2005

An investigation of selected academic and nonacademic predictor variables of academic performance of student-athletes at Louisiana State University

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AN INVESTIGATION OF SELECTED ACADEMIC AND NONACADEMIC PREDICTOR VARIABLES OF ACADEMIC PERFORMANCE OF STUDENT–ATHLETES AT LOUISIANA STATE UNIVERSITY

A Dissertation

Submitted to the Graduate Faculty
of the Louisiana State University and Agricultural and Mechanical College
in partial fulfillment of the requirements for the degree of
Doctor of Philosophy

in

The Department of Educational Leadership, Research, and Counseling

by
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May, 2005
ACKNOWLEDGEMENTS

I would like to express my sincerest appreciation and gratitude to the following individuals who were instrumental in helping me with this dissertation.

First, thank you to my parents Barbara and Theodore Morgan, whose love, support, and encouragement enabled me to reach for a terminal degree. Their unselfishness and unconditional love for me provided much of the motivation necessary to meet this goal.

Second, I owe a special indebtedness to my dissertation chairman, Dr. Terry Geske, for his tutelage, guidance, and service throughout the course of my dissertation research. In addition, I must extend special thanks to Kathy Geske who provided assistance with the final draft. I would also like to thank the members of my dissertation committee: Dr. Charles Teddlie, Dr. Eugene Kennedy, Dr. Louis Harrison, and Dr. Douglas McMillin for their professional suggestions and comments.

I also owe special thanks to Mr. Robert Doolos and Mr. Bradford Edwards of the University Registrar’s Office for their assistance in data collection and to Dr. Joseph Meyinsse of Southern University for his help with the statistical analyses. Also, I express my gratitude to the university coaches and student-athletes whom I had the pleasure of meeting and whose needs initiated the idea for this study, thank you.

Finally, to Ms. Melonee Wicker and my fellow doctoral student colleagues whose untiring support and encouragement supplied strength along the way to complete the doctoral process—thanks!
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ABSTRACT

This study investigated the effects of selected predictor variables of academic achievement on the academic performance of student-athletes at Louisiana State University. This study attempted to identify cognitive and noncognitive variables that might explain the variance in the cumulative college grade point average (GPA) among student-athletes at LSU enrolled during the 2003-04 academic year.

Cognitive variables included ACT composite score, high school GPA, and cumulative college GPA. Noncognitive variables included positive self-concept, support of academic plans, and community involvement. In addition, data were collected for two sport variables—type of sport participation (revenue and non-revenue generating sports) and time spent on sport (in hours per week). These data were analyzed using a stepwise regression method for student-athletes as a group, as well as by subgroups of gender, race, and academic classification level (freshmen, upperclassmen). In addition, follow-up interviews were done with selected student-athletes to provide insight into the experiences that student-athletes encountered as a result of their dual roles as students and student-athletes.

The results of this study indicated that high school GPA, ACT composite score, gender, and academic classification level accounted for 55 percent of the variance in student-athletes’ cumulative college GPA. High school GPA was the most effective single predictor variable of student-athletes’ cumulative college GPA. In subgroup regression analyses, a different combination of cognitive and noncognitive variables explained most of the variance for each subgroup. Time spent on sport was significant in regression equations for whites, males, and upperclassmen student-athletes. Type of sport participation was significant for black and all...
freshman student-athletes. Support of academic plans was significant for all female and black student-athletes.

The results of this study suggest that, in addition to the cognitive variables, the noncognitive variables accounted for additional variance in college cumulative GPA in the subgroup analyses. Moreover, student-athletes identified time constraints, feeling fatigue, and financial concerns as challenges encountered in their dual roles as students and student-athletes. These various experiences of student-athletes should be considered when developing academic support strategies designed to improve their academic performance.
CHAPTER I

INTRODUCTION

For better or worse, intercollegiate athletics occupies a highly visible position on the American campus today. Indeed, for a substantial part of the American public, including some prospective students, an institution’s image is formed in no small way by the performance and visibility of its athletic teams (Mixon, 1995; Toma & Cross, 1996; Watterson, 2000; Zimbalist, 1999). Consequently, intercollegiate athletics has become a significant aspect of American higher education (e.g., Duderstadt, 2000; Focus on Intercollegiate Athletics, 1995; Shulman and Bowman, 2001; Sperber, 1990, 2000; Telander, 1996; Thelin, 1994). Accompanying its rising significance and visibility has been the increased interest by university/college administrators, athletic administrators, and various researchers into the academic performances of students participating in intercollegiate athletics, that is grade point averages (GPAs) or retention and graduation rates (Kiger & Lorentzen, 1986; Petrie, 1993; Sedlacek & Adams-Gaston, 1992; Sellers, 1992; Young & Sowa, 1992).

A primary reason underlying this increased interest, concerns legislation approved by the National Collegiate Athletic Association (NCAA) that limits student-athletes’ participation in athletics their first year of school by setting admission standards based solely upon traditional academic measures (i.e., ACT/SAT scores). In January 1983, members of the top competitive division of the National Collegiate Athletic Association (NCAA) voted to make more stringent the academic standards for students participating in Division 1 intercollegiate sports. This was known as Proposition 48. Among other things, it requires a perspective student athlete to score
at least a 15 composite on the American College Testing Program (ACT) or a combined score 700 on the Scholastic Achievement Test (SAT) to be eligible for college athletics.

Under these rules, if student-athletes fail to meet these minimum standards, their eligibility, participation, and scholarship status can be limited during their first year of school. The NCAA voted these rules effective as of August 1, 1986 (NCAA, 1983). Supporters of the legislation hope that the minimum criteria will achieve two objectives: (a) motivate high schools to do a better job of preparing their students for college and (b) filter out those whose educational background provides them with little chance of succeeding in college, by eliminating a year of their athletic eligibility. A student-athlete with 3 years of athletic eligibility is less desirable to an athletic program than one with 4 years. Thus the legislation provides an incentive for universities to deny access to individuals whose background suggests that they may not succeed in higher education. This legislation assumes that traditional academic variables accurately predict subsequent college performance, and do so equally well for different subgroups of student athletes (e.g., minorities vs. nonminorities).

The findings of several studies, however, have brought the validity of this assumption into question. For example, although a high school GPA may predict subsequent performance, college admission test scores (i.e., ACT/SAT) often are unrelated to college GPA (Lang, Dunham, & Albert, 1988; Sedlacek & Adams-Gaston, 1992; Sellers, 1992). In addition, student-athletes of color matriculate with lower high school GPAs and college admission test scores than their nonminority counterparts (Ervin, Saunders, Gillis, & Hogrebe, 1985; Kiger & Lorentzen, 1986), and these scores generally are better predictors of college academic performance for nonminority students as well as nonminority student-athletes than for minorities and student-
athletes of color (Walter, Smith, Hoey, Wilhelm, & Miller, 1987). These findings suggest that traditional academic measures, particularly ACT/SAT scores, are inadequate predictors of college performance, and exclusive reliance on them for making admissions decisions is questionable.

In response to this apparent inadequacy, researchers have extended their investigations to nonacademic variables to better predict the academic performance of student athletes (Lang et al., 1988; Sellers, 1992; Sedlacek & Adams-Gaston, 1992; Young & Sowa, 1992). Increasingly, the relationship of noncognitive dimensions to academic success (both with respect to grade point average and persistence) has been substantiated in the literature (Garett, 2000; Sedlacek & Adams-Gaston, 1992; Tinto, 1975). For example, Sedlacek and Adams-Gaston (1992) found that available social support, involvement in the community, and positive self-concept predicted first term grades in a sample of male and female, minority and nonminority student-athletes at a predominantly White University; SAT scores were unrelated to academic performance. Similarly, Young and Sowa (1992) reported that involvement in the community, being able to prioritize time usage, and high school GPA were the best predictors of Black student-athletes’ academic performances. Again, SAT scores were poorly related to subsequent academic performance.

Such research provides some evidence that nonacademic factors play an important role in understanding student-athletes’ academic performances. Moreover, with much of the controversy over the utilization of selected tests and cutoff scores as determinants of academic success established by the National Collegiate Athletic Association’s Propositions, additional research into the variables that determine what factors are the best predictors of academic performance is
warranted. Especially, since increasing amounts of studies are noting that traditional academic measures, particularly ACT/SAT scores predict only a small portion of student-athletes’ college grades, leaving the variables that account for the majority of the variance yet to be identified.

Such findings suggest that relying solely on traditional academic measures for making predictions about future academic performance is questionable, and determining what other factors influence college student-athletes’ academic performances is paramount. To that extent, it seems useful to research into the nonacademic factors in addition with traditional academic factors to broaden our understanding in their abilities to predict student-athletes’ academic performances.

**Background Information**

In the United States, intercollegiate athletics involve hundreds of thousands of athletes at more than one thousand or so institutions. Such broad participation warrants ongoing studies to assure a better understanding of intercollegiate athletics, as it may effect the academic achievement and progress of the participants. Student-athletes come to colleges and universities with a variety of skills and abilities, as diverse as the non-athlete population within higher education. From football to basketball, gymnastics to volleyball, the student-athlete in each respective sport must get use to an often rigorous set of academic and athletic demands, which can conflict. The difficulty in understanding how to reconcile this conflict may result in poor academic performance. This reconciliation, one could hypothesize, is likely to vary according to the athletic demands of the sport, especially at Division I institutions where the competitive pressures and time commitments for intercollegiate athletics are the greatest.
Since 1906, the National Collegiate Athletic Association as a regulatory organization for intercollegiate athletics, has proposed and passed academic standards governing the eligibility for athletic participation of student-athletes at member institutions (Toner, 1984). Yet, two of its most recent propositions that limit participation of male student athletes in their first year (Proposition 48) and their ability to receive financial aid (Proposition 42) based on their Scholastic Aptitude Test (SAT) or American College Test (ACT) scores have garnered the most attention and been the primary reason for such intensified concern by academicians, athletic administrators, and university/college administrators.

Under Proposition 48 (it became NCAA Bylaw 5-1-J when it went into effect in August 1986) a prospective student-athlete must have at least a 2.0 grade point average (GPA) in a set of core curriculum courses as well as a score of at least 15 on the American College Testing Program (ACT), or a combined score of 700 on the Scholastic Aptitude Test (SAT), to be eligible to participate in college athletics during his or her freshman year (NCAA Manual, 1984). If the student athlete meets only one of the requirements, then he or she is termed a partial qualifier and may receive an athletic scholarship for the freshman year. However, the partial qualifier loses a year of athletic eligibility.

Proposition 42, adopted in January 1989, and was originally written in such a way that it eliminated the partial qualifier from receiving any financial assistance. Student athletes would have to meet both the GPA and the SAT/ACT requirement or pay their own expenses during their freshman year. In January 1990 Proposition 42 was amended to forbid partial qualifiers only from receiving athletic financial aid during the freshman year. Partial and nonqualifiers are
still ineligible to participate in intercollegiate athletics during their freshman year, but they are only eligible to receive need-based financial aid.

Prior to implementation of Proposition 48, the only academic prerequisite needed by college-bound high school athletes in order for them to be fully athletically eligible during their freshman year in college was to have graduated from high school with an overall GPA of at least 2.00 (NCAA Manual 1985-86, p. 92). Opinions vary on the impact of Proposition 48, but there is general agreement in principle that academics should be given more emphasis.

Relatively little concern has been expressed about the use of high school GPA as a criterion for freshman eligibility. The controversy surrounding Propositions 48 and 42 has revolved mainly around the use of SAT and ACT scores as criteria for eligibility. Most of the arguments against Propositions 48 and 42 have been based on the differential effects of the 700 SAT cutoff score on potential black student athletes. Standardized tests such as the SAT or ACT have been shown to correlate fairly well with grades for White students in general but have had lower correlations for non-White students (Roper & McKenzie, 1989; Sedlacek, 1987, 1989; Walter, Smith, Hoey, Wilhelm, and Miller, 1987).

What then are predictors of academic success for student athletes? Russell and Petrie (1992) found through their research that a consideration of multiple nonacademic variables, such as positive self-concept and life stress in combination with traditional variables, such as standardized test scores, might be a more accurate predictor of academic success than just academic variables, especially for minority students. They proposed that rather than changing admission standards for these athletes, several academic performance predictor variables should
be evaluated for the purpose of providing data relevant to academic support programs for entering student-athletes.

To that extent, some misconceptions about academic performance of student athletes need to be clarified. Specifically, the questions as to what are significant predictors of academic success for student-athletes? Moreover, are there certain nonacademic variables that predict student-athletes’ academic performances beyond traditional academic variables? Are student-athletes’ academic performances alike or do they vary by academic classification level, gender, and race? Does the amount of time an athlete devotes to their sport forecast academic performance? To what extent do these variables correlate to athlete academic achievement? How well could athlete academic success be predicted using these variables? Whether or not one agrees with the eligibility legislation developed by the NCAA or not, the usefulness of focusing on valid predictors for various subpopulations of student athletes to improve academic performance should be evaluated.

**Statement of the Problem**

The enactment of National Collegiate Athletic Association (NCAA) Proposition 48 requiring the use of solely traditional academic variables as a predictive index for the basis for freshman athletic eligibility has garnered increased attention. This attention has initiated and intensified additional analyses into the factors that correlate more highly with academic success for student-athletes (Garett, 2000; Sedlacek & Adams-Gaston, 1992). Walters et al (1987) found that traditional academic variables predict only a small portion (less than 20 percent) of the variance of student-athletes’ academic performance. Consequently, the legitimacy of applying achievement test scores as specific criteria as predictors for student-athletes, without knowledge
of whether students-athletes who score below these values have academic difficulty in college continues to raise concerns.

Traditionally, academic achievement and persistence have been predicted from cognitive variables employed as criteria of academic success (Pentages & Creedon, 1978). Invariably, much has been written about the value of a student’s Scholastic Aptitude Test (SAT) or American College Test (ACT) score as an valid and reliable indicator for academic success in college (Astin, 1971). However, during the past 15 years, recent research has provided compelling evidence that certain nonacademic factors such as availability of social support, positive self-concept, and having involvement in the community may play an important role in understanding student-athletes’ academic performances (Kiger & Lorentzen, 1986; Petrie, 1993; Sedlacek & Adams-Gaston, 1992; Sellers, 1992; Young & Sowa, 1992). As such, this raises the question as to what are the variables that explain the majority of the variance in academic GPA among student-athletes?

Therefore, this study investigates the effect of selected predictor variables of academic achievement in four general conceptual areas: (1) traditional academic predictor variables, i.e., ACT composite score and high school GPA; (2) nonacademic predictor variables, i.e., positive self-concept, availability of support person, and demonstrated community service; (3) demographic variables, i.e., race, gender, and academic classification level and (4) athletic participation, i.e., revenue versus non-revenue, and time spent on sport over two consecutive semesters of grade point averages of student-athletes to determine to what extent do these variables correlate to athletic academic achievement. The three noncognitive variables were selected based on previous research which shown them to be better predictors than the other

Additionally, this study explores what challenges student-athletes encounter as a result of their dual roles and how time devoted to sport aids in the prediction of academic achievement. The paucity of research about challenges encountered by student-athletes as a result of their role as students and athletes presents the need to gain additional insight. Furthermore, demands on student-athletes’ time with regard to travel, practice, and the overall physical conditioning necessary to stay competitive have become excessive according to some in academe (“Rules Changes,” 1987). Yet, more data is needed to either support or refute such claims. Therefore, the following are two important questions this study explores: (1) How well could athletic success be predicted using this variable (i.e., time spent on sport)? and (2) What challenges are identified by student-athletes as a result of their dual roles as students and athletes?

Subsequently, analyses in each area also includes three control variables: (a) Race (minority versus non-minority), (b) Gender (male versus female), (c) Class (freshman versus upper classmen students).

Research Question and Hypotheses

Answers were sought to the following question:

1) What challenges are identified by student-athletes as a result of their dual roles as students and athletes?

This study is designed to test the following null hypotheses at the .05 level:
H1 High school grade point average is not significant as a predictor of academic performance of student athletes as measured by cumulative college grade point average.

H2 ACT composite score is not significant as a predictor of academic performance of student athletes as measured by cumulative college grade point average.

H3 Gender is not significant as a predictor of academic performance of student athletes as measured by cumulative college grade point average.

H4 Race is not significant as a predictor of academic performance of student athletes as measured by cumulative college grade point average.

H5 Type of sport participation is not significant as a predictor of academic performance of student athletes as measured by cumulative college grade point average.

H6 Academic classification level is not significant as a predictor of academic performance of student athletes as measured by cumulative college grade point average.

H7 Time spent on intercollegiate sports is not significant as a predictor of academic performance of student athletes as measured by cumulative college grade point average.

H8 Positive Self-Concept is not significant as a predictor of academic performance of student-athletes as measured by cumulative college grade point average.

H9 Availability of Strong Support Person is not significant as a predictor of academic performance of student-athletes as measured by cumulative college grade point average.

H10 Community Involvement is not significant as a predictor of academic performance of student-athletes as measured by cumulative college grade point average.
Purpose of Study

One purpose of this investigation was to identify selected variables of academic achievement, which predict the academic performance of student-athletes. A second purpose of this study was to develop and test more complex models of predictor variables of student-athletes’ academic performance. Of particular concern, is the investigation toward the validity of certain noncognitive dimensions for predicting cumulative grade point averages of student-athletes. Increasingly the relationship of noncognitive dimensions to academic performance has been substantiated in the literature (Astin, 1975; Pascarella & Chapman, 1983; Pentages & Creedon, 1978; Petrie & Russell, 1995; Sedlacek & Adams-Gaston, 1992; Tracey & Sedlacek, 1987; Walter, Smith, Hoey, Wilhelm, & Miller, 1987; Young & Sowa, 1992).

In addition, this study included time spent on intercollegiate sport as a predictor variable to student-athletes’ academic performance and investigates the challenges encountered by student-athletes as a result of their dual identities as students and athletes. These dimensions will provide a better understanding of the underlying factors or combination of factors, which influence the academic performance of student-athletes. For example, despite the belief that time spent on athletic activities by student athletes can reduce academic performance, some researchers argue that the satisfaction that many student-athletes receive by participating in athletics may boost self-esteem and thereby positively affect academic achievement (Spreitzer & Pugh, 1973). Critical to the research is the substantiation of such claims through empirical data.

Similarly, identifying the conflicts of student-athletes between the requirements of their academic program and the commitments they have made to athletic programs may provide a
focus for practitioners as they develop academic support strategies designed to improve the academic performance of student-athletes.

In summation, the purpose of this study is to (1) identify selected academic variables that may serve as predictors of student-athletes’ academic performance (2) develop and test more complex models of predictor variables of student-athletes’ academic performance including time spent on sport as a predictor and the non-academic variables community involvement, support of academic plans, and positive self concept and (3) further identify challenges encountered by student-athletes as a result of their dual roles.

Therefore, this study attempts to assess what is known with some certainty and what is less certain about selected factors that predict the academic performance of student-athletes. Thus, the central goal of this study is to investigate what are the variables (i.e., academic and nonacademic) that explain the majority of the variance in academic GPA among student-athletes?

The specific purposes of this study were to:

1) Present appropriate descriptive data relative to the variables of the study.
2) Determine the extent of high school grade point average as a predictor of academic performance of student athletes as measured by semester grade point average.
3) Determine the extent of ACT composite score as a predictor of academic performance of student athletes as measured by semester grade point average.
4) Determine the extent of gender as a predictor of academic performance of student athletes as measured by semester grade point average.
5) Determine the extent of race as a predictor of academic performance of student athletes as measured by semester grade point average.

6) Determine the extent of type of sport participation as a predictor of academic performance of student athletes as measured by semester grade point average.

7) Determine the extent of academic classification status as a predictor of academic performance of student athletes as measured by semester grade point average.

8) Determine the extent of time spent on intercollegiate sport as a predictor of academic performance of student athletes as measured by semester grade point average.

9) Determine the extent of certain nonacademic variables as predictors of academic performance of student athletes as measured by semester grade point average.

10) Describe challenges encountered by student-athletes as a result of their dual roles as student and athletes.

**Definitions of Terms**

The following terms are defined as they were used in this study by the researcher:

**Academic Achievement/Performance:** The cumulative college grade point average (CCGPA) as listed on a student’s official transcript for the 2003-2004 academic school year as recorded by the academic records in the Office of the University Registrar. It is equal to: (total quality points earned in the fall and spring semesters for each year) / (total degree-seeking hours attempted in the fall and spring semesters for each year).

**Academic Classification Level:** The total number of credit hours a student earned as follows:

- **Freshman:** Less than 24 credit hours
- **Sophomore:** 24-60 credit hours
Junior: 61-89 credit hours  
Senior: 90 or more credit hours

Academic College: The college within the University in which a student’s major is listed. In 2002-2003, LSU had the following colleges:

- College of Agriculture
- College of Art & Sciences
- College of Business Administration
- Division of Continuing Education
- College of Engineering
- Honors College
- School of Mass Communication
- School of Social Work
- School of Veterinary Medicine
- College of Art & Design
- College of Basic Sciences
- School of the Coast and Environment
- College of Education
- Graduate School
- School of Library & Information Science
- College of Music & Dramatic Arts
- University College
- LSU-Southern University Cooperative Programs

For the purpose of this study, the Graduate School was not included because this division of the University with few exceptions does not serve undergraduate students. Also, the Division of Continuing Education is not included because it does not offer majors in its own right.

Academic eligibility: The ability to participate in intercollegiate athletics based on grade point average and academic progress attained.

- Academic Success.—A grade point average of 2.0 and above. The GPA of 2.0 was chosen as the point of division between success and unsuccessful because students are considered to be in good academic standings at Louisiana State University if they have a GPA of 2.0 or above.
• ACT Composite Score.—A student’s composite score on the American College Test, according to the official records of the Office of Admissions and Records.

• Athletic (Grant-In) Aid.—Financial aid awarded to an athlete on the basis of potential and/or actual athletic skill. This aid includes tuition, room, and textbooks.

• Division I Institution.—It is the highest level of competition for intercollegiate athletics with approximately 305 institutions competing at this level. Additionally, an institution that meets the criteria for membership in NCAA Division I includes having at least 14 sports and granting athletic scholarships.

• Full-Time.—A student enrolled in at least twelve semester hours of credit during the 2003-2004 Fall and/or Spring semesters at LSU.

• Grade Point Average (GPA).—Grade Point Average as listed on the official transcripts according to the Office of Admissions and Records. GPA is calculated by dividing the grade point earned by the number of credits completed. Classes, for which letter grades of A, B, C, D, and F are recorded, count toward grade points earned and GPA.

\[
\begin{align*}
A &= 4 \text{ grade points} \\
B &= 3 \text{ grade points} \\
C &= 2 \text{ grade points} \\
D &= 1 \text{ grade points} \\
F &= 0 \text{ grade points}
\end{align*}
\]

• High School Grade Point Average (HSGPA).—Grade point average as listed on the official transcripts according to Office of Admissions and records.

• Nonacademic/Noncognitive Variables.—Used to refer to variables relating to adjustment, motivation, and perceptions, rather than the traditional verbal and
quantitative (often called cognitive) areas typically measured by standardized tests. Research has identified eight noncognitive variables (NCVs); (Tracey & Sedlacek, 1984). These are as follows:

(1) Positive self-concept – strong self-feeling, strength of character. Determination, independence;

(2) Realistic self-appraisal – especially academic. Recognizes and accepts any deficiencies and works hard at self-development. Recognizes need to broaden their individuality;

(3) Understands and deals with racism – realist based upon personal experience of racism;

(4) Prefers long-range goals to short-term or immediate needs – able to respond to deferred gratification;

(5) Availability of strong support person – to whom to turn in crisis;

(6) Successful leadership experience – in any area pertinent to their background;

(7) Community involvement – has involvement in their cultural community; and

(8) Knowledge acquired in a field – unusual and/or culturally related ways of obtaining information and demonstrating knowledge.

- Non-athlete.—A student enrolled full-time who does not participate in intercollegiate athletics.

- Non-Revenue Sport.—Those sports which do not generate money for the athletic program because of limited spectator appeal, general lack of media interest, and/or no opponent financial guarantee potential.
• Remedial Coursework.—This classification refers to any student who was scheduled for 3 or more credits in course(s) designed to improve a deficiency in Math, English, or Reading.

• Revenue Sport.—Those sports whose gate receipts cover the total costs for the sport and produce additional revenue for the athletic department or institution. For the purpose of this study, football, men’s basketball, and baseball are considered revenue sports at LSU.

• Student Athlete.—Any student who was listed as participating in a sport according to the Office of Admissions and Records.

• Time Spent on Sport.—Any activity in which the student-athlete spent time involved on their respective sport. The measure of time spent on sport is one: number of hours per week (i.e., Monday – Sunday) participating in sport.

• Traditional Academic Predictors.—Defined as those variables traditionally used in university admission processes to predict success in college. These variables are high school grade point average and standardized test scores.

• Type of Sport Participation.—The intercollegiate sport in which the athlete participated, either revenue or non-revenue sport.

Significance of Study

This study has important implications for any institution or organization that participates in or regulates intercollegiate athletics, especially at the Division I level. For the institution selected in this study, a better understanding of some underlying factors that affect student-athletes’ academic performance should be beneficial, particularly in aiding and assisting the
academic support programs for the student-athlete population. Additionally, this study will provide information useful in answering inquiries of university administrators and officials, faculty members, students, future students, parents, and the general public regarding the academic performance of athletes at Louisiana State University. Furthermore, the identification and determination of predictor variables of academic performance important to the academic success of student athletes allows inquiries about academic progress, academic retention, and other academic issues to be addressed knowledgeably and reasonably.

The model of predictor variables of academic performance developed from this study may be generalized to other NCAA Division I institutions which are similar in nature to Louisiana State University in order to conduct further research on academic achievement of student-athletes, possibly for the purpose of reform. For example, the model may be helpful to college and athletic administrators in determining student recruitment strategies, planning student services, and formulating academic retention programs for student-athletes. Consequently, the identification of relationships between academic performance by the selected academic and nonacademic predictors will be useful data for advisors working with student-athletes.

Additionally, missing from the literature are in-depth investigations of student-athletes experiences in the face of competing and conflicting role expectations. The results of the follow-up interviews employed in this research project should be of interest to practitioners in higher education who are concerned about the academic success of student-athletes. Subsequently, there is little qualitative research available in the field of intercollegiate athletics. Therefore, a study of
this nature will add to the body of knowledge by examining an infrequently researched student population using methodologies seldom used in the research of athletic-related phenomena.

Lastly, this study will also benefit those identifiable student-athletes and possibly non-athletes as well who are likely to be unsuccessful as their education progresses so that prevention and support programs can be instituted. Accordingly, this study should be useful in determining if legislating athletic eligibility on the basis of ACT scores and high school grade point average is appropriate. Having research on the actual performance of student-athletes should help determine if legislation mandating admissions eligibility based solely upon ACT/SAT scores and HSGPA is appropriate. Finally, a better understanding of the demands of athletics and academics and their impacts will enable coaches, parents, and student-athletes to become better consumers in the college selection process.

**Limitations of the Study**

Inferences from this study are limited to institutions similar in size and scope to Louisiana State University that also have Division I status. Any inference to lesser level institutions (Division II and III) would not be inappropriate. Moreover, the applicability of these results to other athletic programs should be carefully evaluated prior to use as well. Similarly, all of the participants interviewed in the case study are individuals who are involved with an intercollegiate athletic program in a single institution. Thus, generalizations of the findings to other populations or settings may not be appropriate.

Subsequently, this study was limited to the selected predictor variables of gender, race, academic classification level, ACT composite score, high school grade point average, type of sport participation and the inclusion of select nonacademic variables, i.e., positive self-concept,
availability of strong support person, and community involvement. Also, a student-athlete’s time commitment is utilized as a predictor variable to determine student-athletes’ academic performance. All variables and/or subjects not so specified were considered beyond the scope of this study.

A major assumption in this study was that cumulative grade-point average is a valid determinant of student’s academic performance. Additionally, it was assumed that since the multiple correlation coefficient $\beta$ is an indicator of the degree of relationship between the independent variables (aforementioned) and the dependent variable (cumulative college GPA), then the unit of value of the coefficient also indicates the degree of validity that the independent variables possess in predicting cumulative college GPA of the participants within the study. Also, while this study does provide descriptive data on whether student-athletes perform at the same level academically as non-athletes, it does not determine for statistical inferences between the two groups. Although there may be a relationship between academic performance and student-athletes/nonathletes comparisons, this study makes no attempt to address this specific question. Finally, for the purpose of this study, the student-athlete sample were limited to males and females, 24 years of age old or less who were full-time undergraduates during the 2003-2004 Fall and/or Spring semesters at Louisiana State University.
CHAPTER II
REVIEW OF THE LITERATURE

The review of literature for this investigation focuses on three primary areas of concern. The first area represents the basic comparisons of academic performances between student-athletes and non-athletes, which have influenced this study, from a conceptual framework. The second area extends this orientation to include research about how well athletes compare academically with other categories of athletes (i.e., revenue vs. non-revenue), which are relevant to this study. The third area addresses the literature, which has identified the variables (academic and nonacademic) that have been most associated with predicting academic performance of college students in general, but student athletes in particular.

Because of the naturalistic inquiry framework used for the follow-up interviews employed in this study, a sub-section of the literature review entitled “Role Conflicts of Student Athletes” was conducted after the data were collected and the initial analysis of the data had commenced. Delaying the review of the literature in this way allowed the researcher to approach the case study without preconceived ideas or expectations.

Therefore, this chapter reviews the literature as categorized above as it relates to this study and is presented in the following format: (1) Athlete and Non-Athlete Comparisons, (2) Athlete-Only Comparisons, (3) Predicting Academic Performance, (4) Role Conflicts of Student Athletes and (4) Summary.

Athlete and Non-Athlete Comparisons

Studies examining the academic achievement of intercollegiate student-athletes compared to non-athletes, usually measured by cumulative college GPA, tend to represent two views. One
view holds that there is a positive relationship between intercollegiate athletic participation and academic achievement. The second view is that intercollegiate athletic participation is negatively associated with academic achievement. Although these views are not necessarily mutually exclusive, they tend to be the polarized positions most discussed and reported when the indicator of academic achievement has been cumulative grade point average. Suffice to say, the findings of most research in this area have been inconsistent and the inequalities of the studies make interpretation difficult. Thus, each study should be taken on its own merit. These are the studies most similar to this one, and as such, will be reviewed here.

Academics and Athletics: Positive Relationships

One of the first organizations to concern itself with the question of the academic performance of student-athletes was the Carnegie Foundation. In its Twenty-Second Annual Report, published in 1927, the commission gave a detailed survey of studies that had been completed regarding the relationship of athletics to scholastic attainment (Twenty-Second Annual Report, 1927). In reviewing forty-four completed studies, the commission concluded that the academic performances of athletes were higher than non-athletes at most institutions.

One of the studies included in the Carnegie review was a study by Hindman at Ohio State University, later published in 1929. Hindman’s study included all 1237 male freshman enrolled at Ohio State University for the Fall Quarter 1923-24. The academic performances of this population were explored by comparing those freshman students who did not participate in athletics to that of freshman athletes. Hindman found that in the Colleges of Arts, Engineering, and Agriculture, the quarter grade point averages for athletes were higher. The average grade point average for non-athletes was 2.153 and 2.168 for athletes. In following these same students
through the next four years, Hindman found that the degree attainment for athletes was better in every college and in total 37.2 percent of the athletes attained degrees compared to only 21.5 percent of non-athletes. Hindman concluded that the results indicate a weak positive relationship between intercollegiate athletic participation and academic achievement.

Eaton and Smith (1941) used the percentile ranking ratings made on the American Council on Education Psychological Examination as an indication of aptitude and compared this with grade point average as an indication of achievement. Athletes were then compared with non-athletes. The purpose of the study was to examine the effects of intercollegiate athletics upon the scholastic records of athletes enrolled at Indiana University. Eaton and Smith found that the athletes included in this study were a little below the whole student body in aptitude, but the scholastic record of the athletes was commensurate with their ability as measured by their grade point average. Probably one of the most significant results in this study show that athletes in comparison with other students had slightly higher grade point averages.

In an examination of several variables of athletic competition (i.e., participants in two or more sports, revenue or non-revenue) and academic achievement, Kirchner (1962) compared athletes with matched non-athletes at Central Michigan University for the academic years 1955-56 through 1959-60. The athletes were matched with non-athletes by sex, year in school, and major. By an analysis of covariance, the effect of the college aptitude was held constant and the analysis for difference in mean grade point average was made. Kirchner concluded that athletic participation overall did not have a detrimental effect on scholarship of athletes at Central Michigan University. In fact, he found high levels of significant difference in mean grade point
average between athletes and their matched counterparts in freshman participants. Student eligibility was given as a reason of this finding.

Stecklein and Dameron (1965) compared 202 male athletes with a sample of 293 non-athletes at the University of Minnesota. Their research showed no significant difference in grade point averages. Yet, dropout rates among athletes were lower than for non-athletes and greater percentages of athletes graduated than did non-athletes. Subsequently, in 1970, Stecklein and Pilapil published a follow-up study of the academic success of student-athletes at the University of Minnesota. The study was conducted to determine if any differences could be found in the academic histories of athletes during the two different time periods that could be attributable to changes in NCAA eligibility requirements.

The study concluded that male students were scholastically better prepared in the latter period than the former, and therefore the new, more stringent eligibility rules adopted in the interim had no direct affect on academic work. Other findings demonstrated that the latter athletes earned higher grade point averages and had fewer quarters on probation than their earlier counterparts. However, they also had a higher dropout rate and finished degrees less frequently than their earlier counterparts. The study concluded that athletes from the two time periods were more alike than they were different. Although no summary statements are made regarding differences between athletes and non-athletes, it would seem safe to conclude from the data that athletes are performing at least equivalent or slightly better to that of non-athletes.

Also in 1965 Edwin Smith completed his Ph.D. dissertation on the subject, “Academic Achievement and Athletic Participation.” He later collaborated with Dizney in reporting the results of this research in the November 1966 issue of The Journal of College Personnel.
purpose of Smith’s study was to determine the effect of participation in intercollegiate football at Kent State University upon academic performance. Four groups of students were studied. Group I consisted of 28 varsity football players. Group II consisted of a matched group of non-athletes. Group II was matched with Group I on the basis of ACT score, matriculation dates, and academic major. Group III consisted of 32 members of the freshman football team. Group IV consisted of a matched pair of non-athletes following the same criteria previously outlined. The data used for this study included ACT scores, grades for fall and winter quarters, accumulated hours and grade point averages, summer school attendance, the Brown-Holtzman Survey of Study Habits and Attitudes, and individual interviews. In summarizing the results, Smith reported, “results of the statistical tests of the hypothesis indicated that football players differ significantly from their non-athlete peers in only one variable…out-of-season grade point averages, where the varsity football players received significantly higher out-of-season grade point averages than their non-athlete peers.”

Davis (1967) completed a thesis where he compared athletes and non-athletes on academic achievement. The subjects in this study were thirty-four football and ten basketball players who were enrolled in Texas Technological College in 1962-63 and 175 male students randomly selected from the population of non-athletes enrolled during the same period. Multiple regression equations were devised for the 175 non-athletes with high school grades in English, Social Studies, Science, and Mathematics; high school grade point average; and SAT scores as the independent variables—actual college grades in English, History, Government, Science, and Mathematics as the criteria or dependent variables. Multiple regression equations were then
employed to predict the grade point average of the forty-four athletes in English, History, Government, Science, and Mathematics.

Comparisons were made between the grade point averages of athletes and non-athletes by means of the Sign Test. Each of the matched pairs of subjects was compared on grade point average for each of the dependent variables or college courses. The Sign Test assumes no significant difference between groups if approximately half the time athletes exceeded non-athletes in grade point average. A $Z$ of 1.96 was considered significant at the .05 level. A nonparametric significance test was used because of the difficulty in meeting the normality of data criterion of parametric test. The only significant difference found between athletes and non-athletes was with the history grade point average where athletes had an average of 2.159 and the non-athletes an average of 1.761. It was concluded from the results of the study that football players and basketball athletes at Texas Technological College achieve as much academically as non-athletes in the basic courses required of all students. Thus, the effect of athletic participation does not hinder academic achievement, but can be positively associated with academic achievement.

In a study conducted by the American College Testing Program and the Education Testing Service for the American Association of Collegiate Registrars and Admissions Officers and the American Council on Education (1984), a sample of more than 2,000 freshman varsity athletes was compared with a matched sample of freshman non-athletes. The study was conducted over 18 months at 57 Division I institutions. The criteria used to evaluate academic performance were the number of credit hours attempted and earned; freshman grade point average; academic standing at the end of the freshman year; and academic status at the beginning
of the sophomore year. The study revealed that both groups of students earned comparable grade point averages, approximately 2.5 (on a 4.0 scale), but athletes had a higher persistence rate than non-athletes during their first college year. It identified three advantages that athletes have over non-athletes:

All athletes in this study were on athletic grant-in-aid and would be less likely to have serious financial concerns; scholarship athletes are likely to be highly motivated to play their sport and have a strong incentive to keep their grades at a level at least high enough for eligibility; colleges provide a wide variety of support services to scholarship athletes that are not routinely provided to the non-athlete (ACT & ETS, 1984, p.2-3).

One of the major findings of the ACT-ETS study revealed that many student-athletes who were predicted to earn less than a 2.0 actually earned GPA’s above 2.0 in the freshman year; the equivalent group of non-athlete counterparts was not as successful academically. The study suggested that non-athletes who do not predict above a 2.0 should either be provided with support services similar to those provided for athletes or should have their involvement in extracurricular activities restricted. The study concluded that if athletic participation had any negative effects on academic achievement of freshman it was not in the area of grade point averages or levels of persistence.

Stuart (1985) found after two years of college there was no significant differences in mean college GPA. In this study a group of non-athletes was matched to a group of football players. This comparison was used to evaluate the effect of participation in intercollegiate athletics on academic success. Student-athletes had a cumulative college GPA of 2.13, compared to 2.15 for non-athletes. In addition, there was no significant difference between student-athletes and non-athletes in the number of mean semester credit hours taken, 47.2 to 45.29; courses dropped, 1.81 to 1.48, and courses repeated 0.95 to 0.67. Stuart also found no significant
difference in the number of major changes made by athletes and non-athletes during the first two years of college. However, student-athletes were more likely to change to the College of Education. Interestingly, the discussion did not indicate why, yet Physical Education or now the department of Kinesiology is in the College of Education.

Stanton (1988) found athletes at the University of Southern Mississippi had a significantly higher mean GPA (2.20) than non-athletes (2.05) when ACT composite scores were used as a controlling variable. College athletes were matched with a stratified random sample of non-athletes of similar gender, race, academic classification level, and academic major area. Multiple regression analysis was used to determine if differences exist in academic performances between athletes and non-athletes. College athletes also performed significantly higher according to gender, race, and academic classification level with regard to college GPA. Male athletes, white athletes, freshman, and sophomore athletes performed significantly higher than non-athletes. Descriptive data showed student athletes and non-athletes attempting similar course loads and taking a similar number of pass/fail courses.

Pascarella and Smart (1991) used data from the Cooperative Institutional Research Program (CIRP) by the American Council on Education which surveyed a national sample of college students attending 379 colleges and universities in 1971 and a subsequent follow-up of the same respondents in 1980. In their investigation they sought to estimate the net impact of collegiate athletic participation on a wide range of educational outcomes. These included social involvement and academic achievement during college, bachelor’s degree attainment, occupational status and income in the early career, and political and civic values and measures of intellectual and social self-esteem nine years after initial enrollment in college.
Pascarella and Smart used the (CRIP) data to select African American and Caucasian men who first enrolled in 1971 as full-time freshman students in a 4-year college and university and who attended only one institution. Regression equations was used as analyses in the study to estimate the direct effect of athletic participation on each dependent variable net of the influence of other variables in the model. The analyses in the study compared athletes and non-athletes and were guided by a general causal model of college impact, which included student pre-college characteristics and aspirations, the academic selectivity of the college attended, and measures of the academic and social experience of college. Athletes were significantly more likely than non-athletes to actually complete their bachelor’s degree. Furthermore, athletic participation also had a modest positive net effect on college academic achievement (college GPA), particularly for whites.

Hood, Craig, and Ferguson (1992) found when athletes in both revenue and non-revenue producing sports are matched with other undergraduates who are equivalent to them in gender, ethnicity, and academic aptitude test scores, their average grades do not differ significantly from those achieved by their nonathletic matched pairs. Explanations for these findings include time-management principles, course enrollments, and the use of various academic support and advising services available to athletes. The primary purpose of the study was to examine the academic achievement of students who had participated in intercollegiate athletics as freshman and compare their achievement with that of other groups of non-athletes. This study also examined relationships between academic achievement and time spent in various activities such as employment, studying, organizations, social activities, and watching television. Modest
participation in work or social activities does not appear to negatively affect GPAs. However, amount of time spent studying has a positive relationship to grade point average.

Beal (1998) compared the academic achievement of student athletes to non-athletes at the University of North Dakota, a NCAA Division II institution. The student-athlete group was matched with a stratified random sample of non-athletes by gender, academic classification level, and academic college. Also, age was limited to a maximum of twenty-four years old. Cumulative college GPA was the primary measure of academic achievement. The study found that student athletes’ academic achievement surpassed non-athletes though not significant. Yet, student athletes were significantly less likely to have been placed on Academic Probation.

Academics and Athletics: Negative Relationships

In 1929, Savage published a bulletin for the Carnegie Foundation entitled, *American College Athletics*. His report studied the academic records of 2787 athletes and 11,480 non-athletes in fifty-two colleges and universities. Savage found no significant difference in the number of credit hours carried, but athletes as opposed to non-athletes held a slightly lower grade point average. Yet, an inherent flaw in this study was its failure to control differences in academic aptitude, before making such comparisons between athletes and non-athletes. Because athletes at many institutions are recruited according to nonacademic criteria and often differ in important characteristics (e.g., ACT/SAT scores, high school GPA) from the majority of the student body, studies of this type, that do not match athletes with comparable groups of non-athletes have little validity when examining such academic criteria as grades and graduation rates.
In 1934 Cooper and Davis published a collection of studies dealing with the scholastic performance of athletes and non-athletes. Their study included pertinent data reported in forty-one studies conducted in over two hundred institutions. The first study reported was conducted at Amherst College in 1903 and concluded that non-athletes exceeded athletes in scholarship by four percent. The latest study was a 1932 study involving seven colleges and universities in Pennsylvania where it was concluded that the nonathletic groups show a slight superiority in achievement. The authors concluded that the results of these forty-one studies are not clear-cut and have conflicting results. They did however conclude that it does appear that in most cases the non-athlete performs slightly better in schoolwork than the athlete, although the differences are of non-statistical significance.

Some of the more recent studies seem to present a harsher picture of the relationship between academics and athletics. Sociologist J. Harrison (1976) studied 234 football players at North Texas State University between 1966 and 1971. Findings indicated that the football players’ grade point averages were mediocre at best, with freshman and sophomore players averaging less than 2.00 on a 4.00 scale. It was also shown that 56 percent of the freshman athletes dropped out of school during their first year. Finally, the study indicated that in order to maintain eligibility, athletes relied heavily on such courses as health, physical education, and recreation.

Mcknight (1972), examined academic achievement of selected athletes and non-athletes at Howard University. His study, an analysis of variance on cumulative grade point average for eight consecutive semesters, showed that the influence of athletic participation on academic achievement of athletes when contrasted with the academic achievement of non-athletes was
very slight in favor of non-athletes. He concluded that the nature of the sport, the time and
energy devoted to it and the amount of spectator interest in the individual’s performance do have
some effect on academic achievement.

Larsen (1973) reported that academic achievement of athletes at the University of
Tennessee was slightly less than non-athletes based on grade point averages. Also the average
American College Testing scores for male athletes was slightly less than that for all male
entering freshman in each of the years 1968 through 1972. Within the eight colleges, student-
athletes had lower GPA than non-athletes except for Agriculture. With regard to the average
GPA by sport, basketball had the lowest mean GPA, 2.16 and football had the second lowest,
2.26 when comparing sports.

Roper and Snow (1976) reported a negative relationship between “big-time” college
athletics and academic achievement. The number of bowl of playoff appearances a particular
institution participated within defined Big Time. The researchers rejected the idea of a positive
correlation between athletics and academics and declared this concept a rather weak justification
for large financial expenditures for intercollegiate athletics.

Collins (1978) reported on 1,085 selected male athletes at the University of California,
Los Angeles (UCLA). The study found that only 48 percent of athletes had graduated within five
academic years. In addition, athletes had a mean grade point average of 2.515 and male
undergraduates at UCLA had a mean grade point average of 2.852. This study showed
differences in graduation rate between sports as well. Fencers were found to have the highest rate
of 72.2 percent. Football players had the lowest graduation rate of 31.9 percent.
Ballantine (1981) reported on the work of various researchers who, in the 1930s through
the 1970s examined studies, though mixed in their conclusions, indicated some negative
relationships. In many of these studies, athletes were reported to be less successful academically
than non-athletes. Athletes who participated in revenue producing sports were less successful
academically than athletes who participated in non-revenue sports as well as non-athletes.
Grades as an indication of academic achievement showed mixed results, yet athletes tended to
get better grades once their sports season ended or competitive eligibility was complete.

Marcotte (1986) compared the academic success between Cincinnati Technical College
(CTC) basketball players and non-athletes. Specifically, the study was conducted to discover
whether college athletes, particularly basketball players, performed as well as their non-athlete
counterparts in terms of grade point average. Fifty-one basketball players were matched to fifty-
one non-athletes who had similar dates of entry, Differential Aptitude Test Scores, and program
of study. Basketball players at (CTC) had a significantly lower mean GPA than their matched
non-athlete counterparts (1.98 to 2.29). Basketball players at (CTC) on the average earned less
credit hours (54.3 to 57.6) than non-athletes. Fifty-nine percent of players took at least one
developmental course compared to forty-nine percent of non-athletes. Basketball players at
(CTC) also had a slightly higher average number of developmental courses than other students,
2.06 to 1.52.

Maloney and McCormick (1993) found athletes as a whole had a significant lower
college GPA than the overall student body, 2.37 to 2.68, using data from students enrolled at
Clemson University during the academic year 1989-89, including their entire academic records
for the previous years 1985, 1986, and 1987. Looking at the average athlete’s grades relative to
the overall student body, GPAs were lower with the exceptions of women’s track and field, which had similar GPAs and women’s swimming and volleyball, which actually had a higher GPAs. Those with the lowest GPAs were the traditional revenue sports of football (2.12) and men’s basketball (1.93). Additionally, the authors found that while controlling for the background factors of SAT scores and high school GPA, players in revenue sports still had lower GPAs.

Bowen and Shulman (2001) drawing on historical research, show that today’s athletes, more so than their predecessors, enter college less academically prepared and with different values, interests, and aspirations. In this study they reveal several factors that affect academic performance of student athletes. They include poor pre-college preparation, time commitments, and the culture of the sport(s). The patterns across Division IA Public Universities and Division IA Private Universities indicate athletes over time between 1950 to 1990 have gone from the 50th to the 40th percentile as a group in comparison to students as large who have remained in the 50th percentile in terms of mean grade point averages.

**Student-Athlete Only Comparisons**

The impact of being an intercollegiate athlete on academic achievement primarily has been studied by comparing athletes to the rest of the student body on descriptive data. A relatively sparse amount of evidence exists where attempts have been made to compare and contrast the academic aptitude, achievement, and progress of different categories of student athletes. These studies emphasize from the beginning that student athletes are not regular or average students, that the pressures they live under are not those of regular students, and their
motivation for college attendance may or may not be the same. To that end, the following studies are reviewed here as they relate to this study.

Mayo (1982) examined the academic aptitude, achievement, and progress of athletes in order to determine if there were differences among various athletic groups at Ohio State University. Noteworthy findings reported in this study were that black athletes in revenue producing sports achieved at significantly lower levels, academically, than did white athletes in revenue and non-revenue producing sports. Moreover, black athletes in revenue producing sports tended to remain undeclared or select majors perceived as easier, because of lower ACT and SAT scores. Further, white athletes in revenue producing sports, as well as non-revenue-producing sports, were determined to be virtually identical in terms of academic attitude, achievement, and progress.

Mayo (1982) analyzed the academic achievement of different classifications of student athletes (male vs. female, black vs. white, revenue sport vs. non-revenue sport, and individual vs. team sport) to determine if student athletes are adequately and equally prepared for college, as well as academic achievement while in college. Mayo analyzed the academic achievement of major college athletes according to selected variables and concluded that female athletes achieved higher than male athletes; no significant difference in achievement was observed between full-grant, partial-grant, and walk-on athletes participating in either male or female non-revenue sports; no significant difference in achievement was observed between white male revenue athletes and white male non-revenue athletes; white male revenue and non-revenue athletes achieved significantly higher than black male revenue athletes.
In one of the most comprehensive studies of its time, Purdy, Hufnagel, and Eitzen (1982) studied academic preparedness and 5 year graduation rates at Colorado State University from 1970 to 1980. They found that all athletes admitted were less prepared for college and achieved less academically in college than the general student population. Findings also indicated that academic achievement was higher among female athletes than male athletes and that white athletes fared better than black athletes did. Additionally, this study found that scholarship holder participants in the major revenue producing sports of football and basketball had the poorest academic potential and performance.

A major finding of the Purdy et al. (1982) study was that only three percent of the athletes admitted with a high school GPA under 2.5 eventually graduated from college. Only 18 percent of those whose combined SAT scores were below 700 graduated. Basketball (men’s and women’s) accounted for 33 percent of the athletes in this study and 50 percent of the athletes with GPA’s less than a 2.0. Football players were the least prepared of all athletes for college and had the lowest college GPA’s.

Adler and Adler (1985) conducted an in-depth investigation, which confirmed findings and interpretations of those studies positing a negative relationship between athletic participation and academic performance at universities with big-time athletic programs. They extending the analyses by showing that college athletes’ academic performance is multifaceted and is determined less by demographic characteristics and high school experiences than by the structure of their college experiences. Over a four-year period (1980-1984), they conducted a participant-observation study of a major college basketball program.
This study is one of the few qualitative studies and because of its data collection methods was able to reveal not only factors, but also the processes that produce the relationship between athletic participation and academic performance. They found that the athletic, social, and classroom experiences of college athletes lead them to become progressively detached from academics. As a result, many college athletes abandon their earlier academic aspirations and gradually resign themselves to inferior academic performance.

Kiger and Lorentzen (1986) found that the black athletes achieved lower than the white athletes at a Division I school from 1980 to 1984. Poor pre-college academic preparation was given as the reason. Moreover, minority athletes tend to enter the university less well prepared academically compared to whites, and these academic achievement disparities continue at the university level. Using regression analyses, the study demonstrates that race is the strongest predictor of university academic performance. Gender exercises mild effects on university academic performance. Subsequently, they found that white female non-revenue athletes had the highest level of academic achievement from among all the athletes at the university. A major emphasis of this study was its inclusion of gender as an independent variable. Few studies address the issue of gender differences in academic performance among university athletes.

Brede and Camp (1987) classified football and men’s basketball players (N =167) competing during 1982-1983 into three educational achievement groups. Student athletes were rated by their coaches as having high, average, or low athletic ability. They were also rated by the athletic department’s academic advisor in similar manner based on ACT scores, high school curriculum, college course selection, and degree progress. The study examined five related measures of educational achievement: total credit hours enrolled in each enrollment period,
credit hours passed according to grade reports, resulting GPA after each enrollment period, credit hours passed according to official transcripts, and official GPA.

The intersection of the athletic and academic dimensions created a ninefold classification of student athletes types, ranging from student athletes with high ability in each dimension to those with low ability in each dimension. Thirty-one student athletes were grouped as passing easily, which meant they tended to take more credit hours each semester (14 or more), passed more credit hours at the end of each semester, passed more credit hours by year’s end, and had better GPAs. Ninety-two student athletes were termed as just getting by, meaning they took nearly the same amount of courses, but did not pass nearly as many. They had a GPA of slightly above 2.0 and took intersessions and summer school to make up for deficiencies. Struggling along student athletes were rated as low academic ability. Forty-four student athletes were classified in this category. These students took nearly the same amount of credits, but passed only about twenty percent. They had trouble meeting minimum university, conference, or NCAA eligibility requirements. Meeting eligibility requirements was a year round struggle for one-fourth of the student athletes studied.

Gurney and Stuart (1987) examined how competition and special admission status affected the academic achievement of freshman football and basketball players at six private Division I-A universities. They found student athletes in revenue-producing sports on the average exhibit weaker academic preparation than do other students athletes in non-revenue producing sports. However, there was no significant difference in cumulative college GPA (2.14 to 2.25) during semester of competition. Athletes who did not compete were significantly more likely to attempt more credit hours (27.6 to 26.6). Not surprisingly, student athletes who enroll
under special admissions (i.e., ethnic minority groups) policies had lower mean GPAs than those student athletes meeting normal institutional entrance requirements.

Byrant and Clifton (1990) investigated the effect athletics participation on the in-season vs. out-of-season GPA of full-time student athletes at Trenton State University (now the College of New Jersey). Student athletes who participated in sports which season spanned two semesters such as basketball were eliminated from the study. They found the mean in-season GPA (2.50) to be slightly higher than the mean out-of-season GPA (2.46) though not significantly so. However, they also found that in most cases athletes took significantly fewer credits in-season.

Predicting Academic Performance

The factors that impact the academic performance of college students are as varied and diverse as higher education itself. Faculty interaction, study skills, high school size, race, and sex, in addition to high school preparation as measured by standardized test scores, and high school grade point average, have been identified as influencing the academic performance of college students. This section reviews the literature on college students in general, and student athletes in particular, with respect to variables that predict academic performance.

Predicting Academic Performance: College Students

Higher education historically has accepted the fact that some students succeed while others do not. “Why” students fail or succeed has not been clearly illustrated for the college student. Researchers have stressed the importance of quality of high school program, good Scholastic Aptitude Test (SAT) or American College Test (ACT) scores, family background, personality, and study habits in academic success (Astin, 1983). Predictive equations have become the norm in college admissions. According to the research, high school academic
performance and standard test scores “appear” to be the best predictors of college success (Mathiasen, 1984, p. 380). For example many institutions rely heavily on the SAT or ACT to assist in the evaluation of students for admission. It provides an “inexpensive quantitative index that facilitates the admission process” (Astin, 1982, p.158). Students with higher scores on this test are preferred over those with lower scores since it is hypothesized that they will perform more successfully in college.

The Educational Testing Service (ETS) has done much of the research on the use of prediction formulas. The Scholastic Aptitude Test (SAT) has been added to the high school grade point average (HSGPA) for incremental validity. ETS found that the SAT increased the validity coefficient for equations based solely on high school GPA’s from 0.50 to 0.58 (Crouse & Trusheim, 1984, p.9). A study at Washington College substantiated that the SAT increases the predictive validity of freshman performance. However, the SAT was a relatively poor predictor of admissions decisions compared with the high school record (Crouse & Trusheim, 1984).

Willingham and Brelan (1982) found that the cumulative validities of high school GPA and SAT scores ranged from 0.41 to 0.53. These authors found that, in many of the studies, which they reviewed, when combined with the HSGPA the SAT increased predictive validities from 0.03 to 0.07. Willingham and Brelan (1982) also found that background variables such as athletic involvement and community activities did not improved the predicted GPA of a sample of freshman students over the level reached by using achievement test scores.

In another study, conducted at the University of Maryland, Pfeifer and Sedlacek (1984) initially assessed the validities of SAT scores independent of high school GPA’s, then as part of the regression equation that combined the predictor variables of race and sex by high school
GPA. The results showed very little difference between using the SAT as a predictor and the multiple regression equation, which combined predictors. The squared multiple correlation coefficients for all the groups (white male and female, black male and female) were similar, ranging from 0.61 to 0.67.

The regression equations derived in the University of Maryland study also overpredicted. That is when, black males and females were reviewed for actual performance at the end of the freshman year, the predicted mean was significantly higher than actual academic performance. Thus, when the prediction weights came from white female samples, black females overpredicted. For white males and females, the degree of overprediction was insignificant. Temp (1971) found similar results in a larger national study. These results suggest that an overall prediction equation may not be useful for minorities.

Other studies have advocated the use of separate admission or prediction equations for majority and minority students. Hogrebe, Ervin, Dwinell, and Newman (1983) reviewed the moderating effects of race and sex in predicting the academic performance of college students. They sampled 345 students enrolled in the Developmental Studies Program at a large southern university. The study produced two very different regression equations for blacks and whites. That is, the slopes for the regression lines for whites and blacks were not parallel. Specifically, an increase in predictor performance level produced a larger gain in college academic performance for blacks than for whites. In addition, the regression equation for blacks accounted for ten percent more of the variance in the college earned grade point average than did the equation for white students.
A major finding of the Hogrebe et al. study was that the correlation between high school GPA and earned (freshman year) GPA was larger ($r = 0.28$) than the correlation between SAT scores and earned (freshman year) GPA ($r = 0.07$ for SAT verbal; $r = 0.18$ for SAT math). The SAT math score was an important predictor variable of black freshman performance but did not make a significant contribution to the prediction of white freshman performance (Hogrebe et al., 1983, p. 530).

Goldman and Hewitt studied four ethnic groups and, unlike the University of Maryland study, found no evidence of systematic overprediction of GPA for black students and that “the SAT was about as predictively valid for black students as for white students in largely segregated institutions” (Goldman & Hewitt, 1976, p. 108). Their sample included Chicano, Oriental, White, and Black students, and added major field of study as a possible mediator in test performance. Their results suggested that academic predictors and the regression equation used for white students was about as useful for black students as it was for white students. In fact, the academic prediction equation was similar for all ethnic groups (Goldman & Hewitt, 1976).

Robert McCornack (1983) evaluated the bias in the validity of predicted college grades in a study of four ethnic groups. He hypothesized that, if the regression equation were unbiased, the predictions would have been (a) at a correct level of achievement within groups, and (b) of equal accuracy in each group. He found that predictive bias did occur in the form of small but significant overprediction. Obviously, other variables are necessary to understand fully why college students fall short, meet, or exceed expected academic performance levels.

Variables other than achievement also have been found related to academic performance. For example, the influence of high school size, particularly the availability of extracurricular
activities, which might better prepare high school students for socialization in college, has been noted previously (Downey, 1978). Other than indirectly, however, high school size appears only weakly related to college academic performance (Cashen, 1970; Hoyt, 1959). It should be pointed out that the performance outcome of college cumulative grade point average has been widely accepted as an indicator of success or failure.

Predicting Academic Performance: Student Athletes

The relationship between academic performance and athletic participation of student athletes has been the focus of much attention, especially since the NCAA established minimum standards for participation in intercollegiate athletics. This has stirred controversy because of the different effects of the use of standardized test scores such as the SAT and ACT as criteria for eligibility. Supporters of the legislation hope that the minimum criteria will motivate high schools to do a better job of preparing prospective student athletes for college and filter out those whose educational background provides them with little chance of succeeding in college. Most of the arguments against have been based on the differential effects of the 700 SAT cutoff score on potential black student athletes. Black student athletes score significantly lower than their white counterparts on the SAT and ACT (Center for the Study of Athletics, 1989).

Using an admission profile record, Ervin, Saunders, Gillis, and Hogrebe (1985) studied the academic performance of student athletes in revenue-producing sports who were enrolled in a developmental program designed for underprepared freshman at a Division I institution. Comparisons were made between high school preparation and college performance variables for athletes with total SAT scores below 700 and for those with scores equal to or greater than 700. Athletes with high school grade point averages (HSGPA’s) below 2.5 and those with HSGPA’s
equal to and above 2.5 compared on the same measures. Forty-nine (49) freshman football and basketball players were in the sample, which included twenty-five black and twenty-four white student athletes.

The results of this study suggested that SAT scores are significantly related to the number of academic courses taken in high school, the GPA for developmental courses in college, and the amount of time student athletes are required to spend in remedial course. In addition, the more academic courses students take in high school, the better prepared they are for college work.

These finding indicated that the academic requirements of Proposition 48 regarding the 700 SAT score do discriminate statistically. That is, student athletes scoring above 700 respond to and complete remedial requirements more often than student athletes scoring less than 700. The weakness of this study was that it did not demonstrate whether or not the student athletes who scored above 700 responded to and completed non-remedial coursework.

Ervin et al. (1985) also found that black athletes need more time to complete remedial requirements than non-black athletes. Although black athletes had higher high school GPAs than did white athletes, their SAT scores were significantly lower and they took fewer academic courses in high school. After remediation, black athletes did not perform as well academically in the collegiate environment as did their white counterparts.

In a cross-validation study of selected performances measures in predicting academic success among college athletes, Baumann and Henschen (1986) examined the relationship between the ACT composite score and college GPA for 753 male and female athletes at the University of Utah for a 10-year period. Pearson product-moment correlations were utilized to establish relationship between ACT scores, predicted college GPA, and high school GPA with
the actual GPA of the student athlete sample. Correlation coefficients were also established for subcategories of gender, race, and sport of participation.

The academic performances of white students predicted better than the academic performance of minority students, although the difference was not statistically significant. High school GPA was also an average predictor of academic success for the overall group. Another finding was the utilization of a regression equation combining HSGPA and ACT was the best predictor of actual GPA for the overall group. Within the subcategory of race, ACT was used to enhance the predictability of academic success for Whites in the study, but it did not enhance the predictability of academic success for Non-Whites. The academic performance of minority students predicted better when HSGPA was used alone, thus indicating ACT was not a good predictor for that cohort group.

A study by Walter, Smith, Miller, Hoey, and Wilhelm (1987) at the University of Michigan considered two major questions related to the usefulness of SAT scores as predictors of student athletes academic success: Do SATs predict equally well for black and non-black students? Is a minimum of 700 SAT total score predictive of higher freshman GPA and graduation rate? The study group consisted of football scholarship athletes over a seven-year period (1977 to 1983), a total of 183 athletes of which seventy-seven (42%) were black and 106 (58%) were non-black students. The high school grade point average (HSGPA) and high school rank were obtained from the admission file. The results showed that black students differed substantially from non-black students in HSGPA (2.46 vs. 2.79) and in total SAT (709 vs. 883). In the first semester GPA, blacks earned a 2.12 versus a 2.44 for non-blacks. Walter et al. (1987) claimed that the SAT is only weakly related to college GPA for black student athletes (r = 0.16)
and for non-black student athletes (r = 0.29). In comparison, regression analyses showed that approximately twenty percent of the variance is accounted for by HSGPA when predicting college GPA for blacks and fifteen percent for non-black students.

Walter and others (1987) stated that limiting the admission of athletes with combined SAT scores below 700 would have resulted in the rejection of sixty percent of the black athletes and eighteen percent of the non-black student athletes. Ironically, of the forty-three black student athletes predicted to fail, eighty-six percent (n = 37) actually succeeded when freshman-year grade point average was used as the criterion. Among the non-black students twelve of seventeen (70%) were more successful than had been predicted. The study concluded that the SAT is a poor predictor of freshman academic success for both groups. Reliance on the SAT could result in denying access of a substantial number of black athletes to major Division I programs. Walter et al. (1987) also noted, however, that being an “athlete” was more relevant than race in predicting academic success. They concluded, “the SAT does predict…poorly for both blacks and non-black students…membership in the subgroup “athlete” appears to be more relevant than membership in either ethnic group.

Recently, researchers have examined nonacademic factors that may influence student-athletes’ academic performances (Kiger & Lorentzen, 1986; Petrie, 1993; Sedlacek & Adams-Gaston, 1992; Sellers, 1992; Young & Sowa, 1992). In a study of college football players, Petrie (1993) found that higher levels of social support at the beginning semester were predictors of higher subsequent GPAs for football players, however ACT scores were unrelated to student-athletes’ academic performances. Similarly, Sedlacek and Adams-Gaston (1992) reported that having a strong support person, being involved in the community, and having positive self-
concept were positive predictors of first semester grades for a combined sample of male and female freshman student-athletes. Again, admission test scores (i.e., SAT math and verbal) were unrelated to GPAs.

In one of the most exhaustive searches for multivariate predictors of student athletes’ academic success, Lang and her colleagues (1988) performed a discriminant analysis on forty-two cognitive and noncognitive variables in order to develop a multivariate prediction model for the academic performance of University of Miami football players. The analysis yielded six variables with significant predictive value. Of the six variables, high school grade point average had the strongest discriminant effect. The other significant variables consisted of mother’s education, whether high school was public or private, number of times disciplined by head coach, whether the student athlete repeated a year in high school, and whether the student athlete felt as if they were “majoring in eligibility.” It is of interest to note that SAT scores were not a significant predictor of academic success.

In another study investigation of predictors of academic success for a major college football team, Sellers (1989) found different variables in the prediction models of academic success for black and white student athletes. In the overall sample, high school GPA and family income were predictors of college GPA. In an analysis examining only black student athletes, high school GPA was the only significant predictor of college GPA. Another important finding was that motivational variables such as the extent to which getting a degree was important and hours spent studying were not significant predictors.

Young and Sowa (1992) examined the following traditional variables: high school class rank, SAT scores and transcript data, along with non-traditional variables obtained from the
Noncognitive Questionnaire (NCQ). Multiple stepwise regression analyses were conducted to determine the best combination of cognitive and noncognitive variables for predicting college GPA. The researchers found that the use of traditional variables alone failed to consistently predict African American student athletes’ academic potential. The combination of traditional variables with non-traditional variables was better able to predict academic success. Specifically, two noncognitive variables (self-concept and long-term goals) and one cognitive variable (high school grades) significantly correlated to Semester 1 GPA, Semester 2 GPA, Cumulative GPA for Year 1, and Cumulative GPA for Year 2. SAT scores were poorly related to subsequent academic performance.

Petrie (1993) examined the academic performance of football players at a predominantly white university in the Midwest. Subjects were administered the Life Events Survey for Collegiate Athletics and the Social Support Inventory. ACT scores were also collected for the subjects. The researcher found that ACT scores were unrelated to first semester GPA for African American football players. Social support was positively related to academic performance. Negative life stress and ACT scores predicted the academic success of white football players. However ACT accounted for only 10% of the variance.

Garrett (2000) using data from the 1986-1990 Cooperative Institutional Research Program (CIRP) data set, examined the effect of college male athletic participation in the sports of football or basketball as compared to participation in other minor sports on academic performance as measured by grade point average. Results indicate that the type of sport in which one participates is not a significant predictor of academic performance. This study suggested the impact of variables other than SAT or ACT scores as predictors of male student athletes’
academic achievement. Such variables included noncognitive variables such as self-concept and long-range goals.

**Role Conflict of Student-Athlete**

Students in intercollegiate athletic programs experience role conflict as a result of their dual roles of students and athletes (Chartrand & Leant, 1987; Green, Gunnings, & McMillian, 1972; Sack & Thiel, 1985; Stein & Hoffman, 1978). Academically well-prepared student-athletes are just as likely to experience role conflict as those student-athletes underprepared for academic activities. However, academically well-prepared student-athletes appear to be more successful at managing both their academic and athletic roles (Sack & Thiel, 1985). Female athletes experiences with role conflict may be increased due to society’s inclination to view athletic participation as a male endeavor (Sage & Loudermilk, 1979).

Although students from the general student population also experience a dilemma with their identity, student-athletes whose identities have been tied to their athletic ability—sometimes since adolescence—can only envision themselves continuing in an athletic-related role (Lanning, 1982; Nelson, 1982). Participating in athletics is the defining aspect of their identity (Rhatigan, 1984).

Student-athletes’ propensity to commit to their athletic role over their academic role may be the result of the lack of past opportunities to develop the academic role because of a deficient academic history (Snyder, 1985). Stein and Hoffman (1978) refer to this cause of role conflict as having a “socially structured insufficiency of resources for role fulfillment” (p.141). For black student-athletes especially, a deficient academic history can prevent them from making a full commitment to their academic role.
Synder (1985) argues that role identities and role commitment are at least partially the result of student-athletes’ social support mechanisms and intrinsic and extrinsic factors that provide rewards to the academic and athletic roles. Family members, friends, and others in student-athletes’ lives reward academic and/or athletic involvement via companionship, praise, and so on. Synder further suggests that student-athletes are willing to make a commitment to one role or the other because participation in the academic and/or athletic roles may be pleasurable. Finally, Synder feels that extrinsic rewards such as trophies and academic rewards also influence one’s willingness to commitment to the academic and/or athletic role. In contrast, the lack of successes in the academic or athletic role would result in student-athletes being less willing to identify and commit to that role.

Some student-athletes adequately manage role conflict successfully satisfying the requirements of their academic programs while simultaneously fulfilling their athletic commitments (Sack & Thiel, 1985). Other student-athletes find the conflict too much to manage and are forced to place more emphasis on one role or the other (Chartrand & Lent, 1987; Coakley, 1982).

Summary

The literature concerning comparisons of academic performances between student-athletes and non-athletes presents a conflicting and inconclusive picture. There is as much research to conclude that college athletes do less well academically than other students as they do to conclude that college athletes do somewhat better academically or, for that matter, to conclude that there appear to be no appreciable differences in academic achievement between student-athletes and other college students. Thus, sustained scholarly research over the course of
this century has not shown unequivocally that college student athletes differ in any important way from other college students in terms of their mean grade-point averages. Some of the inconsistency in these findings appears to be attributed to faulty methodological procedures of one sort or another arising from studies that are inadequately controlled or incomplete in their coverage.

Among college student-athletes, the literature shows that black student athletes appear to be less prepared for college and as such achieve academically lower than white student athletes at Division I institutions. Football and men’s basketball players are lower, on the average, in academic preparation than any other athletic group admitted to Division I institutions. In addition these student-athletes who are often the poorest prepared for college and largely minority appear to achieve academically lower than student athletes of other sports at the Division I institutions. They often have lower grade-point averages when compared to white student-athletes and yet receive a higher proportion of the athletic scholarships in football and basketball than whites. Interestingly, female student athletes appear to achieve academically higher than male student athletes at Division I institutions.

Research conducted to predict academic performance of college students is varied. Traditional predictors appears to be most effective in predicting the success of white students, but have questionable success in predicting the academic performance of black students. Although, the literature is not completely free of criticism for using ACT/SAT scores and high school grade point average to predict academic performance, enough evidence exists to suggest that these measures are valid predictors for admitting students to institutions of higher education. High school grade point average appears to predict student athletes’ college GPA with more
consistency than standardize tests. This is especially true for minorities, leading researchers to conclude that standardize tests do not predict well for black student-athletes.

   Gender and race have been shown to play a role in the academic performance of student-athletes. Additionally, as individual predictors, the NCQ scales of Strong Support Person, Positive Self-Concept, and Community Involvement all have demonstrated significant ($p < 0.05$) correlations with semester grades. However, research conducted to predict academic achievement of student-athletes has not always examined several, perhaps, key important variables. More predictor variables should be examined to determine what accounts for the majority of the variance in student-athletes’ academic performances.

   However, research into traditional academic variables and nonacademic variables as they are related to academic performance must be examined very carefully to make reliable and valid comparisons between various groups. Thus, it seems useful to continually study traditional academic variables and measures of other nonacademic variables in their ability to predict the academic performances of student-athletes. Hence, this study contributes to the literature by providing results on factors or combinations of factors, beyond those used traditionally as variables of academic performance. Finally, this study employs data collected using follow-up interviews to explain CCGPA relatively few studies have done.
CHAPTER III

METHODOLOGY

The purpose of this study was to (1) identify and investigate selected predictor variables of academic achievement which account for the majority of the variance in cumulative college grade point averages of student-athletes attending Louisiana State University, a Division I University, and (2) identify challenges student-athletes encounter as a result of their dual roles as students and athletes. The institution, the selected population, selection of instrumentation tools, data collection procedures, and the methods of analysis are examined in this chapter. Additionally, the variables as identified by the review of the literature expected to have an impact on the academic performance of student-athletes are explained in detail. A conceptual model incorporating the analysis of these variables is also illustrated; the outcome measure is cumulative college grade point average.

Louisiana State University

Louisiana State University, a land and sea grant university is the flagship institution of higher education in Louisiana offering 71 majors to approximately 31,000 students, and master’s degree offerings in 75 major fields, and also offerings in 54 doctoral majors. As the flagship institution of the state, the vision of Louisiana State University is to be a leading research-extensive university, challenging undergraduate and graduate students to achieve the highest levels of intellectual and personal development. Designated as both a land-grant and sea-grant institution, the mission of Louisiana State University is the generation, preservation, dissemination, and application of knowledge and cultivation of the arts. The student body peaks
in the fall semester at more than 31,000 students, with over 3500 faculty members (LSU Bulletin, 2003).

Admissions decisions are based on whether or not predictors of success exist as a basis for admission. LSU considers factors such as a students’ high school record, with a special emphasis on advanced-placement and honor courses and scores on required tests (SAT or ACT) as their primary predictors of academic success, (LSU Application Brochure, 2004). In addition, special talents, significant life and career experiences, or membership in groups under-represented in the student body are evaluated and weighed as well. Generally, student-athletes are admitted to LSU by meeting regular admission standards. However, some student-athletes are allowed to meet lower University standards and or admitted under special admissions due to their athletic ability.

Louisiana State University is a National Collegiate Athletic Association (NCAA) Division 1 conference member, offering the following sports at this level: baseball, men’s and women’s basketball, men’s and women’s cross country, football, men’s and women’s golf, gymnastics, soccer, softball, men’s and women’s swimming and diving, men’s and women’s tennis, volleyball, and track and field. Louisiana State University’s athletic program has traditionally been strong throughout all of its varsity sports and has fielded nationally competitive teams in most of its sports. A total of 16 of LSU’s 20 athletic teams participated in NCAA postseason play last year (i.e., 2002-03). Consequently, LSU added a pair of national titles to its trophy case (football and women’s track), running its overall total to 40. In all, LSU had nine of its 20 teams finish the year ranked in the Top 25 for their respective sports in 2002-03 and seven of those were ranked in the Top 10. Furthermore, LSU also claimed its 103rd
Southeastern Conference title as the Tiger baseball team league championship in 2003 before advancing to the College World Series.

Support Services for Student-Athletes at Louisiana State University

In 2001, Louisiana State University enhanced its academic support for student-athletes by establishing the Academic Center for Student-Athletes (ACSA). The primary goal of the academic support is to help student-athletes achieve their full academic potential by taking full advantage of the educational opportunities that are made available, and thereby not only maintain athletic eligibility but also earn a degree from the University (ACSA, 2001).

The primary programs of the Center include a tutorial program, academic counseling and advising, computer center, and career development. The program serves more than 400 of LSU’s student-athletes. It also has a Student-Athlete Advisory Board, consisting of a representative from each of the 20 intercollegiate teams, which provides direct input to the center regarding the needs of the student-athletes. Organizationally, the Center reports to the Vice-Provost and Dean for Undergraduate Education. Although the funding for the ACSA is provided by the Tiger Athletic Foundation (TAF), the administration of the center is the responsibility of a director who is funded by the Provost’s office. The Executive Director of the Academic Center for Student-Athletes is responsible for overall administration of the academic support program, including management of academic counseling.

Population and Sampling

This study examined the population of student-athletes who attended Louisiana State University for Fall Semester 2003 and Spring Semester 2004. The population pool of student-athletes was taken from the admission files of the Louisiana State University’s Registrar Office.
From this population, the entire group of student-athletes meeting certain criteria was selected (N = 469). These criteria include being classified by the University’s Athletic Department as being on one of the team rosters at the start of classes for the respective fall and spring semesters, being enrolled in at least 12 credit hours per semester, and being classified as regular degree-seeking students. The NCAA eligibility requirements stipulate that athletes must be full-time students in order to participate in intercollegiate athletics.

A mixed-methods approach with regard to sampling was utilized to select the participants to be studied in this research project. The first sampling technique involved a quantitative approach of stratified sampling. Stratified sampling involves selecting a sample so that certain subgroups in the population are adequately represented (Gall, Borg, & Gall, 1996). Thus, this approach allowed the various categories (i.e., race, gender, academic classification levels, and type of sport participation) of student-athletes to be represented and studied for this study. The eligibility roster submitted by the institution to the NCAA for each academic year identified student-athletes.

The second sampling technique involved a qualitative approach of purposeful sampling. The specific type of purposeful sampling utilized was maximum variation sampling to capture the diversity within the phenomenon of study (Patton, 1990). One of the strengths of qualitative research is that it gives the researcher the opportunity to gain new insight into the phenomena being studied. When using maximum variation sampling, the researcher selects a small sample with great diversity to illustrate the range of variation in the phenomena being studied and to determine whether common themes, patterns, and outcomes cut across this variation (Rubin & Babbie, 1993). As such, to obtain a better understanding into the academic performances of
student-athletes and to determine whether conclusions could be drawn about the research question this technique was used to select participants for the interviewing phase of this study. Consequently, the unit of analysis chosen for this sampling procedure was the student-athletes attending this university.

Instrumentation

The selection of two measurement tools was made in response to the literature reviewed. An additional measurement tool, in this case the researcher, also served as an instrument of choice to collect data for this study. The instrument of choice in naturalistic inquiry, the conceptual framework for the follow-up interviews employed in this study, is the human (Lincoln & Guba, 1985). Therefore, data were gathered via the use of three survey instruments: an informational questionnaire, the Noncognitive Questionnaire Revised (NCQ-R) and an interview protocol guide.

An informational questionnaire was developed to identify the number of hours spent on athletics and to categorize type of sport participation (Appendix A). The closed-formed questions were developed based on discussions with professionals in the field (i.e., athletic academic advisors, trainers, and coaches), as well as a review of the literature, which related these factors to student-athletes’ academic performances. The informational questionnaire also collected information on the student athlete’s home life such as parents’ education levels. In addition, the student-athletes were asked, whether or not they received a scholarship to participate in athletics, and have help from the Academic Center for Student-Athletes greatly influenced or increased their cumulative college grade point averages. All responses from this questionnaire were coded
and entered into *Informax* databases, before being importing to *MicroSoft Excel* for further analyses.

The Noncognitive Questionnaire Revised (NCQ-R) was selected as an instrument because it assessed certain characteristics, which were non-traditional and had been correlated with the academic success of college students. The NCQ-R (Appendix B) is an extended version of the NCQ (Tracey and Sedlacek, 1984), which was intended to be a brief paper and pencil means of assessing some of the noncognitive dimensions postulated by Sedlacek and Brooks (1976) to be related to academic success, especially for minority students.

The NCQ-R is composed of 44 items and assesses eight noncognitive dimensions. Thirty-three items are presented in statement form and pertain to perceptions and expectations of one’s academic career. They are responded to through the use of a 5-point Likert type scale. 1 = strongly agree, 5 = strongly disagree. The remainders of the questions are responded to by filling in the blank or circling the desired response. There are two items concerning the amount of education expected, two items requesting that the student list current goals and accomplishments and several background items: gender, sex, age, race, mother’s occupation, and father’s occupation.

An additional reason for selecting the NCQ-R as an instrument for this particular study was that it was tested on a student-athlete population previously. Sedlacek and Adams-Gaston (1992) administered the NCQ-R to incoming freshman student-athletes at the University of Maryland. Three of the eight subscales, which are also assessed for this study were combined to predict first semester grade point averages. The reliability estimates for the eight subscales have
been found to range from .55 to .84 (Tracey and Sedlacek, 1989). The three noncognitive dimensions specifically assessed for this study were as follows:

- **Positive Self-Concept.**—Positive self confidence as assessed by this instrument is demonstrated by a strong self feeling, determination and independence (Sedlacek and Adams-Gaston, 1992). Sedlacek (1985) reported that this particular subscale was especially important to minority students who, if possessed with a feeling of confidence of making it through school, were likely to graduate.

- **Support of Academic Plans.**—This subscale assesses the amount of support a student received for his/her academic plans (Sedlacek, 1989).

- **Community Involvement.**—This subscale gives an indication of a student’s involvement in the community (Tracey and Sedlacek, 1987).

All open-ended items on the NCQ-R were scored and coded first. Sedlacek (2004) provides scoring instructions and a scoring key for this instrument. Interrater reliability was established at .80 with raters to ensure that coding of open-ending items was done using the coding system in the same way. Once interrater reliability was established and the open-ending items coded, then the objective items were scored and subscale scores computed utilizing the Informax database systems before importing files to MicroSoft Excel. Only those items directly relating to the three noncognitive dimensions were examined in this study. This procedure allowed the easy generation of percentages, means, ranges, and cross-tabulations.

**Pilot Group**

To determine if the terminology and questions in the survey instruments were easily understood by the participants, the two questionnaires were administered to a group of 25
student-athletes who the researcher had associations with previously. The participants were instructed to circle words or statements, which were unclear or ambiguous. The following questions were changed on both survey instruments based on this input.

- Changes to Informational Questionnaire.—Questions 6, 9, 10, and 11 were omitted from questionnaire. Questions 7 and 8 were combined to make question 6: (New Question) Identify and circle the numbers of hours closest to what you actually spend on sport participation activities between Monday through Sunday. Final questionnaire had seven total questions (Appendix A1).

- Changes to NCQ-R.—Questions 11, 13, 14, 16, 17, 18, 19, 20, 22, 23, 27, 33, 34, 38, 39, 40, 41, 42, 43, and 44 were omitted from NCQ-R questionnaire because they assess other dimensions found not significant as predictors for this study. All other questions on survey instrument were kept to measure the three subscale dimensions of positive self-concept, support of academic plans, and community involvement needed for hypothesis testing in this study. Final questionnaire had 25 questions (Appendix B1).

An interview protocol guide was used as an instrument tool to collect data for the case study used in this study. In order to allow the respondent’s perspectives to emerge naturally into the challenges encountered by student-athletes’ dual roles, as opposed to their emerging as the researcher views, the interview instrument (i.e., protocol) cannot be too tightly structured (Patton, 1990). Otherwise, the researcher runs the risk of forcing the respondents’ perspectives into a framework created by the researcher. At the same time though, by using a structureless interview format, the researcher runs the risk of obtaining data that are virtually useless if the respondents are allowed to decide totally what they will provide to the researcher. Therefore, an
interview guide consisted of the following two questions was used in order to obtain detailed insights into the challenges encountered by student-athletes as a result of their roles as student and athletes at a major university:

Q1. Can you describe to me what are some challenges encountered here at this university as a result of your dual role as student and athlete?

Q2. Is there anything you would like to discuss that we have not yet covered, or that we need to cover more?

Data Collection Procedures

Initially, head coaches of each athletic program were contacted to obtain permission for their teams to participate in the study (Appendix C). The Louisiana State University Institutional Review Board had approved the research study before contact was made to head coaches. All coaches with the exception of one, men’s and women’s swimming and diving head coach who resigned during the data collection period responded back and gave permission for their teams participation. However, this was a very labor-intensive process to just obtain permission from the coaches and adjust scheduling dates to accommodate the various sport programs within the university’s athletic department.

To increase the response and obtain permission of participation for this research project, head coaches were pre-contacted by researcher before research project cover letters were mailed. This was done through e-mail and followed up by a personal phone call whereas the researcher identified himself, discussed the purpose of the study, and then requested cooperation. Pre-contacting the head coaches put a more personal, human face on the research study and also psychologically pressured participation before the cover letters and questionnaires arrived. Once
At the team meetings in March/April 2004, the associate or assistant coach introduced the study, allowed researcher to answer questions, and had student-athletes voluntarily complete questionnaires. Both questionnaires were passed out at team meetings, after head coaches permission was granted. Subsequently, one data gathering session took place in a professor’s classroom (i.e., pre-approved) who had a high number of student-athletes and represented a wide range of sports. Also two head coaches chose to have their team members’ complete questionnaires and return back to researcher by mail.

The average time to complete both questionnaires was about 20 minutes. For each student-athlete who completed both questionnaires, the Louisiana State University’s Registrar’s Office provided the following information: academic classification level, race, gender, sport of participation, high school grade point average, ACT composite score, and cumulative college grade point average. Data for each variable were entered on a data collection form (Appendix D) and then coded for entry in a computer statistical analysis software package—*Microsoft Excel*. Subsequently, the participants were identifiable to the researcher by social security number and names for easy correlation of instruments and verification of data collected. However, once instruments were coded and scored no names were disclosed to maintain anonymity and ensure confidentiality.
Interviews were conducted with selected student-athletes to obtain some insights into the challenges encountered by students as a result of their roles as students and athletes at the university. This interviewing approach (i.e., semi-structured) was utilized to expose all respondents to a nearly identical experience with questions prespecified. Additionally, this interviewing approach has the advantage of providing reasonably standard data across participants, but through open-ended questions can obtain greater depth than structured interviews.

Having established rapport with the head coaches, arrangements were made to attend team meetings and interview members of teams. The approach used was the semi-structured interview. The majority of these interviews were held in the University’s Academic Center for Student-Athletes. Some of these interviews were also held in team’s practice facilities offices. Each interviewee received a form letter (Appendix E) outlining the purpose of the study and the steps that would be taken to assure confidentiality. After a brief review of the purpose of study, each participant was asked the two interview guide questions. All participants cooperated fully in the interviews. All interviews were recorded and reviewed immediately after each session, with the latest recording being reviewed again prior to the next scheduled interview.

The second interviewing technique available to the researcher was the informal conversational interview. Because the researcher spent a considerable amount of time within the context of the study, opportunities for unscheduled communication with respondents occurred quite frequently. Informal conversational interviews provided a tool for pursuing information that would not have otherwise been accessible. The informational conversational interview provided a modest complement to the semi-structured technique of collecting data using the
interview guide questions. The researcher composed informal conversational interviews at the first available moment following the conclusion of the conversation.

**Conceptual Model of Predictor Variables**

This study is designed to develop and test more complex models of predictor variables of student-athletes’ academic performance than did previous analyses, where predicting the variance was limited by focusing almost exclusively on ACT score and high school grade point average. Since it is possible that several predictor variables could predict the academic performance of student athletes, a statistical technique which allowed several variables to co-vary simultaneously, was necessary in this particular investigation. The statistical technique used was the multiple regression. The technique of multiple regression provided great range and enabled this researcher to examine virtually any set of data collected from the variables analyzed for the purpose of this study.

The equation(s) below depicts the traditional prediction model developed for this study.

**Model I**

Cumulative College GPA (Student-athletes) = Coef (HSGPA) + Coef (ACT Composite Score) – Error

The formula shows that cumulative college grade point average can be predicted using the regression coefficient multiplied by high school grade point average, plus the regression coefficient multiplied by the ACT composite score, plus the regression coefficient, minus the amount of error.

The following equation, developed for this study, includes a set of variables specifically for the other conceptual area:
Model II

Cumulative College GPA (Student-athletes) = Coef (HSGPA) + Coef (ACT Composite Score) + Coef (Sport variables) + Coef (Noncognitive variables) - Error

The sport variables included in this prediction model are sport of participation and time spent on sport (i.e., seven-day weekly hours spent on sport participation). These two variables are also hypothesized to enhance the prediction equation and also help answer the research question: Is the predictive validity of cumulative college GPA of student-athletes enhanced by these sport variables? Furthermore, the nonacademic variables are included as well to determine if the nonacademic variables add to the understanding of student-athletes’ academic performances beyond the traditional predictive measures (ACT and HSGPA).

Variables

The dependent variable is cumulative college grade point average and although using GPA in this manner has limits, the measure still represents the best available cognitive proxy of college students’ academic performances (Nettles, Thoney, & Gosman, 1986). A number of variables were identified as independent variables on the basis of the review of the literature that might enhance the prediction of academic performance. The independent variables were classified into four general conceptual categories:

- Academic aptitude or traditional academic predictor variables, which included HSGPA and ACT composite score.
- Nonacademic/Noncognitive variables, which included positive self-concept, availability of support person, and demonstrated community service.
• Individual variables, which included race, gender, and academic classification level (i.e., freshman versus upper classmen students).

• Sport variables, which included type of sport participation (i.e., revenue versus non-revenue) and time spent on sport.

Academic Aptitude or Traditional Academic Predictor Variables

Academic aptitude variables provide descriptive data on the academic ability level, at entry, of the student athletes and nonathletes in this study. Moreover, these variables are used to analyze the overall academic potential of student athletes and nonathletes. The ACT composite scores and high school grade point average have been shown to useful in assessing academic ability of potential college students (Mathiasen, 1984; Willingham & Breland, 1982; Pfeifer & Sedlacek, 1984; Goldman & Hewitt, 1976).

Nonacademic/Noncognitive Variables

Much evidence has been generated in recent years indicating that the concept of assessing nontraditional experiences may be useful in making accurate predictions about college student academic performances. Sedlacek and Brooks (1976) posited eight noncognitive dimensions that were important to all college students, but particularly important in minority student academic success (Tracey & Sedlacek, 1984).

Individual Variables

Gender, race, and academic classification level are important individual variables for this study. Preliminary population and sample data suggest that race and gender differences may be important in understanding the predictors on the academic performance of student athletes (Sellers, 1992). That is, different predictors of college academic achievement appear to exist for
black versus white student-athletes and male and female student-athletes. Subsequently, academic classification level was used as a selection criterion for student-athletes to compensate for possible differences in academic colleges and ensure similarity of coursework difficulty between the freshman student-athletes and upper classmen student-athletes.

Sport Variables

Type of sport participation can be important as a variable in investigating the effect on academic performance of student athletes. Within Division I, time demands of the sport may have an impact on the academic growth of the student. As such, time spent on sport was identified as a variable in this category and included in the analysis. Subsequently, one might expect the time demands on student athletes to be higher in those sports that generate revenues than those student athletes in the nonrevenue category might. For the purposes of this study, men’s football and basketball, along with baseball represent the three categories of revenue-producing sports at Louisiana State University.

Criterion Variable

The criteria of cumulative college grade point averages were considered in this study. This criterion was included to permit comparison of results with other studies and to determine the influence of aforementioned variables on cumulative college GPA. For this variable, data were gathered from the student’s academic record maintained by the University Registrar.

Method of Analysis

This study proceeds to make two basic analyses of the data collected. First, a within-group review of the academic preparation of the student-athletes is accomplished by comparing them with each other on the basis of the individual variables described previously (i.e., race,
gender, and academic classification level). Second, regression analyses are used to test distinct prediction models. The same individual variables as well as the inclusion of the noncognitive variables and the sport variables are provided for further analysis within these distinct prediction models.

The within-group procedure involves an analysis of the academic ability of the student-athlete sample surveyed in this study. The criteria utilized to determine academic ability are: ACT composite score (ACTCOMP); high school GPA (HSGPA); and cumulative college grade point average (CCGPA). This analysis shows the mean group differences and standard deviations on the above listed criteria. A Single-Factor, Independent-Measures Analysis of Variance (F-test) is employed to determine if there are any significant differences in the group means, with 0.05 used as the level of significance for evaluating tests. For all analyses, the size of the group (N) is shown.

Stepwise regression analyses were used to test distinct prediction models. For CCGPA, a comparative examination of the traditional predictor variables (Model I) and the inclusion of the noncognitive and sport variables (Model II) are provided for the CCGPA regression analysis. An implicit assumption in stepwise regression analyses is that the relationship between each predictor and the outcome measure is constant (i.e., linear) across all values of the outcome. Therefore, in using stepwise regression techniques, the decision regarding which initial variables to use is important and should be determined with extreme caution (Cohen & Cohen, 1983). For all analyses, the size of the group (n) is shown.

High school grade point average and ACT composite score were entered first as a set because these traditional academic measures are most commonly used when making admission
decisions and predicting academic performances. Furthermore, this approach allowed the researcher to determine initially the usefulness of these standard accepted academic predictors and then ascertain how much the nonacademic and sport variables added to the understanding of student-athletes’ college academic performance. The academic, noncognitive, and sport variables were then combined to determine the best overall set of predictors. All hypotheses were tested by multiple regression analysis facilitated by Statistical Package for the Social Sciences (SPSS-X). The p < .05 rejection level was used for all tests of hypotheses.

Selective Student-Athlete Interviews

Twenty student-athletes, including nine members of the men’s and women’s basketball team, two members of the football team, three members of the men’s and women’s track and field team, two members of the softball team, two members of the volleyball team and one member each from men’s and women’s golf teams were interviewed using two-open-ended questions (Appendix E). Question 1 asked student-athletes to describe any challenges encountered as a result of their dual roles of student and athlete. Questions 2 asked for further clarification points of anything not covered in Question 1. As a former student-athlete, initial granted access to team meetings and practices had come through daily interactions with other student-athlete members and coaches from the university. This role allowed me to become especially close to the student-athletes, who identified me as someone they could share problems, worries, or disgruntlements with in confidence.

A formal, retrievable database was created and included interview notes, memo notes, raw data, and data analysis. In addition, a software program (The Ethnograph) was purchased to facilitate coded and analysis of data. Data analysis began with the first transcribed interview and
involved reducing data, displaying data in a manner other than raw text, and reaching conclusions based upon discernible patterns. To further facilitate the analysis of raw data, coded passages cut into strips out of hard copies of the transcribed interviews were grouped according to emerging categories consisting of concepts using Glaser and Strauss’ (1967) constant comparison method.

From the beginning, crude categories composed of related concepts emerged and were given names and were either expanded, modified, or distinguished. As the process of data collection and analysis continued, participants’ responses were examined for the presence of concepts. Throughout the process of analysis, crude groups of concepts were refined into more representative categories. As the relationship between concepts were discovered, the researcher compared individual student-athletes’ experiences to the sample in its entirety, to the raw data, and then to the categories again. This process continued until no new pertinent data seemed to emerge and the relationships between categories were well established and confirmed.

Trustworthiness

Persistent observation through prolonged engagement (Lincoln & Guba, 1985) was used to ensure trustworthiness. Persistent observation through prolonged engagement was appropriate because of the researcher’s placement in this setting as a result of prior affiliation. Subsequently, all scheduled interviews concluded with a summary of the interview, at which time respondents were given the opportunity to correct errors in facts, dispute what they perceived to be inaccurate interpretations, volunteer additional information, and confirm data points.
CHAPTER IV
RESEARCH RESULTS

The purpose of this study was to investigate selected predictor variables which might explain the variance in the academic performance of student-athletes. In addition, this study sought to identify challenges encountered by student-athletes as a result of their dual identities as students and athletes. Ten hypotheses were tested and one research question guided this study:

H1 High school grade point average is not significant as a predictor of academic performance of student athletes as measured by cumulative college grade point average.
H2 ACT composite score is not significant as a predictor of academic performance of student athletes as measured by cumulative college grade point average.
H3 Gender is not significant as a predictor of academic performance of student athletes as measured by cumulative college grade point average.
H4 Race is not significant as a predictor of academic performance of student athletes as measured by cumulative college grade point average.
H5 Type of sport participation is not significant as a predictor of academic performance of student athletes as measured by cumulative college grade point average.
H6 Academic classification level is not significant as a predictor of academic performance of student athletes as measured by cumulative college grade point average.
H7 Time spent on intercollegiate sports is not significant as a predictor of academic performance of student athletes as measured by cumulative college grade point average.
H8 Positive Self-Concept is not significant as a predictor of academic performance of student-athletes as measured by cumulative college grade point average.
H9 Availability of Strong Support Person is not significant as a predictor of academic performance of student-athletes as measured by cumulative college grade point average.

H10 Community Involvement is not significant as a predictor of academic performance of student-athletes as measured by cumulative college grade point average.

Q1. What challenges are identified by student-athletes as a result of their dual roles as students and athletes?

The results of the investigation are reported in the following sub-sections in this chapter:

(1) Comparative analysis of general student and student-athlete populations, (2) descriptive characteristics of the student-athlete sample on academic aptitude variables, sport variables, and noncognitive variables, (3) analysis of academic performance of selected predictor variables used in this study on the student-athlete sample, (4) description of results for each hypothesis tested and, (5) case study data analysis and presentation of findings.

**Comparative Analysis of Populations**

Comparative demographic data for the general student and student-athlete populations in this study are shown in Tables 1 and 2. This data set contains full-time degree seeking undergraduate students only. The general student population is almost equally divided by gender, with 54% females and 46% males. Conversely, the student-athletes are made up of 40% females and 60% males. Blacks make up 9% of the general student population and whites 87%, while 4% consist of other ethnic origins or backgrounds (e.g., Hispanic, Native American, and Asian). Within the student-athlete population, 26% are black and 66% are white, with an additional 8% from groups of other ethnic origins or backgrounds (Table 1).
Table 1
Student Population Demographic Characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Student-Athletes&lt;sup&gt;a&lt;/sup&gt;</th>
<th>General Student Population&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Population</td>
<td>469</td>
<td>100%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>190</td>
<td>40%</td>
</tr>
<tr>
<td>Male</td>
<td>279</td>
<td>60%</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>118</td>
<td>26%</td>
</tr>
<tr>
<td>White</td>
<td>310</td>
<td>66%</td>
</tr>
<tr>
<td>Other</td>
<td>41</td>
<td>8%</td>
</tr>
</tbody>
</table>

<sup>a</sup>Office of the University Registrar: Entire undergraduate population of student-athletes for Fall 2003-Spring 2004 semesters.  
<sup>b</sup>Office of Budget and Planning: Entire undergraduate population of students enrolled by the university for Fall 2003-Spring 2004 semesters.

Table 2 shows means and standard deviations of the ACT composite score, high school GPA, and cumulative grade point averages of the general and student-athlete populations. The data in this table also show the populations further separated by gender and race for additional sample comparative analyses. A single-factor, independent-measures analysis of variance (ANOVA) was performed to determine the statistical significance of the mean differences between each population and sample group, with 0.05 used as the level of significance for evaluating the F-Ratio. Scheffé’s post hoc tests were done after an analysis of variance if needed to further determine statistical differences between groups.
Table 2
Academic Profile of the Student Population: Student-Athletes and General Student Population By Gender and Race

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number (N)</th>
<th>ACT Composite Score</th>
<th>High School GPA</th>
<th>Cumulative College GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td><strong>Student-Athletes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population</td>
<td>469</td>
<td>21.7</td>
<td>4.8</td>
<td>2.73</td>
</tr>
<tr>
<td>Female</td>
<td>190</td>
<td>22.4</td>
<td>4.3</td>
<td>2.93</td>
</tr>
<tr>
<td>Male</td>
<td>279</td>
<td>20.8</td>
<td>3.7</td>
<td>2.70</td>
</tr>
<tr>
<td>Black</td>
<td>118</td>
<td>17.6</td>
<td>4.0</td>
<td>2.60</td>
</tr>
<tr>
<td>White</td>
<td>310</td>
<td>21.0</td>
<td>4.7</td>
<td>2.71</td>
</tr>
<tr>
<td>Other</td>
<td>41</td>
<td>20.2</td>
<td>5.4</td>
<td>2.96</td>
</tr>
<tr>
<td><strong>General Student Population</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population</td>
<td>21,834</td>
<td>24.0</td>
<td>5.2</td>
<td>2.91</td>
</tr>
<tr>
<td>Female</td>
<td>11,772</td>
<td>24.8</td>
<td>4.9</td>
<td>3.01</td>
</tr>
<tr>
<td>Male</td>
<td>10,062</td>
<td>23.0</td>
<td>4.4</td>
<td>2.90</td>
</tr>
<tr>
<td>Black</td>
<td>1,952</td>
<td>20.1</td>
<td>3.8</td>
<td>2.75</td>
</tr>
<tr>
<td>White</td>
<td>18,956</td>
<td>24.9</td>
<td>5.0</td>
<td>3.02</td>
</tr>
<tr>
<td>Other</td>
<td>926</td>
<td>24.4</td>
<td>4.9</td>
<td>3.12</td>
</tr>
</tbody>
</table>

*a* Office of the University Registrar: Entire undergraduate population of student-athletes for Fall 2003-Spring 2004 semesters.  
*b* Office of Budget and Planning: Entire undergraduate population of students enrolled by the university for Fall 2003-Spring 2004 semesters.
The general student population had a mean ACT composite score of 24.0. The student-athletes mean ACT composite score was 21.7. This difference was found not to be statistically significant $F (1, 22,301) = 2.13, p > .05$. Also, the difference between the general and student-athlete populations mean high school GPAs, 2.91 to 2.73 was found not to be significant $F (1, 22,301) = 2.34, p > .05$. Similarly, the cumulative college GPA for the overall population was 2.95 compared to 2.71 for the student-athlete population. This difference was also found not to be statistically significant $F (1, 22,301) = 3.25, p > .05$.

An examination between the gender groups of student-athletes and the general student population on mean ACT composite scores shows the female students from the general student population with the highest mean ACT composite score of 24.8 and the male student-athlete group with the lowest mean ACT score of 20.8. The difference between these means was found to be statistically significant $F (3, 22,299) = 4.25, p < .05$. The conclusion from the Scheffe post-tests is that only male student-athletes are significantly different from the female general student population on ACT composite score.

Interestingly, the mean high school GPAs amongst the gender groups revealed no significant differences $F (3, 22,299) = 2.14, p > .05$. The overall female general student population had the highest mean high school GPAs at 3.01, with male student-athletes obtaining the lowest at 2.70. Conversely, when comparing the cumulative college grade point averages amongst gender groups, male student-athletes were the lowest at 2.63 and the overall female general student population the highest at 3.04. This mean difference produced a statistically significance $F (3, 22,299) = 7.32, p < .05$. Additional post hoc tests revealed statistical
differences between male student-athletes with females from the general student population on mean cumulative college GPAs.

The populations of racial groups were found to be statistically significant when considering their ACT composite scores $F (5, 22,295) = 4.11, p < .05$. The black student-athlete group had the lowest mean ACT composite score at 17.6 and the white general student population had the highest mean ACT composite score at 24.9. Post hoc tests revealed statistical differences between the black student-athlete groups with only one category of racial groups in the general student population—whites.

The mean group differences were also less pronounced in high school GPA $F (5, 22,295) = 4.24, p < .05$. with only black students in the student-athlete population being statistically significant from members of the other racial groups and whites in the general student population. Interestingly student from the general student population comprised of other ethnic origins (i.e., Native American, Asian, and Hispanic) had the highest high school GPA among all racial groups at 3.12, while blacks from the student-athlete population had the lowest at 2.60.

The black student-athlete population had the lowest mean cumulative college GPAs amongst all racial groups at 2.51 to other ethnic origin members from the general student population which had the highest at 3.23. The mean difference was found to be statistically significant $F (5, 22,295) = 6.97, p < .05$. Post hoc tests indicated that black student-athletes were found to be statistically different from white and other ethnic origin members of the general student population in cumulative college GPAs.

In summary, the mean group analysis of the overall general student population group and the student-athlete group indicates that student-athletes have lower academic profiles when
compared to the general student population. These differences are not significant among ACT composite score, high school GPA, and cumulative college GPA academic profile variables. However, subgroups comparative analyses revealed more pronounced patterns between the gender and racial groups with male student-athletes being significantly different from female students of the general student population on ACT composite score and cumulative college GPA. Additionally, black student-athletes were significantly different in ACT composite scores and cumulative college GPA from white students of the general student population.

**Descriptive Characteristics of Student-Athlete Sample**

The population of prospective participants for the study consisted of 469 eligible student-athletes who attended Louisiana State University during the fall 2003 and spring 2004 semesters. All individuals were invited to attend team meetings during March and April 2004 during which the researcher passed out questionnaires and conducted interviews. Of the 469 eligible student-athletes, 195 were not included in the study for the following reasons: 12 student-athletes dropped out of school during the first three weeks of their first semester, 24 students transferred to another institution at the end of their first semester, 35 student-athletes withdrew from the institution for academic reasons, and 77 were not included in the study because of data collection problems. These data collection problems included inadequate questionnaire responses, incomplete or unavailability of corresponding ACT composite scores, and high school GPA from international and junior transfer student-athletes. Therefore, a total of 301 student-athletes were included in the study.

Table 3 displays the distribution of the student-athlete sample by gender, race, academic classification level, and type of sport participation. The number of student-athletes included in
this study comprised 64% of the overall student-athlete population. Of the overall student-athlete population, 111 (58%) female and 190 (68%) male student-athletes participated in the study. As shown in table 3, a modest number (90, 76%) of black student-athletes participated from the overall student-athlete population. Similarly, a high total of 200 (65%) white student-athletes

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total Student-Athlete Population</th>
<th>Student-Athlete Sample (n)</th>
<th>As % of Student-Athlete Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>469</td>
<td>301</td>
<td>64%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>190</td>
<td>111</td>
<td>58%</td>
</tr>
<tr>
<td>Male</td>
<td>279</td>
<td>190</td>
<td>68%</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>118</td>
<td>90</td>
<td>76%</td>
</tr>
<tr>
<td>White</td>
<td>310</td>
<td>200</td>
<td>65%</td>
</tr>
</tbody>
</table>
| Other
*                   | 41                               | 11*                       | 27%                               |
| Class                |                                   |                           |                                   |
| Freshmen             | 153                              | 96                        | 62%                               |
| Upper Classmen       | 316                              | 205                       | 64%                               |
| Type of Sport        |                                   |                           |                                   |
| Revenue              | 146                              | 100                       | 68%                               |
| Non-Revenue          | 323                              | 201                       | 62%                               |

Note. *Other race member student-athletes (11) were omitted from inferential analyses as the numbers in each cell were too small to apply any tests for significance.
participated from the student-athlete population as well. The lowest participation out of the student-athlete population within the racial groups was from other race members (e.g., Hispanic, Native American, and Asian) with 11 (27%) student-athletes participating in this study.

Among the student-athletes who participated in the study by academic classification level, upper classmen student-athletes included 205 (64%), and freshmen student-athletes had 96 (62%) participation. In addition, the number of revenue participants sampled from the total student-athlete population equals 68%, including 100 participants. For non-revenue participants sampled in this study the number was 201 or 62% of the total student-athlete population.

Table 4
Student Athlete Sample by Academic College, Gender, Race, and Academic Classification Level (n = 301)

<table>
<thead>
<tr>
<th>Variable</th>
<th>AGRI</th>
<th>A&amp;S</th>
<th>BADM</th>
<th>BASC</th>
<th>EDUC</th>
<th>ENGR</th>
<th>MCOM</th>
<th>UCFY</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Classmen</td>
<td>10</td>
<td>95</td>
<td>12</td>
<td>4</td>
<td>45</td>
<td>9</td>
<td>10</td>
<td>20</td>
<td>205</td>
</tr>
<tr>
<td>Female</td>
<td>6</td>
<td>32</td>
<td>3</td>
<td>2</td>
<td>18</td>
<td>2</td>
<td>6</td>
<td>7</td>
<td>76</td>
</tr>
<tr>
<td>Male</td>
<td>4</td>
<td>63</td>
<td>9</td>
<td>2</td>
<td>27</td>
<td>7</td>
<td>4</td>
<td>13</td>
<td>129</td>
</tr>
<tr>
<td>Black</td>
<td>3</td>
<td>37</td>
<td>1</td>
<td>2</td>
<td>11</td>
<td>1</td>
<td>1</td>
<td>16</td>
<td>72</td>
</tr>
<tr>
<td>White</td>
<td>7</td>
<td>54</td>
<td>11</td>
<td>2</td>
<td>34</td>
<td>5</td>
<td>5</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>0</td>
<td>11</td>
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</tbody>
</table>

Note. AGRI = College of Agriculture; A & S = College of Arts & Sciences; BADM = College of Business Administration; BASC = College of Basic Sciences; EDUC = College of Education; ENGR = College of Engineering; MCOM = School of Mass Communication; UCFY = University College.

Table 4 displays a distribution of the student-athlete sample by academic college. As shown in table 4, of the upper classmen student-athletes included in this study, the largest numbers are enrolled within the College of Arts and Sciences (95 or 46%) and the College of Education (45 or 21%). These upper classmen student-athletes, sub-grouped further by gender
and race, included 50 female and 90 male student-athletes, 48 blacks, 88 whites, and 4 members belonging to racial groups other than Black or White. Other upper classmen student-athletes were enrolled in the College of Agriculture (10), the College of Business Administration (12), the College of Basic Sciences (4), the College of Engineering (9), the School of Mass Communications (10), and University College (20). Subsequently, 61 or 85% of the freshmen student-athletes included in this study were enrolled in the University College. Other freshmen student-athletes enrolled in the School of Mass Communications and the College of Arts and Sciences accounted for less than 4% of the student-athlete sample.

Table 5 displays the student-athlete sample distribution by intercollegiate sport teams and their athletic department classification. For the most part, the number of athletic scholarships offered and the sport’s revenue-producing expectations determine the classification a sport has for an institution. Men’s baseball, basketball, and football are classified as revenue producing sports at LSU. Together these sports had 100 participants and accounted for 33% of the student-athlete sample included in this study. Football, the largest revenue producer, had 62 participants in this study and made up 20%, the largest participant percentage of the total student-athlete sample. In other revenue producing sports, baseball had 24 participants or 8% and basketball had participants 14 or 4% of the student-athlete sample participants included in the study. Black revenue student-athletes included 50 or 16% and white revenue student-athletes included 45 or 16% of the student-athlete sample as well.

The non-revenue sports, which included the women’s basketball, men’s and women’s golf, women’s gymnastics, women’s soccer, women’s softball, men’s and women’s swimming & diving, men’s and women’s tennis, men’s and women’s track and field and women’s volleyball
intercollegiate sporting teams accounted for 201 or 66% of the total student-athlete sample. Men’s and Women’s Track and Field had the highest number of participants included in this study of the non-revenue participants with 61 or 20%. Men’s and Women’s swimming had the next highest representation with 37 or 12%. The other non-revenue sports separately had 20 or fewer participants in the total student-athlete sample. Black non-revenue student-athletes included 40 or 13% and white non-revenue student-athletes included 155 or 51% of the student-athlete sample.

Table 5
Distribution of Student-Athlete Sample by Intercollegiate Sports Teams (n = 301)

<table>
<thead>
<tr>
<th>Team</th>
<th>Men’s</th>
<th></th>
<th>Women’s</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Black</td>
<td>White</td>
<td>Other</td>
<td>Black</td>
</tr>
<tr>
<td>Men’s Baseball(^a)</td>
<td>2</td>
<td>20</td>
<td>2</td>
<td>Women’s Basketball(^b)</td>
</tr>
<tr>
<td>Men’s Basketball(^b)</td>
<td>10</td>
<td>3</td>
<td>1</td>
<td>Women’s Golf(^b)</td>
</tr>
<tr>
<td>Men’s Football(^b)</td>
<td>38</td>
<td>22</td>
<td>2</td>
<td>Women’s Gymnastics(^b)</td>
</tr>
<tr>
<td>Men’s Golf(^b)</td>
<td>0</td>
<td>10</td>
<td>0</td>
<td>Women’s Soccer(^b)</td>
</tr>
<tr>
<td>Men’s Swimming(^b)</td>
<td>0</td>
<td>17</td>
<td>1</td>
<td>Women’s Softball(^b)</td>
</tr>
<tr>
<td>Men’s Tennis(^b)</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>Women’s Swimming(^b)</td>
</tr>
<tr>
<td>Men’s Track(^b)</td>
<td>20</td>
<td>15</td>
<td>0</td>
<td>Women’s Tennis(^b)</td>
</tr>
<tr>
<td>Women’s Track(^b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women’s Volleyball(^b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total\(^a\) = 100
Total\(^b\) = 201

\(^a\)classified as Revenue Sports. \(^b\)classified as Non-revenue Sports.
In Tables 6 and 7 the academic profile of the student-athlete sample by academic classification level and type of sport classification is shown, including gender and race differences. The analysis shows the mean group differences and standard deviations on the variables used in this study to determine academic ability: ACT composite score (ACT), high school GPA (HSGPA), and cumulative college GPA (CCGPA). A single-factor, independent measure analysis of variance (ANOVA) was performed to determine if any statistical significance existed between the mean differences of gender and racial groups by academic classification level, with 0.05 used as the level of significance for evaluating the F-Ratio.

Table 6
Academic Profile of Student-Athlete Sample by Academic Classification Level, Gender, and Race (n = 301)

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>ACT</th>
<th>S.D.</th>
<th>HSGPA</th>
<th>S.D.</th>
<th>CCGPA</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen</td>
<td>96</td>
<td>18.7</td>
<td>3.61</td>
<td>2.60</td>
<td>0.55</td>
<td>2.41</td>
<td>0.51</td>
</tr>
<tr>
<td>Female</td>
<td>33</td>
<td>18.6</td>
<td>3.23</td>
<td>2.78</td>
<td>0.58</td>
<td>2.78</td>
<td>0.53</td>
</tr>
<tr>
<td>Male</td>
<td>63</td>
<td>19.8</td>
<td>4.11</td>
<td>2.61</td>
<td>0.51</td>
<td>2.34</td>
<td>0.54</td>
</tr>
<tr>
<td>Black</td>
<td>40</td>
<td>18.1</td>
<td>3.81</td>
<td>2.41</td>
<td>0.37</td>
<td>2.41</td>
<td>0.34</td>
</tr>
<tr>
<td>White</td>
<td>52</td>
<td>20.5</td>
<td>4.32</td>
<td>2.87</td>
<td>0.52</td>
<td>2.57</td>
<td>0.41</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>19.4</td>
<td>5.03</td>
<td>2.73</td>
<td>0.62</td>
<td>2.70</td>
<td>0.52</td>
</tr>
<tr>
<td>Upper Classmen</td>
<td>205</td>
<td>22.0</td>
<td>4.91</td>
<td>2.75</td>
<td>0.45</td>
<td>2.91</td>
<td>0.51</td>
</tr>
<tr>
<td>Female</td>
<td>78</td>
<td>23.1</td>
<td>3.82</td>
<td>3.02</td>
<td>0.48</td>
<td>2.93</td>
<td>0.43</td>
</tr>
<tr>
<td>Male</td>
<td>127</td>
<td>19.7</td>
<td>3.97</td>
<td>3.14</td>
<td>0.36</td>
<td>2.71</td>
<td>0.54</td>
</tr>
<tr>
<td>Black</td>
<td>50</td>
<td>19.5</td>
<td>4.10</td>
<td>2.51</td>
<td>0.46</td>
<td>2.74</td>
<td>0.42</td>
</tr>
<tr>
<td>White</td>
<td>148</td>
<td>21.2</td>
<td>3.86</td>
<td>2.93</td>
<td>0.52</td>
<td>2.71</td>
<td>0.43</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>22.3</td>
<td>3.54</td>
<td>2.73</td>
<td>0.48</td>
<td>2.83</td>
<td>0.53</td>
</tr>
</tbody>
</table>

Note. ACT = American Collegiate Test Composite Score; HSGPA = High School Grade Point Average; CCGPA = Cumulative College Grade Point Average.
Table 6 displays the academic profile of student-athletes by academic classification level, gender and race. Academic classification level includes freshmen and upper classmen (i.e., sophomore, junior, and senior) student-athlete groups. Freshmen student-athletes had the lowest ACT composite scores of the two groups, with an average ACTCOMP score of 18.7. Upper classmen students average slightly higher ACTCOMP scores of 22.0. The mean difference in ACT composite scores between the two groups was found to be statistically significant $F(1, 299) = 5.18, p < .05$. Different results were obtained when reviewing the HSGPA of each group. Freshmen student-athletes had a mean HSGPA of 2.60. Upper classmen student-athletes were modestly higher at 2.75. The mean differences in HSGPA between freshmen and upper classmen student-athletes was found not to be significant $F(1, 299) = 2.13, p > .05$. Upper classmen student-athletes, however, performed better than freshmen student-athletes with a cumulative college GPA of 2.91 versus 2.41. As for cumulative college GPA, the difference was also significant $F(1, 299) = 6.80, p < .05$.

An examination between the racial groups of freshmen and upper classmen student-athletes shows that black freshmen student-athletes had the lowest academic profile, with a mean ACT composite score of 18.1, mean HSGPA of 2.41 and a mean cumulative college GPA of 2.49. White upper classmen students had the highest overall academic profile, with a mean ACT composite score of 21.2, mean HSGPA of 2.93 and a mean cumulative college GPA of 2.71. There was a significant difference between the racial groups on HSGPA only, $F(5, 295) = 4.36, p < .05$. A Scheffe Post Hoc Test was done to determine which groups were different on HSGPA. Black freshmen student-athletes were found to be significantly different from White upper classmen student-athletes on HSGPA, $F(5, 295) = 3.12, p < .05$. 
Female and male groups of freshmen and upper classmen student-athletes were similar in mean differences on most academic aptitude variables. The ACT composite scores were not significantly different between the freshmen and upper classmen groups of student-athletes $F(1, 299) = 2.32, p > .05$. Similarly the gender differences in HSGPA between the groups did not achieve significance $F(3, 297) = 2.14, p > .05$. However, the gender differences between the groups in cumulative college GPA did achieve significance $F(3, 297) = 4.43, p < .05$. A Scheffe Post Hoc Test was done to determine significant difference between which gender groups. This resulted in freshmen male student-athletes being significantly different from female upper classmen student-athletes in cumulative college GPA $F(3, 297) = 4.51, p > .05$.

In Table 7 the academic profile of the student-athlete sample is reported by type of sport participation for the two groups of student-athletes: revenue participants and non-revenue participants. There were no female revenue student-athletes in the student-athlete population or sample. Revenue student-athletes, all males, were found to have significantly lower academic profiles than non-revenue student-athletes, male and female, on all academic profile variables: ACT composite score (17.1 to 23.4 respectively; $F(1, 299) = 6.09, p < .05$.), high school GPA (2.64 to 2.93 respectively; $F(1, 299) = 5.13, p < .05$.), and cumulative college GPA (2.49 to 2.93 respectively; $F(1, 299) = 4.98, p < .05$).

Between the racial groups of revenue student-athletes and non-revenue participants included in the sample, the statistical difference and academic profile variables were on ACT composite scores, high school GPA, and cumulative college grade point average. Black revenue participants had the lowest ACT composite scores at 16.3, and white revenue participants had the highest ACT composite scores at 23.0. This difference was found to be significant at $F(5, 295) =$
Additionally, black male student athletes were also found to be statistically significant from white non-revenue student athletes in high school GPA at 2.46 to 3.20 respectively; \( F (5, 295) = 4.11, p < .05 \), and cumulative college GPA at 2.32 to 2.86, respectively; \( F (5, 295) = 5.12, p < .05 \).

### Table 7

**Academic Profile of Student-Athlete Sample by Type of Sport Classification, Gender, and Race (n = 301)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>ACT</th>
<th>S.D.</th>
<th>HSGPA</th>
<th>S.D.</th>
<th>CCGPA</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>100</td>
<td>17.1</td>
<td>4.7</td>
<td>2.64</td>
<td>0.47</td>
<td>2.49</td>
<td>0.38</td>
</tr>
<tr>
<td>Male</td>
<td>100</td>
<td>17.1</td>
<td>4.7</td>
<td>2.64</td>
<td>0.47</td>
<td>2.49</td>
<td>0.38</td>
</tr>
<tr>
<td>Black</td>
<td>50</td>
<td>16.3</td>
<td>4.8</td>
<td>2.46</td>
<td>0.44</td>
<td>2.32</td>
<td>0.39</td>
</tr>
<tr>
<td>White</td>
<td>45</td>
<td>20.1</td>
<td>4.4</td>
<td>2.89</td>
<td>0.53</td>
<td>2.61</td>
<td>0.35</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>18.0</td>
<td>5.4</td>
<td>2.75</td>
<td>0.67</td>
<td>2.84</td>
<td>0.46</td>
</tr>
<tr>
<td>Non-Revenue</td>
<td>201</td>
<td>23.4</td>
<td>4.3</td>
<td>2.93</td>
<td>0.54</td>
<td>2.93</td>
<td>0.36</td>
</tr>
<tr>
<td>Female</td>
<td>127</td>
<td>24.4</td>
<td>3.7</td>
<td>2.86</td>
<td>0.43</td>
<td>3.01</td>
<td>0.58</td>
</tr>
<tr>
<td>Male</td>
<td>74</td>
<td>21.2</td>
<td>4.0</td>
<td>2.98</td>
<td>0.56</td>
<td>2.71</td>
<td>0.45</td>
</tr>
<tr>
<td>Black</td>
<td>40</td>
<td>19.7</td>
<td>4.7</td>
<td>2.67</td>
<td>0.58</td>
<td>2.64</td>
<td>0.54</td>
</tr>
<tr>
<td>White</td>
<td>155</td>
<td>23.0</td>
<td>4.1</td>
<td>3.20</td>
<td>0.45</td>
<td>2.86</td>
<td>0.42</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>22.8</td>
<td>5.2</td>
<td>3.12</td>
<td>0.53</td>
<td>3.01</td>
<td>0.57</td>
</tr>
</tbody>
</table>

**Note.** ACT = American Collegiate Test Composite Score; HSGPA = High School Grade Point Average; CCGPA = Cumulative College Grade Point Average.

In Table 8, the time spent on sport participation by type of sport classification is shown across revenue and non-revenue sample participants. As a group, the revenue student-athlete participants had an overall mean time spent on sport participation of 16 hours. The non-revenue student-athlete participants had a mean of 9 hours. This mean difference was significant \( F (1, \)
There were no significant differences between the black, white, and other ethnic groups within the revenue participants (17 to 16.5, respectively $F(1, 98) = 2.43 > p .05$).

There were no significant differences within the non-revenue student-athlete participants between females and males (8.0 to 10.0, respectively, $F(1, 199) = 5.67 > p .05$).

Table 8
Student Athlete Sample by Time Spent, Type of Sport Participation, and Sport Classification (n = 301)

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>Mean(^a)</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>100</td>
<td>16.0</td>
<td>5.37</td>
</tr>
<tr>
<td>Male</td>
<td>100</td>
<td>16.0</td>
<td>5.37</td>
</tr>
<tr>
<td>Black</td>
<td>50</td>
<td>17.0</td>
<td>6.02</td>
</tr>
<tr>
<td>White</td>
<td>45</td>
<td>16.5</td>
<td>5.12</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>15.5</td>
<td>6.03</td>
</tr>
<tr>
<td>Non-Revenue</td>
<td>201</td>
<td>9.0</td>
<td>5.12</td>
</tr>
<tr>
<td>Male</td>
<td>74</td>
<td>10.0</td>
<td>6.11</td>
</tr>
<tr>
<td>Female</td>
<td>127</td>
<td>8.0</td>
<td>3.16</td>
</tr>
<tr>
<td>Black</td>
<td>40</td>
<td>8.0</td>
<td>4.12</td>
</tr>
<tr>
<td>White</td>
<td>155</td>
<td>9.0</td>
<td>5.02</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>8.0</td>
<td>5.24</td>
</tr>
</tbody>
</table>

\(^a\)Number of hours closest to actual time spent on sport participation activities from Monday through Sunday.

Table 9 shows a comparison of the noncognitive variable scale means and standard deviations of the student-athlete sample by academic classification level, gender, and race. The student-athletes are analyzed by the noncognitive variables: positive self-concept (PSC), support of academic plans (SUP), and community involvement (COM). Freshmen student-athletes had
the lowest positive self-concept scores of the two groups, with an average PSC score of 16.01. Upper classmen students averaged slightly higher PSC scores of 19.10. The mean difference in positive self-concept scores between the two groups was found to be statistically significant $F(1, 299) = 7.18$, $p < .05$. However no significant differences were obtained when reviewing the SUP (12.0 to 13.67, respectively, $F(1, 299) = 4.32 > p .05.$) and COM (5.41 to 5.56, respectively $F(1, 299) = 4.56 > p .05$) scale means of each group.

Table 9
Student-Athlete Sample
Noncognitive Questionnaire – Revised Scale Means and Standard Deviations by Academic Classification Level, Gender, and Race (n = 301)

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>PSC</th>
<th>S.D.</th>
<th>SUP</th>
<th>S.D.</th>
<th>COM</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen</td>
<td>96</td>
<td>17.01</td>
<td>1.92</td>
<td>12.00</td>
<td>1.66</td>
<td>5.41</td>
<td>1.42</td>
</tr>
<tr>
<td>Female</td>
<td>33</td>
<td>14.13</td>
<td>2.61</td>
<td>11.67</td>
<td>2.00</td>
<td>7.32</td>
<td>1.66</td>
</tr>
<tr>
<td>Male</td>
<td>63</td>
<td>17.40</td>
<td>1.99</td>
<td>12.80</td>
<td>1.91</td>
<td>5.99</td>
<td>2.71</td>
</tr>
<tr>
<td>Black</td>
<td>40</td>
<td>16.80</td>
<td>2.13</td>
<td>10.88</td>
<td>1.79</td>
<td>3.65</td>
<td>1.66</td>
</tr>
<tr>
<td>White</td>
<td>52</td>
<td>19.71</td>
<td>1.72</td>
<td>13.23</td>
<td>1.54</td>
<td>6.17</td>
<td>1.18</td>
</tr>
<tr>
<td>Other$^a$</td>
<td>4</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Upper Classmen</td>
<td>205</td>
<td>19.10</td>
<td>2.11</td>
<td>13.67</td>
<td>1.73</td>
<td>5.56</td>
<td>1.19</td>
</tr>
<tr>
<td>Female</td>
<td>78</td>
<td>18.34</td>
<td>2.36</td>
<td>15.62</td>
<td>1.76</td>
<td>7.65</td>
<td>2.34</td>
</tr>
<tr>
<td>Male</td>
<td>127</td>
<td>20.01</td>
<td>1.88</td>
<td>13.44</td>
<td>2.07</td>
<td>5.13</td>
<td>1.89</td>
</tr>
<tr>
<td>Black</td>
<td>50</td>
<td>18.43</td>
<td>2.61</td>
<td>11.67</td>
<td>2.00</td>
<td>4.63</td>
<td>1.66</td>
</tr>
<tr>
<td>White</td>
<td>148</td>
<td>19.13</td>
<td>1.99</td>
<td>13.23</td>
<td>1.54</td>
<td>6.17</td>
<td>1.18</td>
</tr>
<tr>
<td>Other$^a$</td>
<td>7</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Note. Noncognitive Questionnaire Revised (NCQ-R); PSC = Positive Self Concept; SUP = Support of Academic Plans; COM = Community Involvement.
$^a$cell missing due to incomplete or missing data.
Female and male groups of freshmen and upper classmen student-athletes show mean difference across most noncognitive variables. The positive self-concept scores were significantly different between the freshmen and upper classmen groups of student-athletes, $F (3, 297) = 4.32, p < .05$. A Scheffe Post Hoc Test was done to determine significant difference between which gender groups. This resulted in freshmen female student-athletes with an average score of 14.13 being significantly different from male upper classmen student-athletes with an average score 20.01 in PSC, $F (3, 297) = 5.51, p < .05$.

Similarly, the mean differences in support of academic plans between female and male groups of freshmen and upper classmen student-athletes achieved significance $F (3, 297) = 4.14, p < .05$. Post hoc tests revealed female freshmen student-athletes with mean scores of 11.67 to be significantly different from female upper classmen student athletes with mean scores of 15.62 in SUP, $F (3, 297) = 5.14, p < .05$. However, mean differences between the female and male groups of freshmen and upper classmen student-athletes in community involvement did not achieve significance $F (3, 297) = 3.43, p > .05$.

An examination between the racial groups of freshmen and upper classmen student athletes shows very little difference between the groups on the noncognitive variables. Black freshmen student-athletes had the lowest positive self-concept score, with a mean PSC score of 16.80, the lowest support of academic plans, with a mean SUP score of 10.88, and the lowest community involvement, 3.65. There was a significant difference between the race groups on PSC only, $F (5, 295) = 4.36, p < .05$. A Scheffe post hoc test was done to determine which groups were different on PSC. Black freshmen student-athletes with mean scores of 16.80 were
found to be significantly different from white upper classmen student-athletes with mean scores of 19.13 on PSC, \( F(5, 295) = 3.12, p < .05. \)

**Analysis of Academic Performance Predictor Variables**

To predict the cumulative college grade point average of student-athletes, a multiple regression analysis was performed using the predictor variables of ACT composite score, high school grade point average, individual variables, sport variables, and noncognitive variables. Table 10 displays descriptions of the abbreviations used in these analyses.

Table 11 displays a bivariate correlation matrix among each of the variables used in the study and shows the correlation coefficient (\( r \)) associated with each other. Eight of the ten predictor variables analyzed (high school GPA, ACT composite score, gender, race, academic classification level, sport of participation, time spent on sport, and support of academic plans) were significantly correlated to cumulative college GPA. High school GPA had the highest correlation coefficient with cumulative college GPA (\( r = .594 \)). This association was the highest within the entire correlation matrix. ACT composite score had the second highest correlation coefficient with cumulative college GPA (\( r = .407 \)). Race had the third highest correlation coefficient with cumulative college GPA (\( r = .284 \)). Consequently, the matrix displays that time spent on sport had a low negative correlation with cumulative college GPA (\( r = -.230 \)). Sports participation had a significant correlation with cumulative college GPA (\( r = .218 \)), as well as support of academic plans (\( r = .290 \)). In addition, the other significant predictor variables correlated with cumulative college GPA of gender and academic classification level had a correlation of (\( r = .195 \)) and (\( r = .158 \)) respectively.
Table 10
Description of Variable Abbreviations Used

<table>
<thead>
<tr>
<th>Variables</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic Aptitude/Traditional Academic Predictors:</strong></td>
<td></td>
</tr>
<tr>
<td>High school grade point average</td>
<td>HSGPA</td>
</tr>
<tr>
<td>American College Test Total Composite Score</td>
<td>ACTCMP</td>
</tr>
<tr>
<td><strong>Individual Variables:</strong></td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>0</td>
</tr>
<tr>
<td>Black</td>
<td>1</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>0</td>
</tr>
<tr>
<td>Female</td>
<td>1</td>
</tr>
<tr>
<td><strong>Academic Classification Level (ACL)</strong></td>
<td></td>
</tr>
<tr>
<td>Freshmen</td>
<td>0</td>
</tr>
<tr>
<td>Upper Classmen (i.e., sophomore, junior, and senior)</td>
<td>1</td>
</tr>
<tr>
<td><strong>Sport Variables:</strong></td>
<td>SPP</td>
</tr>
<tr>
<td>Revenue (i.e., football, men’s basketball, and baseball)</td>
<td>0</td>
</tr>
<tr>
<td>Non-Revenue (i.e., all other sports)</td>
<td>1</td>
</tr>
<tr>
<td>Time Spent on Sport</td>
<td>TSS</td>
</tr>
<tr>
<td><strong>Noncognitive Variables:</strong></td>
<td></td>
</tr>
<tr>
<td>Positive Self Concept</td>
<td>PSC</td>
</tr>
<tr>
<td>Support of Academic Plans</td>
<td>SUP</td>
</tr>
<tr>
<td>Community Involvement</td>
<td>COM</td>
</tr>
<tr>
<td><strong>Criterion Variable:</strong></td>
<td></td>
</tr>
<tr>
<td>Cumulative College Grade Point Average</td>
<td>CCGPA</td>
</tr>
</tbody>
</table>
Table 11
Student-Athlete Sample
Bivariate Correlation Matrix for Variables Used in the Regression Analysis (n = 301)

<table>
<thead>
<tr>
<th>Variables</th>
<th>CCGPA</th>
<th>HSGPA</th>
<th>ACTCMP</th>
<th>Gender</th>
<th>Race</th>
<th>ACL</th>
<th>SPP</th>
<th>TSS</th>
<th>SUP</th>
<th>PSC</th>
<th>COM</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCGPA</td>
<td>1.00</td>
<td>.594*</td>
<td>.407*</td>
<td>.195*</td>
<td>.284*</td>
<td>.158*</td>
<td>.218*</td>
<td>-.230*</td>
<td>.290*</td>
<td>.005</td>
<td>.014</td>
</tr>
<tr>
<td>HSGPA</td>
<td>1.00</td>
<td>.478*</td>
<td>.241*</td>
<td>.163*</td>
<td>.019</td>
<td>.190*</td>
<td>-.127*</td>
<td>.207*</td>
<td>.032</td>
<td>.239</td>
<td></td>
</tr>
<tr>
<td>ACTCMP</td>
<td>1.00</td>
<td>.104</td>
<td>.379*</td>
<td>.157*</td>
<td>.210*</td>
<td>-.275</td>
<td>.418*</td>
<td>.022</td>
<td>.372*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>1.00</td>
<td>.126</td>
<td>.014</td>
<td>.859*</td>
<td>-.529*</td>
<td>.104</td>
<td>.009</td>
<td>-.071</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td>1.00</td>
<td>.006</td>
<td>.156*</td>
<td>-.250*</td>
<td>.828*</td>
<td>.205*</td>
<td>.769*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACL</td>
<td>1.00</td>
<td>.040</td>
<td>-.025</td>
<td>.035</td>
<td>.058</td>
<td>.012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPP</td>
<td>1.00</td>
<td>-.771*</td>
<td>.137*</td>
<td>.026</td>
<td>.075</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSS</td>
<td>1.00</td>
<td>-.185</td>
<td>-.001</td>
<td>.193</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUP</td>
<td>1.00</td>
<td>.157</td>
<td>.775</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSC</td>
<td>1.00</td>
<td>.150</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Point-biserial correlations were computed for relations involving gender, race, academic classification level (ACL), and sport participation (SPP). For these analyses, male, white, freshman, and revenue sport were represented by scores of 0, and female, black, upper classmen, and non-revenue sport were represented by scores of 1.

*p< .05.
All variables used in the bivariate correlation matrix were used for further analyses to determine if any combination of variables could predict cumulative college grade point averages in the student-athlete sample. A stepwise multiple regression analysis was conducted. Step 1 analyzes the traditional predictors (ACT composite score and HSGPA) and their importance in predicting CCGPAs of the student-athlete sample. Step 2 analyzes the traditional predictors in addition to the sport and noncognitive variables of CCGPAs for the student-athlete sample. In each model, only the variable that achieved significance with the cut-off criteria set at probability of $F < \text{equal to or less than } .05$ was listed. Furthermore, since mean differences were significant in subpopulations of student-athletes, separate analyses were conducted first on the individual variables--gender, race, and academic classification level--to show validity of predictors. Yet these individual variables, along with the sport variables (time spent on sport and sport participation), and the noncognitive variables (positive self-concept, support of academic plans, and community involvement) were all combined and then entered into the stepwise regression to determine which predictors accounted for the greatest variance of CCGPA for the student-athlete sample for hypothesis testing.

The predictor variables and their importance in predicting the cumulative college GPA of the student-athlete sample by gender are presented in tables 12 and 13. Table 12 shows the regression analyses for female student-athletes in the sample. High school GPA and ACT composite scores were entered first into the regression model and accounted for 42% of the cumulative college GPA. When all of the selected predictor variables were entered into the regression equation, HSGPA and ACTCMP were still significantly related to CCGPA. For the noncognitive variables, only support of academic plans contributed significantly, accounting for
an additional 4% of the variance. The r-square value suggested that 46% of the variance in CCGPA of female student-athletes was explained by HSGPA, ACTCMP, and support of academic plans.

Table 12
Stepwise Regression Analyses of Cumulative College GPA for Female Student-Athletes in the Sample (n = 106)

<table>
<thead>
<tr>
<th>Variable</th>
<th>$r^2$</th>
<th>B</th>
<th>SE B</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSGPA</td>
<td>.379</td>
<td>.108</td>
<td>.014</td>
<td>.616*</td>
</tr>
<tr>
<td>ACTCMP</td>
<td>.423</td>
<td>.172</td>
<td>.077</td>
<td>.183*</td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSGPA</td>
<td>.379</td>
<td>.089</td>
<td>.015</td>
<td>.521*</td>
</tr>
<tr>
<td>ACTCMP</td>
<td>.423</td>
<td>.136</td>
<td>.079</td>
<td>.191*</td>
</tr>
<tr>
<td>SUP</td>
<td>.465</td>
<td>.204</td>
<td>.084</td>
<td>.166*</td>
</tr>
</tbody>
</table>

*p < .05.

Table 13 shows the regression analyses for male student-athletes in the sample. High school GPA and ACT composite scores accounted for 27% of the cumulative college GPA. When combined with sport and noncognitive variables, high school GPA and ACT composite score remained significantly related to cumulative college GPA. For the sport variables and noncognitive variables, only time spent on sport and support of academic plans contributed significantly, accounting for an additional 2% of the variance. Together the $r$-square value
suggested that 29% of the variance in CCGPA of male student-athletes could be explained by HSGPA, ACTCMP, and time spent on sport.

Table 13
Stepwise Regression Analyses of Cumulative College GPA for Male Student-Athletes in the Sample (n = 184)

<table>
<thead>
<tr>
<th>Variable</th>
<th>$r^2$</th>
<th>B</th>
<th>SE B</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSGPA</td>
<td>.23</td>
<td>.355</td>
<td>.010</td>
<td>.484*</td>
</tr>
<tr>
<td>ACTCMP</td>
<td>.27</td>
<td>.146</td>
<td>.167</td>
<td>.116*</td>
</tr>
</tbody>
</table>

| Step 2   |      |     |      |       |
| HSGPA    | .23  | .319| .013 | .453* |
| ACTCMP   | .27  | .075| .035 | .138* |
| TSS      | .29  | .072| .048 | .078* |

*p < .05.

The predictor variables and their importance in predicting the cumulative college GPA of the student-athlete sample by race are presented in tables 14 and 15. Table 14 shows the regression analyses for black student-athletes in the sample. Only high school GPA was significant as a traditional predictor of the cumulative college GPA for black student-athletes, accounting for 6% of the variance in Model I. In Model II, a change in $r$-square occurred from Model I (6% to 15%). The inclusion of sport participation and support of academic plans in creased the predictive power by 9%. HSGPA remained significant as a predictor of CCGPA. Interestingly, sport participation had a higher predictability of CCGPA than HSGPA from 6
percent to 8 percent. That is, sport participation was more important as a predictor than HSGPA as a predictor of CCGPA for black student-athletes.

Table 14
Stepwise Regression Analyses of Cumulative College GPA for Black Student-Athletes in the Sample (n = 90)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r²</td>
<td>B</td>
</tr>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSGPA</td>
<td>.06</td>
<td>.673</td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPP</td>
<td>.08</td>
<td>.026</td>
</tr>
<tr>
<td>HSGPA</td>
<td>.12</td>
<td>.030</td>
</tr>
<tr>
<td>SUP</td>
<td>.15</td>
<td>.013</td>
</tr>
</tbody>
</table>

*p < .05.

Table 15 shows the regression analyses for white student-athletes in the sample. High school GPA and ACT composite scores accounted for 36% of the cumulative college GPA. The sport variable, time spent on sport, contributed significantly, accounting for an additional 2% of the variance. However, none of the noncognitive variables added significantly to the prediction of the white student-athletes’ cumulative college GPAs. The r-square value for the combination of HSGPA, ACTCMP, and time spent on sport was .382. This overall model for white student-athletes accounted for 38% of the variance in cumulative college GPA.
Table 15
Stepwise Regression Analyses of Cumulative College GPA
for White Student-Athletes in the Sample (n = 200)

<table>
<thead>
<tr>
<th>Variable</th>
<th>$r^2$</th>
<th>B</th>
<th>SE B</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSGPA</td>
<td>.33</td>
<td>.344</td>
<td>.013</td>
<td>.508*</td>
</tr>
<tr>
<td>ACTCMP</td>
<td>.36</td>
<td>.113</td>
<td>.051</td>
<td>.154*</td>
</tr>
</tbody>
</table>

Step 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>$r^2$</th>
<th>B</th>
<th>SE B</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSGPA</td>
<td>.33</td>
<td>.307</td>
<td>.013</td>
<td>.483*</td>
</tr>
<tr>
<td>ACTCMP</td>
<td>.36</td>
<td>.101</td>
<td>.035</td>
<td>.151*</td>
</tr>
<tr>
<td>TSS</td>
<td>.38</td>
<td>.089</td>
<td>.051</td>
<td>.147*</td>
</tr>
</tbody>
</table>

*p< .05.

Table 16
Stepwise Regression Analyses of Cumulative College GPA
for Freshmen Student-Athletes in the Sample (n = 92)

<table>
<thead>
<tr>
<th>Variable</th>
<th>$r^2$</th>
<th>B</th>
<th>SE B</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSGPA</td>
<td>.20</td>
<td>.896</td>
<td>.013</td>
<td>.450*</td>
</tr>
</tbody>
</table>

Step 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>$r^2$</th>
<th>B</th>
<th>SE B</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSGPA</td>
<td>.19</td>
<td>.798</td>
<td>.011</td>
<td>.408*</td>
</tr>
<tr>
<td>SPP</td>
<td>.23</td>
<td>.213</td>
<td>.010</td>
<td>.160*</td>
</tr>
</tbody>
</table>

*p< .05.
Table 16 shows that between the two traditional predictors (ACTCMP and HSGPA), only HSGPA is significant. High school GPA alone accounts for 20 percent of the variation of CCGPA for freshmen student-athletes. Beyond high school GPA, for freshmen student-athletes sport participation is also significant as a predictor of CCGPA.

As shown Table 17, the traditional variables account 47 percent of the variance in CCGPA for upper classmen student-athletes. High school GPA was the most significant predictor for the upper classmen student-athletes. ACT composite score added a slight change in r-square from 35 percent to 37 percent, and was also significant as a predictor in Model I. In Model II, high school GPA remained the most significant predictor of CCGPA; however, time spent on sport increased the predictive power by 7 percent and had a higher predictability of CCGPA than ACT composite score in this model.

**Table 17**

Stepwise Regression Analyses of Cumulative College GPA for Upper Classmen Student-Athletes in the Sample (n = 198)

<table>
<thead>
<tr>
<th>Variable</th>
<th>$r^2$</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Std Error</td>
<td>B</td>
</tr>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSGPA</td>
<td>.35</td>
<td>.630</td>
<td>.009</td>
</tr>
<tr>
<td>ACTCMP</td>
<td>.37</td>
<td>.691</td>
<td>.037</td>
</tr>
</tbody>
</table>

Step 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>$r^2$</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Std Error</td>
<td>B</td>
</tr>
<tr>
<td>HSGPA</td>
<td>.35</td>
<td>.575</td>
<td>.011</td>
</tr>
<tr>
<td>TSS</td>
<td>.42</td>
<td>-.213</td>
<td>.010</td>
</tr>
<tr>
<td>ACTCMP</td>
<td>.44</td>
<td>.434</td>
<td>.036</td>
</tr>
</tbody>
</table>

*p < .05.
Table 18 presents the results of the stepwise regression analyses of the predictor variables of academic performance for all student-athletes in the sample as measured by the cumulative college GPA. High school GPA, time spent on sport, sport participation, race, and positive self-concept all show significant ($R^2$) increments. The total R-squared value suggested that 58% of the variance could be explained by these five variables.

**Test of the Hypotheses**

- **Hypothesis 1**

  The first hypothesis investigated the effectiveness of high school GPA as a predictor of academic performance of student-athletes. The null hypothesis stated that high school GPA is not significant as a predictor of academic performance of student-athletes as measured by cumulative college grade point average. Table 11 indicates that high school GPA as a single predictor variable of academic performance had the highest correlation ($r = .594$) with cumulative college GPA and was significant at the .05 level. In addition, Tables 16 shows that high school GPA had the highest value of explained variance ($R^2 = .355$) and suggests that 35% of the variance in cumulative college GPA was predicted from the high school GPA. Therefore, based on the findings from data presented, the first null hypothesis was rejected.

- **Hypothesis 2**

  The second hypothesis investigated the effectiveness of ACT composite score as a predictor of academic performance of student-athletes. The null hypothesis stated that ACT composite score is not significant as a predictor of academic performance of student-athletes as measured by cumulative college grade point average. Table 11 indicates that ACT composite score as a single predictor of academic performance had a modest association ($r = .407$) with
<table>
<thead>
<tr>
<th>Variable</th>
<th>Multiple R</th>
<th>$r^2$</th>
<th>$r^2$ Increment</th>
<th>F</th>
<th>Sig. of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School GPA</td>
<td>.5943</td>
<td>.3552</td>
<td>.3552</td>
<td>348.873</td>
<td>.001*</td>
</tr>
<tr>
<td>ACT Composite Score</td>
<td>.6546</td>
<td>.4284</td>
<td>.0732</td>
<td>84.028</td>
<td>.011*</td>
</tr>
<tr>
<td>Gender</td>
<td>.6591</td>
<td>.4862</td>
<td>.0583</td>
<td>25.361</td>
<td>.008*</td>
</tr>
<tr>
<td>Academic Classification Level</td>
<td>.6609</td>
<td>.5438</td>
<td>.0576</td>
<td>9.370</td>
<td>.024*</td>
</tr>
<tr>
<td>Race</td>
<td>.6665</td>
<td>.5514</td>
<td>.0076</td>
<td>4.715</td>
<td>.154</td>
</tr>
<tr>
<td>Sport</td>
<td>.6670</td>
<td>.5567</td>
<td>.0053</td>
<td>.732</td>
<td>.393</td>
</tr>
<tr>
<td>Time Spent on Sport</td>
<td>.6673</td>
<td>.5573</td>
<td>.0006</td>
<td>.654</td>
<td>.419</td>
</tr>
<tr>
<td>Support of Academic Plans</td>
<td>.6687</td>
<td>.5576</td>
<td>.0003</td>
<td>.650</td>
<td>.449</td>
</tr>
<tr>
<td>Positive Self-Concept</td>
<td>.6689</td>
<td>.5577</td>
<td>.0001</td>
<td>.648</td>
<td>.493</td>
</tr>
<tr>
<td>Community Involvement</td>
<td>.6691</td>
<td>.5579</td>
<td>.0002</td>
<td>.642</td>
<td>.632</td>
</tr>
</tbody>
</table>

*p< .05.
cumulative college GPA, and was found significant at the .05 level. Table 16 shows that ACT composite score increased the predictive power by 7 percent, and based on the findings from the data presented, this null hypothesis was rejected.

- Hypothesis 3

The third hypothesis investigated the effectiveness of gender as a predictor of academic performance of student-athletes. The null hypothesis stated that gender was not significant as a predictor of academic performance as measured by cumulative college grade point average. Table 11 indicates that gender as a single predictor variable of academic performance had a slight relationship ($r = .195$) with cumulative college GPA. Table 16 shows that gender accounted for 5% of the variance ($R^2 = .0583$) in cumulative college GPA when added to the multiple regression analysis and reveals the $F$ value (25.3) as statistically significant. Based on the data presented this null hypothesis was rejected.

- Hypothesis 4

The fourth hypothesis investigated the effectiveness of race as a predictor of academic performance of student-athletes. The null hypothesis stated that race is not significant as a predictor of academic performance of student-athletes as measured by cumulative college grade point average. Table 11 indicates that race as a single predictor variable of academic performance had a correlation ($r = .284$) with cumulative college GPA. Table 16 shows that race explained less than 1% of the variance ($R^2 = .0076$), in cumulative college GPA, and reveals the $F$ value (4.71) to be not statistically significant at the .154 level of significance. Based on the findings from data presented this null hypothesis was not rejected.
• Hypothesis 5

The fifth hypothesis investigated the effectiveness of participation in sports as a predictor of academic performance of student-athletes. The null hypothesis stated that sport participation is not significant as a predictor of academic performance of student-athletes as measured by cumulative college grade point average. Table 11 displays the correlation coefficient \( r = .218 \) of sport participation as a single predictor variable of academic performance. Table 16 shows that type of sport participation added less than 1% to the increment \( R^2 = .0053 \) in cumulative college GPA, and reveals the \( F \) value (.732) to be not statistically significant at the .393 level of significance. Based on the findings from data presented this null hypothesis was not rejected.

• Hypothesis 6

The sixth hypothesis investigated the effectiveness of academic classification level as a predictor of academic performance of student-athletes. The null hypothesis stated that academic classification level is not significant as a predictor of academic performance of student-athletes as measured by cumulative college grade point average. Table 11 displays the correlation coefficient academic classification level \( r = .158 \) as a single predictor variable of academic performance and shows academic classification level had a slight relationship with cumulative college GPA. However, Table 16 shows that academic classification level increased the predictive power of cumulative college GPA by 5 percent, and reveals the \( F \) value (9.37) to be statistically significant. Based on the findings from data presented this null hypothesis was rejected.
• Hypothesis 7

The seventh hypothesis investigated the effectiveness of time spent on intercollegiate sport as a predictor of academic performance of student-athletes. The null hypothesis stated that time spent on sport is not significant as a predictor of academic performance of student-athletes as measured by cumulative college grade point average. Table 16 shows that time spent on sport had less than 1 percent of explained variance ($R^2 = .0006$) of CCGPA for student-athletes. Based on the findings from the data presented this null hypothesis was not rejected.

• Hypothesis 8

The eighth hypothesis investigated the effectiveness of positive self-concept as a predictor of academic performance of student-athletes. The null hypothesis stated that positive self-concept is not significant as a predictor of academic performance of student-athletes as measured by cumulative college grade point average. Table 11 displays that positive self-concept as a single predictor variable of academic performance had a correlation ($r = .005$) with cumulative college GPA. Moreover, Table 16 shows that the variable positive self-concept added less than 1% of explained variance ($R^2 = .0001$) to the multiple regression analysis in cumulative college GPA, and reveals the F value (.648) to be not statistically significant. Therefore, based on the findings from the data presented this null hypothesis was not rejected.

• Hypothesis 9

The ninth hypothesis investigated the effectiveness of support of academic plans as a predictor of academic performance of student-athletes. The null hypothesis stated that support of academic plans is not significant as a predictor of academic performance of student-athletes as
measured by cumulative college grade point average. Table 11 displays that support of academic plans as a single predictor variable of academic performance had a significant correlation ($r = .290$) with cumulative college GPA. Table 16 shows that support of academic plans explained less than 1% of the variance ($R^2 = .0001$) in cumulative college GPA of student-athletes and reveals the $F$ value (.650) to be not statistically significant. Based on the findings from the data presented this null hypothesis was not rejected.

- **Hypothesis 10**

The tenth hypothesis investigated the effectiveness of community involvement as a predictor of academic performance of student-athletes. The null hypothesis stated that community involvement is not significant as a predictor of academic performance of student-athletes as measured by cumulative college grade point average. Table 11 displays that community involvement as a single predictor variable of academic performance had virtually no association ($r = .014$) with cumulative college GPA. Additionally, Table 16 shows that community involvement shows no change in ($R^2 = .0002$) when community involvement was added to the in regression model and reveals the $F$ value (.642) to be not statistically significant. Based on the findings from the data presented this null hypothesis was not rejected.

Accounting for the variation in cumulative college GPA of student-athletes was the primary purpose of this study. High school GPA proved most significant in correlation ($r^2 = .3532$) of cumulative college GPA based on the data presented. In addition, ACT composite score contributed .0732, gender contributed .0583, and academic classification level contributed .0576 to the overall 55% of explained variance of cumulative college GPA of student-athletes. However, the other predictor variables of race, positive self concept, time spent on sport, sport
participation, support of academic plans, and community involvement did not lead to a statistically significant increase when entered into the total stepwise regression model.

**Student-Athlete Interviews**

What challenges are identified by student-athletes as a result of their dual roles as students and athletes?

Of the student-athletes interviewed (n = 20), 12 represented non-revenue sports and 8 revenue sports. Six of the student-athletes were white and twelve were black. Most of the interviews took place after team meetings at the facilities in which the student-athletes practice. The athletic department during the time of these interviews had a very successful recent history. The men’s football team had just won the national championship title. The women’s track and field teams had swept the NCAA indoor and outdoor titles. The baseball team had won their conference and finished fifth nationally. In all, the university had nine of its 20 teams finish the year ranked in the Top 25 for their respective sports and seven of those were ranked in the Top 10.

The following discussion pertains to those findings that constitute the challenges identified by those interviewed student-athletes as a result of their dual roles as students and athletes. These findings were discovered using the interpretational analysis approach to analyzing case study data. Interpretational analysis is the process of examining case study data closely in order to find constructs, themes, and patterns that can be used to describe and explain the phenomenon being studied (Gall, Borg, & Gall, 1996). The following categories of constructs emerged by student-athletes in this case study as a result of their dual roles as students
and athletes, which include time constraints, financial concerns, and continuously feeling fatigued.

Time Constraints

Student-athletes participating in this case study repeatedly expressed the challenge toward the amount of time they had available for academic matters after fulfilling their athletic commitments. Some student-athletes, like John, a member of the track team, who is “an average student,” feel that they could be much better students if they only had more time to allot to their academic requirements. Stan, a basketball player, also mentioned how his athletic commitments have detracted from his academic performance:

Once we came home late from a game, I guess about 1:00 in the morning. We lost that game, and we had practice that morning. I had a test that day, and I wasn’t able to study as much as I wanted to. It didn’t do me in, but it didn’t help.

Some student-athletes find that the extent of their difficulties is partially dictated by whether they are currently in the fall or spring semester. During the early part of the fall semester, the basketball players’ athletic related activities consist mainly of early morning (7:00 a.m.) and late afternoon conditioning sessions. Similarly, during football season in the fall team meetings are scheduled at 1:00 o’clock in the afternoon on Mondays and practice, Wednesdays and Fridays until 5:30 in the evening. Many other teams flip-flop the practice schedule on Tuesday and Thursday, allowing women to finish early. Steve, a football player, speaks for many of the student-athletes when he says:

It’s hard to have practice. We practice on Mondays, Wednesdays, and Fridays, and we go at 1:00 and get out at 5:30. After practice I don’t really feel like doing my homework—you know. It’s like I know I have to go home and do my homework or study, but sometimes I just don’t have the time to spend on doing it. It’s hard—you know, with the practices we have.
Most of the student-athletes agree that they must start each semester off strong because each closes with athletic related activities which take more and more of their time. Subsequently, each semester has its own unique challenges, depending on the level of athletic competition faced and the amount of turmoil that goes along with media attention. Like many of his peers, Todd, another member of the football team, struggled to keep focused on school during the semester of the competitive season:

Toward the middle of the year, during October, November, and December, it was hell. It was non-stop distractions. We were competing for the National Championship…you know and every available minute, mentally and physically went to focusing on winning the title. I mean…I couldn’t never even think about academics…you know…I went to class, but my mind was always somewhere else…even if I wanted to do some school work, I couldn’t focus because I was so hype all the time about winning the title and being on TV.

During the fall semester, many of the basketball student-athletes participating in this study found it difficult to balance their academic requirements with their athletic-related activities. It is at this time that most of the important tournaments and non-conference games are played. There is a lot of traveling involved, along with mid-terms and finals. Maurice, a basketball student-athlete who struggled through the fall semester his freshman year stated:

Academics can be a problem around Christmas. In the first semester, it gets a little hectic when the semester is drawing to a close, and we have a lot of games and a lot of practice time around finals time. You just don’t have enough time to devote to homework or focus like you need. We can be on the road and come back at 2:00a.m., and I have to be in class at eight the next morning. I don’t really get much sleep. Plus, I have to try to do homework while I’m traveling on the road. When I miss class when I have to travel, I think it’s a real problem because I hate having to get notes from somebody else.

Likewise, Fred a golf student-athlete, also expressed his difficulties with successfully managing his time given all the activities during the fall semester:
It’s a hard part of the year because you have so many games crammed into a week. Most of them are, you know…go up there one day and you are back the same night. So instead of being in class three days, you may only be in class two days a week because you might have to leave during the day and get back late at night. And with finals, there is a lot of studying involved, but you know we have been practicing late and that is not comfortable for me when I have to get up and take two finals in the morning. But that is the only time I can fit it in.

Not all of the basketball student-athletes find the fall semester to be the more difficult of the two. For Ben, the fall semester is easier than the spring semester:

Both fall semesters were easier. The classes I had were easy classes. During the spring semester I had more difficult classes and I studied a lot more.

Financial Concerns

Similarly, after concerns over the lack of adequate time to properly prepare for academic assignments, concerns over financial matters emerged as an identifiable challenge as a result of being student and athlete. Most of the student-athletes participating in this study come from low-income families that cannot afford to send the student-athletes money for the limited social time they have available. Not only can many of their families not afford to send them money for social activities, but most of the student-athletes struggle to take care of some rather basic financial needs like toiletries, house cleaning products, and laundry products. Vanessa, whose family’s financial situation is typical of the financial constraints under which many of the student-athletes interviewed operate, described her circumstances:

I’m one of those persons that don’t have anything. It’s hard. Especially when you can’t get a job. I need to wash and buy a little stuff to eat, you know what I’m saying? My friends go out to movies, but I can’t even go with them, you know what I’m saying? I don’t like to borrow money, you know. So it’s kind of hard on me, but I don’t let it get me down because I know sooner or later some money is going to come through for me. Until then, I just stay home or ask somebody if they will let me come over to wash clothes at their house. My Granny tries her best with what money she does have, but she need it to pay bills and stuff.
Consequently, many of the student-athletes are not from the immediate area, with several members from each team sometimes coming from out of state to attend the university. For many of the student-athletes, their families are many hours and sometimes days away when the student-athletes need something. Not only is there the distance between home and the university, but the cost of getting back and forth by the student-athletes of their own families is often prohibitive. Shereta said:

I’m from St. Louis, Missouri…and my family doesn’t have much money. So I can’t just leave and go home every weekend or on holidays. I have to come up with money for food and groceries. We have a meal plan, but a meal plan is like three times a day, and most athletes don’t eat just three times a day. So I have to have a little snacking money. Some of us went to summer school and had a summer job, but we couldn’t save money because you know we spent it on basic needs or other things.

Shelia, a volleyball student-athlete, reports her family lives approximately 20 to 30 minutes away and can make the trip to campus relatively easily to provide her with some of the things she needs, or she can make the trip home if necessary. But she too feels the constraint of her financial circumstances:

I’m on scholarship and can’t work nowhere and all this kind of stuff. I got to have money to support myself, besides a scholarship and a place to stay. I got to have other things too. When we first moved into student housing, I needed a shower curtain, bathroom materials, kitchen materials, and bedroom materials. I was close enough home that I was able to go and get it. Since I’m here close, I drove there and back in the same day.

In addition to student-athletes struggling to support their basic needs and not having family members close by for extra-monetary help, several student-athletes experience problems getting financial aid awards in a timely fashion. Susan said:

I was expecting my Pell Check this semester, but when I went to the financial aid department, they told me it would not be until late November when I receive the money. I was in shock because I didn’t have money for the semester. Luckily my
athletic scholarship will cover housing, tuition and books, but now I don’t have money for anything else. The NCAA doesn’t let you work or hold a part-time job during season…so I have to rely on family, which puts a burden on them.

Some student-athletes have a more realistic view of what their financial expectations are. Kevin a student-athlete golfer shared these thoughts regarding financial circumstances of student-athletes:

I just don’t know. I see some student-athletes with new tennis shoes every month that cost like $100 or more. Then they have jewelry that costs more. Some even have kids and drive nice cars, better than many members of the faculty. Where does the money come from? I just wonder. I’m not in agreement with the fact that all student-athletes are financially strapped. I know some student-athletes that don’t have much, but I’m seeing a whole lot more who have almost everything.

Like Kevin, Sabrena a volleyball student-athlete, expresses similar thoughts:

A lot of student-athletes have brought some of their financial problems on themselves. I have a teammate of mind who soon as she moved into the dormitory spent like two or three hundred flashy outfits to where to class the first week of school. Then she struggles to make ends meet and feels that the university could do more to improve her own financial circumstances, but if she wouldn’t spend every dime she gets in one day she might be able to improve her own money situation.

Feeling Fatigued

Feeling fatigued was another common theme that student-athletes identified as a challenged as a result of being students and athletes. Some of the student-athletes experience it to a greater degree than others, but all of the student-athletes expressed at one time or another feeling too tired to work on academic assignments. The source of the fatigue comes as the result of attempting to satisfy both academic requirements and athletic commitments. Willie a senior track and field student-athlete, explained:

You get up earlier than the average student, go to school, then go to practice for three to four hours and push your body until every muscle is aching…it’s brutal. Fatigue is what makes many student-athletes say “chuck it”, I’m not going to class; I’m going to sleep.
You don’t feel like sitting there anyway reading a book…you are not going to comprehend that much anyway because you are so tired.

Craig, a basketball player, called the researcher’s attention to the exhaustion he feels on a regular basis:

By the time I finish practicing, I am so exhausted that I just feel like going to sleep. Sometimes I don’t even eat because I’m so tired and I just want to sleep. If I could just have that thirty minutes instead of having two hours and 30 minutes of practice, only have two hours, and not so much exhaustion. I could have those thirty minutes or whatever to study or whatever, or take a break and come back and study, but I don’t have the energy after I finish practicing.

Shawana, a female basketball player, provides evidence that the women’s practice sessions leave them feeling equally stressed out and void of any desire to work on academic requirements:

With practice, I have to put forth all my effort and give it a 110 percent, but my body kind of wears down a little sometimes. Then playing in games hours and hours a day and going home, I’m really too tired to do my work. I’m just too tired to keep my mind on my homework.

Susan, another female basketball player, also spoke of how feeling fatigued affects her will to work on academic assignments after a typical practice:

Once I get through with a practice for two hours or more, I am ready to go home and just take a bath or just chill…you know watch TV or just lay in the bed for the rest of the night. I mean that is all I want to do. So, it’s starting to get harder and harder for me to keep up with my work because I just don’t want to do nothing else, because that’s how tired I am.

Feeling fatigued not only hinders the student-athletes’ ability to complete assignments in a timely fashion, but it also detracts from their classroom learning experience. The student-athlete sometimes uses class time to catch up on the sleep they missed as a result of their athletic-related experiences. Kevin recounted an experience shared by many of the student-athletes interviewed:
We had a road game the night before, so we got back around midnight. That morning, I had weightlifting at 6:00 a.m and breakfast at 7:30 a.m. The class was at 8:00 a.m. I was real tired, and I dozed off when I got back from breakfast in the room. I knew I had class, but my body needed rest. Since I probably would have fallen asleep in class anyway, I decided to go to sleep in my room. I was just exhausted.

Feeling fatigued as a result of participating in intercollegiate athletics not only can hinder a student-athletes ability to complete assignments in a timely fashion, but it also can detract from the classroom learning experience. The student-athlete sometimes use class time to catch up on sleep they missed as a result of their athletic-related experiences. Bubba expressed an experience shared by other student-athletes as well:

I went to class and I really tried to pay attention, but I was real tired, and I dozed off in class. I felt somewhat embarrassed when the instructor called on me and everybody was like looking at me and stuff. But I really didn’t care because I was so tired. I just put my head back down and fell asleep.

Lastly, for some student-athletes not only does feeling fatigued interfere with their ability to complete class assignments, it also detracts them from spending time with other students or individuals outside of their athletic-related activities. Thus, they fail to develop the connections with non-athletic participant students who might encourage more academic involvement. Tarvard expressed how feeling fatigued detracts from his ability to engage in academic activities:

It’s just that I’m tired all the time. I have to practice, condition, and train within my sport, and I have to eat then the whole cycle starts again the next day. And that is basically all I have time to do. I don’t have time to do nothing else. Sometimes I would like to study with other people…you know regular students, but unless I take my practice or training and conditioning time or eating time…by the time I get back to my room, like at 10:30 in the evening, I’m tired and don’t really have the time.
Summary

The constant level of engagement in a considerable amount of athletic-related activities can be extremely challenging for some student-athletes. As a result, many student-athletes regularly stated that they didn’t have the time necessary to complete academic related assignments after fulfilling their athletic commitments. Additionally, the daily engagement in athletic-related activities often left many student-athletes feeling fatigued. The continuous feeling of fatigue consistently interfered with student-athletes’ ability to complete academic assignments. Subsequently, several student-athletes who come from lower income families have limited in their capacity to provide basic needs, thus compounding the identifiable challenges already encountered.
CHAPTER V

SUMMARY AND CONCLUSIONS

The primary intention of this study was to investigate the effects of selected predictor variables of academic performance of student-athletes at a large NCAA southeastern university. The purpose was to develop a model of predictor variables of academic performance for student-athletes. Few studies evaluating student-athletes’ academic achievement have used noncognitive measures together with traditional academic measures. As such, included in this study was an attempt to identify combinations of academic and non-academic variables that could predict academic performance of student-athletes and provide a more comprehensive evaluation. Two models were presented based on the analysis of cumulative college GPA for the student-athletes. In addition, follow-up interviews were conducted with selected student-athletes to identify challenges encountered by them as a result of their dual roles as student and athlete. Thus, this chapter presents the following sub-sections: (1) summary of comparisons of academic profiles, (2) summary of regression models and hypothesis testing, (3) conclusions, (4) suggestions for further research, and (5) summary of selected student-athlete interviews.

Summary of Comparisons of Academic Profiles

The descriptive data in this study suggest that student-athletes differ from students in the general student population in preparation for college and in college academic achievement. Student-athletes were consistently less prepared than the general student population for college, as shown by lower ACT composite scores and high school GPA. Similarly, the college performance of student-athletes was lower than the general student population as measured by cumulative college grade point average. Yet, these differences were not significant among ACT
composite score, high school GPA, and cumulative college GPA. However, student-athletes by gender showed significantly lower academic profiles from the general student population on two dimensions, ACT composite score and CCGPA. In addition, black student-athletes achieved significantly lower CCGPAs than other ethnic members and whites from the general student population. Furthermore, black student-athletes were significantly different in college preparation from whites in the general student population with regard to ACT composite scores.

**Academic Profile by Athlete Sub-Groups**

Data presented in the study tend to suggest that a few differences do exist among student-athletes according to gender and race. In comparisons between the student-athlete sub-groups by gender, female student-athletes differ from male student-athletes in preparation for college and in college academic achievement. The female student-athletes were significantly higher in CCGPA than male student-athletes. Similar results were found when examining academic profiles by race. Black student-athletes were below the white student-athletes in most academic profile areas. However, they were only significantly different in high school GPA from white student-athletes.

Freshmen student-athletes as a group, had lower academic profiles than upper classmen student-athletes. They were significantly lower in ACT composite score and CCGPA, but not HSGPA. Sport participation is related to the academic profile of student-athletes on specific teams, especially revenue sport participants. These teams (i.e., revenue sport) as a group were significantly lower in all academic profile areas from the non-revenue sport participants. Football and men’s and women’s basketball student-athletes had the lowest academic profile of all teams.
Noncognitive Analyses

For the noncognitive variables used in this study, freshmen student-athletes differed from upper classmen students on positive self-concept, as well as female student-athletes differed from male student-athletes in support of academic plans. However, only positive self-concept was significantly different as a variable between black and white student-athletes. None of the groups of student-athletes was significantly different in community involvement. Given these results, multiple variables across both academic and non-academic domains should be considered when attempting to determine student-athlete academic potential or performance.

Summary of Regression Models and Hypothesis Testing

To predict the CCGPA of student-athletes, a stepwise regression analysis was used to determine what variables enhanced the traditional predictor variables of ACT composite score and high school GPA. Separate regression models for race, gender, and academic classification level were produced. These multivariate analyses produced prediction models that show different variable predict CCGPA according to race, gender, and academic classification level.

For white student-athletes, an overall model of high school GPA, ACT composite score, and time spent on sport accounted for 38 percent of the variance. Black student-athletes had an overall model of sport participation, high school GPA, and support of academic plans account for 15 percent of the variance. Of the traditional predictors, high school GPA was the most significant predictor for both groups. Only one of the noncognitive variables, support of academic plans, reached significance beyond the traditional predictors. Yet, at least one sport variable was significant in predicting CCGPA for both groups.
By gender, within both male and female groups, the traditional predictor variables were significant and accounted for more than 20 percent of the variance in CCGPA for student-athletes. In fact, within the female student-athlete group, the traditional predictors accounted for 42 percent of the variance. This percentage was the highest of any group. Also, support of academic plans remained the only noncognitive variable to reach significance beyond the traditional predictors in the female student-athlete group. Subsequently, time spent on sport was also significant as a predictor in the overall model for male student-athletes.

Within academic classification level, high school GPA again remained the most significant predictor variable of CCGPA for both student-athlete groups, accounting for 20 percent variance in the freshmen and 34 percent variance in the upper classmen students. ACT composite score was only significant with upper classmen student-athletes. For both freshmen and upper classmen groups, none of the noncognitive variables were significant in accounting for the variation of CCGPA. The sport variable, time spent on sport, was significantly higher than ACT composite score for upper classmen students, while sport participation also predicted higher than ACT composite score for freshmen student-athletes. Regardless of whether or not a student-athlete was a freshman or upper classman, none of the noncognitive variables were significant in accounting for the variation of CCGPA.

Based on the results of the hypothesis testing, the following findings emerged in regard to the effects of predictor variables of academic performance of student-athletes.

1. High school GPA as a predictor of academic performance was statistically significant in predicting the cumulative college GPA of student-athletes.
2. ACT composite score as a predictor of academic performance was statistically significant in predicting the cumulative college GPA of student-athletes.

3. Gender as a predictor of academic performance was statistically significant in predicting the cumulative college GPA of student-athletes.

4. Race as a predictor of academic performance was not statistically significant in predicting the cumulative college GPA of student-athletes.

5. Type of sport participation as a predictor of academic performance was not statistically significant in predicting the cumulative college GPA of student-athletes.

6. Academic classification level as a predictor of academic performance was statistically significant in predicting the cumulative college GPA of student-athletes.

7. Time spent on intercollegiate sports, as a predictor of academic performance was not statistically significant in predicting the cumulative college GPA of student-athletes.

8. Positive self-concept as a predictor of academic performance was not statistically significant in predicting the cumulative college GPA of student-athletes.

9. The availability of a strong support person as a predictor of academic performance was not statistically significant in predicting the cumulative college GPA of student-athletes.

10. Community involvement as a predictor of academic performance was not statistically significant in predicting the cumulative college GPA of student-athletes.

Conclusions

Previous studies have shown that student-athletes perform lower than students from the general student population on GPA outcomes (Adler and Adler 1992; Ervin, Saunders, Gillis, & Hogrebe, 1985; Purdy, Eitzen, & Hufnagel, 1982). Similarly, consistent with these findings is
evidence that student-athletes and non-athletes are different in their academic preparation for college and subsequent academic performance once admitted into college. Also, consistent with other previous studies is the finding that female student-athletes, in general, come to college better prepared and obtain higher college GPAs than male student-athletes (Petrie and Stoever, 1997; Purdy et al., 1982). Thus, they predict greater academic success in college.

Female student-athletes may or may not feel the “pressure” of competition, as do some male student-athletes because the possibilities for a professional career do not exist. Female student-athletes may also possess a higher motivation for academic achievement because of the absence of these professional opportunities. Subsequently, as a whole group, female student-athletes’ academic aptitude measures of ACT composite score and high school GPA were found to be slightly higher than those of the male student-athletes, may suggest that coaches of women’s sports are using different academic criteria in recruiting potential female student-athletes.

The race differences in educational background variables also appear to influence college academic performance. As this study has shown, black student-athletes, in general, come to college less prepared than white student-athletes. The differences between the regression models and the bivariate correlations illustrate the utility of multivariate techniques. When high school GPA/ACT composite score are the only predictors used, they do explain a significant amount of the variance in cumulative college GPA for all student-athletes. Consequently, white student athletes’ academic performances tended to have higher predictability from high school GPA/ACT composite score than black student-athletes.
For black student-athletes, the ACT composite score does not explain a significant amount of variance in cumulative college GPA when the other selected predictors, such as the sport variables, and the other three noncognitive variables are taken into account. One possible explanation of this finding is the high collinearity between high school GPA and ACT composite score. This finding, however, corroborates previous studies that consistently have shown college admission tests to be inadequate predictors of minority student-athletes’ academic performances, particularly when considered in conjunction with nonacademic variables (Sedlacek & Adams-Gaston, 1992; Sellers, 1992; Young & Sowa, 1992).

The implications of the data also support the suggestions of Walter, Smith, Miller, Hoey, and Wilhelm (1987) that one way for improving the educational process for student-athletes is to examine the relationship of several predictor variables for the purpose of providing data relevant to academic support programs. It is evident from their study that to increase the explained variance of cumulative college GPA, other predictor variables of academic performance needed to be identified and investigated. For black student-athletes, this study has shown that a combination of traditional academic variables and non-academic variables can account for more of the variance than traditional academic variables alone.

Specifically, a combination of high school GPA, support of academic plans, and sport participation attributed for the largest amount of explained variance of cumulative GPA of black student-athletes participating in this study. The small but significant amount of variance explained by the overall regression model for black student-athletes does suggest the need for other predictors within the model as previously indicated. However, that high school GPA was the most important predictor of academic performance for black student-athletes was not
surprising. This finding is consistent with previous studies (Allen, 1986; Nettles, 1984; Sedlacek & Adams-Gaston, 1992). High school GPA is an indicator that is more similar to college GPA in its composition. Unlike ACT or even SAT scores, high school GPA is a measure of academic performance that is developed over a number of years. High school GPA is not as vulnerable as ACT/SAT scores to intervening variables, such as test anxiety, because performance is based on multiple modes of measurement (i.e., test, graded assignments, and class participation).

Noncognitive variables seem more relevant to black student-athletes’ academic performances than white student-athletes’ academic performances. This finding tends to suggest that for black student-athletes, particularly on predominantly white campuses, feeling supported by others may play a key role in successfully negotiating what may be perceived as a generally unsupportive, and possibly hostile, environment. Such support may assist minority students in coping with individual or institutional racism, in bridging cultural differences, and in maintaining motivation and focus so that they may succeed academically. Subsequently, the greater prevalence of first-time college students in households for black students can correlate to lower existing support systems, due to fewer pre-collegiate experiences and also result in lower degrees of self-confidence. Thus, for black student-athletes specifically the availability of a strong support person while in college is positively related to academic performance.

Similarly, noncognitive variables appear to be more relevant to female student-athlete’s academic performances than male student-athletes’ academic performances. Another possible explanation for this finding focuses on the importance of degree of self-confidence in predicting academic performance. That is, having a high or low degree of self-confidence may be indirectly related to academic success through its relationship to gender.
Of the academic variables, only high school GPA was a significant predictor of cumulative college GPA within all groups of student-athletes. Of the non-academic variables, only support of academic plans was significant as a predictor of female and black student-athletes’ academic performance, which is consistent with previous studies involving non-academic variables of predictors within both groups of student-athletes’ academic performances (Sedlacek & Adams-Gaston, 1992; Young & Sowa, 1992). Of the individual variables, gender and academic classification were significant as predictors of cumulative college GPA.

The implications of the variables utilized in this study support the suggestions of previous studies (e.g., Brigham, 1981; Kiger & Lorentzen, 1986; Petrie, 1993; Sedlacek & Adams-Gaston, 1992; Sellers, 1992; Young & Sowa, 1992) that one way for improving the educational process of student-athletes is to examine the relationship of several predictor variables. As such, the explained variance ($R^2 = .5544$) of cumulative college GPA presented in this study was approximately equal to or larger than the explained variance found in other studies of predictor variables of academic performance. Kiger and Lorentzen (1986), for example, in a study of factors related to the academic performance of student athletes at a NCAA I university reported $R^2$ to be .370. Brigham (1981) in a study of predictor variables of football players reported $R^2$ to be .3447. These findings help delineate the relative utility of academic and non-academic variables as predictors of cumulative college GPAs, and thus offer useful information to counselors, advisors, and other personnel who work with student-athletes.

In addition, from the variables analyzed in this study, it can be concluded that when time spent on sport was added to the regression equation, the explained variance of academic performance had a modest increase. This finding is important because few studies previously
have included time spent on sport as a predictor variable of academic performance. Therefore, the inclusion of time spent on sport as a predictor variable, and other non-academic variables, such as support of academic plans, allow a better understanding of predictors of student-athletes’ academic performances.

Most importantly, results in this study suggest multivariate methods of analysis must be used to assess predictive relationships. Bivariate analyses do not provide an accurate picture of the relationship between the predictor variable and academic performance because many predictors share predictive power with other variables. These other predictors may explain more of the variance in academic performance when all predictors are placed in multivariate analysis. Subsequently, separate prediction models must be developed by race and gender. That is, this study has shown there are differences in the levels of certain predictors, the level of academic performance, and the actual variables that predict cumulative college GPA for student athletes disaggregated by race and gender. Moreover, different factors contributed to the academic performance of the different subgroups (i.e., black and white, male and female) of student-athletes participating in this study. With this in mind, any intervention designed to enhance the academic performance of student-athletes must recognize and address the implications of these race and gender differences in predictors of academic success.

As a result of this study, the following conclusions appear justified regarding predictor variables of academic performance as measured by cumulative college GPA of student-athletes.

1. High school GPA was the best single predictor variable of academic performance of student-athletes at the end of the academic year.
2. High school GPA, ACT composite score, and support of academic plans are significant as predictors for female student-athletes.

3. High school GPA, ACT composite score, and time spent on sport are significant as predictors for male student-athletes.

4. High school GPA, support of academic plans, and type of sport participation, are significant as predictors for black student-athletes.

5. High school GPA, ACT composite score and time spent on sport are significant as predictor for white student-athletes.

6. A combination of academic and non-academic variables provides a more accurate means for predicting student-athletes’ academic performance than does academic variables alone.

7. Overall, the combination of high school GPA, ACT composite score, gender, and academic classification level as predictor variables of academic performance accounted for .5544 of the explained variance of cumulative college GPA.

Suggestions for Further Research

The data presented in this study are specific to Louisiana State University and to its athletic program. The initial recommendation of this study is that comparable data from other institutions with major athletic programs be collected. Such a large-scale study would provide a larger pool of student-athletes and enable examinations within the various categories of student-athletes such as race, gender, and participation in the revenue and non-revenue sports. This would aid in determining if student-athletes within the various categories had the same academic problems as other student-athlete populations from other institutions. In addition, a comparison of similar data for student-athletes from institutions with smaller athletic programs might
determine if these problems are specific to certain categories of student-athletes, or to the programs that place heavier emphasis on their respective sport programs.

This study was undertaken to investigate effects of academic and nonacademic variables on the academic performances of student-athletes. A major implication of this study is that different variables contribute to the prediction models of academic performance for different types of student-athletes. With this in mind, any intervention designed to enhance the academic performance of student-athletes must recognize and address the implications of these race and gender differences in predictors of academic performance. Consequently, future studies are needed to further clarify the relative influences of academic and nonacademic variables on subsequent academic performance, and in what student-athlete populations these influences exist.

Some specific suggestions include incorporating more academic performance outcome measures, such as individual course grades or retention, and considering those measures over more than one academic term; examining specific student-athlete population (e.g., those on athletic aid vs. those not on athletic aid); and examining multiple nonacademic (e.g., community involvement, support of plans, positive self-concept) and academic variables (e.g., high school GPA/Rank, ACT/SAT) simultaneously at other institutions with major athletic departments to determine their relative validity and reliability in predicting student-athletes’ academic performances. By understanding what variables predict academic performances’ in which student-athlete populations, counselors and other athletic department personnel (e.g. coaches) will be better able to assist these individuals as they progress through college.
The data in this study indicated some differences in the academic achievement between freshmen and upper classmen student-athletes. It is unknown at this time whether or not student-athletes in this study will be in a position to graduate during a four-year or five-year period. Overwhelmingly, the majority of student-athletes in this study were in the Colleges of Arts and Sciences and Education. A survey of student-athletes’ reasons for making decisions about academic majors and their plans for the future use of those majors that has implications for graduation would seem to be indicated. Moreover, a survey of student-athletes’ attitudes regarding their college education and experience would be of value. Early targeting of educationally disadvantaged student-athletes and further identification of student-athletes undecided about an academic major should be attempted. Career guidance might be useful in suggesting alternatives to student-athletes who may be unaware of other opportunities available to them. Such counseling should also aim at realistic career decision-making, and include a realistic examination of opportunities in professional sports as the reality for most student-athletes is that less than two percent will become professional athletes.

More research needs to be initiated to determine if revenue and non-revenue sports have a positive or negative impact on student-athletes academic development. In particular, does participation in intercollegiate sports increase or decrease the opportunity for student-athletes to become college graduates? Student-athletes participating in revenue sports in this study were found to spend an average of seven hours more per week participating in their sport than non-revenue participants. Consequently, revenue participants also achieved lower than both non-revenue male and female student-athletes in cumulative college GPAs.
Black freshmen student-athletes, who participate in revenue sports, had the lowest academic credentials as a group at entry in this study. Moreover, the academic qualifications of these black freshmen student-athletes were significantly lower than the academic qualifications for the non-revenue student-athletes. The graduation rates of the black student-athletes could be very different than the graduation rates of the white student-athletes, and the participation of black student-athletes as freshmen could be a factor in this difference. Institutions should look closely at the effect that participating in intercollegiate sports has on minority groups. Black student-athletes historically have not been graduating at the same rate as white student-athletes, and finding the cause behind such statistics should be helpful in addressing policy matters that assist all student-athletes (Edwards, 1986). This study suggests that allowing freshmen to participate in intercollegiate revenue sports programs before they become acclimated to the academic demands of the institution might be jeopardizing the quality of their academic development.

Another area that invites further investigation is the role of institutional characteristics on athletic performance. Institutional characteristics such as dormitories for athletes and available academic support systems may have a direct effect on academic performance. Other institutional characteristics such as the discrepancy between the student-athlete and the rest of the student body in pre-college aptitudes, socioeconomic status, and collegiate course levels taken may indirectly influence academic performance through direct effects on the student-athlete’s quality of life. A replicate study of similar data with data on student-athletes at other institutions with major athletic programs would aid in generalizing the findings to specific student-athletes or to the programs that place emphasis on their sports.
This study also has implications for the current National Collegiate Athletic Association (NCAA) propositions that limit participation of student-athletes in their first year (Proposition 48) and their ability to receive financial aid (Proposition 42) based on their Scholastic Aptitude Test (SAT) or American College Test (ACT) scores. First, employing only cognitive or academic variables to predict student-athletes’ academic performances seems questionable. This investigation’s findings imply that cognitive variables alone do not provide the strongest predictions of student-athletes’ academic performances. It seems that the use of cognitive variables in the absence of noncognitive data may provide inadequate academic evaluations. Only high school GPA among the cognitive variables in this study provided a statistically significant correlation to cumulative college GPA.

Because cognitive variables alone determine NCAA Division I freshmen athletic eligibility, the low correlations of these variables in predicting college GPA in the current investigation may suggest the incorporation of noncognitive variables into the criteria. The use of ACT scores to determine freshmen athletic eligibility seems to provide only one indication of college academic performances. In this study, the noncognitive variables that predicted best and had significant correlations have to do with feeling confident about yourself and having support from an individual. This was especially the case in black student-athletes. Future research that uses noncognitive measures together with traditional academic measures seems worthy of consideration to gain a more comprehensive evaluation of all student-athletes’ academic performances in general, but for black student-athletes’ academic performances in particular.

Subsequently, future researchers may want to compare black student-athletes, black students in other extracurricular activities such as art, music, and student government, and blacks
students participating in neither athletics nor extra-curricular activities using the Noncognitive Questionnaire Revised. This line of research may provide information on noncognitive variables as potential correlates with academic performances for black students. Furthermore, the findings may also provide a foundation for understanding some of the black student-athletes’ developmental needs in a predominately white NCAA university.

A difficult issue facing coaches and university admissions officers under the NCAA rules and propositions is the identification and selection of prospective student-athletes who are likely to succeed academically. Typically, only high school GPAs and standardize test scores (ACT/SAT) scores have been used as entrance criteria. Given that one nonacademic variable, support of academic plans, was shown to be a significant predictor of student-athletes’ academic performances in this study, and the small amount of variance explained in black student-athletes CCGPA, nonacademic factors should continue to be considered to more accurately and completely understand minority student-athletes’ academic performances. Overall, a model of four variables, which included academic and nonacademic variables accounted for the largest amount of explained variance ($R^2 = .55$) in cumulative college GPA of student-athletes in this study. Future studies employing such combinations of variable influences on student-athletes’ academic performances are still needed to determine the predictive validity and generalizability of such variables with student-athlete populations at other institutions.

**Summary of Student-Athlete Interviews**

What challenges were identified by student-athletes as a result of their dual roles as students and athletes? Student-athletes often encountered difficulties finding time to complete academic assignments as a result of the time they spent on their athletic-related activities.
Consequently, the athletic-related activities left them continuously fatigued, a state that made it difficult for them to concentrate on their academic assignments, thus creating another challenge. The final challenge identified by the student-athletes participating in this study was lack of means to address many of their financial concerns. Many of the student-athletes studied came from lower income families and found it difficult to satisfy needs not provided by their financial aid and/or scholarships.

A few studies have shown that student-athletes experience role conflict as a result of their dual roles (Chartand & Lent, 1987; Sack & Thiel, 1985). Sack and Thiel (1975) found that student-athletes who participate in revenue sports are more likely to experience role-conflict as those student-athletes not participating in revenue sports and encounter more challenges managing both their academic and athletic roles successfully. The findings of this study are also consistent with Sack and Thiel’s finding that student-athletes participating in revenue sports tend to experience greater role conflicts than other student-athletes with as a result of their dual roles.

The student-athletes interviewed in this study who participated in revenue sports indicated the difficulty of managing the role conflict they experienced while being student-athletes. Being basketball and football players may have contributed to their role conflict experiences because of the time demands and athletic intensity of their sports. This was especially the case during the competing season of their sports. The time demands and intensity of the revenue sports absorbed most participants’ academic concentration and commitment.

Consequently, the revenue sport participants at LSU spend a considerable amount of their time engaged in athletic-related activities, such as conditioning, practicing, and competing. In addition, many of the revenue sport participants’ games and competitions are away from the
university, requiring them to travel during the week and weekends. The average number of hours
spent (i.e., 16+) on athletic-related activities was consistent with Rhatigan’s (1984) findings that
student-athletes participating in high profile sports, such as basketball and football, miss an
estimated 17 percent of their scheduled class time. As such, it may be that missing classes and
the imposing time constraints for revenue sport participants, decreased the chances of several
student-athletes who participated in this study to commit more time to their academic roles and
thus achieve a greater degree of academic satisfaction.

Feeling fatigued was another observation that emerged from the follow-up interviews
with the student-athletes that was consistent with other studies. Purdy, Eitzen, and Hufnagel
(1982) found that institutions that put the same emphasis on its women’s teams winning national
championships as it does on its men’s teams, create many of the same problems for women’s
programs as for the men’s programs. In other words, some of the problems usually associated
with male student-athletes have begun, and will continue, to affect female student-athletes as
well. Both female and male student-athletes participating in this study experienced continuous
feelings of fatigue as a result of having national caliber athletic programs. Some of the revenue
sport participants experience it to a greater degree than others, but most student-athletes
participating in this study expressed at one time or another feeling too tired to work on academic
assignments.

Two female student athletes participating in women’s basketball and softball, expressed
that the source of their fatigue comes as a result of attempting to satisfy both academic
requirements and athletic commitments. Even with the NCAA stipulation requiring all student-
athletes to spend less than 20 hours per week of practice time, sometimes the impulse to
procrastinate because of fatigue or distractions can overwhelm whatever motivates each student-athlete to be academically successfully. Given the revenue that these athletic programs generate, it may be unrealistic to expect this structure to change dramatically. The cause for concern regarding student-athletes feeling fatigued as a result of their need to balance academic requirements and athletic commitments will continue to increase until student-athletes practice and athletic activities-related time is reduced, or greater emphasis is placed on helping student-athletes better manage their time.

Finally, after concerns over the lack of adequate time to properly prepare for academic assignments, and the feeling of fatigued and physical exhaustion, the student-athletes interviewed expressed concerns over financial constraints. Unlike other college students, student-athletes who receive athletic grants or awards are prohibited from becoming employed while enrolled at the university. LSU pays for their tuition, housing, meals, books, and fees. But like all college students, LSU’s student-athletes have needs beyond those taken care of by the university. Most of the student-athletes participating in this study come from deprived economic backgrounds and money to cover everyday personal needs like toiletries, laundry products, and bodily grooming (i.e., haircuts/hairstyles) is not always available. Thus, many of the student-athletes whose families cannot afford such expenditures have financial constraints.

LSU operates under rules and regulations established by the NCAA that stipulate what financial assistance the university can provide to its student-athletes. These stipulations serve to restrict the professionalization of collegiate sports, that is the paying of student-athletes for intercollegiate athletic play. Although the finding of many student-athletes participating in this study experiencing financial constraints was evident, not all student-athletes operated under such
circumstances. Therefore, this finding is difficult to interpret and suggests that athletic grants alone may not be sufficient to ensure academic success for student-athletes from lower income backgrounds.

The experiences of the student-athletes attending a four-year institution in this study allow an understanding of the challenges encountered by student-athletes and places in perspective the meaningfulness of the GPA outcome that has been missing from previous studies. This study could be replicated by increasing the number of sites studied until a body of data on the experiences of student-athletes attending four-year institutions has been developed. Also, the study could be extended to include colleges of various sizes and with various emphases and missions on athletics to identify the commonalties and differences in the experiences of student-athletes attending those colleges.

The coaches, counselors, and advisors’ roles in determining and improving student-athletes’ academic performances should be studied as well. While several student-athletes were interviewed during the course of this study, the coaches, counselors, and advisors who work directly with student-athletes were not asked for their contribution regarding the experiences of student-athletes attending the university. Specifically concentrating on student-athletes, as well as those who have direct influence and involvement with student-athletes, would add to the body of literature in an area where there is a shortage of information.
REFERENCES


Hindman, D. (1929). Athletics and scholarship at the Ohio state university. School and Society. 30


APPENDIX A

INFORMATIONAL QUESTIONNAIRES
Informational Questionnaire

Directions: Please complete the interview questions as accurately as possible by marking your response on the survey interview.

1. What is your sex?
   A. Female  B. Male

2. What is your race?
   A. Black   B. Native American   C. American Pacific Islander  D. Hispanic  E. White  F. Other

3. What is your year in school based on credits?
   A. Freshman  (0 – 30 credits completed).
   B. Sophomore  (31-60 credits completed).
   C. Junior  (61 –90 credits completed).
   D. Senior  (91+ credits completed).

4) What college are you enrolled in (if not enrolled in one yet, put undecided)?

__________________________________________________________

5) What sport do you play?_____________________________________

6) Has help from the Academic Center for Student-Athletes greatly influenced or increased your Semester(s) GPA?
   A. Yes B. No

7) Identify and circle the number of hours closest to what you actually spend on each item each day between Monday and Friday.

   A B C D E
   Studying/Doing Homework 0-3 4-7 8-11 12-15 16+
   Participating in Sport* 0-3 4-7 8-11 12-15 16+

*Include only practice time and actual competition time.

8) Identify and circle for an average weekend—both Saturday and Sunday together—the total number of hours closest to what you actually spend doing these things.

   A B C D E
   Studying/Doing Homework 0-3 4-7 8-11 12-15 16+
   Participating in Sport* 0-3 4-7 8-11 12-15 16+

*Include only practice time and actual competition time.

9) How is your college education financed? Check all that apply.
   ____ Student Grant (Pell Grant)  ____ Parent Support  ____Scholarship (Athletic)
   ____ Student Loan  ____ Self Support  ____Other (indicate below)

10) Father’s Education Level:  ____ Less than HS  ____ HS  ____ SomeCollege
     ____College Grad  ____ Post CG

   Mother’s Education Level:  ____ Less than HS  ____ HS  ____ SomeCollege
     ____ College Grad  ____ Post CG

11) Your social security number____________________________________

Thank you for your time
Informational Questionnaire Revised

Directions: Please complete the interview questions as accurately as possible by marking your response on the survey interview.

1. What is your sex?
   A. Female  B. Male

2. What is your race?
   A. Black   B. Native American   C. American Pacific Islander   D. Hispanic   E. White   F. Other

3. What is your year in school based on credits?
   A. Freshman  (0 –30 credits completed).
   B. Sophomore  (31-60 credits completed).
   C. Junior  (61 –90 credits completed).
   D. Senior  (91+ credits completed).

4) What college are you enrolled in (if not enrolled in one yet, put undecided)?

5) What sport do you play?

6) Identify and circle the number of hours closest to what you actually spend on sport participation activities between Monday through Sunday.

   Participating in Sport* 0 -3 4 -7 8 -11 12 -15 16+

   *Include only practice time and actual competition time.

7) This research project is particularly desirous of obtaining your responses toward student-athlete experiences. Follow-up interviews will need to be conducted with student-athletes to provide criteria about such experiences. Your responses will be held in strictest confidence. Please take a moment and circle if you can be contacted about an interview.
   A. Yes  B. No  Email address: ______________________________

Thank you for your time and cooperation
APPENDIX B

NONCOGNITIVE QUESTIONNAIRES
Please fill in the blanks or circle the appropriate answers.

1. Your social security number:_____________________________________.

2. Your sex is: 1. Male            2. Female

3. Your age is:______________ years.

4. Your father’s occupation:______________________________________.

5. Your mother’s occupation:______________________________________.

6. Your race is:
   a. Black/African American
   b. White
   c. Oriental
   d. Hispanic
   e. Other

7. How much education do you expect to get during your lifetime?
   a. College, but less than a Bachelor’s Degree
   b. B.A. or equivalent
   c. 1 or 2 years of graduate or professional study
   d. Doctoral degree such as M.D., Ph.D., etc.

8. Please list three goals that you have for yourself:

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?
   a. Absolutely certain that I will obtain a degree at some point
   b. To accept a good job
   c. To enter military service
   d. It would cost more than my family or I could afford
   e. Marriage
   f. Disinterest in study
   g. Lack of academic ability
   h. Insufficient reading or study skills
   I. Other

10. Please list three things that you are proud of having done:
Please indicate the extent to which you agree or disagree with each of the following items. Respond to the statements below with your feelings at present or with your expectations of how things will be. Write in your answer to the left of each item:

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<th>Very Strongly Agree</th>
<th>Very Strongly Disagree</th>
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<td>1</td>
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11. The University should use its influence to improve social conditions in the State.
12. It should not be very hard to get a B (3.0) average here.
13. I get easily discouraged when I try to do something and it doesn’t work.
14. I am looked up to by others.
15. If I run into problems concerning school, I have someone who should listen to me and help me.
16. There is no use in doing things for people, you only find that you get it in the neck in the long run.
17. In groups where I am comfortable, I am often looked to as a leader.
18. I expect to have a harder time than most students here.
19. Once I start something, I finish it.
20. When I believe strongly in something, I act on it.
21. I am skilled academically as the average applicant here.
22. I expect I will encounter racism here.
23. People can pretty easily change me even though I thought my mind was already made up on the subject.
24. My friends and relatives don’t feel I should go to college.
25. My family has always wanted me to go to college.
26. If course tutoring is made available on campus at no cost, I would attend regularly.
27. I want a chance to prove myself academically.
28. My high school grades don’t really reflect what I can do.
29. I find I get more comfortable in a new place as soon as I get some good friends.
30. I enjoy working with others.
31. My friends are exclusively the same race as I am.
32. My background should help me fit in well here.
33. My friends look to me to make decisions.
34. If I encounter racism, I believe it is up to me to always point it out and correct it.
35. I expect the faculty to treat me differently from the average student here.
36. I am uncomfortable interacting with people from other races/cultures.
37. I try to find opportunities to learn new things.
38. I think many people see racism where it doesn’t exist.
39. I have a good understanding of my strengths and weaknesses.
40. When I am treated unfairly, I express my anger in no uncertain terms.
NCQ-R 1 (Cont.)

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<td>Agree</td>
<td>Neutral</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
<td>Strongly Disagree</td>
<td>Very</td>
</tr>
</tbody>
</table>

41. I expect to get picked on by other students and faculty members because of my background.
42. Everyone must work toward improving social conditions.
43. I know the areas I am weak in and try to improve them.
44. Please list groups belong to (formal or informal) and offices held (if any) in your high school or community.
NCQ-R 2

Please fill in the blanks or circle the appropriate answers.

1. Your social security number:______________________________________.
2. Your sex is: 1. Male  2. Female
3. Your age is:_________________ years.
4. Your father’s occupation:______________________________________.
5. Your mother’s occupation:______________________________________.
6. Your race is:
   a. Black/African American
   b. White
   c. Oriental
   d. Hispanic
   e. Other
7. How much education do you expect to get during your lifetime?
   a. College, but less than a Bachelor’s Degree
   b. B.A. or equivalent
   c. 1 or 2 years of graduate or professional study
   d. Doctoral degree such as M.D., Ph.D., etc.
8. Please list three goals that you have for yourself:

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?
   a. Absolutely certain that I will obtain a degree at some point
   b. To accept a good job
   c. To enter military service
   d. It would cost more than my family or I could afford
   e. Marriage
   f. Disinterest in study
   g. Lack of academic ability
   h. Insufficient reading or study skills
   i. Other
10. Please list three things that you are proud of having done:
NCQ-R 2 (Cont.)

Please indicate the extent to which you agree or disagree with each of the following items. Respond to the statements below with your feelings at present or with your expectations of how things will be. Write in your answer to the left of each item.

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11. It should not be very hard to get a B (3.0) average here.
12. If I run into problems concerning school, I have someone who should listen to me and help me.
13. I am skilled academically as the average applicant here.
14. My friends and relatives don’t feel I should go to college.
15. My family has always wanted me to go to college.
16. If course tutoring is made available on campus at no cost, I would attend regularly.
17. My high school grades don’t really reflect what I can do.
18. I find I get more comfortable in a new place as soon as I get some good friends.
19. I enjoy working with others.
20. My friends are exclusively the same race as I am.
21. My background should help me fit in well here.
22. I expect the faculty to treat me differently from the average student here.
23. I am uncomfortable interacting with people from other races/cultures.
24. I try to find opportunities to learn new things.
March 8, 2004

Coach
Athletic Department
Louisiana State University

Dear Coach:

Greetings and best of luck in your current season, I’m Derek Morgan, a Ph.D. candidate in the department of Educational Leadership, Research, and Counseling at Louisiana State University. As part of my academic program, I have chosen to complete a dissertation studying the effects of selected predictor variables of academic achievement on the academic performance of student athletes who attend LSU. This research project is concerned specifically with determining the extent cumulative college grade point averages of student athletes can be predicted by race, gender, academic classification level, and participation in sports. The results of this study will help provide information that may be useful to the academic success of student athletes.

Therefore, I am seeking your permission to complete two questionnaires that would measure the student athletes’ perceptions of the aforementioned variables. Moreover, I would like to request your permission to collect data from your student athletes at a pre-approved practice or team meeting. The data collection session should take no more than twenty minutes. Subsequently, I welcome any aspect of explanatory effect on student athletes’ academic performance not covered in the instrument, which is attached to this letter.

If possible, I would like to obtain an appointment with you to discuss a possible time in which the student athletes will be asked to participate in this study. Participation is voluntary, and all responses will be held in strictest confidence. If you have any questions, you can contact me at (225) 357-5913 or dmorga5@lsu.edu. My dissertation chair is Dr. Terry Geske, and you can contact him at (225) 578-2488 or tgeske@lsu.edu.

Lastly, I would be pleased to send you a summary of the results if you desire. Thank you for your cooperation.

Sincerely,

Derek J. Morgan
APPENDIX D
DATA COLLECTION FORM

<table>
<thead>
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<th>Independent Variables</th>
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APPENDIX E

SURVEY INTERVIEW LETTER TO STUDENT ATHLETE

This interview is part of a doctoral dissertation project at Louisiana State University. It is designed to find out some information about challenges faced as a result of being a student and an athlete at a competing level, Division 1 university. This information may be useful to the academic success of student athletes.

Two open-ended questions (listed below) that will require fill-in information will be asked. The answers, which you provide, will be held in strict confidence. Your answers will not be shown to your professors, coaches, or administrators, or to anyone other than the person doing the research.

Q1. Can you describe to me what are some challenges encountered here at this university as a result of your dual role as student and athlete?

Q2. Is there anything you would like to discuss that we have not yet covered, or that we need to cover more?

Your help in this study is greatly appreciated. Thank you very much.

I give my permission to Mr. Derek J. Morgan to obtain information from this interview and use for research project. I understand that it will be impossible for me to be personally identified in this project.

______________________________________ (Signed)

______________________________________ (Print Name)

______________________________________ (Date)

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VITA

Derek J. Morgan was born on November 24, 1971, in Baton Rouge, Louisiana, the son of Theodore James Morgan and Barbara Ann Morgan. He earned a diploma in 1989 from Scotlandville Magnet High School, Baton Rouge. He received a Bachelor of Arts degree in elementary education in May 1996 from Southern University Agricultural and Mechanical College. In May 1998, after continuing his education at Southern University, he received a Master of Education degree in administration and supervision. He was employed as an elementary teacher and mathematics specialist within the East Baton Rouge Parish School System prior to entering the administrative ranks of the principalship in August 2002.