minimum standards for high school GPA and SAT or ACT scores. For example, students with a 2.0 high school GPA (HSGPA) can still be eligible according to the clearinghouse if they obtain a score of 1010 on the SAT or 86 on the ACT. At the other end of the spectrum, students with scores of 400 on the SAT or 37 on the ACT must achieve a cumulative HSGPA of at least 3.55 in order to be eligible (NCAA, 2005b).

Bylaw 14.4.3.2: The 40/60/80 Rule

One recent change in NCAA legislation has the potential to create further obstacles to student-athletes’ academic and career development. NCAA Bylaw 14.4.3.2 mandates that student athletes entering their third year at a university must have completed a minimum of 40% of the degree requirements for their major. The percentages go up to 60% prior to the beginning of the fourth year, and 80% prior to their fifth year of eligibility (NCAA, 2005a). The new 40/60/80 rule replaced the previously enforced 25/50/75 rule, which was instituted in 1992. The rule is intended to ensure that student athletes make significant progress toward their degrees, thus reducing the chances of student athletes taking easier courses just to stay academically eligible. Sandy Meyer, the past president of the National Association for Academic Advisors for Athletics (2005), stated that theoretically the rule makes perfect sense, but realistically it puts student athletes at a distinct disadvantage if they decide they want to change their majors, especially in the later stages of their college career.
Meyer (2005) went on to note that by enforcing the 40/60/80 rule, the NCAA inadvertently forces students to select an academic major within their first four semesters and stick to that major for the duration of their college careers. This rule limits the ability of student athletes to change majors. For example, if a football player decides to change his major after his junior year, he does so at the risk of becoming ineligible to participate. Even if he has a perfect 4.0 GPA, he may not be able to successfully complete 60% of the course requirements for his new major before the beginning of his fourth academic year simply because he cannot logistically schedule all of the courses to meet that requirement. Whereas non-athletes face no penalties for changing their major at any point (other than extending their stay in college), student athletes could potentially pay a hefty price for pursuing their academic and career goals.

**Bylaw 23.02.1: Academic Progress Rate**

The NCAA created its most comprehensive educational monitoring program to date in 2003 (Crowley, 2006). The NCAA developed a measurement for tracking the real-time academic progress of its member institutions and their teams called the Academic Progress Rate (APR). Each team can receive two points per student athlete per semester. Athletes receive one point if they are academically eligible to compete and one point if they remain in school. The APR is calculated by taking the total number of points earned by a team divided by the number of points possible. The cutoff score is 925 (i.e., an average of 925 out of 1000). The NCAA (2005a) determined that teams scoring lower than 925 are subject to immediate sanctions including loss of scholarships.

**Bylaw 15.2.8.1.4: Summer School Before College**

Recently the NCAA passed legislation (Bylaw 15.2.8.1.4) that allows NCAA member institutions to pay for the summer session prior to the first year of college for its incoming
athletes as a part of their athletic scholarships (NCAA, 2005a). In the only extant study looking at the effects of attending summer school prior to the freshmen fall semester. Hollis (2001) found there was a significant and positive relationship between schools that provided summer school programs for incoming freshmen and their overall graduation rates for student athletes.

Universities can only make summer sessions available to incoming student athletes if they also provide the same options for all other freshmen. In the past, student athletes from most sports who were admitted to their institution could attend summer sessions prior to their first fall semester, but not all could not receive scholarship money to pay for the classes.

*Bylaw 16.3.1.1: Academic Support Centers for Student Athletes*

Providing scholarships and accounting for the expenses of running athletic programs represent a sizeable financial investment from universities participating at the Division I level. In 1991, the NCAA passed Bylaw 16.3.1.1 which outlined that all Division I institutions must provide academic support services for its student athletes (NCAA, 2005a). This move not only provided athletes with the academic support they need to deal with the demands of attending to their dual roles as students and athletes, but also the legislation outlined a list of permissible services institutions could provide. Some of the services the NCAA (2005a) approved through this legislation are: providing tutoring, academic mentoring, or counseling (career, personal, nutritional, or athletic); providing non-electronic student planners; allowing access to computers, copiers, and fax machines; paying for required course supplies; and providing career counseling related to pursuing athletics professionally.

For some athletes these and other services are an effective way to give them the tools and support they need to succeed in the academic setting, but there may be problems associated with providing services that essentially place the student athletes in a passive role in relation to their
development as students. For example, athletes might become dependent on their athletic academic advisors to outline what and how many courses to take. When there are problems with professors, athletic academic counselors or coaches might step in to intervene, making promises for reform on behalf of the athletes they represent. Athletes could be told when they have to study and where. Counselors could also take the responsibility to assign them tutors who work around the athletes’ busy athletic schedules. Sandy Meyer, the past president of the National Association of Academic Advisors for Athletics cautioned that providing these services does not always benefit the student athletes. “The very process that has been set up to benefit the athletes is the same process that allows them to disengage from their academic role, placing the responsibility on someone else.” (S. K. Meyer, personal communication, February 11, 2006).

Adler and Adler (1991) found that this disassociation has the potential to strengthen their connection to their athletic identities, deemphasizing the necessity of taking an active role in athletes’ own academic development.

Issues Facing First-Year Student Athletes

Attending to Dual Roles: Students and Athletes

Student athletes, like their non-athlete peers, face many obstacles in their transition into college life. They have to adjust to new living environments, deal with the increased autonomy that comes along with attending college, refine and develop their own identity, and learn to deal with adversity just like all other students (Parham, 1993). Unlike regular students, athletes have the added pressure of having to commit a significant amount of their time to athletics.

According to the NCAA Bylaw 17.1.5.1 student athletes are not allowed to spend more than 20 hours per week (and 4 hours per day) engaged in direct sport-related activities, like team practices or competition (NCAA, 2005a). The Knight Foundation (2001) noted that NCAA
teams frequently violate the 20-hour rule. In fact it is highly unlikely that student athletes ever spend less than 20 hours per week during their respective seasons sequestered away from the general student population engaged in athletically-related commitments. In fact, in the wake of the newly passed legislation that calls for more stringent academic standards, the NCAA has not reduced the amount of weekly practice time or the length of the athletic seasons.

Although 20 hours per week may seem like the equivalent of a part-time job for other students, this figure can be deceiving. Not included in this 20-hour timeframe are time spent traveling to and from practices and games, time spent in team compliance and academic meetings, and time spent visiting the training room to rehabilitate injuries. Once student athletes travel back to their dorms (or to study hall) to study at night, they have endured hours of punishing physical wear. It may be difficult to concentrate on preparing for classes when their bodies are depleted, especially if they are nursing painful injuries. They physical demands of athletic participation cannot be ignored when considering how student athletes perform in the classroom (Cogan & Petrie, 1996).

Student athletes experience wavering amounts of support throughout their college years. They may be hailed as heroes in the athletic arena, but studies by Engstrom and Sedlacek (1991); Engstrom, Sedlacek, and McEwen (1995); and Knapp, Rasmussen, and Barnhart (2001) reported that off the field of play many students face negative stereotypes from professors and fellow students. Edwards (1984) stated that the term “dumb jock” has become a part of the mainstream American lexicon ever since the joining of athletics and education through scholastic and collegiate sports programs, and its use evokes some common imagery. A generalization of a dumb jock is a lazy or dull-witted person, usually a large muscular male, capable of performing phenomenal feats of physical athleticism with ease. Danish (1983) suggested that the general
public holds strong stereotypes of elite athletes as being highly competitive, highly motivated, and very aggressive in the athletic domain. This stereotype of athletes’ dispositions contributes to the overarching stereotype of the “dumb jock” when athletes fail to display these characteristics in other domains - namely academics.

Athletes are thought of as always sitting in the back of the class, if they attend class at all, and they spend all their time at college resting on their athletic laurels rather than studying. As Long (1991) stated, some students and faculty members believe that professors give athletes breaks in grading policies as not to create complications that would affect their ability to play. Problems also arise when student athletes internalize these negative stereotypes. According to Killeya (2001) such negative stereotypes by peers and faculty may lead athletes to doubt their ability in the classroom, which could, in turn, have a negative effect on their academic achievement.

Derecruitment

When college coaches court high-profile athletes, they bring them in for official visits during which athletes receive personalized attention. During these recruiting visits, coaches, academic counselors, and financial aid personnel schedule individual meetings with the recruits and their families and try to sell their school by outlining an impressive array of perks and services. Sometimes to impress a recruit, coaches will arrange private meetings with the president or other prominent university personnel. For example, at Penn State, basketball coaches may arrange for prized recruits to meet legendary coaching icon Joe Paterno during their recruiting visits. During official visits, coaches try to woo top athletes by ensuring them that all of their needs will be addressed by the best resources the university has to offer.
Petitpas, Brewer, and Raalte (1996) warned that the reality is that once players sign on to attend a university they generally become just another player on the team. Although they may be recognized around campus by other students, in the locker room they no longer receive the special treatment that they enjoyed in their recruiting trip. Person and LeNoir (1997) referred to this process as derecruitment. This abrupt change in status could have an adverse effect on freshmen student-athletes’ self-esteem. The population in this current study (first-semester student athletes) may be going experiencing varying degrees of derecruitment. Some athletes will come in and make an immediate impact on their team and enjoy a level of recognition comparable to their experiences in high school, while others will struggle to with the relative obscurity that often comes with being a freshman athlete.

*Identity Foreclosure: Finding a Balance*

Identity foreclosure occurs when people make commitments to causes at the expense of addressing their personal needs (Petitpas, 1978). They forfeit the pursuit of personal development to attend to these specific environmental demands. Miller and Kerr (2003); Murphy, Petitpas, and Brewer (1996); and Petitpas and Champagne (1988) all warned that athletes are in danger of becoming identity-foreclosed when they commit to their roles as athletes at the expense of exploring other components of healthy identity development. According to Chartrand and Lent (1987) and Pearson and Petitpas (1990) the basic concept of identity foreclosure for athletes is that the more athletes identify with their roles as athletes the less they pay attention to other areas of their lives, like academics or career planning. Danish, Petitpas, and Hale (1993) stated that for some athletes identity foreclosure can be the result of a choice to overidentify with their athletic identities, but Simons, Van Rheenen, and Covington (1999) argued that for others their demanding athletic schedules prevent them from branching out and
exploring other opportunities or committing themselves to their academics. Some athletes are conditioned from an early age that their athletic identities are more important than their academic or social identities. According to Chartand and Lent (1987), when dealing with identity-foreclosed athletes focused on pursuing their sport professionally, efforts to intervene and expose them to non-athletic career alternatives may not be readily received. Kennedy and Dimick (1987) and Petitpas and Champagne (1988) maintained that ultimately identity foreclosure in student athletes could stunt their academic and career development. In fact, Pearson and Petitpas (1990) suggest that having an identity that is based mostly on athletic performance is a key contributor to transition issues for first-year student athletes.

Many of the athletes in this current study have benefited from years of commitment to their roles as athletes, and chances are their participation in athletics is an integral part of their overall identity. Settles, Sellers, and Damas’ (2002) study of 200 student athletes at a large, Southern, Division I school found athletes who were better able to separate their athletic and academic identities had more positive self-perceptions. Based on their findings they also suggested that by focusing on each identity individually, athletes may be able to handle the negative stereotypes of student athletes in the classroom that are held by the general student population and professors. Helping student athletes understand how to maintain a healthy balance between all of their responsibilities that compete for their time and energy is an important part of helping them make holistic adjustments to college life (Finch & Gould, 1996).

Transition Programming

Because the transition to college can be especially difficult for student athletes, many programs have been developed to assist high school student athletes in their transition to college
life. Petitpas, et al. (1996) identified three such programs: Making the Jump, William and Mary’s Athletes in Transition, and the University of Arizona’s CATS Program.

The Making the Jump program is a series of workshops where parents and athletes can receive information about the demands of college life and the resources available to them. This program provides access to a panel of college personnel (e.g., coaches, academic advisors, financial aid officers, and current college athletes), who all address college issues and answer questions relating to their area of expertise. The Athletes in Transition program was founded at the College of William and Mary to assist athletes entering college and athletes facing life after athletics (Petitpas et al., 1996). Programming focuses on such issues as understanding the role athletics play in the lives of athletes, and how to use problem-solving skills to successfully adapt to their changing roles and demands. The University of Arizona developed one of the top comprehensive student athlete support programs in the country (University of Arizona, 2006). The program is called Commitment to an Athlete’s Total Success (CATS), and it focuses on helping student athletes establish a strong foundation in their first year. Some key aspects of the program are academic planning and introducing new athletes to the variety of services available within the athletic department and the rest of the university to help them with the transition process.

Academic Achievement and Academic Motivation Defined

The two main traditional determinants of collegiate academic success, persistence toward graduation and college GPA, will be explored first in this section, followed by a section defining the basic principles and theoretical foundations of academic motivation. The theories included in this section are expectancy-value theory, self-efficacy theory, and attributional theory-theories that were used by Gaston-Gayles (2004) in the development of the Student-Athletes’ Motivation
toward Sports and Academics Questionnaire (SAMSAQ), the instrument used in calculating the dependent variables in the current study. This study has been developed to address academic motivation rather than indicators of academic achievement, but the two domains are arguably intertwined. Because part of the current study is based on investigating the relationship between several independent variables and academic motivation, it is important to establish that there is a link between academic motivation and academic achievement.

**Academic Achievement**

*Graduation and persistence toward degree completion.* For athletic teams, the main criterion for academic success is the team’s graduation rate (NCAA, 2005a). To put this in terms of individual success, graduating from college or not graduating is the most basic measurable academic goal for student athletes. The NCAA bases the graduation rates on whether or not students graduate within six years of their first enrollment (NCAA, 2006a). Persistence refers to enrollment status at any given point during an academic career (Horn, Kojaku, & Carroll, 2001). This variable is dichotomous in that students are either enrolled or they are not enrolled.

According to Horn et al. (2001), the optimal path toward obtaining a bachelor’s degree is for students to be enrolled in college, uninterrupted, for four years (immediate transfer to another school counts as continuous enrollment).

*College grade point average.* Another basic measurement of success in college is grade point average (GPA). This is the one variable that most college students have in common, although there are inherent problems with comparing GPAs. GPA is a difficult entity to gauge, because what may be considered successful for a student with moderate intelligence and limited academic resources (perhaps a 2.5 GPA) may be considered failure by a more academically talented student. Different majors at different schools have different demands and different
benchmarks for determining success. For example, the business administration program at Harvard may not have a lot in common with the fine arts program at the Tyler School of Art at Temple University— but students in both programs will all have measurable GPAs.

**Academic Motivation**

Gaston-Gayles (2002) identified academic motivation as “the degree to which a student athlete is energized toward excelling in academic tasks” (p. 11), and used motivation theories including expectancy-value theory, self-efficacy theory, and attributional theory to create a scale (the SAMSAQ) to measure academic motivation in student athletes. A more complete description of the SAMSAQ will be included in chapter three.

**Theoretical Foundations of Academic Motivation**

Academic motivation is a broad term that is more thoroughly explained by a number of theories that address more specific achievement-related components. In this section, three such theories will be explored that further inform Gaston-Gayles’ (2004) more general definition of academic motivation. The theories include: expectancy-value theory, self-efficacy theory, and attributional theory.

*Expectancy-value theory.* Atkinson (1964) developed the original foundations for expectancy-value theory. Atkinson argued that motivation could be explained by factors that affected how people approach success or avoid failure. A simple formula for determining the degree to which people approach success ($T_{as}$) is $T_{as} = M_{as} \times P_s \times I_s$, where $M_{as}$ is the achievement motive (i.e., the logical reasoning to achieve in a given task), $P_s$ is the probability for success in the given task, and $I_s$ is the incentive value (i.e., how much people value being successful at a given task). Theoretically, when any of the factors are equal to zero, then the tendency to approach success ($T_s$) is equal to zero. There is a similar formula to explain the
disposition of avoiding failure. The formula is $T_{af} = M_{af} \times P_f \times I_f$, where $T_{af}$ is the tendency to avoid failure, $M_{af}$ is the motive to avoid failure, $P_f$ is the probability of failing at the given task, and $I_f$ is the incentive to avoid failure. Atkinson (1964) posited that resultant achievement motivation can be calculated theoretically as $T_{as} - T_{af}$. Atkinson (1964, 1966) also argued that the value of success is inversely related to the expectancy of success. In other words the harder it is to achieve success in a given task, the more valuable such success will be.

A more modern approach to expectancy-value theory was created by Wigfield and Eccles (1992); they maintained that the theory attempts to explain the role motivation plays in determining what tasks people pursue (out of all the possible alternatives), how long they persist, how much effort they apply, and how well they perform on them. Unlike Atkinson, Wigfield and Eccles (2002) argued that expectancies of success and the value of success are positively related to each other as opposed to Atkinson’s (1964) position that these two entities are inversely related.

Wigfield et al. (2006) also identified three key constructs that affect motivation: ability beliefs, expectancy beliefs, and task value. Ability beliefs indicate the current level of perceived competence in a particular domain. Whereas ability beliefs focus on people’s current levels of ability, expectancy beliefs focus on how people predict they will perform in the future. Task value encompasses four subcomponents, including attainment value, intrinsic value, utility value, and cost.

Wigfield and Eccles (1992) and Wigfield et al. (2006) outlined that the four subcomponents of the values domain help in explaining how much the activity means to a person. Attainment value is the value placed on the successful completion of a given task. Intrinsic value refers to how much a person will enjoy the process of completing the task. Utility
value denotes how useful the completion of the task is in helping the individual accomplish future goals. Cost measures what individuals must give up or sacrifice in order to successfully complete a task.

Gaston-Gayles (2002, 2004) demonstrated that expectancy-value theory could be useful in evaluating the levels of academic and athletic achievement in student athletes through the development and implementation of the SAMSAQ. Based on Gaston-Gayles’ work, if the students in the current sample value their education, the more incentive will have to put forth the effort needed to attain their desired level of success in the classroom.

*Self-efficacy theory.* Bandura (1977, 1986, 1997) defined self-efficacy as the expectation people have about their abilities to succeed in a given task. More specifically, the theory postulates that beliefs surrounding people’s ability to successfully execute a given task or behavior determines if they will attempt the task, how much effort they put into it, and how long they will persist when they run into obstacles. Self-efficacy beliefs, cognitive thought patterns, motivation, and the choice of- and performance in- actual behaviors all influence each other. People’s beliefs about their abilities are more predictive of future behavior than their skill levels, bases of knowledge, or prior successes (Bandura, 1986).

Bandura (1997) was careful to point out the difference between outcome expectations and efficacy expectations. Outcome expectations are the belief that a behavior will lead to an outcome. Efficacy expectations are people’s beliefs about their ability to perform a behavior in order to achieve a particular outcome. People who have a strong sense of self-efficacy in their ability to execute the appropriate behavior will most likely persist toward attaining the successful completion of a task even if they are unsure if their persistence will lead to success (Bandura, 1986). Bandura and Schunk (1981) maintained that the desire to attain expectations and the
dissatisfaction with not meeting expectations help motivate people to be self-directed in pursuing their goals.

Bandura and Schunk (1981) also asserted that the specificity and proximity of the goals also influence the self-evaluation process. Regarding specificity, people are more likely to scrutinize their behaviors in reference to specific goals than they are with vaguely defined goals. Regarding proximity, people are also more likely to establish and sustain motivation when they develop realistic short-term goals that lead to the completion of long-term goals. According to Bandura (1977, 1986, 1997) there are four main sources that contribute to self-efficacy beliefs: past mastery experiences, vicarious learning, verbal persuasions, and physiological states. The two areas most pertinent to this current study are past mastery experiences and physiological states.

According to Bandura (1997) mastery experiences are the most effective means of building self-efficacy. People’s positive perceptions of past performances promote positive self-efficacy beliefs for similar activities in the future. If student athletes perceive that they were successful in past academic endeavors they will approach future coursework with the belief that they can succeed. One way to increase academic motivation and ultimately academic achievement in students is to create scenarios in which students have the opportunity to experience success (Schunk, 1985).

Bandura’s (1997) final source of self-efficacy information involves physiological states, or the body’s reactions to the thought of attempting and completing given tasks. Bandura (1997) also posited that physiological states have a bi-directional effect on self-efficacy beliefs. Reactions such as anxiety, fatigue, and mood can provide information about self-efficacy beliefs.
Cogan and Petrie (1996) warned that the physical toll of athletics may affect student athletes’ ability to focus on studying after grueling day of practice.

Schunk (1985) wrote that in education, self-efficacy beliefs refer to expectations of students’ cognitive abilities as they relate to specific academic tasks or academic goals. Pajeres (1997) suggested that self-efficacy influences achievement directly and also indirectly through increased persistence. Students who have high self-efficacy will perform better on given tasks, but also will continue to persist when they face obstacles in their quest to complete these tasks.

Many researchers have studied how efficacy beliefs affect (and are affected by) specific academic behaviors and outcomes. In a study by Lent, Brown, and Larkin (1984) using students in technical or scientific majors, the authors found that students’ levels of self-efficacy (high or low) were related to academic achievement. Students with higher strength ratings in self-efficacy achieved higher grades in their academic work and stayed in their respective majors longer than those with lower self-efficacy ratings. Pintrich and DeGroot (1990) found that junior high students’ ability to use metacognitive skills correlated with their self-efficacy beliefs. A study by Paris and Oka (1986) revealed that elementary students’ self-efficacy beliefs were positively correlated with their performance on reading comprehension activities, the understanding of their own reading skills, and their overall reading achievement. Shell, Murphy, and Bruning (1989) found that college students’ self-efficacy beliefs about their abilities in reading and writing correlated with their performances in reading comprehension and essay writing. In yet another study, Zimmerman, Bandura, and Martinez-Pons (1992) observed that high school students’ self-efficacy beliefs were related to their academic goal-setting, and the achievement of those goals. Although not outlined specifically by Gaston-Gayles (2002, 2004), these studies give merit to the applicability of self-efficacy theory to the current study of student-athlete academic motivation,
and illustrate the correlation between constructs of academic motivation and academic achievement.

Attributional theory. According to Weiner (1985) attributional theory is a framework that deals with the perceived causality of success and failure. The theory presumes that after a task is completed people actively search for reasons to justify the end results and the strategies used that led to the outcomes. People use these assessments to determine if and how they will approach future similar situations. If previous strategies prove to be successful, then people will likely use the same approach when facing similar challenges. If the people perceive the outcome as negative or unsuccessful, then they will look for the causes of the failure and alter their strategies accordingly when preparing for similar situations in the future.

Derived from Heider’s (1958) seminal work on attributions and performance, Weiner (1979, 1985) made significant contributions to attribution theory by developing a cognitive model of motivation where causal ascriptions mediate various antecedent factors and subsequent achievement-oriented responses. Based on Heider’s work, Weiner (1985) and Weiner et al. (1971) identified three factors as being salient to attribution theory: locus of control, stability, and controllability.

Locus of control can be described as being either internal or external. People who exercise ownership over outcomes in achievement-related activities demonstrate internal locus of control. Effort and ability are attributes that are native to the individual. Part of what determines outcomes in achievement-oriented situations can be attributed to factors outside of the individual. People who believe their fate in achievement-related activities is determined by situational circumstances or by the actions of others demonstrate an external locus of control. Some external environmental factors include task difficulty and luck (Weiner et al., 1971).
Analyzing the stability of each factor led to the development of another dimension explaining causal properties. Weiner et al. (1971) and Weiner (1979, 1985) noted that stability refers to whether or not causes change over time. For example, ability is a stable trait, whereas a person’s attitude may fluctuate.

Weiner (1979) proposed that there is yet another dimension to determining locus of causality, namely, controllability. Controllability is closely related to internal and external locus of control: it is the degree to which people can manipulate causal factors. People can control certain internal factors, like the amount of effort they put into an activity. People cannot control external factors (e.g., institutionalized racism, athleticism, or the weather) or some internal factors (e.g., innate athletic ability or fatigue).

Emotionally, people react differently to the result of situations based on their perceptions of the causal factors that contributed to the outcome. Positive outcomes that come about as the result of controllable effort instill a sense of pride. According to Weiner (1985), attributing success to external factors causes a sense of thankfulness or relief. Negative outcomes attributed to controllable factors (e.g., lack of effort) cause feelings of shame, whereas outcomes attributed to external forces (which also means there is an inherent lack of control) invoke feelings of anger.

Weiner’s (1979, 1985) work in this highly cognitive theory has implications for motivation. If the student athletes in this study have achieved success in their academic work in the past and attribute that success to controllable internal factors, they will be motivated to further pursue the feeling of pride they experience. If they can predict that their abilities will lead to similar levels of success in the future they will be more inclined to persist academically. Conversely, if the chances of success are less predictable or if the student athletes attribute past
academic failures to controllable internal factors, they may be less motivated to approach similar tasks in the future.

Background Variables and Student-Athlete

Academic Achievement and Academic Motivation

In this section on background variables and the following sections on high school, situational, and noncognitive variables I will look at the relationship between the independent variables and academic achievement and academic motivation. I will also review the following background characteristics: gender, race-ethnicity, and Parent level of education.

It bears repeating that the current study explores academic motivation and the balance between academic motivation and athletic motivation not academic achievement. The following subsections first present support for ties between the given factors and academic achievement and then the ties between the same factors and academic motivation. Two reasons for exploring academic achievement in this section are that: 1) there is a dearth of information in the literature connecting the variables to constructs of academic motivation, and 2) as stated earlier academic motivation has been shown to mediate academic achievement.

Gender

*Gender and academic achievement.* According to the latest NCAA (2006a) graduation rate reports, female student athletes graduate at higher rates than male student athletes across all sports. Smallman, Sowa, and Young (1991) suggested that female student athletes receive more support for their roles as students than do males. In one study using a sample from a general population of students DeBerard, Spielmans, and Julka (2004) found that female gender positively correlated with first-semester GPA, and in a study of student athletes, Simons et al.
(1999) found that female athletes had higher high school and college grade point averages than their male peers in revenue-producing sports.

Gender and academic motivation. In a study of the psychosocial development of athletes, Lantz, Etzel, and Furguson (1996) found that upper-class (semester standing, not SES) female student athletes were more involved in their academic development than their male counterparts based on their scores on the Educational Involvement subscale of the Student Development Task and Lifestyle Inventory. Gaston-Gayles (2002, 2004) found that female athletes scored higher on the academic motivation scale of the SAMSAQ compared to male athletes. The same study found that males are more motivated to pursue athletics at the professional or Olympic level than women. Simons et al. (1999) noted that female athletes are less-likely to attend college purely for athletic reasons, citing the lack of extrinsic rewards for playing athletics. Women’s sports do not receive the same amount of television coverage, nor do the athletes in these sports have the same opportunities to pursue athletics at the professional level compared to men; the result is that female athletes are more likely to place a greater emphasis on attending to their roles as students than male athletes, especially athletes in revenue sports.

Race-Ethnicity

According to the NCAA (2006a) eighty-seven percent of all incoming freshmen athletes in 1998 were either Black (28%) or White (59%). Not surprisingly, most of the literature concerning the issue of race in intercollegiate athletics revolves around differences between Black and White student athletes. Black athletes made up over 50% of the freshman class in football and men’s basketball for the 1998 school year (NCAA, 2006a). Although Black and White athletes combined do not account for all athletes represented in college sports, they are the
two most populous groups. The following section will look at the role race plays in academic achievement and academic motivation.

Race-ethnicity and academic achievement. According to the latest graduation rates published by the NCAA (2006a), Black student athletes have lower graduation rates (52%) than their White counterparts (66%). Several sources, such as Horn, et al. (2001), Hrabowski (2002), Person and LeNoir (1997), and Sellers (1992) confirmed that Black student athletes in revenue sports (football and men’s basketball) generally come from lower socioeconomic backgrounds and are not as academically prepared for college when compared to their White teammates. Engstrom et al. (1995) and Person and LeNoir (1997) emphasized that not only do Black student athletes have to deal with the negative stereotypes associated with student athletes, but they also have to contend with racism. Sellers (1992) added that this compound effect of the perceptual biases of athlete and racial discrimination can be demoralizing. DeFrancesco and Gropper (1996) noted that Black student athletes face the possibility that members of the academic community assume that they were admitted to the university for their athletic prowess and not because of their academic achievement. Making matters worse for Black student athletes is that many support systems for student athletes were not initially designed to cater to the special needs of minority populations (Killeya, 2001).

Race-ethnicity and academic motivation. Mayo and Christenfeld (1999) found that in relation to task-efficacy (regardless of the task) minority students expected that their respective demographic group would perform worse than the average student. They also expected that individually they would perform worse than the average student. Engstrom and Sedlacek (1991), Engstrom et al. (1995), and Killeya (2001) also found that Black athletes are subjected to negative expectations about their capabilities as students; the internalization of these negative
external expectations could have an adverse effect on their academic motivation. According to expectancy theories like Bandura’s (1977) self-efficacy theory and Eccles and Wigfield’s (2002) expectancy-value theory, such negative expectancies lead to decreased motivation for given tasks. Killeya (2001) posited that if student athletes find that they are supported as athletes but viewed negatively as students by professors, fellow students, and the general public, they will likely place more emphasis on their identities as athletes than on their identities as students. This overemphasis on the athletic domain creates an imbalance in the amount of motivation athletes have toward academics and athletics.

Although there may be theoretical support indicating that Black athletes may be more at risk for having lower academic motivation or favor their athletic identities over their academic identities compared to their White counterparts, one empirical study revealed findings to the contrary. Sellers (1992) found that there were no discernable differences between Black and White athletes in the importance of obtaining a degree or in the number of hours devoted to studying during the season in a study of over 1,300 football and basketball players from 42 Division I universities.

Athletic identity may also play a role in academic motivation and the amount of balance maintained between athletes’ motivation to excel in the classroom and on the field, especially for Black male athletes. In a book about Black males’ fascination with professional basketball, McNutt (2002) proposed that Black athletes may gravitate toward their athletic role because they have more Black male role models in sports than they do in education. Cokley (2001) supported this theory that Black athletes may perceive that there are more future opportunities for upward mobility as athletes.
Parent Level of Education

Parent level of education and academic achievement. According to Bui (2002), first generation college students (FGCSs)- students whose parents did not attend college- are more likely to invest more time in studying, come from lower socioeconomic backgrounds, and be from ethnic minorities than students whose parents attended college. Regarding retention, Choy (2002) found that FGCSs advance to their second year of college at a lower rate, and are less likely to persist toward a bachelor’s degree than continuing generation students (CGSs). Part of this trend has to do with SES, as those FGCSs from families with higher incomes were more likely to persist than those with lower incomes. Parental educational attainment is one way to gauge socioeconomic status. For example, according the Bureau of Labor Statistics (2002) people who attain a master’s degree on average make $15,000 more than those who only attain a high school diploma or GED.

Researchers (Saenz, Marcoulides, Junn, & Young, 1999; Vasquez & Garcia-Vasquez, 1995; and Young, Ekele, Sawyer, & Prichard, 1994) found that higher levels of parental education are related to higher GPAs among minority students. In a study that looked at high school variables that influence bachelor’s degree completion, Trusty and Niles (2004) found that an increase of one standard deviation in SES led to a 64% better chance that students showing an early aptitude for advanced learning would complete their bachelor’s degree requirements.

Gibbons and Shoffner (2004) found that FGCSs have lower HSGPAs, SAT scores, and have lower first-year college GPAs compared to CGSs. Pascarella, Pierson, Wolniak, and Terenzini (2004) found that after three years of college, FGCSs maintain lower GPAs than their peers who have had both parents graduate from college. Trusty and Niles (2003) found that the level of math courses taken in high school correlates with degree completion, but Horn et al.
(2001) found that FGCSs are less likely to have had algebra in high school by their eighth grade year, reducing their chances of completing higher level math courses. Even though statistically, FGCSs and students with lower SES are less likely to take advanced courses in high school, those that do take higher level high school courses may help to offset the effects of socioeconomic disadvantages such as low family income and parents who never attended college.

*Parent level of education and academic motivation.* Bui (2002) reported that FGCSs receive less financial support and encouragement from their parents compared to CGSs. Hertel (2002) also found that they also worry more about financial concerns. According to Bandura’s (1997) self-efficacy theory, if verbal persuasion is one key contributor to enriching self-efficacy beliefs, then FGCSs receive one less source to build their confidence to successfully complete academic activities. Hertel (2002) noted that college-educated parents can serve as a valuable resource for first-year students in helping them understand the rigors of college life and in preparing them for the adjustment to college.

This is not to say that FGCSs are less motivated than their peers. Bui (2002) argued that many FGCSs have a strong desire to succeed in college so they can get good jobs to help their families. These students may not be lacking in motivation. In fact, for many of these students obtaining a bachelor’s degree is no small achievement.

Regarding athletes, Pascarella et al. (2004) found that FGCSs who played varsity sports were at a greater disadvantage than their peers with parents who had some college experience. The authors stated that the time demands of college sports may prevent FGCSs from exploring opportunities outside the classroom or off the playing field, reducing their exposure to potentially helpful connections with other students. Participating in extracurricular activities can help
students network with people who can expose them to academic resources and strategies necessary to maintain a healthy balance between the various demands of their academic and athletic roles. Because FGCSs do not have the benefit of having parents with the experience to help them navigate through the academic system, participating in out-of-class experiences is an important avenue to become integrated into the college community.

High School Variables and Student-Athlete

Academic Achievement and Academic Motivation

The use of the initial eligibility clearinghouse to set the minimum standards for eligibility among student athletes perpetuates the use of cognitive factors in predicting success for college student athletes. From the 1.600 Rule (introduced over 40 years ago) to the current standards set by the clearinghouse, the NCAA has relied on cognitive predictors of success to evaluate the academic preparedness for incoming athletes. The two main predictors of college success continue to be HSGPA and standardized test scores as evidenced by the NCAA’s employment of the sliding scale in these two areas (NCAA, 2005b) as a part of freshmen eligibility screening practices. Another independent variable investigated in this study is level of academic intensity of high school course work. Trusty and Niles (2003) found that the level of math students completed in high school is correlated with college degree completion. The following section will look at HSGPA, SAT scores, and academic intensity and their relationship to academic achievement, academic motivation, and the balance athletes have between their academic and athletic motivation.

*High School Grade Point Average (HSGPA)*

*HSGPA and academic achievement.* There is an abundance of empirical studies that support the link between HSGPA and academic achievement. For example, Bryson, Smith, and
Vineyard (2002); Sellers (1992); and Young and Sowa (1992) reported that HSGPA is a significant predictor of student-athlete college GPA for both White and Black student athletes. Beecher and Fischer (1999); DeBerard et al. (2004); and Ting and Robinson (1998) also found that HSGPA was a key variable in predicting first semester college GPA. Harackiewicz, Barron, Tauer, and Elliot (2002); and Sellers (1992) found that HSGPA was an important predictor of long-term cumulative GPA. Beecher and Fischer (1999) also reported that HSGPA is also the most powerful predictor of first-year completion.

**HSGPA and academic motivation.** HSGPA can be seen as a behavioral representation of academic motivation. Universities can get a sense of how motivated prospective students are based on their transcripts. Although looking at high school transcripts alone does not provide colleges with a complete representation of students’ college potential, Trusty and Niles (2003) found that one predictor of persistence toward degree completion was the level of rigorousness of students’ high school curricula. One generalization might be that students who have good grades in challenging courses are more academically motivated than students with poorer grades or students who took easy courses. Simons et al. (1999) found that students categorized as success-oriented and overstrivers (categories considered to denote high academic motivation) using the Approach success- Avoid failure Achievement Questionnaire (AAAQ) had higher high school and college GPAs, showed more of a commitment to academics, and had higher academic self-worth than students in the failure- avoider or failure-acceptor groups (categories considered to denote lower academic motivation).

In the Simons et al. (1999) study, students categorized as failure-avoiders and failure-acceptors had lower HSGPAs and higher scores on a scale measuring athletic and academic commitment (higher scores denoted a greater commitment to athletics). This is the one study I
found that looked specifically at the amount of balance athletes exhibited between their academic and athletic motivation. The Knight Foundation (2001) identified high school culture as a key contributor to reinforcing the athletic identities of future college athletes, and often athletes are encouraged to emphasize their commitment to athletics over their commitment to academics. In fact, for some high school athletes, the only motivation they may have to succeed in the classroom is to become eligible to play sports in college (McNutt, 2002). A low HSGPA may indicate that future college athletes are at-risk for developing or maintaining an unhealthy imbalance between their academic and athletic roles, which could lead to difficulties in adjusting to the rigors of college life (Pearson & Petitpas, 1990).

**SAT and ACT Scores**

**SAT and ACT scores and academic achievement.** Although SAT and ACT scores are widely used as entrance criteria to universities, there are varying degrees of support for their effectiveness in predicting academic success in college. Killeya (2001) and Sedlacek and Gaston-Adams (1992) found that SAT scores were unrelated to first semester success. Petrie and Stoever (1997) found that SAT scores were more useful in predicting academic performance in freshmen female athletes than for upperclassmen. Gaston-Gayles (2004) found that ACT scores at one university were significant in predicting college academic success (first-semester grade point average). Harackiewicz et al. (2002) found that SAT scores were significant in predicting long-term academic success in college, and DeBerard et al. (2004) found that SAT scores were positively correlated with first semester GPA.

**SAT and ACT scores and academic motivation.** Part of the Simons et al. (1999) study of academic motivation among student athletes looked at the SAT scores of athletes across four motivational types (success-oriented, overstrivers, failure-avoiders, and failure acceptors).
Students in the first two categories are more academically motivated than students in the latter two categories. The study found that the average SAT verbal scores for success-oriented athletes and overstrivers were 512 and 530, respectively. SAT math scores for the same two groups were 611 and 624. Student athletes categorized as failure-avoiders and failure-acceptors had average SAT verbal scores of 457 and 452. SAT math scores for these two populations were 563 and 548.

In the Simons et al. (1999) study students in the failure-avoider and failure-acceptor categories were also likely to be more committed to their athletic identities than they were to their academic roles. For many athletes the immediate gratification they get from playing sports outweigh the more distant benefits of receiving an education.

**Academic Intensity of High School Course Work**

*Academic intensity and academic achievement.* The National Center for Education Statistics (NCES) published a study by Horn et al. (2001) linking the level of high school curricula to levels of persistence at four-year institutions. High school course selection was broken down into three distinct categories: *rigorous, mid-level, and core curricula or less.* The degree of difficulty of the battery of courses students took while enrolled in high school is strongly related to their persistence while in college. In the 2001 NCES study, 79% of students who took rigorous courses in high school were still enrolled in college three years after enrolling. Only 55% of students who took only the core curricula in high school were still continuously attending a post-secondary institution. Similar to the findings in the NCES report, Trusty and Niles (2003) found that taking advanced math courses in high school is linked to bachelor degree completion in students already enrolled in college who indicated that they intended to earn a bachelors degree.
Academic intensity and academic motivation. The difficulty of the high school course load athletes undertake may have implications for academic motivation. Consistent with self-efficacy theory (Bandura, 1977, 1986) and expectancy-value theory (Wigfield & Eccles, 1992, 2000), students are unlikely to take challenging courses like advanced physics or calculus in high school unless they believe they have the ability to succeed in such demanding classes. The NCAA (2005b) requires that incoming freshmen complete a minimum of two years of math (Algebra I or higher). Taking math credits beyond the minimum standards may be an indication that athletes have the time and energy (i.e., motivation) to attend to the rigors of more challenging courses and athletics. Student athletes who have the ability to perform at the Division I level spend countless hours honing their athletic skills, but in order to take on high level classes, like calculus, on top of their demanding athletic schedules, these athletes have to demonstrate some motivational balance between academics and athletics.

Situational Variables and Student-Athlete

Academic Achievement and Academic Motivation

Situational variables refer to factors that define the academic and athletic backgrounds of student athletes after they have completed high school. This section will look at the following situational variables: sport profile, season status, summer school enrollment prior to the first fall semester, and number of credit hours taken in the fall semester.

Sport Profile

Sport profile and academic achievement. College athletics can be divided into two subcategories based on whether the sports create revenue for a school. Traditionally, sports like football and men’s basketball are considered revenue sports, whereas most women’s sports and other men’s sports (e.g. “Olympic” sports) are considered nonrevenue sports. Although athletes
are subject to negative stereotypes about their academic performance, the reality is that athletes in nonrevenue sports perform comparably to nonathletes in this area. Even when factoring in athletes from revenue sports, graduation rates for athletes (62%) exceed the graduation rates of the general student population (60%) (NCAA, 2006a). The graduation rates for the most visible college sports, football and men’s basketball, are significantly lower (54% and 43% respectively).

One reason for the low graduation rates of athletes in revenue sports could be that athletes in these sports (football and men’s basketball) are the least prepared for college- they have lower SAT scores, ACT scores, and HSGPAs than nonathletes and athletes in nonrevenue sports (Person & LeNoir, 1997; Sellers, 1992). Adler and Adler (1991) proposed that some athletes believe that they will be protected by professors in college who look out for student athletes, thereby giving them justification for expending more energy in athletic pursuits.

Once in college athletes from revenue sports continue to struggle compared to athletes in nonrevenue sports. In a study looking at the effects of athletic participation on academic achievement for all students over a four-year period at Southeastern land-grant institution, Maloney and McCormick (1993) compared the grades of athletes and non-athletes. The researchers found that overall, athletes’ grades were lower than their non-athlete peers, but by factoring out football and men’s basketball, the grades of athletes in nonrevenue sports were found to be comparable to the rest of the student body. Further solidifying this trend is a study based on the 1987-1988 National Study of Intercollegiate Athletes by Upthegrove et al. (1999), in which athletes from revenue sports were found to have GPAs that averaged .19 lower than their nonrevenue counterparts in a national sample.


_Sport profile and academic motivation._ According to NCAA (2005a) Bylaw 16.3.1.1 universities must provide student athletes with academic support services. Although such services can be extremely beneficial, they can also help perpetuate the separation between athletes and the rest of the student body. Within academic support centers for student athletes some revenue sports have their own facilities and specialized services which, not only further isolate football and men’s basketball players from the student body, but also from the rest of the athletes, as well. Such special treatment can reinforce these athletes’ athletic identities and their sense of entitlement. Terenzini, Pascarella, and Blimling (1999) offered support for this trend by revealing that athletes in revenue sports participate less frequently in class-related out-of-class experiences, and make fewer connections with faculty and students.

In the Upthegrove et al. (1999) study of a national sample of college athletes, the authors also found that athletes from revenue sports and nonrevenue sports had similar ratings on a scale measuring the importance of obtaining a college degree. Similarly, Simons et al. (1999) found that athletes in revenue sports were less academically motivated and had lower college grade point averages than athletes in nonrevenue sports. The authors also found that athletes in revenue sports and were less-inclined to transfer the use of skills like concentration, hard work, and self-regulation from the athletic domain to the academic domain. If earning a degree is as important to revenue athletes as it is for nonrevenue athletes, these findings on academic achievement and motivation certainly do not support such premises.

Upthegrove et al. (1999) reported that athletes in revenue sports are more likely to repeat courses or be on academic probation than nonrevenue athletes. The societal pressures to succeed in these very public arenas cannot be discounted as an influence on how much value revenue athletes place on their athletic achievement. This study also revealed that athletes participating in
revenue sports in prestigious Division I programs have the most difficulty balancing their academic and athletic identities. In the authors’ research based on the 1987 National Study of Intercollegiate Athletes, athletes in revenue sports spent five hours more (30 hours) in preparation for their sport than did nonrevenue athletes (25 hours). Although this statistic does not prove that athletes in revenue sports are more athletically motivated, it does point out that they commit more of their time to their sport. For this reason, it is possible that athletes in revenue sports lack the balance in their motivation toward academics and athletics.

Institutional pressure may be greater for revenue athletes to commit to their roles as athletes at Division I institutions, because of the financial implications of their athletic performances. Adler and Adler (1991) pointed out that institutional pressure to succeed in high-profile sports places more of an emphasis on attending to the role of an athlete as opposed to the role of a student. The Knight Foundation (2001) revealed that at many of these institutions’ revenue athletes have a clear understanding of the stakes involved in college sports and receive the perks of belonging to high-profile teams. College sports is a billion dollar industry, and according to the Knight Foundation’s 2001 report, CBS is in the midst of an 11-year, $6.2 billion television contract with the NCAA, mostly to cover the Division I men’s NCAA tournament. In fact, television revenues account for over 90% of the NCAA’s budget (NCAA, 2006b). Sneaker and equipment companies also pay millions of dollars to promote brand exposure with college teams. With all the enticing extrinsic rewards of big-time college sports, it would not be shocking if these athletes were more committed to their roles as athletes than their roles as students.
**Season Status**

*Season status and academic achievement.* Very few studies have looked at academic achievement of student athletes both in-season and out-of-season. Maloney and McCormick (1993) found that the GPAs for football players were lower during the fall semester when they were in-season than they were for the spring semester. The authors believed that men’s basketball players would follow the same pattern, but the basketball season is less well-defined (it starts in the middle of the fall semester and ends in the middle of the spring semester), making quantification of this trend more difficult. Athletes in nonrevenue sports showed no difference in their GPAs when they were in-season or out-of-season. Petrie and Stoever (1997) examined the academic performances of female athletes and found that GPA’s across semesters of competition and noncompetition were comparable.

*Season status and academic motivation.* In the same study, Petrie and Stoever (1997) reported that female volleyball players took more courses in the off-season (spring semester) than they did during the season (fall semester). Although I found no studies that looked at season status and academic motivation, one possibility for the aforementioned findings on academic performance during season of competition could be that athletes in revenue sports dedicate a disproportionate amount of time and energy to their athletic commitments during the season. The NCAA (2005a) mandated that athletes spend no more than 20 hours per week engaged in mandatory practices and competition. Cogan and Petrie (1996) argued that the physical toll playing competitive sports takes on athletes’ bodies can leave them physically and emotionally depleted at the end of the day. Even the most dedicated students will not be mentally sharp at the end of the day if their bodies are worn down by the grueling schedule of competition, travel, and practice. Therefore, it could be possible that student athletes schedule less credit hours during
their semesters of competition to counterbalance the increased demands on their time during the season.

*Enrollment in Summer Classes Prior to the Freshman Year*

*Summer classes and academic achievement.* NCAA (2005a) Bylaw 15.2.8.1.4 made attending summer classes prior to the freshman year more accessible for student athletes by allowing universities to pay for these classes and living expenses as a part of athletic scholarships. There was only one extant study looking at summer school attendance and student-athlete success. Hollis (2001) found that universities that offered summer classes to their incoming freshmen had higher graduation rates for their athletes than schools that did not offer these courses.

Attending summer classes prior to the fall semester allows student athletes to become acclimated to their new surroundings without having to deal with the pressures that come with trying to attend to their dual roles in-season. Athletes have the opportunity to get used to the daily challenges of being a student athlete. They probably have workouts scheduled, classes, and sometimes even study halls. Furthermore, they gain experience dealing with their newfound independence and dealing with common transitional issues, like becoming familiar with the campus, doing laundry, and adjusting to the demands of college courses. Plus, they get to earn credits that count toward their graduation requirements, allowing them to take fewer courses during their competitive seasons (S. K. Meyer, personal communication, February 11, 2006).

*Summer classes and academic motivation.* Scheduling one or two classes in the summer can help student athletes ease into the transition of having to deal with the demands of a full schedule during the regular school year. If they also have to attend mandatory workouts in the summer, incoming freshmen will get a preview of what the regular season will be like. If they
show that they can balance both roles with a fair amount of success in the summer, they will likely feel more confident about their ability to succeed in the fall semester. They will have already made adjustments to the daily rigors of college life that most students do not get exposed to until they step on campus for the first time in the fall.

Number of Fall Credit Hours

_number of fall credit hours and academic achievement._ According to the NCAA (2005a) student athletes need to be enrolled as full-time students at their institutions (approximately 12 credit hours for schools on a semester schedule) in order to be eligible to play. Athletes already have many responsibilities competing for their time, especially if they are in-season. Common sense would dictate that the more credit hours students take during a semester, the less time they have to dedicate to each class. Taking a minimal course load during the first semester could benefit student athletes who have to make many transitional adjustments to life as a college student.

Even though according to NCAA (2005a) Bylaw 14.4.3.2 (the 40/60/80 rule), students have to demonstrate progress toward a degree by completing a certain percentage of their degree requirements each year, most scholarship athletes receive funding to complete credits over the summer and for their fifth year of schooling, allowing them to spread out the completion of their course requirements. This is not to say that all athletes take a bare minimum of course credits during the school year. In fact in one study, Maloney and McCormick (1993) found that athletes do not take course loads that are significantly lighter than the regular student population.

Volkwein and Lorang (1996) conducted a study that looked at the characteristics of _extenders_ (full-time students who take less than 15 credits a semester and graduate in more than four years). The authors found that one of the reasons full-time students take lighter credit loads...
is to protect their GPAs. Student athletes may attempt less credit hours, especially in-season, to do just that, although in their 1993 study Maloney and McCormick (1993) found that taking higher course loads actually correlated to higher grades for student athletes.

*Number of fall credit hours and academic motivation.* Because of the rigors of attending to the dual roles of students and athletes, students who take on higher course loads may be more motivated to achieve academically. It is highly unlikely that first semester students would load up on classes (e.g., taking 18 credit hours) if they did not believe that they had the drive necessary to do well in those classes. Less academically motivated students may take no more than the minimum amount of classes, or take slightly more than the minimum amount so that if they need to drop a class they would still be considered full-time students.

A dearth of studies looked at the number of credits athletes take and their level of academic motivation. Snyder (1996) found that Division I athletes typically capped their total number of credits for a semester at 15, and that they tried to include at least one “less-rigorous” class in their schedule. At the Division III level, Snyder found that athletes did not use their perceptions of class rigorousness as a factor when creating their schedules. It could be that the athletic demands placed on athletes at the Division I level are greater than those imposed on Division III athletes, justifying the need to purposely schedule “less-rigorous” classes to ensure they have the energy to balance their athletic responsibilities. Petrie and Stoever (1997) reported that female volleyball players took more courses in the off-season (spring semester) than they did during the season (fall semester). The authors of this study pointed out that in their experiences athletes who take the minimum number of courses (12 credits) or take less demanding classes during the season may actually become less motivated and fail to devote the necessary effort to their coursework.
The Use of Noncognitive Variables as a Complement to Traditional Predictors of Academic Achievement

According to Bauer and Liang (2003) the most commonly used predictors of academic success in colleges are entrance exam scores (SAT and ACT) and high school GPA; however, these measures may not be enough to accurately predict college success. Bryson et al. (2002), Gaston-Gayles (2004), Hyatt (2003), Sedlacek and Adams-Gaston (1992), and Ting and Robinson (1998) all support the use of nontraditional variables in combination with these scores to increase the predictability of first-year GPAs. Tracey and Sedlacek (1984) originally developed the Non-Cognitive Questionnaire (NCQ) to augment the use of SAT scores to predict college GPA and persistence in enrollment for nontraditional students. The eight dimensions of the NCQ are 1) positive self-concept, 2) realistic self-appraisal, 3) ability to deal with racism, 4) availability of a strong support person, 5) preference for long-term goals over short-term or intermediate needs, 6) successful leadership experience, 7) demonstrated community service, and 8) knowledge in a given field. More detailed descriptions of each subscale will follow in this section.

According to Tracey and Sedlacek (1984) there are two criteria for determining if students fall into the category of “nontraditional”. Groups whose NCQ scores correlate more with their GPA than White males meet the first criterion for nontraditional status. If the same group also faces discrimination, it meets the second criterion for nontraditional status. The nontraditional label is usually reserved for minority students (including international students), but according to this criteria student athletes as a group qualify as having nontraditional status. Although Tracey and Sedlacek (1984) conducted the original studies on students normally considered to be nontraditional, Sedlacek and Adams-Gaston (1992) did a follow-up study using
the NCQ with freshmen student athletes at a large Eastern university that yielded similar results. Sedlacek and Adams-Gaston (1992) found that athletes’ scores on the NCQ were more related to their GPA than White male students. Engstrom and Sedlacek (1991) and Killeya (2001) reported that student athletes are often subjected to negative stereotyping of their academic abilities from students, faculty, and the general population.

Engstrom and Sedlacek (1991) found that four individual subscales of the NCQ (Availability of a Strong Support Person, Positive Self-Concept, Realistic Self-appraisal, and Demonstrated Community Service) had significant correlations with first-semester grades, whereas SAT scores alone showed almost no correlation with first-semester grades. All subscales of the NCQ showed a higher correlation to first-semester grades when compared to SAT scores, although not all correlations were found to be statistically significant. Three independent variables were found to be significant beyond the .05 level: availability of a strong support person, demonstrated community service, and academic self-concept. Because of these findings it may be wise to consider noncognitive variables when trying to predict the success of nontraditional students - in this case, student athletes. For Black athletes Young and Sowa (1992) found that along with high school GPA, noncognitive variables like goal setting, understanding racism, and community service also correlated with academic performance.

**Theoretical Support for the NCQ**

Sternberg’s (1985) theories on intelligence lend support for Sedlacek’s argument that the sole use of cognitive factors is insufficient in predicting student success. According to Sternberg there are three main domains of intelligence: *componential intelligence, experiential intelligence,* and *contextual intelligence.* According to Sedlacek and Adams-Gaston (1992) componential intelligence is the ability to interpret information systematically when the context is structured...
and well-defined using cognitively structured processes. Experiential intelligence is the ability to interpret information in new situations and is relative to each individual’s past experiences with prospective tasks. Lohman (1989) further added that contextual intelligence describes the ability to purposely adapt and thrive in the current environment.

Sternberg (1985) argued that standardized tests like the ACT and SAT are only effective at measuring the componential facet of intelligence. The NCQ assesses the two components of intelligence (experiential and contextual) that standardized tests were never created to measure, therefore making it an appropriate complement to ACT and SAT scores in providing a more universal representation of overall intelligence.

**NCQ Subscales and Academic Achievement and Academic Motivation**

Although the NCQ has been used primarily as a predictor for academic achievement, there is reason to believe that it can be a useful tool in helping to predict academic motivation, as well. This section outlines the basic definition of each subscale of the NCQ, along with relevant research findings in regards to academic achievement. Also, the level of success athletes achieve in the domains appraised by the subscales of the NCQ may provide insight into the trends associated with student athletes’ academic motivation and their balance between academic motivation and athletic motivation. To strengthen the argument to investigate how the subscales of the NCQ influence motivation, I investigate the connection between the tenets of achievement motivation theories and each subscale.

**Positive Self-Concept**

According to Sedlacek and Brooks (1976), and Tracey and Sedlacek (1984, 1989) students with positive self-concepts demonstrate confidence in their abilities, and the self-determination to persevere in the face of obstacles. Students scoring high on this subscale of the
NCQ expect to be able to accept new challenges and be successful in academic and non-academic endeavors, alike (Sedlacek, 1998). Sedlacek (1987) and Sedlacek and Brooks (1976) suggested that a student’s sense of belonging to an institution is also an indicator of self-concept.

*Positive self-concept and academic achievement.* According to self-efficacy theory (Bandura & Schunk, 1981), students who believe that they can successfully accomplish given tasks will be more motivated to persist until they have reached a satisfactory level of success. In a review of 128 studies on self-concept Hansford and Hattie (1982) found very small correlations between academic achievement and general self-concept. In order to find relationships between self-concept and academic achievement, global self-concept must be broken down into component domains. After reviewing the studies, the authors found that academic self-concept correlated with academic achievement much better than general self-concept. Recently, Choi (2005) found similar results in that course-specific self-concept (e.g., math self-concept) predicted semester grades better than general academic self-concept.

*Positive self-concept and academic motivation.* The connection between two of the self-schema terms, self-concept and self-efficacy, will be highlighted in this section as they pertain to academic motivation. Bandura’s (1977) self-efficacy theory, as previously defined, refers to the expectancy beliefs about people’s ability to be successful in specific achievement situations. Bong and Skaalvik (2003) argued that the cumulative effect of self-efficacy beliefs in different settings contribute to the more global perceptions of self-concept, but self-efficacy primarily relies on cognitive evaluations of the ability to perform specific actions. Therefore, self-efficacy in specific domains can be considered to be a component piece of the more universal construct of self-concept. The NCQ subscale, Positive Self-Concept, measures these general attitudes.
pertaining to self-evaluation which, according to Bong and Clark (1999) are weaker predictors of motivation than efficacy beliefs (which pertain to specific tasks).

In a study of elementary-aged children Kinner, Wellborn, and Connell (1990) found that children’s self-concept beliefs (e.g., beliefs about effort, ability, and locus of control) were related to student engagement and predicted teacher ratings of student motivation. Gottfried (1990) found that two key constructs of self-concept were related to academic intrinsic motivation. The author found that competence perceptions were positively related to academic intrinsic motivation and that academic anxiety was negatively related to academic intrinsic motivation. In a study of sixth- and eighth-graders, Skaalvik (1997) reported that math self-concept was positively correlated with intrinsic motivation ($r = .57$) and negatively correlated with math anxiety ($r = -.36$). Sedlacek (1998) noted that students with high scores on Self-Concept subscale of the NCQ expect to succeed in both academic and non-academic pursuits. Because subjects scoring high on this subscale expect to succeed in and out of the classroom, and because self-concept beliefs have been shown to be related to academic motivation, using this subscale as a predictor of academic motivation is warranted. Also, because athletes who scored highly in this subscale also expected to do well in both academics and athletics, positive self-concept could be used to predict the balance athletes have in their motivation towards both areas.

**Realistic Self-Appraisal**

Sedlacek and Brooks (1976) noted that realistic self-appraisal refers to the ability to employ metacognitive skills (having an understanding of how a person’s own thinking process works) in constructing an accurate assessment of strengths, weaknesses, and how optimal learning occurs. Students with high scores in this subscale of the NCQ also show the ability to use feedback constructively to revise or improve future performances (Sedlacek, 1998).
Realistic self-appraisal and academic achievement. Sedlacek and Brooks (1976) posited that racial discrimination puts minorities at a disadvantage in higher education, but student athletes are also exposed to negative expectations based on their athlete status. Amorose (2003) reported that students develop their self-perceptions based on feedback they receive from significant people in their lives. The author stated that if student athletes internalize negative expectations from peers or professors they are at risk of succumbing to stereotype threat— the fear that they will confirm the negative stereotypes held by others. The amount of valence athletes give to the perceptions others have of them will also determine to what extent others’ perceptions influence their self-assessments. Amorose (2003) went on to explain that having trusted support to help athletes ground themselves is important in developing and maintaining realistic self-appraisals. Athletes can better understand what measures to take to enhance their academic achievement when they have an accurate understanding of their academic strengths and deficiencies.

Harter (1982) found that the relationship between children’s perceived competence (self-appraisal) and actual competence improves over the elementary years, but becomes more divergent once students enter seventh grade. The author suggested that students entering junior high school encounter different teachers, and different school and social structures, which could contribute to this trend. The two domains become more convergent by eighth grade. Freshmen student athletes experience a similar transition when they start college. They have to adjust to new living environments, new team dynamics, new social environments, and new educational demands. Based on Harter’s (1982) research on elementary transitions, there may be a parallel transitional process at the college level for first-year student athletes. As these students gain experience, over time they may become more proficient in understanding how to appraise their
competencies in their new surroundings. For example, freshmen college students may not know what to expect in college-level courses. The only frame of reference they may have might be their experiences in high school. Once they take their first major exam, write their first college paper, or receive their mid-term grades, they may have a more concrete understanding of the expectations for the quality of work they need to produce.

**Realistic self-appraisal and academic motivation.** According to Paris and Winograd (1999) and Tracey and Sedlacek (1984) in order to become proficient at self-appraisal, students need to develop an awareness of how they learn best and take time to reflect upon their academic development. To do this, athletes need to have trusted personal resources who can provide objective feedback to help them develop an accurate understanding of their academic skills, and who also believe that they can succeed academically. Sedlacek and Brooks (1976) noted that students must not only be aware of their strengths and deficiencies, but also they need to anticipate institutional obstacles they may encounter. If they can acknowledge that they need to continually work at self-development and refrain from blaming setbacks on external forces (no matter how justified they may be), they will be more inclined to persist in their academic endeavors. Academic advisors for student athletes and sport psychologists can be valuable resources to help athletes develop their self-awareness regarding academic issues.

The ability to engage in realistic self-appraisal is a key part of attributional theory (Weiner, 1985). Athletes who are able to reflect upon past experiences (in or out of the classroom) with an clear understanding of the relationship between the requirements of the tasks, the amount of effort they expended, and the internal and external factors affecting past outcomes can make more accurate assessments of what is required to succeed in the future. If they have an accurate understanding of what is required of them in order to succeed at in the classroom as
well as on the playing field, they may be better prepared to balance these demands when they step onto the college campus.

*Understands and Deals with Racism*

Understanding racism requires students to recognize the role racism plays in their current educational systems. Sedlacek (1987) and Sedlacek and Brooks (1976) cautioned that handling overt acts of individual racism are not the only incidents with which minority students (especially Black students) need to contend. “Institutional racism involves policies and procedures, either formal or informal, that result in negative outcomes for Blacks. Institutional racism is often more of a problem for Blacks than is individual racism” (Sedlacek, 1987, p. 486). Students who score highly in this subscale understand racial hostilities at the personal level and the institutional level, but do not engage in reciprocal hostility, nor do they use the conditions of racism as an excuse (Sedlacek, 1998). They are able to acknowledge and navigate through a racist system while at the same time trying to address the problems inherent in the system. Sedlacek and Adams-Gaston (1992) suggested that for athletes, the word “athletism” could be substituted for- or used in conjunction with racism, because athletes may face discrimination based on their athlete status.

*Dealing with racism and academic achievement.* Young and Sowa (1992) found that dealing with racism was one noncognitive variable that correlated with GPA. In one study looking at rejection sensitivity based on status, Mendoza-Denton et al. (2002) found after two to three years at a predominantly White university Black students who had high scores in a scale of rejection sensitivity (i.e., they were more prone to be affected by racially-charged negative events) performed significantly worse than students with low scores. In a study of Black middle school students Sanders (1997) found that academically successful students acknowledged the
existence of such negative conditions but adopted an attitude of perseverance in the face of such biases. They chose to view the negative experiences as challenges, rather than obstacles.

*Dealing with racism and academic motivation.* As mentioned earlier, some studies suggest that student athletes, especially Black student athletes face the possibility of being stigmatized based on their athletic status and race. Ogbru (1988) and Mendoza et al. (2002) found that students who expect to find rejection based on status or race may disengage from wholeheartedly pursuing valued academic goals. Covington (1998) explained that students are motivated to protect their sense of ability. Students who expect to find resistance based on their status or race may choose to attribute any lack of success to the negative biases of others whether or not such beliefs are warranted as a way of protecting their beliefs about their academic ability. Sanders (1997) showed that academically successful Black students could choose to use such biases to motivate them to achieve in the classroom, therefore preserving their ability beliefs.

Again, further relating this subscale back to achievement motivation theories, self-efficacy, expectancy-value theory, and attributional theory can be of use to inform how dealing with racism affects motivation. Athletes who successfully deal with racism may have had previous exposure to coping skills, either in their own experiences (past mastery experiences), by watching others in similar situation (vicarious learning), or through verbal coaching from significant others (verbal persuasion). According to Bandura’s (1977) theory of self-efficacy and Wigfield and Eccles’ (1992, 2000) expectancy-value theory, athletes who understand how to cope with prejudiced environments and believe that they possess the requisite skills to do so will be more inclined to persist when they are faced with discrimination. The value athletes place on succeeding in hostile environments could be augmented or diminished depending on how they choose to approach such circumstances. If they have succeeded in the face of such prejudices in
the past, and attribute their success to their own hard work, they will be more inclined to persist in the future, knowing they can overcome external forces through their own efforts (see Weiner, 1985).

Dealing with racism also has implications for maintaining balance between academics and athletics. As Killeya (2001) stated, if student athletes find discrimination in the classroom, they are more likely to identify with their identities as athletes. It would make sense that athletes would rather commit their time and energy to a role where they are less likely to be discriminated against because of their race-ethnicity. Again, echoing the sentiments of Pearson and Petitpas (1990), if student athletes base their identity solely on their role as athletes, they face even greater struggles in maintaining a balance between their academics and athletics.

Availability of a Strong Support Person

The availability of a strong support person variable is defined by Tracey and Sedlacek (1984, 1989) as having a person or a network of people to seek out for encouragement or to receive advice in times of need. Sedlacek (1998) added that students who score high in this subscale of the NCQ are able to seek help when they need it and do not try to handle all of their problems on their own.

Availability of support and academic achievement. Sedlacek and Adams-Gaston (1992) found that the availability of a strong support person was positively correlated with student-athletes’ GPAs for a sample of 105 student athletes at a large, Eastern, Division I university. In a study of academic success for 248 international students at a large, Eastern, state university, Boyer and Sedlacek (1988) found that academic self-concept and the availability of a strong support person predicted GPA in the first semester through the eighth semester (no statistics given).
According to the NCAA (2005a) team- or academic department-affiliated academic advisors can provide athletes with the services necessary for holistic success, including: assisting in the scheduling of classes; providing expenses for tutoring, drug-rehabilitation, and personal counseling; providing career counseling; and furnishing nonelectronic course calendars; and allowing the use of computers, typewriters, fax machines and copiers. Not only can academic counselors provide a sounding board for academic concerns, but also they can serve as a valuable link between the athletes and important resources and services provided by the university. Because of the time demands placed on athletes, having help to coordinate auxiliary services can help them balance their commitment to their two major roles: being a student and being an athlete.

Availability of support and academic motivation. According to Bandura’s (1986, 1997) self-efficacy theory, one of the ways to enhance motivation is by learning through vicarious experiences. Student-athlete motivation can be enhanced by the presence of an important role model who has experienced success in similar academic endeavors. Bandura (1997) also noted that verbal persuasion and encouragement can also help to enhance self-efficacy beliefs. Again, for student athletes, important resources of personal support include academic advisors, either in their academic departments, or in a separate support center for student athletes.

According to Wigfield and Eccles’ (1992, 2000) expectancy-value theory, having access to personal support can help athletes develop insight into the value of their educational endeavors (attainment value and utility value), as well as help them understand what is required in order to be successful (cost). Having role models within the institution is a key in helping student athletes find the necessary support services available to help them adjust to- and thrive in the college culture, helping them believe in their ability to succeed, and helping them take ownership over
their own actions. Person and LeNoir (1997) reported that Black athletes were more likely to persist when they have positive experiences with faculty and advisors and participate in effective tutoring, research, and internship programs.

Another individual who can be extremely valuable in helping athletes deal with problems that affect their academic and athletic development is the sport psychologist. Sport psychologists do more than provide motivating locker room pep talks (although they are usually skilled in this area). Carter (2005) noted that sport psychologists provide specialized training for student athletes in the areas of mental skills training, anxiety and stress reduction, building leadership skills, maximizing athletic performance, and helping athletes through personal or athletic crises. Only a few select universities across the country have a sport psychologist on staff, but having the support of a professional specifically trained to assist athletes extends their web of support. Whereas coaches may understand how the athletic demands affect their athletes, and academic counselors understand the academic issues athletes face, sport psychologists can play an integral role in helping athletes find a suitable balance between their academic and athletic identities.

Preference for Long-Range Goals

A preference for long-range goals means that students are able to postpone gratification by setting achievable future goals (Tracey & Sedlacek, 1984). Sedlacek (1998) and Tracey and Sedlacek (1984, 1989) also maintained that students who score highly in this subscale of the NCQ have the ability to set long-term goals and consistently pursue the accomplishment of smaller goals that lead up to more long-range ones. These students also show patience when they do not immediately achieve their goals and are able to delay gratification. Also, students who show a preference for long-range goals demonstrate effective planning in both academic and non-academic areas.
Long-range goals and academic achievement. According to Sedlacek and Brooks (1976), FGCSs typically lack role models who advanced through the college system, making it difficult for them to conceptualize the link between college coursework and its application to the professional world. Sedlacek and Brooks (1976) also contended that for incoming students, the benefits of a college education may be too distant to comprehend, so even if they do develop goals for themselves it may be difficult to effectively develop long-range goals.

Husman and Lens (1999) conducted studies on what they called future time perspective (FTP). FTP refers to the ability to apply benefits of immediate tasks to future goals. Students with a long FTP are able to see the value an activity has for the distant future, thus leading to greater persistence toward achievement in immediate tasks. Although setting long-term goals may be helpful to successful academic and athletic planning, Bandura and Simon (1977) warned that long-term goals, alone, may be too far removed from the present to stimulate motivation to act on them.

Long-range goals and academic motivation. According to Sowa and Gressard (1983) athletic participation may inhibit students’ ability to make appropriate plans for their academic futures. In their study of varsity athletes and nonathletes at a Southeastern Division I university using the Student Developmental Task Inventory (SDTI), the authors found that athletes scored significantly lower than nonathletes in subscales measuring educational planning and career planning. Petitpas and Champagne (1988) cautioned that athletes who become excessively invested in developing their athletic identity (identity foreclosure) may not be inclined to fully explore opportunities in other areas (e.g., academic planning), therefore reinforcing an imbalance between their academic and athletic motivation.
Husman and Lens (1999) posited that if students value the information taught in their classes and can conceptualize how the content applies to their future occupational goals and aspirations, they will be more engaged in the learning process—more academically motivated. Sedlacek and Brooks (1976) wrote that some students, especially FGCSs, lack role models who serve as living proof that the arduous journey through college eventually pays off. It may be difficult to understand how different academic concepts taught in class will apply to them in the future.

In relation to theories of achievement motivation, especially self-efficacy theory, goal-setting is related to persistence. As was mentioned before, Bandura and Schunk (1981) asserted that the specificity and proximity of goals influence have an effect on people’s ability to persevere. Regarding specificity, people are more likely to scrutinize their behaviors in reference to specific goals than they are with vaguely defined goals. Regarding proximity, people are also more likely to establish and sustain motivation when they develop realistic short-term goals that lead to the completion of long-term goals. According to Wigfield and Eccles (1992, 2000), if athletes value the successful completion of their goals in both academics and athletics, and also find satisfaction in the pursuit of these goals, they will be willing to sacrifice the costs involved and persist to the see that their goals are achieved in both areas.

**Successful Leadership Experience**

Successful leadership experience, according to Tracey and Sedlacek (1984, 1989) and Sedlacek (1998), involves the ability to provide direction and stability in groups. Leaders take an active role in settling disputes and help manage affairs in culturally relevant activities. Sedlacek and Brooks (1976) maintained that students can demonstrate successful leadership experiences
by taking an active role in the operations of an organization that is important to them, such as church groups, athletic teams, and even street gangs.

*Leadership and academic achievement.* Being a successful leader means that the athlete at some point played a prime role in a cause for which the end result was positive. If athletes adopt an attitude of persisting until they achieve the desired results in all that they do, they have the potential to find success in their academic endeavors as well as in athletics. Wright and Coté (2003) asserted that leaders are also generally self-motivated and take the initiative when faced with challenges. In reviewing studies on the NCQ, only one study (Tracey & Sedlacek, 1987) found a correlation between successful leadership experience and grade point average. In the study, successful leadership experience was positively correlated with first-semester grades for first-semester White students at a large, Eastern university.

*Leadership and academic motivation.* Athletes with successful leadership experiences have demonstrated that they can manage, not only themselves, but others, as well. Part of being an effective leader is setting an example by modeling effective work habits (Sedlacek and Brooks, 1976). Many athletes at the Division I level were leaders on their high school teams, demonstrating the will to succeed. Being a successful leader in high school sports (or in any other high school or community activity) does not guarantee that athletes will show the same drive and determination in the classroom. What it does mean is that athletes have shown that they have taken on challenges in the past and were successful in their attempts to achieve in leadership roles. Bandura (1977) stated that past mastery experiences are the most critical source of efficacy beliefs. By definition, people who are successful leaders have shown the ability to thrive when they were in charge of the direction of a particular group. Therefore, successful leaders have a foundation of past successes on which to build.
Wright and Coté (2003) posited that leaders in the athletic domain demonstrate above average commitment to skill development, have an exemplary work ethic, and overall, set a positive example for teammates. In other words, team leaders in most sports are very motivated to excel. According to Sedlacek and Brooks (1976) effective leaders in one domain, like athletics have the potential to succeed in other domains, like academics, but being able to apply the same amount of diligence to their academics as they do to the activities in which they were leaders is a key to maintaining a healthy balance. Being able to balance the leadership demands within a team also gives athletes with leadership experience a basis for maintaining a balance between their responsibilities as a student and as an athlete. Just because these athletes are able to balance the responsibilities within the organizations in which they hold leadership positions, does not necessarily mean that they are able to maintain the level of balance in other areas of their lives.

Demonstrated Community Service

Sedlacek (1998) and Tracey and Sedlacek (1984) describe the variable, demonstrated community service, as establishing and maintaining relationships within a cultural, racial or ethnic, or geographical community. Sedlacek (1998) also stated that students with high scores in this subscale also have a history of contributing to their local groups and setting goals to improve their community environments.

Community service and academic achievement. Participating in Division I athletics can insulate student athletes from experiencing the full benefits of programs and people available at their university. Tinto (1993) pointed out that students are more likely to persist toward degree completion if they feel that they are connected with the university. Athletics provides one obvious community with which athletes can identify, but becoming involved in service outside of their sport commitments helps athletes establish even stronger ties to their college
communities. Miller and Kerr (2003) noted that the NCAA CHAMPS/Life Skills Program emphasizes the need for athletes to use their athletic status to benefit their local communities.

Astin and Sax (1998) found that education-related community service had positive effects on a number of educational outcomes, including GPA, the desire to obtain a degree, increases in general knowledge and knowledge in specific disciplines, academic-self concept, time invested in coursework, frequency of contact with instructors, and the completion of extra work for their courses. It should be noted that this study used a sample of the general student body and not solely athletes.

Community service and academic motivation. Becoming involved in the community outside of sports can provide athletes with an avenue to integrate their athletic identities and their academic identities. As mentioned earlier, Astin and Sax (1998) found that participating in community service enhanced students’ academic self-concepts and also had positive correlations with behavioral indicators of academic motivation (e.g., time devoted to studies, amount of contact with professors, and the completion of supplemental work for classes). With the limited amount of time they have at their disposal, if student athletes have found time to be active in their communities outside of sports, they probably have had to develop time management skills in order to balance their multiple demands. According to Seldlacek and Brooks (1976), being involved in the community also demonstrates the willingness to focus on the needs of others as opposed to focusing solely on individual needs. Student athletes with high scores in this subscale may be less likely to have an identity that is egocentrically entrenched in their status as athletes, which according to Petitpas and Champagne (1988) and Pearson and Petitpas (1990) puts athletes at risk for transition issues in balancing the demands of college life.
Knowledge Acquired in a Field

According to Sedlacek (1998) and Sedlacek and Brooks (1976) knowledge in an acquired field variable refers to the culturally relevant learning experiences students bring into the learning environment. Students may think of academic knowledge as strictly being the information derived from textbooks and classrooms. Tracey and Sedlacek (1984) argued that today’s methods of evaluating incoming students (e.g., HSGPA and SAT or ACT scores) are designed to tap into knowledge acquired from these sources, but do not acknowledge that students may develop a foundation of applicable skills from activities outside the walls of the schools. The authors further explain that in order to extract the maximum benefit from new material, students need to be able to reflect upon, and apply their previous culturally-relevant experiences to the newly furnished course content.

Knowledge in a field and academic achievement. Dochy, Segers, and Buehl (1999) noted that prior knowledge is simply any information students acquired through past experiences that can be applied to new learning opportunities. In a review of the literature on prior knowledge research, the authors reported that a majority of the studies reviewed (91.5%) revealed that prior knowledge had a positive effect on performance. Pintrich, Marx, and Boyle (1993) pointed out that prior knowledge in a subject does not always lead to easier integration of new ideas. People who are partial to the beliefs they hold to be true may be reluctant to change their perspectives to incorporate new information that contradicts these beliefs.

Ideally, professors would take the time to purposefully access their students’ prior knowledge on a given topic and encourage them to reflect on their personal experiences that relate to the subject matter. Students may not know what past experiences relate directly or indirectly to the immediate course material. They may not be conditioned to ask themselves,
“What do I know about this topic?” Dochy et al. (1999) asserted that professors can facilitate the retrieval of prior knowledge by using real-life examples to illustrate important concepts. Time restraints and large class sizes may prevent college instructors from investigating what experiences their students bring to the learning material.

*Knowledge in a field and academic motivation.* Bandura (1997) stated that finding success in mastery experiences similar to the ones faced in college is another way to enhance efficacy beliefs for given tasks. Having an understanding of the subject material prior to taking classes may help students’ efficacy beliefs, thereby giving them the confidence and motivation to succeed. Finding ways to bring prior knowledge into new learning situations also helps make the subject matter more meaningful to the students. If students can see how their past experiences relate to the new material they may increase their value of the content, therefore increasing the chances that they will be motivated to learn (see Wigfield and Eccles, 1992).

If student athletes are in the habit of obtaining and demonstrating knowledge of academic subjects outside of school, it means that they must share at least part of their available time between academics and athletics. Having high scores on this subscale may indicate that athletes are more equipped to balance their motivation for academics and athletics.

**The Model to be Tested**

Over its century-old history, the NCAA has continued to revise its academic policies to ensure that its athletes have the structure and resources necessary to receive quality educational experiences, while also maintaining a balance between their responsibilities as athletes. At the Division I level, athletes need to commit a considerable amount of time and energy to consistently reach their peak level of performance. In the current study I looked at background variables, high school variables, situational variables, and noncognitive variables and their
influences on academic motivation of student athletes as operationalized by the SAMSAQ. I will also look at the relationship between these variables and the balance (indicated by the balance score) between academic and athletic motivation. A positive balance score will indicate higher academic motivation, a balance score of zero will indicate no difference between academic motivation and athletic motivation, and a negative score will indicate a higher athletic motivation.

Using both the level of academic motivation and the balance score between academic and athletic motivation as dependent variables is helpful to produce a more accurate representation of student athletes’ academic motivation. If athletes receive a neutral score on the balance scale, it only means that they have demonstrated a balance between their academic and athletic roles. However, neutral scores on the balance scale combined with low scores for academic motivation imply that although the athletes demonstrate a balance between academics and athletics, their overall motivation for both domains will be low. One assumption on which this study is based is that athletes who are participating at the highest level of collegiate athletic competition should show a general trend of high scores in athletic motivation. Therefore, it is expected that the tendency will be for balance scores to either be close to neutral, or favoring athletic motivation (i.e., a negative value on the balance score).

**Background Variables**

Gaston-Gayles (2004) found that women scored higher in the scale measuring academic motivation than men. For this reason, it was expected that women would score higher in academic motivation. Because of the influence of scores from athletes in revenue sports, who may be more inclined to attend to their athletic roles, it was predicted that men would score higher in athletic motivation, and therefore have lower balance scores. Although some Black
athletes come to college less-prepared and have lower graduation rates than their White counterparts, it does not mean that Black athletes are less academically motivated, but because Black athletes may have more role models in athletics than they do in academia, Black athletes may exhibit lower balance scores. Athletes who have parents who successfully completed college may experience how having an education affects the quality of life for their families. Also, parents with college degrees have experience in balancing the multiple demands of college life. It was expected that parent level of education will have a positive effect on academic motivation and the balance score between academic motivation and athletic motivation.

**High School Variables**

It was expected that HSGPA would be positively correlated with academic motivation. It was unknown how HSGPA would affect athletic motivation (used to compute balance score), but it would not be surprising if athletes who have lower HSGPAs also exhibit lower balance scores. Again, it was expected that SAT score will be positively correlated with academic motivation, but the expectation for the relationship between SAT score and athletic motivation was unknown. Therefore, it was unclear how SAT scores would affect balance scores. Finally, it was predicted that the level of high school math would be positively correlated with both academic motivation and balance score.

**Situational Variables**

It was expected that athletes who are in season would have lower balance scores, especially for athletes in revenue sports. Because of the tendency for athletes in revenue sports to be isolated from the rest of the student body, it was expected that athletes in revenue sports would have lower academic motivation and balance scores than athletes in nonrevenue sports. Athletes may take summer classes because they are highly motivated academically and want to
get a head start on completing their degree requirements. They may also be motivated to take
summer classes to reduce the number of course they have to take during the season of
competition. Because there may be many reasons athletes use to justify taking summer courses, it
was unknown how taking summer classes prior to the freshman year would affect academic
motivation or the balance score between academic motivation and athletic motivation. It is
unknown how the number of credits students take would affect their academic motivation and
balance scores for students taking the minimum number of credit hours (12) or an average
number of credit hours (e.g., 15). It was expected that students taking a heavy course load (e.g.,
18 credit hours) would score higher in the area of academic motivation. It was also predicted that
students who are in-season and take a minimum number of credits would have lower balance
scores.

Noncognitive Variables

It was expected that general self-concept would be positively correlated with both
academic and athletic motivation. The NCQ measures general self-concept as opposed to
domain-specific self-concept, so it was not expected to show a strong relationship. It was
expected that students with higher self-concept scores would have more neutral balance scores. It
was expected that scores in the subscale measuring realistic self-appraisal would be positively
correlated with academic motivation. It was also expected that students scoring higher on
realistic self-appraisal would have more neutral balance scores. It was expected that scores on
the NCQ subscale measuring the ability to deal with racism would be positively correlated with
academic motivation. It was also expected that students scoring higher in this subscale would
have more neutral balance scores. It was expected that the availability of a strong support person
would be positively correlated with academic motivation. It was also expected that students
scoring higher on this subscale would have more neutral balance scores. It was expected that scores in the NCQ subscale that measures the preference for long-term goals would be positively correlated with academic motivation. It was unknown how this subscale would correlate with the balance score. It was expected that successful leadership experience would be positively related to academic and motivation. It was unknown how successful leadership experiences would affect balance scores. It was expected that scores on the NCQ subscale measuring demonstrated community service would be positively correlated with academic motivation. Because being focused on athletic development can lead to identity foreclosure for athletes, it was expected that there would be a negative correlation between demonstrated community service and athletic motivation, and therefore have a positive correlation between demonstrated community service and balance score. It was expected that there would be a positive correlation between knowledge in a given field and academic motivation; however, it was unknown how this subscale will relate to balance scores.

Research Questions

In the current study I will look to answer two research questions.

1. To what extent do background variables, high school variables, situational variables, and noncognitive variables affect student-athlete academic motivation?

2. To what extent do background variables, high school variables, situational variables, and noncognitive variables affect the balance score representing the balance between student-athlete academic motivation and student-athlete athletic motivation?

The background variables were assessed by the NCQ and a background questionnaire. The high school variables, HSGPA and SAT score, were obtained from official student records, and high school academic intensity was assessed through self-response item on the background
questionnaire measuring the highest level of math participants completed in high school. The noncognitive variables were assessed through their respective subscales of the NCQ. Academic motivation was operationalized through the use the Academic Motivation subscale of the SAMSAQ. I calculated the academic and athletic motivation balance scores by subtracting the scores for the Student Athletic Motivation subscale of the SAMSAQ from the scores from the Academic Motivation subscale of the SAMSAQ.
CHAPTER 3

METHODOLOGY

Participants

The participants for this study were incoming freshmen athletes from all varsity teams at a large, predominantly White, Division I, public, Research I institution in a Middle Atlantic state. There are 15 sports offered for men and 14 sports offered for women. Sports for men include baseball, basketball, fencing, football, golf, gymnastics, lacrosse, soccer, swimming and diving, tennis, track and field (and cross-country), volleyball, and wrestling. Sports for women included basketball, fencing, field hockey, golf, gymnastics, lacrosse, soccer, softball, swimming and diving, tennis, track and field (and cross country), and volleyball. Athletes from club and intramural sports, as well as cheerleading were not included in this study.

For the entire university 45% of the students are women and 55% of the students are men. In 2005 the racial or ethnic breakdown for this school was as follows: approximately 4% Black, 6% Asian or Pacific Islander, 3% Hispanic and .1% Native American. The vast majority (85%) are White. Table 1 outlines the demographic breakdown of the sample population. Not included in Table 1 are the high school grade point averages, SAT total scores, and the number of fall credit hours for which the participants were enrolled at the beginning of the semester. The average high school grade point average was 3.35 (SD = .48), the average SAT total score was 1096 (SD = 147.7), and the average number of credit hours was 16.1 (SD = 1.23). More information on univariate analysis for independent variables can be found in Table 6.
Table 1

Demographic Information

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Men</td>
<td>118</td>
<td>63.8</td>
</tr>
<tr>
<td></td>
<td>Women</td>
<td>67</td>
<td>36.2</td>
</tr>
<tr>
<td>Race-ethnicity</td>
<td>Black</td>
<td>22</td>
<td>11.9</td>
</tr>
<tr>
<td></td>
<td>White</td>
<td>154</td>
<td>83.2</td>
</tr>
<tr>
<td></td>
<td>Asian</td>
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<td>0.5</td>
</tr>
<tr>
<td></td>
<td>Hispanic</td>
<td>2</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>6</td>
<td>3.2</td>
</tr>
<tr>
<td>Parent education</td>
<td>High school only</td>
<td>15</td>
<td>11.9</td>
</tr>
<tr>
<td></td>
<td>Trade school</td>
<td>4</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>Some college</td>
<td>11</td>
<td>5.6</td>
</tr>
<tr>
<td></td>
<td>Bachelors</td>
<td>62</td>
<td>33.5</td>
</tr>
<tr>
<td></td>
<td>Masters</td>
<td>58</td>
<td>31.4</td>
</tr>
<tr>
<td></td>
<td>Ph.D.</td>
<td>32</td>
<td>17.3</td>
</tr>
<tr>
<td>High school math</td>
<td>Algebra II</td>
<td>26</td>
<td>14.1</td>
</tr>
<tr>
<td></td>
<td>Trigonometry</td>
<td>32</td>
<td>17.3</td>
</tr>
<tr>
<td></td>
<td>Pre-calculus</td>
<td>63</td>
<td>34.1</td>
</tr>
<tr>
<td></td>
<td>Calculus</td>
<td>64</td>
<td>34.6</td>
</tr>
<tr>
<td>Sport profile</td>
<td>Revenue</td>
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<td>15.1</td>
</tr>
<tr>
<td></td>
<td>Nonrevenue</td>
<td>157</td>
<td>84.9</td>
</tr>
<tr>
<td>In-season</td>
<td>Yes</td>
<td>58</td>
<td>31.4</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>127</td>
<td>68.9</td>
</tr>
<tr>
<td>Summer session</td>
<td>Yes</td>
<td>38</td>
<td>20.5</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>146</td>
<td>78.9</td>
</tr>
<tr>
<td></td>
<td>Missing</td>
<td>1</td>
<td>0.5</td>
</tr>
</tbody>
</table>
Design

I conducted a correlation study using background variables, high school variables, situational variables, and the subscales of the NCQ as the independent variables. McMillan and Schumacher (2001) define correlational research as being “concerned with the relationships between two or more phenomena” (p. 34.). There were two dependent variables: academic motivation, and the balance score between academic and athletic motivation. Tabachnick and Fidell (2001) suggested using the following formula for calculating an appropriate sample size for multiple correlations: \( N \geq 50 + 8m \) (where \( m \) is equal to the number of independent variables). This study employs the use of 18 independent variables, so the minimum number of students needed would be 194. Because there were only 185 participants in this study, at least 2 variables needed to be eliminated prior to running the regressions. Because situational variables have less support from the existing literature, any situational variables with bivariate correlations yielding correlations less than the absolute value of .15 were eliminated from the study. This procedure will be explained subsequently in the data analysis section.

In order to establish causality between two variables, Selltiz, Jahoda, Deutsch, and Cook (1959) outlined three prerequisite conditions. First, there has to be a concomitant variation between the two variables. A concomitant variation is “the extent to X and Y occur together or vary together in the way predicted by the hypothesis” (Selltiz, et al., 1959, p. 83). The second condition calls for temporal asymmetry between the two variables. In other words in order to infer that X causes Y, X must occur prior to- or concurrently with- Y. The third condition, eliminating all other possible causal factors, is considerably more complicated. There could be a multitude of contributing factors that need to be present in order for X to show causality for Y. If evidence is secured that provides support for the premise that X causes Y, there may be
important confounding variables that have not been addressed that need to be present in order for such a relationship to exist. If no such support is found to prove that X causes Y, there may also be some conditions, which were not accounted for, in which X does have a causal relationship with Y. In order to determine the extent to which such confounding variables influence the relationship between X and Y, researchers need to identify and incorporate possible variables in question into their research model (Asher, 1976).

The current model tested causal linkages between the independent variables based on the theoretical and empirical underpinnings outlined in chapter two. The results of the current study either provide support or disconfirm the extent to which the selected independent variables predict academic motivation and the balance score between academic motivation and athletic motivation.

Pedhazur (1997) noted that specification error occurs when an unsuitable model is used in the regression analysis. Possible specification errors surface when relevant variables are not included, extraneous variables are included, or using a linear additive model when a nonlinear or nonadditive model would be appropriate. The absolute perfect model for research almost never exists, but researchers must make an effort to minimize specificity error as much as possible.

Instruments

*Student Athlete Background Questionnaire*

The Student Athlete Background Questionnaire (SAB-Q) is a form utilized to assess student-athlete background information not already covered in the NCQ or the SAMSAQ (see Appendix F). The questionnaire consists of five items measuring the following variables: parent level of education, academic intensity (as measured by the highest level of high school math completed), sport profile (and season status), whether or not students were enrolled in summer
classes prior to the start of the fall semester, and number of credits hours taken in the fall semester. This instrument is a basic survey designed by the researcher.

*Noncognitive Questionnaire (NCQ; Tracey and Sedlacek, 1984)*

Sedlacek and Brooks (1976) identified eight noncognitive variables that are related to the academic success for college students. The NCQ was designed by Tracey and Sedlacek in 1984 to assess psychosocial variables that affect student success in college. The scales of the NCQ are: (I) Academic Self-concept, (II) Realistic Self-appraisal, (III) Dealing with Racism, (IV) Availability of a Strong Support Person, (V) Preference for Long-range Goals, (VI) Successful Leadership Experience, (VII) Demonstrated Community Service, and (VIII) Knowledge in an Acquired Field. Although the variables are important to academic success for all students, they are particularly useful when used with minority students.

Traditional predictors of academic success (e.g., SAT or ACT scores and high school GPA), although effective in predicting the academic success of White students, are less effective in predicting the academic success of minorities and nontraditional students. Student athletes can be classified as nontraditional students (Sowa & Gressard, 1983) with backgrounds and academic needs that differ from traditional White middle- or upper class students. The NCQ was designed specifically to help predict the academic success of nontraditional students, hence the decision to use this instrument in the current study.

The NCQ (see Appendix G) is a 29-item questionnaire incorporating seven short answer-response items, 2 multiple choice items, and 18 items using a five-point Likert scale, ranging from a score of one (strongly agree) to five (strongly disagree). There are six items at the beginning of the survey that document background information. Although not all of the background variables will be used in this study variables (i.e., student age), for ease of collection
students will fill out the entire questionnaire. Total scores for each subscale consist of the sum of scores for the items in each subscale. There are no cutoff scores for high and low scores.

Six items measure self-concept. Three items measure realistic self-appraisal. Five items measure dealing with racism. Three items measure availability of a strong support person. Three items measure preference for long-range goals. Three items measure successful leadership experience. Two items measure demonstrated community service, and two items measure knowledge acquired in a field. The range of raw scores for each subscale is outlined in Table 2.

Table 2

<table>
<thead>
<tr>
<th>Scale</th>
<th>Low Score</th>
<th>High Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Concept</td>
<td>6</td>
<td>27</td>
</tr>
<tr>
<td>Self-Appraisal</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Dealing with Racism</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>Long-Range Goals</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Availability of a Strong Support Person</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Positive Leadership Experience</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Demonstrated Community Service</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Knowledge Acquired in a Field</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

The validity of the NCQ has been supported across many different populations. Tracey and Sedlacek (1984, 1985, 1987) used samples of Black and White university students. Sedlacek and Adams-Gaston (1992) used a sample of student athletes. The NCQ has also been shown to be valid in studies of international students (Boyer & Sedlacek, 1988), female students (Ancis &
Sedlacek, 1997), Asian-American students (Fuertes, Sedlacek, & Liu, 1994), and Hispanic students (Fuertes & Sedlacek, 1995).

Tracey and Sedlacek (1984) conducted a factor analysis on two separate random samples of Black first-year students (N = 190 for the first sample and N = 89 for the second sample) at a large, Eastern, predominantly White, Division I, state university and found that the items clustered around the constructed variables, thereby yielding support for the construct validity of the NCQ across the eight noncognitive variables. This suggests that the scales are invariant across these populations of college students. Separate factor analyses yielded similar results for both Black and White samples (although in the article only results from the Black study were reported). The authors also found that along with SAT scores, positive self-concept and realistic self-appraisal positively predicted first-semester grades for Black and White students. In their 1985 study, Tracey and Sedlacek found similar results. Academic self-concept and realistic self-appraisal were found to be predictive of grades for Black and White students regardless of their semester standing. Preference for long-range goals predicted third-semester grades for both Black and White students. Knowledge in a field predicted grades for White students in their sixth through eighth semesters, but not for the Black participants with the same semester standing. Tracey and Sedlacek (1987) found further evidence of construct validity of the NCQ using a sample of 208 Black and 1,475 White first-year students at a large Eastern, predominantly White, Division I, state university—again using factor analysis. The scales measuring demonstrated community service, successful leadership experiences, and preference for long-range goals were found to be predictive of first-semester grades for the White sample only.

Sedlacek and Adams-Gaston’s 1992 study found that scores from three scales—Availability of a Strong Support Person (T score $r = .30$), Demonstrated Community Service (T
score $r = .40$), and Academic Self-Concept ($T$ score $r = .45$) were significant in predicting first-semester grades for a sample of 105 student athletes at a large, Eastern, Division I university. In a study of academic success for 248 international students at a large, Eastern, state university Boyer and Sedlacek (1988) found that academic self-concept and the availability of a strong support person predicted GPA in the first semester through the eighth semester (no statistics given).

Ancis and Sedlacek (1997) yielded further support for the criterion-related validity of several NCQ scales in a study of female college students. The sample consisted of 1,930 first-year female students over a ten-year period at a large, Middle Atlantic university. Demonstrated community service was shown to be predictive of grades in the first, third, fifth, and seventh semesters. Other NCQ variables that were shown to predict academic performance for women include: realistic self-appraisal and knowledge acquired in a field. Successful leadership experience (for semester five) and the availability of a strong support person (for semester seven) were found to be significant predictors of academic success. Surprisingly, in this study, positive academic self-confidence was found to be a significant negative predictor of GPA for this sample. The authors proposed that “additional psychological variables not measured here may be related to these findings” (p. 6). Ancis and Sedlacek (1997) suggested the unexpected results may be attributed to a condition known as the Imposter Phenomenon, whereby highly successful women doubt their abilities, and secretly believe that they are not worthy of such successes.

Fuertes and Sedlacek (1995) indicated that dealing with racism was the only NCQ variable that correlated with GPA in a study of Hispanic students. In a 1995 study of 156 Asian American students over a ten-year time period at a large predominantly White Northeastern university, Fuertes et al. reported that along with SAT scores, demonstrated community service,
positive academic self-concept, and knowledge acquired in a field were consistent predictors of student grades. In later semesters (e.g., semester seven), dealing with racism emerged as a significant predictor of both GPA and enrollment status.

Woods and Sedlacek (1988) used the Perceived Stress Scale (PSS) developed by Cohen, Karmarck, and Mermelstein (1983) and new NCQ items to help establish the congruent validity of the original NCQ scales. Sixty-five new items were added to the NCQ for the 1988 study to further investigate the construct validity and reliability of the NCQ. They found that three of the eight scales (positive self-concept, availability of a strong support person, and demonstrated community service) correlated the highest with the PSS items measuring self-understanding and self-control, the frequency of being angered due to forces beyond your control (strong negative correlation), and effectiveness and leadership issues, respectively. The findings suggest that having a positive mindset (positive self-concept), trusted personal support (availability of a strong support person), and strong ties to the community (demonstrated community service) may be important resources to help individuals maintain a sense of control in stressful situations. Six of the eight original scales of the NCQ showed correlations with the new items in this study. Woods and Sedlacek (1988) noted that further research is needed to measure the construct validity of the NCQ, especially for the Understands and Deals with Racism, and Successful Leadership Experience subscales.

In the majority of the studies in which researchers used the NCQ, the dependent variables were related to academic success, usually the relationship between NCQ variables and academic achievement or persistence (e.g., Tracey & Sedlacek, 1987; Sedlacek & Adams-Gaston, 1992; and Fuertes & Sedlacek, 1995). The current study will look at the relationship between the variables represented by the NCQ and academic motivation and the balance score between
academic motivation and athletic motivation. No studies were found that investigate the relationship between scales on the NCQ and academic or athletic motivation.

Tracey and Sedlacek (1984) found that 2-week test-retest reliability ranged from .70 to .94 for the entire instrument. Inter-rater reliability (Pearson r) for the ratings of the open-ended items of the NCQ was found to be between .83 and 1.00. For the item asking about the three current goals students have right now, responses were rated for how much time it would take to complete the goal, and how much the goals are related to academics (interrater r = .83). For the item in which students list the three things they are most proud of doing students were rated on how difficult their accomplishments are relative to all students who graduated high school (interrater r = .88). The last open-ended item asks for students to list the offices they held or the groups they have belonged to in either the school or community settings. This item was rated based on the number of activities and offices held by the students (interrater r = 1.00), evidence of leadership (interrater r = .89), the relationship of the goals to the academic setting (interrater r = .98), and involvement in the community (interrater r = .94). Cronbach alpha reliability estimates for the current study range from .76 to .85 for the open-ended responses.

The internal reliability for the NCQ has not been widely published. Table 3 presents the findings for internal reliability for Sedlacek and Adams-Gaston (1992) and the current study. The 1992 study was one of the few studies for which internal reliability data were recorded; the study also used the NCQ to predict grade point average for college student athletes. In reviewing the comparison between the findings from Sedlacek and Adams-Gaston’s 1992 study and the current study, it is apparent that there is a considerable discrepancy in the Cronbach’s alpha r values.
Table 3

Reliability for NCQ Subscales

<table>
<thead>
<tr>
<th>Study</th>
<th>Construct</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Realistic Self-Appraisal</td>
<td>.82</td>
</tr>
<tr>
<td></td>
<td>Understands and Deals with Racism</td>
<td>.77</td>
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<tr>
<td></td>
<td>Strong Support Person</td>
<td>.90</td>
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<tr>
<td></td>
<td>Preference for Long-Range Goals</td>
<td>.81</td>
</tr>
<tr>
<td></td>
<td>Successful Leadership Experience</td>
<td>.80</td>
</tr>
<tr>
<td></td>
<td>Demonstrated Community Service</td>
<td>.73</td>
</tr>
<tr>
<td></td>
<td>Knowledge Acquired in a Field</td>
<td>.77</td>
</tr>
<tr>
<td>Current Study</td>
<td>Positive Self-Concept</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>Realistic Self-Appraisal</td>
<td>.24</td>
</tr>
<tr>
<td></td>
<td>Understands and Deals with Racism</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>Strong Support Person</td>
<td>.61</td>
</tr>
<tr>
<td></td>
<td>Preference for Long-Range Goals</td>
<td>.42</td>
</tr>
<tr>
<td></td>
<td>Successful Leadership Experience</td>
<td>.24</td>
</tr>
<tr>
<td></td>
<td>Demonstrated Community Service</td>
<td>.35</td>
</tr>
<tr>
<td></td>
<td>Knowledge Acquired in a Field</td>
<td>.14</td>
</tr>
</tbody>
</table>

Student Athletes’ Motivation toward Sports and Academics Questionnaire (SAMSAQ; Gaston-Gayles, 2002, 2004)

Gaston-Gayles (2004) created the SAMSAQ (see Appendix I) to measure the academic and athletic motivation of student athletes. This instrument was chosen for this study because it measures student athletes’ motivation in their two most prominent college roles: academics and
athletics. The original 30-item questionnaire uses a six-point Likert scale ranging from a score of one (very strongly disagree) to a score of six (very strongly agree). The SAMSAQ has 16 items designed to measure academic motivation and 8 items designed to measure student athletic motivation. Five items also measure career athletic motivation, but this scale will not be used in this study. In order to reduce the chances of random response error, for this study the rating scale for each item of the SAMSAQ will be inverted to parallel the rating scale for the NCQ, so that a score of one will indicate a response of “very strongly agree” and a score of six will indicate a response of “very strongly disagree”. Scores will be converted back to the original scale after the completion of the surveys by the researcher.

Total scores for each subscale on this instrument are calculated by adding the total score of each item within the subscale. Based on the original scale the range of raw scores is outlined in Table 4. There are no cutoff scores to indicate high or low scores.

Table 4

*Range of Raw Scores for SAMSAQ Subscales*

<table>
<thead>
<tr>
<th>Scale</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Motivation</td>
<td>16</td>
<td>96</td>
</tr>
<tr>
<td>Student Athletic Motivation</td>
<td>8</td>
<td>48</td>
</tr>
</tbody>
</table>

Because this is a relatively new instrument, there are very few studies in which researchers have used the SAMSAQ. At the time of the current study there were only two known studies employing the SAMSAQ, including Gaston-Gayles (2002, 2004) and Willis (2005). Gaston-Gayles (2005) used Comprehensive Exploratory Factor Analysis (CEFA) to determine the validity and reliability of the items of the SAMSAQ. CEFA is different from other forms of
factor analysis because it “produces a measure of model fit, as well as confidence intervals for model fit, standard errors for rotated factor loadings, and factor correlations” (Gaston-Gayles, 2005, p. 321). Gaston-Gayles (2005) eliminated three items after exploratory factor analysis yielded low factor loadings for the items. Willis (2005) found four additional items that needed to be eliminated after factor analysis revealed factor loadings of less than .40. Although Gaston-Gayles (2004) expected a two-factor solution (academic motivation and athletic motivation), two, three, and four factor solutions were investigated. The author used the eigenvalue rule, the scree test, root mean square error of approximation (RMSEA) values and interpretability of the items loading on each factor to determine the best-fit model. The rotated three-factor solution was chosen after it was determined that the RMSEA value was more acceptable than the RMSEA from the two-factor model. The three factors were academic motivation, student athletic motivation, and career athletic motivation.

For the academic motivation factor, there were 16 items with factor loadings ranging from .38 to .79 in absolute value. The student athletic motivation factor is composed of eight items with factor loadings on seven of the items being greater than or equal to .59. For career athletic motivation there were five items, and all factor loadings were greater than or equal to .51.

Gaston-Gayles (2004) used alpha coefficients to measure the internal consistency of the items within each subscale. Table 5 outlines the alpha coefficients for each scale in the current study and from the Gaston-Gayles’ (2004) and Willis’ (2005) studies.
Table 5

*Reliability for SAMSAQ Subscales*

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Construct</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Student Athletic Motivation</td>
<td>.86</td>
</tr>
<tr>
<td></td>
<td>Career Athletic Motivation</td>
<td>.84</td>
</tr>
<tr>
<td>Willis (2005)</td>
<td>Academic Motivation</td>
<td>.84</td>
</tr>
<tr>
<td></td>
<td>Student Athletic Motivation</td>
<td>.63</td>
</tr>
<tr>
<td></td>
<td>Career Athletic Motivation</td>
<td>.77</td>
</tr>
<tr>
<td>Current study</td>
<td>Academic Motivation</td>
<td>.47</td>
</tr>
<tr>
<td></td>
<td>Student Athletic Motivation</td>
<td>.60</td>
</tr>
<tr>
<td></td>
<td>Career Athletic Motivation</td>
<td>.47</td>
</tr>
</tbody>
</table>

Variables

*Academic Motivation*

Academic motivation was a dependent variable measured by the Student-Athletes’ Motivation toward Sports and Academics Questionnaire (SAMSAQ). The total score of all the items in this category comprised the overall score for this variable. Sample items that measure this variable include: “It is important for me to learn what is taught in my courses” and “I am willing to put in the time to earn excellent grades in my courses” (Gaston-Gayles, 2005, p. 326).

*Balance Score*

Athletic motivation is not being used as a dependent variable but it will be used to determine the balance score. The total score of all the items in this category will comprise the overall score for athletic motivation. Sample items that measure this variable are: “It is important
to me to learn the skills and strategies taught by my coaches” and “I am willing to put in the time to be outstanding in my sport” (Gaston-Gayles, 2005, p. 326).

The balance score was operationalized as the difference between each participant’s scores for academic motivation and athletic motivation. In order to do this computation, the athletic motivation score will be subtracted from the academic motivation score. The minimum raw balance score is -32 and the maximum balance score is 88.

**Background Variables**

*Gender.* Gender will be a self-reported dichotomous variable. Students will select either “male” or “female” on item 2 of the NCQ.

*Race-ethnicity.* Race or ethnicity was broken down into six self-reported categories: Black, White (non-Hispanic), Asian or Pacific Islander, Hispanic, Native American, and other. These are all categories used by the NCAA to denote racial/ethnic status (NCAA, 2006a). Students will select the response that they believe best represents their racial or ethnic background for item 6 of the NCQ.

*Parent level of education.* Parent level of education represents the highest level of schooling that any one of their parents achieved. The categories are: some high school, high school diploma, some college, associate degree, bachelor’s degree, and graduate degree.

**High School Variables**

*HSGPA.* High school GPA represents athletes’ academic performance in high school. All HSGPAs are based on a 4.0 scale and obtained from the athletes’ university records.

*SAT score.* Participants at the university in this study took the SAT exam as opposed to the ACT. Academic aptitude was measured using students’ cumulative SAT scores from their university records.
**Academic intensity.** Academic intensity is represented by the highest level of math the participants completed in high school. According to Trusty and Niles (2003), the most common intensive math course in American schools are: Algebra 2, trigonometry, pre-calculus, and calculus. Geometry will not be an option because of the variability of intensity of geometry course. Students selected the response that indicates the highest level of math they completed from the given choices (Algebra 2, trigonometry, pre-calculus, and calculus).

**Situational Variables**

Situational variables help further explain the experiences of athletes while they are in college. The situational variables were assessed using the SAB-Q (see Appendix F), which was a brief survey created by the researcher of the current study.

**Sport profile.** Athletes indicated the sport they play. Sport profile is a self-reported dichotomous variable- either they play a revenue sport (football or men’s basketball) or they do not. Participants who played a revenue sport were coded with a “1”, and athletes in nonrevenue sports were coded with a “2” in SPSS.

**Season status.** Season status refers to whether or not the sports in which the athletes participate are in-season at the time of the survey. Sports considered to be in-season at the time of the survey are: cross country (men’s and women’s), football, field hockey, and women’s volleyball. I used their responses from the sport profile section to determine their season status. Using SPSS, participants were coded with a “1” if they participated in a fall sport and a “2” if they did not participate in a fall sport.

**Summer semester enrollment.** Summer semester enrollment is a self-reported dichotomous variable – either athletes attended summer session or they did not. Students selected either yes (I attended summer session), or no (I did not attend summer session). Using SPSS,
students who took summer classes prior to their freshman fall semester were coded with a “1”, and students who did not take summer classes were coded with a “2”.

*Number of credits hours for fall semester.* Number of credits represents the number of credit hours the athletes were enrolled in at the time of the survey. The minimum number of credits hours students can take in order to remain eligible to participate in their sport is 12. The participants wrote in the number of credits for which they are currently enrolled in the space provided.

*Noncognitive Variables*

The following noncognitive variables were operationally defined by the scores on the subscales of the NCQ: positive academic self-concept, realistic self-appraisal, dealing with racism, availability of a strong support person, preference for long-range goals, successful leadership experience, demonstrated community service, and knowledge acquired in a field.

*Positive self-concept.* The conceptual definition of positive self-concept is a sense of confidence in academic abilities and the desire to persist. Positive academic self-concept was operationally defined by the score on this NCQ subscale. One example of an item evaluating this variable would be, “My grades in high school are not indicative of my academic potential.”

*Realistic self-appraisal.* The conceptual definition of realistic self-appraisal is the recognition of academic strengths and weaknesses and the need for self-development. This variable was operationally defined by the score on this NCQ subscale. One example of an item evaluating this variable would be: “Achieving a B average (3.0) at this university should not be too difficult.”

*Dealing with racism.* The conceptual definition of dealing with racism is being realistic about the possibility of facing racism, being able to navigate through a racist environment
without using such prejudice as an excuse, and being willing to improve educational climates. Dealing with racism was operationally defined by the on this NCQ subscale. One example of an item evaluating this variable would be: “I would like the opportunity to demonstrate my academic proficiency.”

**Availability of a strong support person.** Availability of a strong support person is conceptually defined as having a person to turn to in a time of crisis. This variable was operationally defined by the score in this NCQ subscale. One example of an item that evaluates this variable is: “My family has always believed that I should attend college.”

**Preference for long-range goals.** Preference for long-range goals is conceptually defined as the ability to delay immediate gratification in order to achieve long-term successes. This variable was operationally defined by the score on this NCQ subscale. One example of an item measuring this variable would be: “When I start a task, I see it through to completion.”

**Successful leadership experience.** Successful leadership experience is conceptually defined as having a managing role in an area that is an important facet of a student’s life. This variable was operationally defined by the score on this NCQ subscale. An example of an item measuring this variable would be: “People sometimes look up to me.”

**Demonstrated community service.** Demonstrated community service is conceptually defined as participation a student’s cultural community. Demonstrated community service was operationally defined by the score on this NCQ subscale. One example of an item measuring this variable would be: “There is not point in doing things for other people, because it only comes back to get you in the end.”

**Knowledge acquired in a field.** The conceptual definition of knowledge acquired in a field is demonstrating an understanding of concepts through methods that are derived from a
student’s cultural background. One example of an item that would evaluate this variable would be: “List three current goals that you have established for yourself.”

Procedure

First, permission was secured through the institutions’ Institutional Review Board (Appendix A) prior to the collection of any data. Second, verbal permission was also secured from the instructors of the public institution’s Bio-behavioral Health 148 (BBH 048) course, a mandatory orientation course for all first-year student athletes. A meeting was held with the instructors to review the purpose of the study and to go over the procedures for assessing the students. Permission was also secured from William Sedlacek (Appendix B) and Joy Gaston-Gayles (Appendix C), the creators of the NCQ and the SAMSAQ, respectively.

I distributed the surveys, explained the directions, retrieved all of the surveys to ensure the consistency of the experience of participation. Participants also received an informed consent form (Appendix D) outlining the purpose of the study and their rights as participants. The researcher read a recruiting message (Appendix E) and asked the students to complete the survey during a designated class time as a part of their Bio-Behavioral Health 148 course and place their completed surveys in the envelope provided. This course is a freshmen orientation course that is mandatory for all student athletes. Students did not receive any monetary compensation or extra credit points for their participation in this study. Students were given the choice to not to participate in the study. Because of participant confidentiality issues, participants did not put their names anywhere on the survey. Consent for their participation was implied by their completing the survey and returning it to the envelope.

The survey was comprised of 64 items and took approximately 30 minutes to complete. Students were advised that their student identification number was required to access their high
school records. After the high school records were secured, their student identification numbers were destroyed by a paper shredder to ensure confidentiality.

There were six different forms of the composite survey, each rotating the order of the three main components: the SAB-Q, the NCQ, and the SAMSAQ. The actual items within each scale appeared in the same order for all forms. Goddard and Villanova (1996) contend that it is wise to rotate sections of the surveys so that they appear in different orders for different participants. “This allows you to conduct analyses that will clue you to whether there are order effects as a result of placing items in different orders of appearance on the survey” (p. 89.) Table 6 shows the different forms, and the order of the instruments. The SAB-Q included selected response and written response items intended to document the background variables (Appendix F). The NCQ (Appendix G) utilized both selected and written responses. The subscales of the NCQ and the items that correspond with these subscales can be found in Appendix H. The SAMSAQ (Appendix I) included selected response items only.
Table 6

*Order of Instruments in Survey*

<table>
<thead>
<tr>
<th>Form</th>
<th>Order</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SAB-Q</td>
</tr>
<tr>
<td>A</td>
<td>NCQ</td>
</tr>
<tr>
<td></td>
<td>SAMSAQ</td>
</tr>
<tr>
<td></td>
<td>SAB-Q</td>
</tr>
<tr>
<td>B</td>
<td>SAMSAQ</td>
</tr>
<tr>
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<td>NCQ</td>
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<td>NCQ</td>
</tr>
<tr>
<td></td>
<td>SAB-Q</td>
</tr>
</tbody>
</table>

Data Analysis

The study utilized hierarchical regression to investigate the effects of background variables, situational variables, high school variables, and the subscales of the NCQ on student-athlete academic motivation and the balance score between academic and athletic motivation. Tabachnick and Fidell (2001) suggested using hierarchical (or sequential) regression to organize
independent variables in a logical sequence before looking at their relationships to the dependent variables. Before any data analysis was conducted, the raw scores on the SAMSAQ were converted to the original scoring format. In order to simplify the survey for the participants, the scales of the SAMSAQ were inverted to parallel the structure in the responses for the NCQ. Two graduate students and two college professors with no stake in the research were trained in the scoring the written portions of the NCQ. Interrater reliability was computed for the scoring of the open-ended questions. I also identified if there was any missing data and determined whether to eliminate the cases with the missing data or estimate the scores for the missing data. The statistical package, SPSS, was used to calculate the statistics for this study.

After data are collected, but before the regression analysis can be conducted, the data needs to be tested to see if it meets the three assumptions for multivariate procedures: normality, linearity, and homoscedasticity. Tabachnick and Fidell (2001) noted that there are tests to determine if distributions are normally distributed, but with large sample sizes looking at the shape of the plotted distributions (looking for skewness or kurtosis) of the individual independent variables is preferable to using formal testing to determine normality. Linearity means that “there is a straight-line relationship between two variables (where one or both of the variables can be combinations of several variables)” (Tabachnick and Fidell, 2001, p. 77.). Inspection of bivariate scatterplots reveals the linearity of two variables. An oval shape reveals that both variables are normally distributed and linearly related. If the shape is not an oval, then one of the variables is not normal. The homoscedasticity assumption is that the variance of Y scores is the same for all values of X scores (Pedhazur, 1997). If all of the assumptions for analyses are met, continuing to the regression equation is warranted. In the event that the
residuals (the difference between the predicted scores for the dependent variables and the actual scores) do not show normality, linearity, or homoscedasticity then further screening is necessary.

The first step in the data analysis was to generate descriptive statistics (mean, median, and standard deviation) on the independent variables, especially paying attention to the continuous variables (e.g., the subscales of the NCQ). In looking at the univariate distributions of the independent variables, I looked for outliers and skewness to detect if variables did not fit in the linear model. If the distributions were significantly skewed, I used nonlinear transformations to transfer the variables to more closely approximate a linear distribution. In order to determine if a distribution met the criteria for normality, I divided the skewness statistic by the standard error of skewness. If the result was less than the absolute value of 2, then I did not need to transform the distribution. If it was greater than the absolute value of 2 then nonlinear transformations were necessary.

After the analysis of the univariate distributions, I investigated the existence of curvilinear relationships in the bivariate correlations by analyzing the bivariate scatterplots. This is an a priori way to check for violation of the linearity assumption of multiple regression. If curvilinear relationships were found I would have had to transfer them to approximate a linear correlation. I specifically screened out the situational variables (sport profile, season status, summer school attendance, and fall credit hours taken), eliminating any variable that yielded a correlation less than the absolute value of .15. This step was also necessary to reduce the number of independent variables to an acceptable range (14).

The third step was to conduct a multivariate hierarchical regression. This process evaluates variability in the dependent variables as different independent variables are added. The first regression model analyzed the correlations between the background variables and academic
motivation. The second model contained background variables and high school variables. The third model contained background variables, high school variables, and noncognitive variables. The same format was used in the hierarchical regression for balance score. The reasoning for this grouping is that background variables are present before high school variables, chronologically. Background variables and high school variables occur before the situational variables (although situational variables were screened out in the bivariate analysis).

Although a priori univariate and bivariate analyses often uncover violations of the assumptions of ordinary least squares regression, post hoc analyses of regression residuals are frequently more revealing. I relied mainly on the following forms of residual analyses to determine if the assumptions of multiple regression were tenable: (a) a normal probability plot of residuals, (b) a histogram of standardized residuals, and (c) partial plots of residuals against the values of the dependent variable. Of the three, partial plots are typically the most revealing because they reveal the distributions of the independent variable residuals across the range of the dependent variable values.
CHAPTER 4

RESULTS

This chapter presents the descriptive and inferential analyses for the current study. I discuss how missing data were handled, examine the univariate and bivariate statistics, and finally I discuss the results of the hierarchical regression models as they pertain to my two research questions.

Missing Data

In order to include items for subscales in which there was missing values, I determined a minimum number of valid item responses for each variable (generally greater than 60% of the items for each scale), and then generated a mean score for the missing items based on each participant’s scores for the rest of the items in the subscale. Tabachnick and Fidell (2001) advocated the use of mean substitution for making conservative hypotheses about missing data: “In the absence of all other information, the mean is the best guess about the value of the variable” (p. 62.). Due to low rate of missing values, all 185 Participants were used to analyze the variables of interest.

Univariate Analysis

Table 7 indicates the mean, median, and standard deviation of the continuous and ordinal independent variables and the dependent variables in this study. For the variable, parent level of education, 8% had only a high school education or its equivalency, 2% attended business or trade school, 5% had at least some college, 34% achieved at least a bachelor’s degree, 31% achieved a master’s degree, and 18% achieved a doctoral degree. Over 82% of the participants had at least one parent who achieved a bachelors’ degree. Based on this data, only 10% of the current sample could be considered first-generation college students. For the level of high school math the
participant reached, 14% reached Algebra II, 17% reached trigonometry, 34% reached pre-calculus, and 35% reached calculus.

The means and standard deviations for the Gaston-Gayles (2002) study were as follows: Academic Motivation (M = 4.61, SD = .60), Student Athletic Motivation (M = 4.69, SD = .68), and Career Athletic Motivation (M = 3.85, SD = 1.17). Although Student Athletic Motivation and Career Athletic Motivation were not used directly in the current study as dependent variables, part of the significance of the study was to add to the literature about the psychometric properties of the Student Athletes’ Motivation toward Sports and Academics Questionnaire (SAMSAQ). The Student Athletic Motivation subscale was, however, used in calculating the balance score in this study. Balance score was operationalized by subtracting the scores of the Student Athletic Motivation subscale from the scores on the Academic Motivation subscale of the SAMSAQ. As noted in Table 7, the mean balance score for the sample population was close to zero (M = -.88, SD = .56). This indicates that overall, the participants’ scores for academic motivation and athletic motivation were fairly balanced and that scores generally did not deviate too far from the mean.
### Table 7

**Variable Means and Standard Deviations**

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>Median</th>
<th>SD</th>
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<tbody>
<tr>
<td><strong>Independent Variables</strong></td>
<td></td>
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<td></td>
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<tr>
<td>Parent level of education</td>
<td>5.32</td>
<td>5.00</td>
<td>1.35</td>
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<td>High school math</td>
<td>3.89</td>
<td>4.00</td>
<td>1.04</td>
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<td>High school GPA</td>
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<td>3.41</td>
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<td>SAT total</td>
<td>1096.10</td>
<td>1095.00</td>
<td>147.68</td>
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<td>Fall credit hours</td>
<td>16.12</td>
<td>16.00</td>
<td>1.23</td>
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<td><strong>NCQ Subscales</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-concept</td>
<td>3.18</td>
<td>3.17</td>
<td>0.46</td>
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<tr>
<td>Realistic self-appraisal</td>
<td>3.43</td>
<td>3.33</td>
<td>0.65</td>
</tr>
<tr>
<td>Understanding racism</td>
<td>3.63</td>
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<tr>
<td>Long range goals</td>
<td>3.09</td>
<td>3.33</td>
<td>0.56</td>
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<tr>
<td>Support person</td>
<td>4.66</td>
<td>5.00</td>
<td>0.56</td>
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<td>Leadership</td>
<td>3.10</td>
<td>3.00</td>
<td>0.58</td>
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<td>Community service</td>
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<td>2.50</td>
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<tr>
<td>Knowledge in a field</td>
<td>1.69</td>
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<td><strong>SAMSAQ Subscales</strong></td>
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<tr>
<td>Academic Motivation</td>
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<td>3.87</td>
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<tr>
<td>Student Athletic Motivation</td>
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<td>4.88</td>
<td>0.51</td>
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<tr>
<td>Career Athletic Motivation</td>
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<td>3.60</td>
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<tr>
<td>Balance Score</td>
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<td>-1.00</td>
<td>0.56</td>
</tr>
</tbody>
</table>

**Note.**

\(^a NCQ\) based on 5-point Likert scale where 1 = SA, 2 = A, 3 = N, 4 = D, and 5 = SD

\(^b\) SAMSAQ based on 6-point Likert scale where 1 = VSD, 2 = SD, 3 = D, 4 = A, 5 = SA, and 6 = VSA.

\(^c\) Balance score operationalized as SAMSAQ academic motivation – SAMSAQ athletic motivation
Distributions of variables were examined to determine if they meet assumption for normality for the multiple regression model. I determined if distributions were normal by dividing the skewness statistic by the standard error of skewness in order to see if the distributions met the assumption of linearity for multiple regression. If the resulting value was greater than the absolute value of 2 then nonlinear transformations were conducted. The following variables were determined to have a value of greater than the absolute value of 2 resulting in the need to transform the variables so that they more closely resemble a normal distribution: the NCQ subscales Positive Self-Concept, Availability of a Strong Support Person, and Preference for Long-Range Goals (all negatively skewed). The dependent variable, balance score, was also determined to have a value of greater than the absolute value of 2 (positively skewed).

Transformations of the independent variables were successful for all subscales except Availability of a Strong Support Person subscale in that they resulted in a value of less than an absolute value of 2 when dividing the skewness statistic by the standard error of skewness after the nonlinear transformations. Multiple transformations of the Availability of a Strong Support Person subscale failed to reduce the amount of skewness to satisfactory levels.

For balance score, the raw scores from the Student Athletic Motivation subscale was subtracted from the Academic Motivation subscale, resulting in some negative values. According to Tabachnick and Fidell (2001) taking the square root is one method of transforming positively-skewed distributions to more closely resemble normal distributions. As it is not possible to take the square root of negative numbers, the raw balance score was converted to $T$ scores (thus resulting in positive values for all balance scores), and then the square root of the $T$ scores was
used in calculating the nonlinear transformation. The transformation was successful in reducing the skewness of the distribution to an acceptable level.

Bivariate Analysis

The correlation matrix for the variables is presented in Table 8, which examines the relationship between the independent and dependent variables in this study using Pearson $r$ coefficients. It should be noted that race-ethnicity was not included in the bivariate matrix. The bivariate analysis was specifically used to screen out situation variables (sport profile, in-season, attendance of summer session, and number of fall credit hours taken) with low correlations with the dependent variables (correlations less than the absolute value of .15). None of these variables met this criterion and therefore, were not entered into the regression models. This step was needed to reduce the number of independent variables to an acceptable level. I started with 18 independent variables meaning that the minimum number of participants for the study would have had to have been 194 using the equation $N \geq 50 + 8m$ (where $m$ is the number of independent variables) (Tabachnick & Fidell, 2001). The screening process reduced the number of independent variables to 14, changing the minimum number of participants for this study to 162. The final number of participants was 185.

Correlation Between Independent and Dependent Variables

In examining the correlations between the independent and dependent variables, only parent level of education, high school GPA, and the NCQ subscales Dealing with Racism and Knowledge Acquired in a Field registered significant, albeit small correlations to the dependent variables. Parent level of education was slightly, but significantly correlated with the balance score as was high school grade point average. Dealing with racism was related to academic motivation and knowledge acquired in a field registered a small but significant correlation with
the balance score. According to Fink (1995) correlations between 0 and ± .25 represent little or no correlation between variables, although “for some social science disciplines, correlations of .26 to .50 are considered quite high, especially if they occur in multiple regression models where one variable is estimated by the use of more than one variable” (p. 36).
Table 8

*Correlation Matrix of Variables*

<table>
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<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
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<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
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<td>1. Gender</td>
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<td>.18*</td>
<td>.14</td>
<td>.18*</td>
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<td>3. High school GPA</td>
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<td>.21**</td>
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<td>.27**</td>
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<td>.17*</td>
<td>.20**</td>
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<td>18. Academic motivation</td>
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<td>19. Balance score</td>
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</tr>
</tbody>
</table>

Note. *Correlation is significant at the .05 level. ** Correlation is significant at the .01 level.
Correlation Between Independent Variables

The highest correlation between independent variables was between sport profile and attending summer session. SAT total score showed fair to moderate correlations with high school GPA and high school math. SAT total score also showed lower correlations to attending summer session, and to the NCQ subscales of Positive Self-Concept and Demonstrated Community Service.

Next, I looked at the relationship between the subscales of the NCQ. Most of the subscales showed low to moderate correlations with each other. The highest correlation was between Knowledge Acquired in a Field and Demonstrated Community Service. The subscale Positive Self-Concept was low to moderately correlated with all the subscales of the NCQ ranging from $r = .19$ ($p < .05$) with the Dealing with Racism subscale to $r = .49$ ($p < .01$) with the Realistic Self-Appraisal subscale.

Multivariate Analysis

Research Question 1

To what extent do background variables, high school variables, situational variables, and noncognitive variables affect student-athlete academic motivation? Because situational variables were screened out in the bivariate analysis, they were not entered into the hierarchical regression model. The first model included the following independent variables: gender, race-ethnicity, and parent level of education. The second model in the regression included the following additional independent variables: high school grade point average, SAT total score, and academic intensity (as measured by the highest level of high school math). The third model included the subscales of the NCQ as independent variables. They are: Positive Self-concept, Realistic Self-Appraisal, Dealing with Racism, Availability of a Strong Support Person, Preference for Long-Range
Goals, Successful Leadership Experience, Demonstrated Community Service, and Knowledge Acquired in a Field. Table 9 presents the standardized beta coefficients and the significance level of the independent variables, as well as the $R^2$ values of each model when entered into the hierarchical regression with academic motivation as the dependent variable.

**Table 9**

*Hierarchical Regression Predicting Academic Motivation*

<table>
<thead>
<tr>
<th>Variable</th>
<th>AM Model 1</th>
<th>AM Model 2</th>
<th>AM Model 3</th>
</tr>
</thead>
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<tr>
<td></td>
<td>$\beta$</td>
<td>$p$</td>
<td>$\beta$</td>
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<td>---------------------------------</td>
<td>------------</td>
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<td>------------</td>
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<td>Self-concept</td>
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<td>.07</td>
</tr>
<tr>
<td>Self-appraisal</td>
<td>-</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Deals with racism</td>
<td>.21</td>
<td>.02*</td>
<td></td>
</tr>
<tr>
<td>Support person</td>
<td>-.11</td>
<td>.19</td>
<td></td>
</tr>
<tr>
<td>Long-range goals</td>
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<td>.85</td>
<td></td>
</tr>
<tr>
<td>Leadership experience</td>
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<td>.74</td>
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</tr>
<tr>
<td>Community service</td>
<td>.06</td>
<td>.55</td>
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</tr>
<tr>
<td>Knowledge in a field</td>
<td>.06</td>
<td>.55</td>
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<tr>
<td>$R^2$</td>
<td>.028</td>
<td>.041</td>
<td>.094</td>
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<tr>
<td>Adjusted $R^2$</td>
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<td>-.003</td>
<td>.008</td>
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</tbody>
</table>
None of the hierarchical regression models were found to be significant (Model 1, \( p = .39 \); Model 2, \( p = .48 \); Model 3, \( p = .36 \)). The adjusted \( R^2 \) statistics for each of the models were low, as compared to the observed \( R^2 \) statistics, signifying that there is a high level of measurement or prediction error. Only one individual item in the regression was found to be significant predictors of academic motivation, which was the NCQ subscale Dealing with Racism \( (p < .05) \); however, the overall regression model was not found to be significant.

The results indicate that participants who scored higher on the NCQ subscale, Dealing with Racism scored higher in the dependent variable, academic motivation. Participants scoring lower on the NCQ subscale, Dealing with Racism scored lower in the dependent variable, academic motivation.

Post-hoc checks for the assumptions for regression were conducted by visually inspecting the histogram and partial plots of the residuals. Examination of these plots supports the assumptions of regression: linearity, normality, and homoscedasticity, further indicating that not meeting the assumptions for regression was not a cause for non-significant findings. The partial plot for the independent variable, the NCQ subscale of Availability of a Strong Support Person, did not appear to be random, but multiple earlier attempts to transform the distribution of scores to more closely approximate a normal distribution were unsuccessful.

**Research Question 2.** To what extent do background variables, high school variables, situational variables, and noncognitive variables affect the balance between student-athlete academic motivation and student-athlete athletic motivation as represented by the balance score? When entered into the regression equation, all three models yielded significant results for research question two. The results for the F values were as follows: for Model 1, \( F(5, 179) = \)
1.90, \( p = .097 \); for Model 2 \( F(8, 176) = 1.98, p = .052 \); and for Model 3 \( F(16, 168) = 1.88, p = .025 \). Table 10 presents the findings in the regression model for research question two.

### Table 10

**Hierarchical Regression Predicting Balance Score**

<table>
<thead>
<tr>
<th>Variable</th>
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<th>Balance Score Model 2</th>
<th>Balance Score Model 3</th>
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| \( R^2 \)                        | .050              | .082              | .152              |
| Adjusted \( R^2 \)               | .024              | .041              | .071              |

The independent variables entered into the first model were: gender, race-ethnicity, and parent level of education. In the first block, parent level of education was the only significant
predictors of balance score. The overall regression model accounted for 5% of the variance in the balance score.

The additional independent variables entered into the second model were high school grade point average, SAT total score, and highest level of high school math. In the second block, parent level of education and high school grade point average were found to be significant predictors of balance score. The second overall regression model accounted for 8% of the variance in balance score.

The additional independent variables entered into the third model were the subscales for the NCQ: Positive Self-Concept, Realistic Self-Appraisal, Dealing with Racism, Availability of a Strong Support Person, Preference for Long-Range Goals, Leadership Experience, Demonstrated Community Service, and Knowledge Acquired in a Field. For the third model parent level of education, high school grade point average, and the NCQ subscale of Knowledge Acquired in a Field were found to be significant predictors of balance score. The third overall model accounted for 15% of the variance in the balance score. As was the case with the regression model for Research Question 1, there is a considerable discrepancy between the $R^2$ (.152) and the adjusted $R^2$ value (.071) for the regression model for Research Question 2.

Balance score was operationalized as the difference between the SAMSAQ subscales Academic Motivation and Student Athletic Motivation. A positive Balance score indicates that the participants have higher levels of academic motivation as compared to athletic motivation. A negative balance score indicates that the participants have higher levels of athletic motivation as compared to academic motivation. Three variables were found to positively predict the dependent variable of balance score: parent level of education, high school grade point average and the NCQ subscale Knowledge Acquired in a Field. As the level of parental education
increased, balance scores for the participants also increased (indicating stronger motivation toward academics). As the level of parental education decreased, balance scores for the participants decreased (indicating stronger motivation toward athletics). As participants high school grade point average increased, so did their balance score. As high school grade point averages decreased, balance scores decreased, as well. The NCQ subscale, Knowledge Acquired in a Field, assesses participants’ involvement in culturally-based educational experiences in academic fields which occur outside of school settings. As exposure to academically-related cultural experiences increased, so did balance scores; less exposure to academically-relevant cultural experiences correlated to lower balance scores.

Upon visual inspection of the normal probability plot it was determined that the observed probabilities closely followed the line of predicted values. The histogram of standardized residuals through visual inspection appeared to approximate normality. Visual inspection of the residual statistics appeared to support the assumptions of linearity, normality, and homoscedasticity. The partial plots of the independent variable residuals against the dependent variable (balance score) were random enough to meet the linear assumption of multiple regression. In general, the partial plots supported the assumptions of linearity, normality, and homoscedasticity. Again, the partial plot for the NCQ subscale Availability of a Strong Support Person did not appear to be random, but as stated earlier, multiple attempts to transform the distribution to more closely resemble normality were unsuccessful.
CHAPTER 5
DISCUSSION

Introduction

This chapter will present a summary on the findings presented in Chapter 4. Included in the chapter will be discussions on the overall significance of the findings, possible reasons for why some independent variables did not yield significant results, how the findings relate to previous empirical and theoretical research, strengths of the study, limitations of the study, and implications for professionals in high schools and college settings. The last section will focus on suggestions for future research.

This correlational study was designed to investigate the relationship between key independent variables and first-semester student athlete academic motivation and also the balance these athletes have between their motivation to excel in the classroom and their motivation to excel on the playing field. Academic motivation was represented by the score on the Academic Motivation subscale of the Student Athletes’ Motivation toward Sports and Academics Questionnaire (SAMSAQ). Balance score was operationalized as the difference between the scores for the SAMSAQ subscales – Academic Motivation and Student Athletic Motivation. The four models of independent variables proposed for this study were: background variables (e.g., gender, race-ethnicity, and parent level of education), high school variables (e.g., high school grade point average, highest level of math classes taken, and SAT total score), situational variables (e.g., participation in a revenue-producing sport, participation in a sport that was considered in-season at the time of the study, attendance in summer session classes prior to the first fall semester, and the number of fall credit hours taken), and non-cognitive variables as assessed by the Noncognitive Questionnaire (NCQ). The NCQ subscales are as follows: Positive

All of the participants in this study were first-semester varsity student athletes at a large, predominantly White, Division I, public, Research I institution in a middle Atlantic state. The institution is a member of the Big Ten Conference. There were representatives from all 29 varsity sport in this study. According to collegeboard.com (College Board, Inc., 2007), the following universities were considered to be similar to the institution in this study in that they are large, public universities in suburban settings with comparable in-state tuition and acceptance rates for freshmen applicants: Michigan State University, Rutgers, University of California – Davis, University of California – Santa Barbara, and the University of Massachusetts – Amherst. Only Rutgers is located in the same geographic region (Middle Atlantic) and only Michigan State is in the same athletic conference. Because of the size, location, and level of competition for this university, the results of this study may not generalize to private universities, NCAA Division II or III schools, or smaller schools that do not have the same standards for academic and athletic performance. Over 80% of the students at this institution identify as White, which should be taken into consideration when trying to generalize the results of this study for athletes from universities with more diverse student-athlete backgrounds.

Because of the large number of variables in the study, it was necessary to screen out variables in the bivariate analysis in order to achieve a suitable ratio of participants to independent variables. There have only been a few studies linking what I categorized as “situational variables” (e.g., sport profile, sport in season, attending summer session prior to freshman year, and number of fall credit hours) to academics, so in order to prioritize the
dismissal of independent variables, I screened out all situational variables with a bivariate correlation less than the absolute value of .15. Because of the screening standards, none of the situational variables made it into the final regression analysis for either dependent variable.

One of the reasons for including these variables in the study originally was because there was so little research done in these areas found in the literature. After reviewing the literature I found the least amount of support for including the situational variables (compared to the other independent variables). Because I needed to reduce the number of independent variables in this study, the situational variables were the most difficult to justify keeping.

**Significant Findings**

**Balance Score**

One of the most important findings of this study is regarding the balance score. Overall, the combination of the variables in the regression model was found to have a small, but significant, effect size for the dependent variable balance score. Three independent variables were found to positively predict balance score at $p < .05$: parent level of education, high school grade point average, and the NCQ subscale Knowledge Acquired in a Field. Overall, the effect size for the model was .15, meaning that the combination of variables in the model accounted for 15% of the variance in balance score.

Parent level of education was a significant predictor of balance score ($p < .05$). Hertel (2002) suggested that parents who have completed at least some college can serve as a valuable resource for college students because they have had to cope with the multiple demands of college life. This finding supports Pascarella, Pierson, Wolniak, and Terenzini’s (2004) research that athletes who do not have at least one parent who attended college may have difficulty balancing the rigors of their sport and their academic load once they get into the core of their athletic
seasons and academic semesters. Also, because people with higher levels of education have higher mean salaries according to the Bureau of Labor Statistics (2002), perhaps parents serve as real-life models for how the value of education affects life after college. This vicarious learning is one contributor to enhancing self-efficacy beliefs according to Bandura (1977, 1997). Therefore, student athletes whose parents completed college or advanced degrees may understand that their future lives depend more on their ability to perform in the classroom as opposed to the playing field.

The results of the current study also indicate that high school grade point average is positively correlated with balance score. Simons, Van Rheenen, and Covington (1999) conducted the only study I found that specifically looked at the balance athletes exhibited between their commitment to academics and athletics. The findings of the current study are consistent with Simons et al. (1999) who found that high school grade point average had a negative correlation on a scale measuring commitment to academics and athletics (with a higher score denoting a greater commitment to athletics). Because balance score is a measure of commitment toward academics and athletics the current study supports the part of the findings from Simons et al. (1999) that relate to academic and athletic balance.

Grade point average could be viewed as a behavioral indicator of balance. The fact that these participants are competing at the highest collegiate level possible, they had to show a significant amount of dedication to their sport. A high grade point average would indicate that on top of placing a considerable emphasis on developing their athletic talents, they also had the drive to attend to their responsibilities as students.

As scores in the NCQ subscale Knowledge Acquired in a Field increased, so did the tendency for participants’ balance scores to reflect stronger academic motivation compared to
their athletic motivation. The findings from this study indicate that being able to apply and obtain information from culturally-relevant experiences is an indicator that athletes are focusing on academics even when they are not in the classroom, which increases their ability to balance their academic and athletic demands. Petitpas and Champagne (1988) and Pearson and Petitpas (1990) warned that identity foreclosed athletes ultimately place too much emphasis on developing their athletic identities, therefore limiting the opportunities for exploring other important areas of their lives, including academics and career planning. Being able to seek out and engage in learning opportunities outside the classroom indicates that not all of the athletes’ time and energy outside the classroom are devoted to athletics – that they have demonstrated the ability to balance the demands of both areas.

**Academic Motivation**

Although the model was not significant in predicting academic motivation, one variable was significant in predicting academic motivation. The Dealing with Racism subscale of the Noncognitive Questionnaire (NCQ) was found to have a positive and significant correlation with academic motivation. This suggests that athletes who understand that their academic experiences will be affected by racist practices, but refuse to use racism as an excuse for academic shortcomings, will be more likely to be motivated to excel academically. This finding supports what Engstrom and Seldacek (1991), Engstrom, Sedlacek, and McEwen (1995), and Killeya (2001) found regarding Black athletes and academic motivation. If Black athletes (or it could be argued any minority athlete) internalize negative expectations or discriminatory practices in the classroom, it will have a negative effect on their academic motivation. The key seems to be the interpretation of such discrimination, which is consistent with what Sanders (1997) found in a study of efficacy beliefs of Black students. Academically successful students in the Sanders...
(1997) study were able to use the negative events as motivation to succeed, rather than using the events as a justification for disengaging from their academic role.

This finding from the current study is also consistent with Bandura’s (1977, 1997) theory of self-efficacy and Wigfield and Eccles’ (1992, 2000) expectancy-value theory in that student athletes who have successfully navigated racist educational systems in the past and do not let racist views and practices affect their perceptions of their ability to succeed will be more inclined to persist in the face of such adverse conditions. Although I found no studies that used the NCQ in predicting academic motivation, two studies did find significant correlations between Dealing with Racism and college grade point average for Hispanic students (Fuertes & Sedlacek, 1995) and Asian American students (Fuertes, Sedlacek, & Liu, 1994).

Non-Significant Findings

Before looking at each individual independent variable and assessing why they were not found to have significant correlations to the dependent variables, two issues need to be addressed: measurement error and bivariate correlations. One reason that many of the independent variables were found to be non-significant could be attributed to measurement errors in the instruments used in this study. As mentioned earlier, the two subscales in the SAMSAQ used in this study (Academic Motivation and Student Athletic Motivation) had low internal consistency (with alphas of .47 and .60, respectively). The internal consistency for the NCQ subscales was also very low (alphas between .01 and .61). There was also a considerable difference between the R² values and the adjusted R² values for both regression analyses, which also points to a high level of measurement error. The following section on non-significant findings is broken down by independent variable model in the order in which they were planned.
to be entered into the regression equation. Remember that situational variables assessed in the Student Athlete Background Questionnaire were screened out in the bivariate analysis.

It should be noted that for the independent variables that were not found to be significant in the regression model, none of them were found to be significant in the bivariate analysis, either. Sometimes variables can have significant relationships to the dependent variables in the bivariate analysis, but because they share variability with other variables they become non-significant in the regression equation.

Background Variables

Gender. It was predicted that women would have higher scores for both academic motivation and balance score compared to men. Although this was found to be true, the differences between scores from both gender categories were not significant. Lantz, Etzel, and Furgueson (1996) found that female athletes were more involved in their academic development later in their academic careers than were male athletes, but the differences between the two gender groups may be manifested over the course of a college career. Another possibility is that the culture of college sports is changing. Smallman, Sowa, and Young (1991) found that female athletes were received more support for their academics than did male athletes. With the increased national exposure of women’s sports coupled with the more stringent academic requirements that hold revenue sport athletes accountable, perhaps women are given more credit for their status as athletes and men are becoming more accountable for their academic work.

The study was conducted at the beginning of the semester, so difference between how men and women approach their responsibilities as student and athletes may not have had a chance to materialize. For many variables in this study, conducting the survey at a different point in the semester or year may affect the findings for both academic motivation and balance score.
Race-ethnicity. It was found that race-ethnicity was not a significant predictor of either academic motivation or balance score. Although Black and Hispanic athletes graduate at lower rates than their White counterparts (NCAA, 2006a), it might not be because of their motivation toward academics or the balance they exhibit between their motivation toward academics and athletics. This finding is consistent with Sellers (1992) in that measurements of motivation did not significantly differ between Black and White athletes. Because Black and Hispanic athletes graduate at a considerably lower rate than their White athlete peers, this finding could be important in eliminating (or calling into question) academic motivation and the balance athletes have between academics and athletics as contributors to the disparity in graduation rates. If motivation and balance are not contributors to low graduation rates, then researchers and practitioners need to look elsewhere to find significant variables or conditions that create or maintain this gap in academic achievement. Because the NCQ subscale Dealing with Racism was found to have a positive significant correlation with academic motivation, perhaps the race or ethnicity of athletes is not as important as how these athletes are equipped to deal with incidents of individual and institutionalized racism.

Parent level of education. Parent level of education was found to have a positive and significant correlation with balance score, but not academic motivation. Only 10% of the sample were considered to be first-generation college students. Bui (2002) did caution that many first-generation college students are extremely motivated to succeed in college, whether it is to get a higher-paying job to support their families, or whether it is the pride of being the first in their family to receive a college education. Again, this study was conducted during the first week of classes during the fall semester. It could be that optimism and excitement for the upcoming school year was at a high before the athletes really got to experience what it is truly like to
balance college-level academics and athletics. Maybe discrepancies would emerge if the athletes were re-evaluated at the end of the semester – or at the end of the first or second year, after actually experiencing the adjustment to college academics and athletics.

*High School Variables*

*High school grade point average.* Although it was predicted that high school grade point average would correlate with academic motivation, the current study did not find significant correlations between high school grade point average and academic motivation as measured by the Academic Motivation subscale of the SAMSAQ. Simons et al. (1999) found that student athletes characterized as success-oriented or overstrivers – orientations that reflect high levels of academic motivation, had higher grade point averages in both high school and college. Grade point average is an indicator of academic achievement and for this sample may be more indicative of academic skill rather than academic motivation.

*SAT total score.* It was predicted that SAT scores would be positively correlated to academic motivation, but the extent to which SAT scores affected balance scores was unknown. The SAT is an instrument that measures critical thinking skills and the ability to analyze and solve problems based on the information learned over the course of a high school career (College Board, Inc., 2007). The findings of the current study are not consistent with Simons et al. (1999) who found correlations between component scores and motivational orientations (in general less-motivated athletes scored lower on both verbal and math components).

*Highest level of high school math.* I predicted that the level of math the participants took during high school would be correlated with both academic motivation and balance score; the findings of the current study were not significant. Regarding academic motivation, just because participants took higher levels of math courses, which is an indicator of the overall academic
intensity of their high school curriculum, may not mean that they are more academically motivated than participants who did not take the most challenging math courses. As might be the case with both high school grade point average and SAT scores, the results of this variable could be more of an indication of academic skills as opposed to the level of academic motivation. The bivariate correlations revealed that indicators of academic achievement (high school grade point average and SAT score) were significantly and positively correlated with level of math participants took in high school. The same argument could be made regarding balance score. For all the high school variables the results of the current study may be sample-specific, therefore investigating the correlations between high school variables and academic motivation and balance score is an area worthy of further exploration.

**Situational Variables**

None of the situational variables (sport profile, summer school attendance, season status, or number of fall credit hours) had high enough correlations to the dependent variables in the bivariate analysis to warrant keeping them in the regression models. In the case of the situational variables, the fact that the data were collected during the first week of the semester could have affected the results. The effects of playing a revenue sport, participating in a sport considered to be in-season during the fall semester, or the number of credit hours athletes committed to might not be apparent at the beginning of the semester. Athletes at this point of the semester have not had much experience balancing a full academic or athletic loads at the college level.

It was predicted that participating in a revenue sports would be negatively correlated with both academic motivation and balance score. If there is a greater institutional or societal pressure for revenue athletes to succeed on the playing field, or if according to Upthegrove (1999) athletes in revenue sports dedicate more hours to their athletics than do athletes in nonrevenue sports, the
effects of the pressure or time demands would not have had a chance to materialize during the first week of the semester. Another possibility is that the academic experiences of the football players at this institution are not typical of experiences at other universities. According the NCAA (2006a), the football players at this school had an 83% graduation rate, which is much higher than the national average for football players (54%), and even higher than the national average for nonathletes (60%).

Because of the dearth of literature addressing summer school enrollment for student athletes prior to their first full semester, I was not sure how attending summer session would affect academic motivation. There are many reasons athletes take summer classes before their first full fall semester. They may be more academically motivated and want to maximize their learning opportunities. They may also lack some of the academic credentials to meet the full prerequisites for admission, requiring them to enroll in the summer with probationary status. Some of these athletes may lack academic motivation and therefore want to reduce the number of credit hours they have to take during the regular school year and season of competition (S. K. Meyer, personal communication, February 11, 2006).

I did expect that students who attended summer session would be more experienced in balancing the demands of academics and athletics, and therefore have more neutral balance scores. In the summer, students could only take a maximum of six credits at a time (the equivalent of two classes per six-week session). Although athletes who attend summer session usually have training requirements for their sport, these workouts are not as time-intensive as practices and training requirements would be during the season of competition. As stated earlier, there are many reasons athletes take summer courses prior to their first fall semester. It could be that the athletes needed to take remedial classes because they exhibited a lack of balance during
their high school days, or they could be very aware of maintaining a balance between athletics and academics. They could be taking additional courses so that when they are in-season during the regular school year, they can take an academic load that allows them to more easily manage their various responsibilities.

**Noncognitive Variables**

**Positive self-concept.** I predicted that positive self-concept would be positively correlated with both academic motivation and balance score. According to Sedlacek and Brooks (1976), people who score high on this subscale, expect to do well in academic and non-academic activities, alike. According to Bandura (1977, 1986, & 1997) and Wigfield and Eccles (1992, 2000), efficacy or expectancy beliefs for specific skills or activities would lead to increased motivation to succeed for those activities. Bong and Clark (1999) also noted that general self-concept (which this subscale purports to measure) is a weaker indicator of motivation compared to efficacy or expectancy beliefs for specific tasks.

**Realistic self-appraisal.** At the point during which the data were collected the student athletes did not have much experience in college to reflect on the effectiveness of their approaches to both academics and athletics at the collegiate level. For some of the participants the experiences on which they based their self-appraisal happened in high school; others also had the experience of the summer session upon which to reflect. None of the participants have actually been through a whole semester of college, so it would make sense that the appraisals of their ability, effort, and motivation at the beginning of the semester may not be as accurate as it would be if the data were collected in December or May. Harter (1982) found that when junior high students transitioned to high school, their self-appraised competence did not match their actual competence, but over time as they were exposed to more and more indicators of their
performance at the high school level, their self-appraisals became more representative of their actual competence. The same trend might be true for college athletes. As they gain more experience and understand the amount of time and dedication they need to excel both on and off the field, their self-appraisals might become more accurate.

According to Weiner’s (1985) attributional theory, motivation is affected by past experiences and to what extent they attribute the outcomes of these experiences to internal controllable factors that affect their beliefs about the probability of success in similar future endeavors. Therefore, it is not whether the post hoc assessments that explain outcomes are accurate or realistic, rather it is the perceptions of why the outcomes occurred as they did that is important. Just because the participants can accurately assess their areas of strength and the conditions under which they learn the best does not necessarily translate into academic motivation or the ability to balance academics and athletics.

*Understands and deals with racism.* Understanding and dealing with racism was found to have a positive and significant effect on academic motivation, but not on balance score. According to Killeya (2001) if athletes believe that they are discriminated against because of their race in the classroom, they will likely identify more with their athletic identities, because in athletics they are less likely to be discriminated against because of their race-ethnicity. To this effect, it would be expected that athletes who see racism as an obstacle to academic success and have not identified constructive means of navigating a racist educational system (as indicated by a low score on the NCQ subscale Understands and Deals with Racism), would find more of a connection to their identities as athletes. According to the data, this was not the case. Again, the data were collected during the first week of class, so many of the athletes may not have been exposed to incidents of individual or institutional racism. As they gain more experience as both
students and athletes, their motivational balance between academics and athletics may become more skewed toward athletics as they develop bonds with their teammates, especially if they internalize negative expectations based on their race or ethnicity in the college classroom.

**Availability of a strong support person.** The distribution of scores for this independent variable was so negatively skewed, that multiple attempts to transform the distribution so that it would approximate normality failed. Lack of variability in the independent variable prevents the finding of significant correlations to the dependent variables.

**Preference for long-range goals.** Preference for long-range goals was not significantly correlated with academic motivation. This implies that the amount of time and energy they expect to devote to their academics is not predicated on their preference for long-range goals. Again, the timing of the data collection may have an impact on goal development for the participants. Many of the athletes did not start formal practices for their sport, and most of the participants also only had one class session for their fall courses. One requirement of the orientation classes for first-semester student athletes is to develop goals for their academics and athletics, but because the survey was conducted during the first class period of the semester, they would not have had the chance to develop specific goals under the supervision of academic counselors (who also teach the first-semester orientation courses).

Preference for long-range goals also did not have a significant effect on balance score. In order to achieve a balance between the significant demands on their time, I would have expected that athletes with higher scores on this independent variable would exhibit more neutral balance scores. Instead of looking at participants’ general trends in goal-setting preference (long- or short-range goals), it might be more telling of academic and athletic balance to compare their preference for long- or short-range goals for academics and athletics.
Successful leadership experience. It was expected that scores on this independent variable would be correlated with academic motivation. Although Wright and Coté (2003) asserted that leaders are self-motivated, it does not mean that they are equally motivated in all areas of their lives. Just because a participant was a successful captain of the field hockey team, or president of her class – roles for which she needed to be self-motivated – does not necessarily mean that she will demonstrate the same motivation in her academic preparations.

In regards to balance score, it may be that being able to manage affairs within organizations does not mean that the participants exhibit balance between organizational demands and activities outside of the organization. For example, if Joe is the captain of the varsity football team and has had significant experience as a leader, but spends a disproportionate amount of time attending to his responsibilities with the team, he may not be able to allocate enough time and energy to fulfilling his academic requirements. Still for others, the experience of being a leader may help them transfer effective time-management skills to other areas of their lives, leading to a more balanced emphasis on academics and athletics.

 Demonstrated community service. Astin and Sax (1998) found that for college students (sample taken from the general student population) engaging in community service had positive correlations with several behavioral indicators of academic motivation, including time committed to studying, contact with professors outside of class, and completing supplemental work for their classes. The results of this study do not support the connection between demonstrated community service and academic motivation. The responses for the items measuring community service in the current study were based on experiences participants had in high school, and academic motivation was not operationalized in the same manner as the Astin and Sax (1998) study.
One possibility is that participating in community service in high school did not create a significant imposition on the participants’ time prior to the time of data collection. If the time dedicated to community service did not interfere with the ability to devote sufficient time and energy to academics, then the participants may not have needed to be more academically motivated to stay on top of their studies.

Demonstrated community service was also not significantly correlated to balance score. Although it is possible that engaging in community service could provide opportunities to obtain or apply information in culturally relevant ways (therefore also providing opportunities to increase the value of their score on the Knowledge Acquired in a Field subscale of the NCQ), it is possible that not all community service opportunities have a learning component to them.

The NCQ subscales of Demonstrated Community Service and Knowledge Acquired in a Field both represent time spent outside the classroom engaged in activities other than participating in a sport. What might be more important to achieving a balance between academics and athletics is the academic value of these activities and the ability for student athletes to incorporate content material from the classroom to their cultural experiences outside the classroom, and vice versa (as evidenced by the positive and significant correlation between the independent variable knowledge acquired in a field and the dependent variable balance score). Because engaging in community service may provide athletes with an opportunity to focus on helping other people Petitpas and Champagne (1988) and Pearson and Petitpas (1990) would say that identity-foreclosed athletes would be less likely to explore participating in such commitments. Engaging in community service may be one way to prevent student athletes from becoming identity-foreclosed on their athletic identities, but unless they are able to find the
academic value of such experiences, this involvement will not have an effect on their motivational balance between academics and athletics.

Knowledge acquired in a field. It is peculiar that the independent variable, knowledge acquired in field, had a significant, positive correlation with balance score, but not academic motivation. It could be that having educational experiences outside of the classroom reinforces the value of their education and the importance of maintaining a balance between academics and athletics (i.e., their time outside of class is not entirely devoted to sports). Whether these experiences affect academic motivation may depend on how well the students are able to incorporate their prior cultural learning experiences to current course content. Because the data were collected during the first week of the semester, students may not know how their prior cultural learning experiences outside the classroom apply to their current course content. At the point of data collection most students have not even collected all the syllabi for their classes. Wigfield and Eccles (1992, 2000) posited that if students can relate past experiences to new learning situations, they may increase the value of what is being taught, increasing their academic motivation for learning the new content. If the study was conducted in the middle or end of the semester, then students might be better equipped to evaluate how their past culturally-related academic experiences relate to what is being taught in class.

Strengths of Study

Despite the low internal consistency numbers for both the NCQ and the SAMSAQ, the study yielded relatively strong effects for the dependent variable of balance score. One of the issues with using difference scores (the method used to derive the balance score) is that if the two scores that are used are unreliable, then the difference score derived from them would be exponentially more unreliable (Harcourt Assessment, 2007). Despite difference scores being
susceptible to unreliability, I still found significant correlations between several independent variables and balance score, strengthening the case for balance score being an important variable.

These findings reinforce that looking at academic motivation and athletic motivation separately may not be as important as looking at their relationship to each other. By identifying variables that affect motivational balance between academics and athletics, the people invested in the futures of prospective college athletes will have more tools with which to evaluate the experiences of these athletes in preparation for a successful transition to life in a Division I athletic program. Because balance score was found to be an important variable, it may have implications for other assessments of student-athlete success, namely college academic achievement, persistence, and satisfaction with the college experience.

Another strength of the study is the comprehensiveness of the design. The study revealed significant positive relationships between the independent variables and the dependent variables, which could lead to the exploration of more comprehensive means of identifying what variables affect the overall success of student-athletes’ experiences in transitioning to the highly competitive world of Division I athletics and academics. By broadening the scope of what factors influence the motivational orientations of student athletes, helping professionals can cater their programming and delivery of services to meet the academic and athletic needs of student athletes.

Limitations

Generalizability

This study was conducted at a large, predominantly White, Division I, public, Research I institution in a Middle Atlantic state. Because the vast majority of the participants identified themselves as White (83%), the findings may not be valid for minority student athletes, or for
students in other geographic settings. As was mentioned earlier, the graduation rates for the football players at this institution (83%) are much higher than the national average for football players (54%) (NCAA, 2006a). In fact, the graduation rate for the athletes at this school (78%) is much higher than the national rate for all students (60%) and student athletes (62%) (NCAA, 2006a). Also, for the current study almost half of the participants (48.7%) have a parent with at least a masters degree and 82.2% of the participants have a parent with at least a bachelors degree. The high levels of parental education may also be an issue for generalizing the findings to athletes from other schools.

*Use of Self-Report Measures*

The current study used self-report measures to obtain the data from the participants. Sellitz, Jahoda, Deutsch, and Cook (1959) and Heppner, Kivlighan, and Wampold (1999) warned that one limitation of using self-reports is that there is a chance that participants would furnish socially desirable responses to some items. Some participants may have responded in a way that reflected what would be considered the appropriate answer according to society’s standards as opposed to answering in a way that was representative of their own beliefs. Heppner et al. (1999) advocate for the use of a social desirability scale to minimize the chances that the finding of correlations would be a result of method variance. I did not incorporate a social desirability scale into this study.

*Snapshot Design*

The survey was conducted on the first week of class in the fall semester for the participants. Heppner et al. (1999) stated that transient mood states could affect the responses by participants. The results represent a snapshot of participants’ beliefs about their motivation toward school and athletics at one point in time – before the participants have experienced a full
college semester. As athletes gain more experience in understanding the magnitude of the responsibility to attend to their roles as both students and athletes, their motivational orientations may change over time. Also, because most of the students (80%) did not attend summer classes prior to their first fall semester, they may not have had the experience necessary to assess their motivational commitment to academics and athletics in college.

Internal Consistency and Measurement Error

The Student-Athletes’ Motivation toward Sports and Academics Questionnaire (SAMSAQ) and the NCQ both produced low ratings for internal consistency compared to previous studies using these instruments. According to Pedhazur (1997), “the lower the reliabilities of the measures… the greater the distortions in the estimation of the regression coefficients that result from measurement errors” (p. 231). Because of the low internal consistency statistics, it can be questioned as to whether the scores on the SAMSAQ adequately operationalized the constructs of academic motivation and student athletic motivation (and less important to the study, career athletic motivation). The same can be said of the NCQ. The scores on the NCQ subscales may be significantly affected by measurement error on account of these low internal consistency coefficients. The internal reliability for the two subscales of the NCQ that were found to have a significant correlation to the dependent variables, Understanding and Dealing with Racism ($r = .01$) and Knowledge Acquired in a Field ($r = .14$), were extremely low. It could mean that the strength of the correlations were much higher than indicated by the results, but because of the presence of significant error in measurement, the strength of these correlations is much harder to define. There was also a noticeable discrepancy between the $R^2$ and adjusted $R^2$ values in the regression equations, meaning that after accounting for the contribution of
chance, the amount of variance explained by the variables was considerably lower. This also signifies the presence of measurement error in the instruments.

Implications for Practice

High School Counselors

Being able to predict if high school student athletes can deal with the intense demands placed on them at the Division I level can help high school counselors assist prospective student athletes in selecting a college for which they can compete successfully in both the athletic arena and in the classroom. The NCAA (2005b) already requires that prospective student athletes submit and fulfill the requirements for the NCAA Initial Eligibility Clearinghouse. The Initial Eligibility Clearinghouse is one way the NCAA ensures that student athletes have the educational foundation necessary to succeed in the college classroom. In addition to monitoring student athletes’ academic progress as it relates to the Clearinghouse, school counselors can look at additional factors to help predict if student athletes will be able to maintain a balance between academics and athletics at the next level.

Counselors can look at athletes’ parents’ educational experiences, athletes’ high school grade point averages, and the extent to which they had access to educationally-relevant experiences outside the classroom as a way to predict their ability to balance their responsibilities in the classroom and on the playing field. In doing so, counselors can encourage college-bound student athletes to utilize the experiences of college-educated parents as a resource for helping them adjust to college life. For athletes who do not have parents with prior college experience, it may be helpful to find college-educated role models to whom the athletes can relate in order to help them make a successful transition to Division I programs. In order to help prepare all athletes for the transition to college, counselors should work closely with high school coaches.
and parents to emphasize the importance of maintaining a balance. Adler and Adler (1991) and Simons et al. (1999) warned that being able to keep athletic participation in perspective in high school is made even more difficult because of how parents, peers, and society reinforce and recognize the importance of school-aged athletes’ athletic identities.

Counselors should also encourage athletes to become involved in activities in which they can obtain and utilize academic skills. Some organizations can be found within the school. There are usually a number of clubs that could cater to interests that athletes have outside of sports. Some examples of organizations within the school (but outside of class) are ethnic clubs, National Honor Society, National Art Honor Society, history clubs, and computer clubs. Students can also gain valuable experience in connecting their academic work to meaningful real-life experiences by participating in supervised internships in high school or job shadowing in a field of interest. Examples of other organizations outside of school include Future Farmers of America, 4-H, Future Business Leaders of America, and local centers for the performing arts.

Although according to the NCAA (2005a) all Division I athletic programs are required to provide tutoring and academic counseling to their athletes, these services may be provided by the department of athletics or by non-athletic student support services. It may be important for high school counselors to be familiar with the structure of academic support services for student athletes at their colleges of interest. It may also be important to determine whether or not these services are provided by professionals who identify the importance of maintaining a balance between academics and athletics and who have experience working with student athletes who struggled in the classroom (low high school grade point average), who do not have the benefit of having parents who attended college, who have limited experience in applying classroom
knowledge to real-life experiences, or who have been affected by incidents of overt or institutionalized racism.

The ASCA Model

The findings of the current study could be used in conjunction with the standards, competencies, and indicators proposed by the American School Counselor Association (ASCA) National Model (ASCA, 2003). According to the model there are three overarching domains (academic, career, and personal-social) that are further broken down into component standards, competencies for each standard, and indicators for the competencies. Appendices J-O show the significant independent variables and the dependent variables from the current study and the corresponding ASCA domains, standards, competencies, and indicators under which these variables might fall. The ASCA (2003) model also advocates the use of a delivery system (how programming will be enacted), management systems (managing the logistics of providing services), and accountability (how students benefit from services). Enacting services in coordination with the ASCA model is discussed subsequently.

Guidance curriculum. In designing curricula to benefit student athletes, school counselors could create classroom guidance lessons for this population or in order to serve the needs of all students, incorporate the findings into college preparatory lessons for all students who aspire to go to college. Lessons could cover effective time-management, how to use parents and other college-educated role models as resources, how to identify and deal with racist or discriminatory practices, and how to develop effective study skills (e.g., note-taking skills, test-taking skills, how to create outlines for writing, and how to get the most out of assigned reading) to maximize academic achievement (GPA).
Individual student planning. Prospective college student athletes could benefit from consistent supervised academic planning, especially if they do not have the luxury of having parents who attended college. Part of this planning could include finding ways to incorporate academic learning into their lives outside the classroom. Getting student athletes involved in academically-related activities outside of school could help reinforce the need to maintain a balance between their motivation toward academics and athletics. Adler and Adler (1991) maintained that athletes, especially star athletes, receive plenty of reinforcement for their athletic achievements, but in order to maintain a healthy balance, they may need to be introduced to ways in which they can transfer the skills learned in school to other areas of their lives. Counselors could also create evening or weekend programs for which they bring in college academic counselors, coaches, and college athletes to address the concerns of student athletes and their families.

Systems support. If athletes do not have parents who attended college, counselors could consult and collaborate with other professionals or local athletes who went on to college, to provide support for aspiring college athletes as they make their transition to college sports and classes. Counselors could also collaborate with college helping professionals to clearly communicate the specialized needs of their student athletes, especially athletes with low grade point averages, who are victims of racist practices, who lack academic experiences outside the classroom, and who do not have parents who attended college.

Management agreements. In order to provide the most effective level of service, counselors need to clearly communicate with the stakeholders involved. This means making sure that coaches (high school and college), counselors (high school and college), financial aid
officers, and other university representatives are explicitly clear on the role they have in helping athletes transition to college.

*Use of data.* There is a push for counselors to use data-driven interventions to provide services and for counselors to qualify the effectiveness of these interventions once in place. Using a study like the current study fits in with this movement as it provides key variables that may affect the transition to college for athletes. After athletes are educated on the importance of maintaining a balance between their motivation toward academics and athletics and some of the influences that may affect this balance, they should be assessed (either through exit surveys or interviews) as to whether they understand the implications for these variables in their holistic adjustment to college life.

If counselors advocate that athletes get involved in academically-related activities outside of class, they should monitor the number of opportunities, the amount of time spent in these activities, and how well the athletes are able to transfer knowledge to and from the classroom to such experiences. Contact with college-educated role models could be documented, including recording the number of interactions, the frequency of interactions, the length of the interactions, and the topics covered during these interactions. Although athletes have many of the same issues with time-management as college athletes, generally the demands on their time are not as strict as they are in college. For this reason it may be applicable to have athletes document how they spend their free time through logs or journals in order to analyze how their choice of behaviors reflects their commitment to their various roles.

Grade point average is one of the easier variables to assess, as schools keep a running record of their students’ academic progress and the classes they take. Because of the NCAA Clearinghouse’s requirements for freshman eligibility, it is extremely important that counselors
and athletes have accurate information regarding SAT scores, the completion of prescribed courses, and cumulative grade point average. The data should also be evaluated to recognize how well students are able to internalize the importance of these interventions. Just as counselors need data to determine the progress of counseling departments, they also need data to monitor the discrepancies between the desired results and actual results for athlete development. This could be the discrepancy between grade point average and the minimum grade point average required for eligibility, or it could be a discrepancy between what athletes should know about dealing with racist practices in schools and what they actually do know.

_College Professionals_

Just as it may be important for high school counselors to look at parent level of education, high school grade point average, and the degree to which athletes engage in learning experiences outside the classroom in predicting how well these prospective college athletes will be able to balance their academic and athletic responsibilities, it is important for college coaches and academic advisors for athletics to consider these variables when they recruit high school athletes. For first-year athletes who are already on campus the findings from this study could be used to help monitor athletes who are at risk for being identity-foreclosed.

College coaches should take the initiative to be aware of the academic responsibilities of their athletes, encourage the academic development of their players, and appreciate the value of their academic development as a part of the athletes’ overall college experience. On the academic side, professors and instructors should also evaluate their perceptions of athletes and address any biases they may hold against them. Intercollegiate athletic departments should make an effort to embrace professors as allies in the cause to provide student athletes with a holistically balanced college experience. Athletes, parents, coaches, academic advisors, and
professors need to have a clear understanding of the unique issues athletes face, the expectations of their on- and off-field commitments, and a plan of support for all parties involved. For this to happen, clear and consistent communication between all parties must be initiated and nurtured.

Universities could set up professional development workshops for faculty that provide an overview of some of the issues that athletes face. Some of the topics that could be covered include the amount of time athletes need to devote to athletics over which they have little control, the effects injuries and physical wear-and-tear on the body and overall well-being, the process of derecruitment, identity foreclosure, and the tendency for athletes to become insulated from the rest of the student body because of their commitment to sports. The same type of programming could be offered for student athletes and their families through orientation programs offered during recruiting trips or programs offered prior to the start of classes.

In helping to bridge the academic and athletic worlds of their students, universities need to continue to evaluate the effectiveness of their programming for student athletes. Looking at model university, like the Athletes in Transition program at the College of William and Mary or the CATS program at the University of Arizona, can help college programs develop a comprehensive plan to address the complex needs of today’s student athletes, including their ability to balance the multiple demands for their time and energy. Some ways in which these programs help student athletes adjust to college life include, orienting athletes to the different services provided at the university (e.g., financial aid, women’s resource center, library, health services, counseling services, writing centers, and office of disability services). These programs also provide workshops, courses, or individual academic counseling designed to help athletes develop academically by developing skills necessary to ensuring success in the classroom, including time-management and organization, note- and test-taking skills, and writing skills.
Programs for student athletes can also provide tutoring, academic mentoring, and help coordinate internships and job-shadowing programs that fit into their busy schedules.

Implications for Theory and Empirical Research

The results support that the balance athletes exhibit between their academic and athletic motivation is an important variable to consider. As opposed to looking at academic or athletic motivation separately, what may be more important is how they function in relation to one another. The current study identified three variables that affect the level of balance athletes have between their academic an athletic motivation. Although the study was not designed to identify athletes who are identity-foreclosed to their athletic identities, what the study does reveal is that there are variables that may place athletes at risk for being identity-foreclosed. Whereas Petitpas and Champagne (1988) and Pearson and Petitpas (1990) outlined how identity foreclosure affects athlete development outside of sports, the current study may be helpful in identifying what variables affect motivational balance which could be an indicator or a predictor of identity foreclosure for college athletes.

I found only one study that directly addressed the motivational balance between academics and athletics (see Simons et al., 1999). The current study adds to the literature by supporting that high school grade point average is an important variable to consider in predicting the amount of balance athletes have between their academic and athletic motivation. The current study builds on the Simons et al. (1999) study by contributing two new variables that are important in assessing motivational balance: parent level of education and opportunities for learning outside the classroom.

The study also supports Weiner’s (1985) attributional theory that emphasizes that the perception of why specific outcomes occurred is an important determinant of future motivational
orientations for similar tasks. As participants’ scores in the Dealing with Racism subscale of the NCQ increased so did their academic motivation scores. If they attribute lack of success to racist practices, no matter how justified they may be, they will be less motivated to excel academically.

The findings also support Sanders (1997) study that found that students who experience racist events can choose to use it as an excuse or as a catalyst persisting in the face of such obstacles.

Suggestions for Future Research

The current study revealed factors that predict the balance student athletes have between their academic motivation and athletic motivation. A natural progression would be to see if balance score correlates to other important indicators of the college academic success: persistence and academic performance. After all, the NCAA measures academic success by graduation rates (persistence), and member institutions and conferences present academic awards to players and teams with the highest grade point averages (academic performance). Also, does balance score affect the level of satisfaction athletes have with their overall college experience? The connection between balance score and college satisfaction could be explored through the use of an instrument such as the College Student Satisfaction Questionnaire (Betz, Klingensmith, & Menne, 1970).

One possible follow-up study could look at the relationship between this balance and academic achievement as measured by first-semester grade point average. Balance score could also be used in combination with a measure of college satisfaction or another instrument that assesses emotional states. If maintaining a balance between academics and athletics is truly an important construct, then hopefully students who demonstrate that they can balance their motivation towards academics and athletics would also be more satisfied with their college experience and exhibit more positive and stable emotional states. The ultimate goal of a college
education is the completion of a degree program. In using a longitudinal study, not only could researchers look at how motivational orientations change over time, but they could also see to what extent motivation and motivational balance affect persistence rates for student athletes.

Parent level of education was found to be a significant predictor of balance score for this sample. Perhaps looking at the whether parents have had experience as athletes at the collegiate level may give more insight as to how parental experiences contribute to student-athletes’ academic motivation and their ability to maintain motivational balance between academics and athletics.

This study used the SAMSAQ, which is a relatively new instrument. This was only the third study that I found that used the SAMSAQ to measure levels of academic motivation, and considering the internal reliability statistics were well below those found in the previous two studies (see Gaston-Gayles, 2002 and Willis, 2005), future research could focus on refining the structure of the instrument to ensure that the subscales adequately assess the constructs of motivation in academics, athletics, and the pursuit of athletic careers. Gaston-Gayles (2002) found that academic motivation was correlated with overall college grade point average for athletes across all sports and semester standings. Future research could try to validate the findings in the Gaston-Gayles (2002) study in regards to college grade point average.

Also, because the internal consistency was so low for the SAMSAQ in the current study, perhaps it would be appropriate to search for other instruments that measure motivation, constructs of motivation, or capture the importance of athletic identity and balance. One issue in research that is both encouraging and at the same time problematic is that the importance of athletics and academics for athletes and the balance they have between attending to their different roles can be operationalized quite differently depending on the study. This is
encouraging, because by looking at the holistic needs of athletes through different lenses, researcher and practitioners, alike, can gain a more comprehensive view of how student athletes conceptualize their experiences in college. At the same time, it may be more difficult to consolidate all the information that has been published about student athlete motivation because of the lack of consistent terminology across the literature.

I came across the *Athletic Identity Measurement Scale (AIMS)* (Brewer, Van Raalte, & Linder, 1993) while writing this section. This instrument measures the degree to which athletes identify with their roles as athletes. Balance scores as measured in the current study could be compared to the results from the AIMS to provide a more comprehensive look at how athletes reconcile the various facets of their identities. Yopyk and Prentice (2005) use the term *identity salience* when looking at how student athletes determine the importance of their roles as students and as athletes, and suggest that the nature of the task at hand is a more important indicator of which identity (student or athlete) is more pronounced. *Life-role salience* research could be used as a basis for creating a more comprehensive instrument for measuring the importance of participation in athletics and academics for athletes. For example, the *Life Role Salience Scales (LRSS)* (Amatea, Cross, Clark, & Bobby, 1986) looks at two aspects that help explain the importance of different facets of everyday life (e.g., occupations, relationships, taking care of the home). It looks at the importance of participation and the level of commitment (motivation, personal time, and energy) people expect to expend in their identification with different life roles. The scales could be adapted to address the value and intended commitment athletes have for their various roles (e.g., athlete, student, partner, friend, and philanthropist). A future review of literature could aim to further consolidate the terms that attempt to define the nature of student-athlete identity and motivational development.
The situational variables (sport profile, season status, attending summer session, and number of fall credit hours) were screened out of both regression equations. There are relatively few studies that investigated the relationship between these variables and academics in general. Future studies could be designed to investigate the impact these factors have in affecting the educational and athletic experiences of college athletes.

As stated earlier, this study represents the motivational orientations of first-semester student athletes at one point in time – during their first week of fall classes. Future studies could be created using a longitudinal panel sample design to provide an indication of how motivational orientations change over the course of the first semester, first year, or throughout the entire career of student athletes. Also relating to time-specificity, a cross-sectional design could also be employed to look at the academic motivation and balance score for high school, freshmen, sophomore, junior, senior, and fifth-year senior athletes. These results could possibly be very different from the findings of the current study and also could be more informative in looking at how academic motivation and balance change over the course of college careers.

Another consideration to establish a richer context for the issues facing student athletes would be to incorporate a qualitative component to future studies. The current study relied on quantitative indicators of academic and athletic motivation. Operationalizing motivational constructs quantitatively may not accurately depict or represent the full scope of variables that influence academic motivation, athletic motivation, or the ability for student athletes to maintain a reasonable balance between them. Pajares (1997) suggested that in order to obtain a richer, more detailed understanding of how motivational beliefs develop the use of qualitative methods, such as interviews, case studies, or life stories should be explored.
The current study evaluates attitudes toward motivation, which may only provide a partial picture of the conflicts involved in athletes’ commitment to various roles. Along with a qualitative component, efforts could be made to evaluate the behavioral indicators of academic and athletic motivation. Student athletes could create weekly logs outlining how they spend their free time. Participating in a sport at the Division I level means that oftentimes, athletes have little free time for which they are accountable, especially during the season. Attendance at classes, practices, competitions, conditioning, and study halls reduce the number of hours in a week over which athletes have control. Logging how they spend their free time along with using instruments to measure motivational orientations would provide a more comprehensive overview of both the motivational beliefs athletes have concerning academics and athletics, and their behavioral representation of how consistently these beliefs are reflected in their choice of behaviors.

The NCQ includes the subscale Understands and Deals with Racism. Because a vast majority of the athletes in this study identified themselves as White, it is doubtful that they would logically be exposed to racist practices that would affect them at a predominantly White institution. Long (1991) and Killeya (2001) identified that student athletes as a group may be exposed to negative stereotypes about their performance in the classroom. Because of this sentiment, it would be appropriate to include a scale that assessed student athletes’ ability to understand and deal with “athletism”, which is exposure to prejudicial attitudes and practices directed toward student athletes in the classroom.

I became aware of a study that dealt with the recategorizing of the NCQ subscales when the researcher was faced with low internal reliability, but only after I had already processed my data for the current study. Carter (2006) reported low internal reliability for the NCQ and
rescored the instrument to create seven categories of subscales, increasing the Cronbach’s alpha $\alpha$ values for the instrument. The internal reliability for the subscales (Cronbach’s alpha $\alpha$ values) of the NCQ in the Carter (2006) study are as follows: Positive Self-Concept, .16; Realistic Self-Appraisal, -.21, Understanding and Dealing with Racism, .32, Availability of a Strong Support Person, .38; Preference for Long-Range Goals, .01; Successful Leadership Experience, -.51; Demonstrated Community Service, .23; and Knowledge Acquired in a Field, .32. One possibility for future research could be to score the NCQ according to Carter’s newly revised subscales in order to increase the internal reliability of the NCQ. The newly created subscales and Cronbach’s alpha $\alpha$ values for each scale are as follows: Demonstrated School and Community Involvement, .80; Preference for Long-Range to Short-Term or Immediate Needs, .58; Successful Leadership Experience, .67; Positive Self-Concept or Confidence, .57; Understands and Deals with Racism, .57, Inner Drive and Motivation, .66; and Availability of a Support Person, .48.

**Summary**

With the advent of 24-hour college sports channels, like ESPNU and College Sports TV, exposure for college athletics is at an all-time high. Internet fan sites and on-demand cable features on top of the exposure on radio and television help keep college sports in the limelight across the country. Lucrative mass media deals will continue to generate millions of dollars for the NCAA and its member institutions, reinforcing the importance of producing highly competitive teams on the field. The identity and pride of the institutions are inextricably linked to the success of their athletic programs, especially the success of the high profile sports of football and men’s basketball.

The pressure to perform is not solely relegated to the playing field. The NCAA continues to take measures to emphasize the importance of attending to the academic needs of student
athletes by introducing more stringent academic benchmarks and systems of accountability for athletes, coaches, and institutions.

Further compounding the issue of commitment to their various roles are variables that may be out of athletes’ control, including mandatory practices, competitions, and conditioning times. Although athletic schedules and class schedules can be predicted, allowing athletes to allocate sufficient time to their academic endeavors, some unforeseen variables, like injury and fatigue, may affect their ability to effectively attend to their responsibilities as students.

Now, more than ever, Division I college athletes face the mounting pressure to excel in the classroom as well as on the playing field. Although universities and even high schools must continue to evaluate the quality and availability of services provided to student athletes, they need to also be aware of to what degree student athletes competing at the highest collegiate level are able to balance their commitment to each role. Evaluating potential college athletes’ high school grade point average, parent level of education, and the educational opportunities they have outside the classroom may give parents, school counselors, and college professionals additional insights into whether these athletes can maintain a healthy balance between their motivation to excel in the classroom and their motivation to excel on the field of play.
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APPENDIX A

Email Permission: Penn State Office of Research Protections

From: "Gardner, Jackie" <jkg10@rtto.psu.edu>
To: jna100@psu.edu, jgt3@psu.edu
Subject: IRB#23902 “Cognitive and Noncognitive Predictors of student Athlete Academic Achievement and Academic Motivation”
Date: Tue, 29 Aug 2006 09:02:30 -0400

Dear Nathan:

The Office for Research Protections (ORP) has reviewed the above-referenced study and determined it to be exempt from IRB review. This study qualifies under the following category:

Category 2: Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observations of public behavior unless: (i) information obtained is recorded in such a manner that human participants can be identified, directly or through identifiers linked to the participants; and (ii) any disclosure of the human participants’ responses outside the research could reasonably place the participants at risk of criminal or civil liability or be damaging to the participants’ financial standing, employability, or reputation. [45 CFR 46.101(b)(2)]

COMMENT: The revised consent document (incorporating signatory and date lines for the participant and person obtaining consent) is attached. Please use this document when enrolling new participants.

The principal investigator is expected to maintain the original signed informed consent forms, if applicable, along with the research records for at least three (3) years after termination of the study. The principal investigator must determine and adhere to additional requirements established by any outside sponsors/funding sources. PLEASE NOTE: Any changes or modifications to the study must be submitted to the Office for Research Protections on the Exempt Modification Request Form available on our website.

The Office for Research Protections will contact you in three (3) years to inquire if this study will be on-going. If the study is completed within the three year period, the principal investigator may send an email to ORProtections@psu.edu requesting the study be closed. Please include your IRB number in any correspondence to the ORP.

This will be the only correspondence you will receive from our office regarding this determination. Please keep a copy of this email for your records. Please do not hesitate to contact me if you have any questions or concerns.

Thank you,
Jackie

Jackie Gardner, M.S., Certified IRB Manager
Research Compliance Coordinator
Office for Research Protections
The Pennsylvania State University
201 Kern Graduate Building
University Park, PA 16802
814.865.1775
814.863.8699 - FAX
jkg10@psu.edu
APPENDIX B

Written Permission to Use the NCQ

123 Gweneed Court
Pleasant Gap, PA 16822
June 9, 2006

Dr. William E. Sedlacek
1101B Shoemaker Building
College Park, MD 20742-8111

Dear Dr. Sedlacek,

My name is Nate Althouse, and I am a Ph.D. student at Penn State and a visiting professor of school counseling at Bucknell University for the 2006-2007 school year. I am writing to ask for your permission to use the NCQ in my dissertation. I will be looking at how certain background variables and the subscales of the NCQ correlate with first semester freshmen student-athletes’ academic and athletic motivation as operationalized through the Student Athlete Motivation toward Sports and Academics Questionnaire (SAMSAQ). I will also be conducting a follow-up study looking at the same independent variables and first semester GPA. I will definitely be using Penn State students for my sample and I am currently working out the logistics of also including Bucknell students.

Just a note: I was at Millersville’s basketball camp when Len Bias died in 1986. He was supposed to be the guest speaker later on in the week. I was devastated by the results of the ensuing investigations into Bias’ academic history at Maryland, hence my original interest in student-athlete academic issues. I was also a walk-on point guard at Penn State and for the last three years I have worked as an academic mentor to the men’s basketball team at Penn State.

Enclosed is a check for $20.00 made out to the University of Maryland. Thank you for your time and consideration in this matter. I look forward to hearing from you or your department soon.

Sincerely,

J. Nathan Althouse
Bald Ph.D. Student
Penn State University

[Signature]
Hi Nate, thanks for your note. You have permission to use the scale. If you indeed decided to use the scale please let me know what you find. Best of luck with your studies.

Dr. Gayles

Joy Gaston Gayles
Assistant Professor
Higher Education & Student Affairs
Florida State University
113 Stone Building
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APPENDIX D

Implied Informed Consent Form for Social Science Research

The Pennsylvania State University

Title of Project: Predictors of academic motivation and first semester grades for first-year student athletes.

Principle Investigator: J. Nathan Althouse (jna100@psu.edu)

Advisor: Dr. Jerry Trusty (jgt3@psu.edu)

1. Purpose of the Study: The purpose of this research study is to explore what affects first-year student athletes’ motivation and success in the classroom.

2. Procedures to be followed: You will be asked to answer 64 questions on a survey.

3. Duration/Time: It will take about 20 minutes to complete this survey.

4. Statement of Confidentiality: Your participation in this research is confidential. No record of your name or any identifying information will be released as a result of this study. Your participation requires that you report your student ID number so that the researcher can collect your SAT scores and your Fall 2006 GPA at the end of the semester. Once the information is collected from your student file, your information will be coded so that there will be no link to your responses or your academic information, and the paper with your student ID number on it will be destroyed.

5. Right to Ask Questions: Please contact me (Nate Althouse) at (814) 441-3282 with questions or concerns about this study. You can also contact my advisor, Dr. Jerry Trusty at (814) 863-7536.

6. Voluntary Participation: Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer.

You must be 18 years of age or older to take part in this research study.

Completion and return of the survey implies that you have read the information in this form and consent to take part in the research. Please keep this form for your records or future reference. Please do not put your name anywhere on this form.
Dear Penn State freshman athlete,

My name is Nate Althouse and I am a former basketball player for Penn State and I have worked at the Morgan Academic Support Center for Student-Athletes for three years as an academic mentor. I coached high school baseball and basketball in the United States and basketball in England. I am currently working on my Ph.D. in Counselor Education, and the final requirement for my degree is to conduct a research study. I want to conduct research that will help me and other academic professionals better assist freshmen athletes, like you. The more we understand about you what things affect your motivation and success in the classroom, the better we can support you. I am hoping that you will agree to participate in this study.

There is a consent form at the beginning of the survey that explains what the study is about. Please read it carefully. The answers you give on the survey are anonymous. Your name or any information about how you, personally answered this survey will NOT be reported. It is important to know that your Penn State student number will be used to access your semester grades and your SAT scores and then the paper with your number on it will be destroyed to make sure that any academic information stays confidential. Your individual results will not be shared with coaches, academic counselors, or administrators. The study is investigating freshmen athletes as a group, not individuals.

As with all research studies, your participation is voluntary, and you may choose not to answer any question for any reason, withdraw from the study at any time, or choose to not participate at all.

Please read the directions carefully. Part of the survey asks you to use a scale to answer the items. For one part of the survey the scale goes from 1 to 5, and in another part of the survey the scale goes from 1 to 6. After your surveys are completed, please bring them up and put them in the folder provided.

If you have any questions about this study, please contact me (Nate Althouse, jna100@psu.edu, 327 Cedar Building, University Park, PA, 16802, 814-441-3282) or my advisor, Dr. Jerry Trusty (jgt3@psu.edu, 327 Cedar Building, 814-863-7536).

Please do not put your name anywhere on this form.

I hope that you will choose to participate in this research. I think what you have to offer about is valuable and will be of great interest.

Thank you for your time.
APPENDIX F

Student Athlete Background Questionnaire

Penn State Freshmen Student-Athlete Survey

1. The highest level of education that one of my parents achieved
   
   1. Less than high school graduation
   2. High school graduation only, or GED, or its equivalency only
   3. Vocational trade or business school after high school
   4. College program after high school
   5. Finished college (bachelor’s degree)
   6. Master’s degree or equivalent
   7. Ph.D., M.D. or other professional degree
   8. Don’t know

2. The highest level of math I took in high school is:
   
   1. Algebra I or less
   2. Algebra II
   3. Trigonometry
   4. Pre-calculus
   5. Calculus

3. The sport I play at Penn State is ___________________.
   (Please specify men’s or women’s)

4. The number of credits I am currently enrolled in for this semester is ________.

5. Please circle the appropriate selection that indicates whether or not you took summer classes here at Penn State.
   
   1. I took summer classes in the summer of 2006.
   2. I did not take summer classes in the summer of 2006.
APPENDIX G

Noncognitive Questionnaire

Please mark your responses on this sheet by filling in the blank or by circling the appropriate answers.

1. Your Penn State ID number is __________________

2. Your gender is
   1. Male
   2. Female

3. Your age is
   ______ years

4. Your father’s occupation:
   __________________

5. Your mother’s occupation:
   __________________

6. Your race is:
   1. Black (African American)
   2. White (non-Hispanic)
   3. Asia (or Pacific Islander)
   4. Hispanic
   5. Native American
   6. Other

7. How much education do you expect to get during your lifetime?
   1. College, but less than a bachelor’s degree
   2. B.A. or equivalent
   3. 1 or 2 years of graduate or professional study (Master’s degree)
   4. Doctoral degree such as M.D., or Ph.D., etc.

8. Please list three goals that you have for yourself right now:
   1. 
   2. 
   3. 

9. About 50% of university students typically leave before receiving a degree. If this should happen to you, what would be the most likely cause?
   1. Absolutely certain that I will obtain a degree
   2. To accept a good job (turn professional)
   3. To enter military service
   4. It would cost more than my family could afford.
   5. Marriage
   6. Disinterest in study
   7. Lack of academic ability
   8. Insufficient reading or study skills
   9. Other

10. Please list three things that you are proud of having done:
    1. 
    2. 
    3. 
| 11 | The university should use its influence to improve social conditions in the state. | 1 2 3 4 5 |
| 12 | It should not be very hard to get a B (3.0) average at Penn State. | 1 2 3 4 5 |
| 13 | I get easily discouraged when I try to do something and it doesn't work. | 1 2 3 4 5 |
| 14 | I am sometimes looked up to by others. | 1 2 3 4 5 |
| 15 | If I run into problems concerning school, I have someone who would listen to me and help me. | 1 2 3 4 5 |
| 16 | There is no use in doing things for people, you only find that you get it in the neck in the long run. | 1 2 3 4 5 |
| 17 | In groups where I am comfortable, I am often looked to as a leader. | 1 2 3 4 5 |
| 18 | I expect to have a harder time than most students at Penn State. | 1 2 3 4 5 |
| 19 | Once I start something, I finish it. | 1 2 3 4 5 |
| 20 | When I believe strongly in something, I act on it. | 1 2 3 4 5 |
| 21 | I am as skilled academically as the average applicant to Penn State. | 1 2 3 4 5 |
| 22 | I expect that I will encounter racism at Penn State. | 1 2 3 4 5 |
| 23 | People can pretty easily change me even though I thought my mind was already made up on the subject. | 1 2 3 4 5 |
| 24 | My friends and relatives don't feel I should go to college. | 1 2 3 4 5 |
| 25 | My family has always wanted me to go to college. | 1 2 3 4 5 |
| 26 | If course tutoring is made available on campus at no cost, I would attend regularly. | 1 2 3 4 5 |
| 27 | I want a chance to prove myself academically. | 1 2 3 4 5 |
| 28 | My high school grades don't really reflect what I can do. | 1 2 3 4 5 |
| 29 | Please list offices held and/or groups belonged to in high school or your community |

APPENDIX H

NCQ: Subscales and Corresponding Survey Items

1. Positive Self-Concept Items: 7*, 9*, 10*, 20 (reversed), 23, 28 (reversed)
2. Realistic Self-Appraisal Items: 9*, 12 (reversed), 21 (reversed)
3. Dealing with Racism Items: 11 (reversed), 18, 22 (reversed), 26 (reversed), 27 (reversed)
4. Strong Support Person Items: 15 (reversed), 24, 25 (reversed)
5. Preference for Long-Range Goals Items: 8A*, 13, 19 (reversed)
6. Successful Leadership Experience Items: 14 (reversed), 17 (reversed), 29A*
7. Demonstrated Community Service Items: 16, 29B*
8. Knowledge Acquired in a Field Items: 8B*, 29C*

* denotes rescored items
# APPENDIX I

## Student Athletes’ Motivation toward Sports and Academics Questionnaire

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  I am confident that I can achieve a high grade point average this year (3.0 or above).</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2  Achieving a high level of performance in my sport is an important goal for me this year.</td>
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<tr>
<td>3  It is important for me to learn what is taught in my courses.</td>
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</tr>
<tr>
<td>4  I am willing to put in the time to earn excellent grades in my courses.</td>
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<td></td>
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</tr>
<tr>
<td>5  The most important reason why I am in school is to play my sport.</td>
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<tr>
<td>6  The amount of work required in my courses interferes with my athletic goals.</td>
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<tr>
<td>7  I will be able to use what is taught in my courses in different aspects of my life outside of school.</td>
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<tr>
<td>8  I chose to play my sport because it is something that I am interested in as a career.</td>
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</tr>
<tr>
<td>9  I have some doubt about my ability to be a star athlete on my team.</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>10 I chose (or will choose) my major because it is something I am interested in as a career.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Earning a high grade point average (3.0 or above) is not an important goal for me this year.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>12 It is important to me to learn the skills and strategies taught by my coaches.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>13 It is important for me to do better than other athletes in my sport.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>14 The time I spend engaged in my sport is enjoyable to me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>15 It is worth the effort to be an exceptional athlete in my sport.</td>
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</tr>
<tr>
<td></td>
<td>Question</td>
<td>Scale</td>
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</tr>
<tr>
<td>16</td>
<td>Participation in my sport interferes with my progress towards earning a college degree.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17</td>
<td>I get more satisfaction from earning an “A” in a course toward my major than winning a game in my sport.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18</td>
<td>During the years I compete in my sport, completing a college degree is not a goal for me.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19</td>
<td>I am confident that I can be a star performer on my team this year.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20</td>
<td>My goal is to make it to the professional level or the Olympics in my sport.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21</td>
<td>I have some doubt about my ability to earn high grades in some of my courses.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22</td>
<td>I am confident that I can make it to an elite level in my sport (Professional/Olympics).</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23</td>
<td>I am confident that I can earn a college degree.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24</td>
<td>I will be able to use the skills I learn in my sport in other areas of my life outside of sports.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25</td>
<td>I get more satisfaction from winning a game in my sport than from getting an “A” in a course toward my major.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>26</td>
<td>It is not important for me to perform better than other students in my courses.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>27</td>
<td>I am willing to put in the time to be outstanding in my sport.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>28</td>
<td>The content of most of my courses is interesting to me.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>29</td>
<td>The most important reason why I am in school is to earn a degree.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>30</td>
<td>It is not worth the effort to earn excellent grades in my courses.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

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APPENDIX J

Parent Level of Education: Correlation with ASCA Model

<table>
<thead>
<tr>
<th>Domain</th>
<th>Standard</th>
<th>Competency</th>
<th>Indicator</th>
<th>ASCA ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>Students will complete school with the academic preparation essential to choose from a wide range of substantial post-secondary options, including college.</td>
<td>Improve Learning</td>
<td>Seek information and support from faculty, staff, family, and peers</td>
<td>A:B1.4</td>
</tr>
<tr>
<td>Personal-Social</td>
<td>Students will acquire the knowledge, attitudes, and interpersonal skills to help them understand and respect self and others.</td>
<td>Acquire Self-Knowledge</td>
<td>Identify and recognize changing family roles</td>
<td>PS:A1.12</td>
</tr>
<tr>
<td></td>
<td>Students will understand safety and survival skills</td>
<td>Acquire Personal Safety Skills</td>
<td>Differentiate between situations requiring peer support and situations requiring adult professional help</td>
<td>PS:C1.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Identify resource people in the school and community, and know how to seek their help</td>
<td>PS:C1.6</td>
</tr>
</tbody>
</table>

Adapted from:

## Grade Point Average: Correlation with ASCA Model

<table>
<thead>
<tr>
<th>Domain</th>
<th>Standard</th>
<th>Competency</th>
<th>Indicator</th>
<th>ASCA ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>Students will acquire the attitudes, knowledge and skills that</td>
<td>Improve Academic</td>
<td>Take pride in work and achievement</td>
<td>A:A1.3</td>
</tr>
<tr>
<td></td>
<td>contribute to effective learning in school and across the life span.</td>
<td>Self-Concept</td>
<td>Identify attitudes and behaviors that lead to successful learning</td>
<td>A:A1.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acquire Skills for Improving Learning</td>
<td>Apply knowledge and learning styles to positively influence school</td>
<td>A:A2.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>performance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Students will complete school with the academic preparation essential</td>
<td>Improve Learning</td>
<td>Apply the study skills necessary for academic success at each level</td>
<td>A:B1.3</td>
</tr>
<tr>
<td></td>
<td>to choose from a wide range of substantial post-secondary options,</td>
<td></td>
<td>Use knowledge of learning styles to positively influence school</td>
<td>A:B1.6</td>
</tr>
<tr>
<td></td>
<td>including college.</td>
<td>Plan to Achieve Goals</td>
<td>Develop and implement annual plan of study to maximize academic ability</td>
<td>A:B2.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>and achievement</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Understand the relationship between classroom performance and success in</td>
<td>A:B2.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>school</td>
<td></td>
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<tr>
<td></td>
<td>Students will understand the</td>
<td>Relate School to Life</td>
<td>Understand that school success the preparation to make the transition</td>
<td>A:C1.5</td>
</tr>
<tr>
<td></td>
<td>relationship of academics to the</td>
<td>Experiences</td>
<td>from student to community member</td>
<td></td>
</tr>
<tr>
<td></td>
<td>world of work and to life at home and in the community.</td>
<td></td>
<td>Understand how school success and academic achievement enhance future</td>
<td>A:C1.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>career and vocational opportunities</td>
<td></td>
</tr>
<tr>
<td>Career</td>
<td>Students will employ strategies to achieve future career goals with</td>
<td>Identify Career Goals</td>
<td>Demonstrate awareness of the education and training needed to</td>
<td>C:B2.1</td>
</tr>
<tr>
<td></td>
<td>success and satisfaction</td>
<td></td>
<td>achieve career goals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Students will understand the</td>
<td>Acquire Knowledge to Achieve Career</td>
<td>Understand the relationship between educational achievement and</td>
<td>C:C1.1</td>
</tr>
<tr>
<td></td>
<td>relationship between personal</td>
<td>Goals</td>
<td>career success</td>
<td></td>
</tr>
<tr>
<td></td>
<td>qualities, education, training, and the world of work.</td>
<td>Apply Skills to Achieve</td>
<td>Demonstrate how interests, abilities, and achievement, relate to</td>
<td>C:C2.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Career Goals</td>
<td>achieving personal, social, educational, and career goals</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Personal-Social</td>
<td>Students will make decisions, set</td>
<td>Self-Knowledge</td>
<td>Use persistence and perseverance in acquiring knowledge and skills</td>
<td>PS:B1.11</td>
</tr>
<tr>
<td></td>
<td>goals, and take necessary to achieve goals</td>
<td>Application</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adapted from:

# APPENDIX L

Dealing with Racism: Correlation with ASCA Model

<table>
<thead>
<tr>
<th>Domain</th>
<th>Standard</th>
<th>Competency</th>
<th>Indicator</th>
<th>ASCA ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>Students will acquire the attitudes, knowledge, and skills that contribute to effective learning in school and across the life span</td>
<td>Acquire Skills for Improving Learning</td>
<td>Demonstrate how effort and persistence positively affect learning</td>
<td>A:A2.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Achieve School Success</td>
<td>Demonstrate the ability to work cooperatively with other students</td>
<td>A:A3.2</td>
</tr>
<tr>
<td>Career</td>
<td>Students will acquire the skills to investigate the world of work in relation to knowledge of self and to make informed decisions</td>
<td>Develop Career Awareness</td>
<td>Learn how to interact and work cooperatively in teams</td>
<td>C: A1.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Develop Employment Readiness</td>
<td>Learn about the rights and responsibilities of employers and employees</td>
<td>C:A2.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Learn to respect individual uniqueness in the workplace</td>
<td>C:A2.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acquire Knowledge to Achieve Career Goals</td>
<td>Understand the importance of equity and access in career choice</td>
<td>C:C1.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Apply Skills to Achieve Career Goals</td>
<td>Learn to work cooperatively with others as a team member</td>
<td>C:C2.3</td>
</tr>
<tr>
<td>Personal-Social</td>
<td>Students will acquire the knowledge, skills, attitudes, and interpersonal skills to help them understand and respect self and others</td>
<td>Acquire Self-Knowledge</td>
<td>Recognize personal boundaries, rights, and privacy needs</td>
<td>PS:A1.7</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Identify and discuss changing personal and social roles</td>
<td>PS:A1.11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acquire Interpersonal Skills</td>
<td>Respect alternative points of view</td>
<td>PS:A2.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Recognize, accept, respect, and appreciate individual differences</td>
<td>PS:A2.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Recognize, accept, and appreciate ethnic and cultural diversity</td>
<td>PS:A2.4</td>
</tr>
<tr>
<td></td>
<td>Students will make decisions, set goals, and take necessary action to achieve goals</td>
<td>Self-Knowledge Application</td>
<td>Identify alternative solutions to a problem</td>
<td>PS:B1.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Develop effective coping skills for dealing with problems</td>
<td>PS:B1.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Know how to apply conflict resolution skills</td>
<td>PS:B1.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Demonstrate a respect and appreciation for individual and cultural differences</td>
<td>PS:B1.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Identify alternative ways of achieving goals</td>
<td>PS:B1.10</td>
</tr>
<tr>
<td></td>
<td>Students will understand safety and survival skills</td>
<td>Acquire Personal Safety Skills</td>
<td>Learn about the relationship between rules, laws, safety, and the protection of rights of the individual</td>
<td>PS:C1.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Demonstrate the ability to set boundaries, rights, and personal privacy</td>
<td>PS:C1.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Learn techniques for managing stress and conflict</td>
<td>PS:C1.10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Learn coping skills for managing life events</td>
<td>PS:C1.11</td>
</tr>
</tbody>
</table>

Adapted from:

### APPENDIX M

Knowledge Acquired in a Field: Correlation with ASCA Model

<table>
<thead>
<tr>
<th>Domain</th>
<th>Standard</th>
<th>Competency</th>
<th>Indicator</th>
<th>ASCA ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>Students will acquire the attitudes, knowledge, and skills that contribute to effective learning in the school and across the life span.</td>
<td>Achieve School Success</td>
<td>Develop a broad range of interests and abilities</td>
<td>A:A3.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Share knowledge</td>
<td>A:A3.5</td>
</tr>
<tr>
<td></td>
<td>Students will complete school with the academic preparation essential to choose from a wide range of substantial post-secondary options, including college.</td>
<td>Improve Learning</td>
<td>Seek information and support from faculty, staff, family, and peers</td>
<td>A:B1.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Organize and apply academic information from a variety of sources</td>
<td>A:B1.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Plan to Achieve Goals</td>
<td>Identify post-secondary options consistent with interests, achievement, and abilities</td>
<td>A:B2.7</td>
</tr>
<tr>
<td></td>
<td>Students will understand the relationship of academics to the world of work and to life at home and in the community.</td>
<td>Relate School to Life Experiences</td>
<td>Seek co-curricular and community experiences to enhance the school experience</td>
<td>A:C1.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Understand the relationship between learning and work</td>
<td>A:C1.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Demonstrate and understanding of the value of lifelong learning as essential to seeking, obtaining, and maintaining goals</td>
<td>A:C1.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Understand that school success is the preparation to make the transition from student to community member</td>
<td>A:C1.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Understand how school success and academic achievement enhance future career and vocational opportunities</td>
<td>A:C1.6</td>
</tr>
</tbody>
</table>

Adapted from:

Knowledge Acquired in a Field: Correlation with ASCA Model

<table>
<thead>
<tr>
<th>Career</th>
<th>Personal-Social</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Students will acquire the skills to investigate the world of work in relation to knowledge of self and to make informed career decisions.</strong></td>
<td><strong>Develop Career Awareness</strong></td>
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<tr>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Students will employ strategies to achieve future career goals with success and satisfaction</strong></td>
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<td></td>
</tr>
<tr>
<td></td>
<td><strong>Students will understand the relationship between personal qualities, education, training, and the world of work</strong></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Students will make decisions, set goals, and take necessary action to achieve goals.</strong></td>
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<td></td>
</tr>
<tr>
<td></td>
<td><strong>Students will understand safety and survival skills</strong></td>
</tr>
</tbody>
</table>

Adapted from:


Alexandria, VA: Author.
**APPENDIX N**

Academic Motivation: Correlation with ASCA Model

<table>
<thead>
<tr>
<th>Domain</th>
<th>Standard</th>
<th>Competency</th>
<th>Indicator</th>
<th>ASCA ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>Students will acquire the attitudes, knowledge, and skills that contribute to effective learning in school and across the life span.</td>
<td>Improve Academic Self-Concept</td>
<td>Articulate feelings of competence and confidence as learners</td>
<td>A:A1.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acquire Skills for Improving Learning</td>
<td>Demonstrate how effort and persistence positively affect learning</td>
<td>A:A2.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Achieve School Success</td>
<td>Demonstrate dependability, productivity, and initiative</td>
<td>A:A3.4</td>
</tr>
<tr>
<td></td>
<td>Students will complete school with the academic preparation essential to choose from a wide range of substantial post-secondary options including college</td>
<td>Improve Learning</td>
<td>Demonstrate the motivation to achieve individual potential</td>
<td>A:B1.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Become a self-directed and independent learner</td>
<td>A:B1.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Plan to Achieve Goals</td>
<td>Establish challenging academic goals in elementary, middle/junior high and high school</td>
<td>A:B2.1</td>
</tr>
</tbody>
</table>

Adapted from:

### Academic Motivation: Correlation with ASCA Model

<table>
<thead>
<tr>
<th>Career</th>
<th>Students will acquire the skills to investigate the world of work in relation to knowledge of self and to make informed career decisions</th>
<th>Develop Employment Readiness</th>
<th>Develop a positive attitude toward work and learning</th>
<th>C:A2.7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Students will employ strategies to achieve future career goals with success and satisfaction</td>
<td>Identify Career Goals</td>
<td>Select course work that is related to career interests</td>
<td>C:A2.8</td>
</tr>
<tr>
<td>Personal-Social</td>
<td>Students will acquire the knowledge, attitudes, and interpersonal skills to help them understand and respect self and others.</td>
<td>Acquire Self-Knowledge</td>
<td>Develop positive attitudes toward self as a unique and worthy person</td>
<td>PS:A1.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Identify values, attitudes, and beliefs</td>
<td>PS:A1.2</td>
</tr>
</tbody>
</table>

Adapted from:

## APPENDIX O

**Balance Score: Correlation with ASCA Model**

<table>
<thead>
<tr>
<th>Domain</th>
<th>Standards</th>
<th>Competency</th>
<th>Indicator</th>
<th>ASCA ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>Students will acquire the attitudes, knowledge, and skills that contribute to effective learning in school and across the life span.</td>
<td>Acquire Skills for Improving Learning</td>
<td>Apply time-management and task-management skills</td>
<td>A:A2.1</td>
</tr>
<tr>
<td></td>
<td>Erope School to Life Experiences</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seeking co-curricular and community experiences to enhance the school experience</td>
<td></td>
<td></td>
<td>A:C1.2</td>
</tr>
<tr>
<td>Career</td>
<td>Students will acquire the skills to investigate the world of work in relation to knowledge of self and to make informed career decisions.</td>
<td>Develop Career Awareness</td>
<td>Balance between work and leisure time</td>
<td>C:A1.10</td>
</tr>
<tr>
<td></td>
<td>Students will understand the relationship between personal qualities, education, training, and the world of work.</td>
<td>Acquire Knowledge to Achieve Career Goals</td>
<td>Describe the effect of work on lifestyle</td>
<td>C:C1.5</td>
</tr>
<tr>
<td>Personal-Social</td>
<td>Students will make decisions, set goals and take necessary action to achieve goals</td>
<td>Self-Knowledge Application</td>
<td>Understand consequences of decisions and choices</td>
<td>PS:B1.2</td>
</tr>
<tr>
<td></td>
<td>Students will understand safety and survival skills</td>
<td>Acquire Personal Safety Skills</td>
<td>Learn techniques for managing stress and conflict</td>
<td>PS:C1.10</td>
</tr>
</tbody>
</table>

**Adapted from:**

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Pleasant Gap, PA 16823
Home (814) 359-3255
jna100@psu.edu

EDUCATION

Ph.D., Counselor Education, Penn State University, August 2007
M.Ed., Elementary Counseling, Counselor Education, Penn State University, May 1996
B.S., Elementary Education, Penn State University, December 1994

CERTIFICATIONS

Pennsylvania Instructional I, Elementary K-6, 1995
Pennsylvania Educational Specialist II, Elementary School Counselor, 1999

WORK EXPERIENCE

Visiting Assistant Professor of Counselor Education, Bucknell University, Lewisburg, PA
August 2006 – May 2007

  Taught undergraduate and graduate classes in general education and counselor education.
  Supervising all elementary and secondary school counseling interns.

Instructor, Department of Bio-behavioral Health, Penn State University, University Park, PA
August 2004 – December 2005

  Taught BBH 048 - Contemporary Health Topics Affecting Student-Athletes, a class on
  student-athlete personal health and development.

  Co-taught BBH 148 - First-Year Seminar for Student-Athletes, a required orientation
  class for all first-year athletes

Instructor, Department of Counselor Education, Penn State University, University Park, PA
August 2004 – December 2004

  Taught CN ED 595F - secondary school counseling internship supervision seminar for
  master’s level counselors-in-training.

Academic Mentor, Morgan Academic Support Center for Student-Athletes (MASCA)
Penn State University, University Park, PA
August 2003 – May 2006