The Relationship between Institutional, Departmental and Program-Specific Variables and the Academic Performance of Division I FBS Football Programs

Steven C. Eigenbrot
University of Nevada, Las Vegas

Follow this and additional works at: http://digitalscholarship.unlv.edu/thesesdissertations
Part of the Education Commons, and the Sports Studies Commons

Repository Citation
http://digitalscholarship.unlv.edu/thesesdissertations/1520

This Dissertation is brought to you for free and open access by Digital Scholarship@UNLV. It has been accepted for inclusion in UNLV Theses, Dissertations, Professional Papers, and Capstones by an authorized administrator of Digital Scholarship@UNLV. For more information, please contact digitalscholarship@unlv.edu.
THE RELATIONSHIP BETWEEN INSTITUTIONAL, DEPARTMENTAL AND PROGRAM-SPECIFIC VARIABLES AND THE ACADEMIC PERFORMANCE OF DIVISION I FBS FOOTBALL PROGRAMS

By

Steven C. Eigenbrot

A dissertation submitted in partial fulfillment of the requirements for the

Doctor of Philosophy in Educational Leadership

Department of Educational Leadership
College of Education
The Graduate College

University of Nevada, Las Vegas
May 2012
THE GRADUATE COLLEGE

We recommend the dissertation prepared under our supervision by

Steven C. Eigenbrot

entitled

The Relationship between Institutional, Departmental, and Program-Specific Variables and the Academic Performance of Division I FBS Football Programs

be accepted in partial fulfillment of the requirements for the degree of

Doctor of Philosophy in Educational Leadership
Department of Educational Research, Cognition, and Development

Vicki Rosser, Ph.D., Committee Chair
Kimberly Nehls, Ph.D., Committee Member
Gerald Kops, Ph.D., Committee Member
Nancy Lough, Ed.D., Graduate College Representative
Ronald Smith, Ph. D., Vice President for Research and Graduate Studies and Dean of the Graduate College

May 2012
ABSTRACT

The Relationship between Institutional, Departmental and Program-Specific Variables and the Academic Performance of Division I FBS Football Programs

by

Steven C. Eigenbrot

Dr. Vicki Rosser, Examination Committee Chair
Professor of Educational Leadership
University of Nevada, Las Vegas

This study investigated the connection between the academic evaluation of Division I FBS football programs and the various social settings that influenced these student-athletes. These social settings were classified as: institutional, departmental and program-specific. The experience of the student-athlete is thought to be impacted by all three settings, creating applicability for social identity theory, which provides the theoretical framework of the study.

Informed by a literature synthesis of previous research on this content area, this quantitative study relied on institutional data reported to the NCAA and United States Federal Government to further investigate this topic. Using a multivariate analysis and data gathered from the 2003-04 to the 2009-10 academic year, attributes of all three levels were placed in three regression models to locate trends based on program Academic Progress Rate performance or Graduation Success Rate. The study determined that private control of an institution and participation in bowl games significantly impacted academic performance. This study built on a strong theoretical framework that informed and challenged the dynamic between student and athlete, seeking to advance the understanding of the complex interplay between higher education and intercollegiate athletics.
ACKNOWLEDGEMENTS

Thank you very much to Dr. Vicki Rosser for her time, patience and guidance over this exceptionally educational journey. Her leadership and encouragement throughout this process was priceless. A very sincere show of appreciation is also in order for the members of my committee, Dr. Gerald Kops, Dr. Nancy Lough and Dr. Kim Nehls, whose flexibility, feedback and assistance was greatly valued. In particular, thank you to Dr. Kops for the encouragement he offered me five years ago that prompted me to begin this journey.

Thank you as well to Mr. Bill Brady, who invested his time and energy in serving as a mentor to me, and supported my pursuit of this degree in concert with my work schedule. Thank you as well to Mr. Brian Finn, Mr. Jeffrey Crane and Ms. Marcy Girton, each of whom also provided valuable support to me in balancing this experience along with a career.

Lastly, a big thank to you my parents, Ed and Carol, who have always been so supportive of my academic endeavors, and whose love and guidance helped make this a reality. Thank you as well to Kari and my siblings, Karen, Joe and Sara, and their families for their unwavering support during this process.
# TABLE OF CONTENTS

ABSTRACT .......................................................................................................................... ii

ACKNOWLEDGEMENTS ................................................................................................... iv

LIST OF TABLES ................................................................................................................ vii

CHAPTER 1: OVERVIEW ........................................................................................................ 1

  Introduction ......................................................................................................................... 1
  Literature Review ............................................................................................................... 4
  Conceptual Framework: ..................................................................................................... 10
  Purpose Statement ............................................................................................................. 11
  Research Design ............................................................................................................... 12
  Definitions .......................................................................................................................... 13
  Limitations ........................................................................................................................ 20
  Significance of the Study .................................................................................................. 21
  Summary ............................................................................................................................ 22

CHAPTER 2: LITERATURE REVIEW ..................................................................................... 23

  The Pre-College Experience................................................................................................. 24
  The Student’s Campus Learning Environment ................................................................... 27
  A New Landscape of Academic Accountability ................................................................... 39
  Social Identity Theory ....................................................................................................... 48
  Summary ............................................................................................................................ 56

CHAPTER 3: RESEARCH METHODS .................................................................................... 58

  Introduction ........................................................................................................................ 58
  Research Design ............................................................................................................... 58
  Data Source and Population ............................................................................................... 59
  Variables in the Study ........................................................................................................ 60
  Analysis of the Data .......................................................................................................... 68
  Summary ............................................................................................................................ 70

CHAPTER 4: RESULTS .......................................................................................................... 72

  Introduction ........................................................................................................................ 72
LIST OF TABLES

1. Citation Table for Independent Variables ..................................................... 56
2. Illustration of Independent Variable Grouping and Source .............................. 61
3. Conference Automatic Qualification Status ..................................................... 63
4. Outcome Variable Grouping and Source ......................................................... 67
5. Conference Membership ................................................................................. 74
6. Descriptive Statistics for Independent Variables ............................................. 76
7. Institutions Receiving APR-Related Sanctions ............................................... 77
8. Model 1 – Average Academic Progress Rate .................................................. 80
9. Model 2 – Academic Progress Rate Sanctions ............................................... 82
10. Model 3 – Average Graduation Success Rate .................................................. 84
CHAPTER 1: OVERVIEW

Introduction

In April 2004, the National Collegiate Athletic Association (NCAA) adopted a “comprehensive academic-reform package,” highlighted by the establishment of the Academic Progress Rate (APR) and Graduation Success Rate (GSR). According to the NCAA, this step was taken at the request of member institution presidents who requested new metrics, which accurately reflected academic performance to account for increased mobility amongst student-athletes. Furthermore, “both rates improve on the federally mandated graduation rate by including students who were omitted from the federal calculation” (NCAA, 2010b). Such a request was made as the negative publicity the topic received over a span of decades had grown in recent years. This occurred as the public became increasingly critical of academic lapses promoted in some cases by the difficult balancing act required to juggle the roles of student and athlete while playing at such a high level of sport (Suggs, 2005).

In the APR, the NCAA established a measure of academic progress to be used for all sport teams that would adjust each term with penalties for failing to meet minimum APR thresholds. These sanctions vary from reductions in the number of scholarships a team can offer to more severe penalties, such as bans from postseason play. With the GSR, institutions were provided with a metric of academic performance that was adjusted to take into consideration those students who did not graduate due to a transfer that occurred when the student was in good academic standing (NCAA, 2010b).

Armed with these two new metrics, those in higher education and intercollegiate athletics were now provided a new lens to quantify the often pressed subject of student-
athlete academic performance. To speak to the importance of this inquiry, Maloney and McCormick (1993) summarize the attention paid to intercollegiate athletics quite candidly, noting: “The volume of coverage in the lay press concerning the academic successes and failures of athletes so far outweighs similar stories about non-athletes that one is sometimes left to wonder if anyone cares at all about what goes on in America’s colleges and universities unless it pertains to sports or athletes” (p. 555). Whether this quote exemplifies an exaggeration or an unfortunate truth is debatable, but regardless, it illustrates the attention the topic garners.

Speaking to this attention, a shift from individual academic responsibility to team-based accountability has also occurred. In August 2011, the NCAA’s Division I Board of Directors approved a future heightening of academic standards of achievement for college athletic programs. This decree called for a raise in the APR benchmark, enhanced bans from NCAA governed post-seasons and financial penalties to those programs that do not perform in the classroom (Sander, 2011a). While this decision has reemphasized the importance of this issue in the modern landscape of college athletics, it is not without critique. For instance, Amy Perko, executive director of the Knight Commission on Intercollegiate Athletics, objected to the heightened APR requirements, noting that absent of stronger initial eligibility requirements for incoming student-athletes, these changes are “not fair to the athletes who are not prepared to do the college-level work” (Grasgreen, 2011, p. 1).

Moreover, some critics argue that the increased academic standards appear to be enhancing the class system in college athletics. Sander (2011a) notes that these objectors claim that since the launch of the APR and its associated penalties, only the large and
wealthy athletic programs with expensive academic-support services are equipped. Research supports this claim, as Leung (2011) explains that under the existing ban for post-season play, when it came to men’s basketball only less wealthy programs (Cal State Northridge, Grambling, Louisiana-Monroe and Southern) were banned from post-season play.

These critiques are heightened because this decision to adjust the APR lacks a critical mass of empirical research to inform the topic. Therefore, considering this platform for attention presented by intercollegiate athletics, there is an implied value to higher education in filling this gap in existing research and developing an understanding of factors that influence these new metrics. By discovering the role that institutional, departmental and program specific variables play in promoting or preventing the academic achievement of football student-athletes at the highest level of intercollegiate sport, an enhanced understanding of best practices and other significant trends occurs. While the challenging interplay between the role of student and athlete may be at the core of intercollegiate athletics, ideally, this work represents one step on the path of enhancing the student identity of these young people.

The purpose of this study is to examine the role institutional, departmental and program-specific variables play in influencing football student-athletes’ academic progress and performance through the framework of social identity theory. The overview of this study will begin by establishing how this work is informed by prior research on the topic, moving on to establish the study’s conceptual framework and purpose. The study will then move on to discuss the research design, highlighting the study’s research questions, and finally, discussing relevant definitions and limitations of the study.
Literature Review

Explaining the purpose of intercollegiate athletics without using the term “student-athlete” would be impossible. The pursuit of these talented young people is the very core of the entire enterprise. The term itself however, explains a complex and challenging duality of roles juggled by its participants: the role of student and the role of athlete. While the NCAA and today’s intercollegiate athletics administrators put forth that the role of “student” is to come before that of “athlete,” both the popular media and academic research have brought forth objections, with some even going as far as to argue these students should be viewed as employees of their institutions (McCormick & McCormick, 2006).

Research suggests the academic struggles experienced by student-athletes may be explained in part by their college preparation. High school academic performance (Maloney & McCormick, 1993), as well as demographic factors and academic ability (Lang, Dunham, & Alpert, 1988; Sellers, 1992) were all shown to predict academic performance at the college level. It also has been used to explain below average academic performance for athletes in revenue sports (Purdy, Eitzen, & Hafnagel, 1982).

However, there are significant deviations from the norm in the recruitment of a student to college from the recruitment of student-athletes (Hood, Craig & Ferguson, 1992; Pascarella & Smart, 1991). Research explains that student-athletes come from unique backgrounds and environments when compared to non-athlete peers (Pascarella et al., 1999). To this end, when statistical controls are made for background characteristics that influence academic aptitude, the academic achievement of athletes and their non-athlete peers, the two are roughly equal (American College Testing Program & Educational
Testing Service, 1984; Hood, Craig & Ferguson, 1992; Pascarella & Smart, 1991; Smith & Dizney, 1966; Stuart, 1985). Informed by these findings, this study will focus on those characteristics within the setting of higher education and discuss their impact on the student-athlete.

Regardless of pre-college experiences, the majority of choices made regarding the balancing of roles between student and athlete are made while on campus. Current quantitative data suggests that for the football playing student-athlete, balancing this duality of roles is difficult. LeCrom et al. (2009) notes in his study of 12,980 APR observations between the years 2001-2005 that male student-athletes are less likely to be retained than females. He also found that team sport participants are less likely to graduate than those that participate in individual sports. Pascarella et al. (1999) found that football and male basketball players had negative cognitive affects from sport participation, irrespective of precollege experiences. Rishe (2003) posits this occurs because of the financial stakes of big time athletics and pressure to succeed on the field. Pascarella et al. take their explanation a step farther, warning that “competing in major revenue-producing sports simply absorbs so much physical and psychological energy that there is only a limited amount left to make the kinds of intense investments in one’s academic experience that enhance cognitive growth” (p. 23).

Some would argue that in order to meet this exhausting balance of academic pressures and athletic success, institutions have invested excessive in the issue. The Knight Commission (2010) notes that median spending per athlete at the major conference level comes in between four and 11 times more than median spending on education-related activities per student, with the average athletic budget at this level on
pace to exceed $250 million by 2020. However, the long-term viability of this type of spending is in question. As of the 2008 fiscal year, the NCAA reported that 25 Division I Football Bowl Subdivision institutions reported positive net revenues for their athletic programs, with the median at about $3 million in excess revenue per institution. However, according to the Knight Commission (2010), the median deficit for the other nearly 100 programs participating at this level is about $8 million a year, a deficit often covered by institutional resources to keep athletic departments operational.

Regardless of the level of departmental financial support, what takes place within the football program itself also plays a pivotal role in the student-athlete experience. Bell’s 2009 qualitative study of the experiences of 41 Division I FBS student-athletes, 31 of the participants spoke of the involved role their head football coach took in monitoring their academics, and 13 reported that their coach deemphasized their chances of having a professional career and suggested that the student-athlete concentrate on receiving a degree. Simons et al. (1999) explains that although coaches are required to excuse missed practices for academic reasons, student-athletes shy away from this exemption, opting for make-up class work over a missed athletic practice. “Coaches possess the power to decide which athletes will play or start in the games, [and] many students believe, correctly or incorrectly, that they will be penalized by their coaches for choosing academic commitments over athletic ones” (p. 158). To some extent, institutions have bought into the idea that coaches impact this decision making process, even going as far as to incentivize coaches to encourage strong academic performance by tying financial bonuses to the academic performance of their teams. However, some have criticized this incentive deeming a poor attempt at matching the ideals of athletics with higher
education (Eichelberger & Levinson, 2007). Eichelberger and Levinson go on to point out the contract of Jeff Tedford, head coach at the University of California at Berkeley, whose $3.3 million contract contains a maximum academic bonus of $25,000, less than 1 percent of his salary, and the contract of Virginia Tech head coach Frank Beamer, which contains annual on-field incentives reaching $532,500 when compared to $25,000 of academic performance based incentives.

The push for programs to meet higher academic standards was enhanced in 2003-04 when the NCAA initiated drastic academic reform, including not only the introduction of the APR and GSR, but also revising its initial eligibility standards (LaForge & Hodge, 2011). While APR measures the progress of the athlete toward a degree, GSR is the often cited metric used for graduation rates amongst student-athletes, as it is an adjusted version of the Federal Graduation Rate (FGR), altered to account for athletes’ greater mobility when compared to non-athlete peers (Denhart, Villwock & Vedder, 2009). Serious sanctions and penalties have been laid out by the NCAA for programs that fail to meet minimum APR thresholds. While first time violators are granted some leniency with a warning, repeat offenders face losing scholarships, recruiting abilities, practice time and eventually postseason bans or banishment from the NCAA (Denhart, Villwock & Vedder, 2009). However, with heightened penalties and standards comes a risk of compromised academic integrity. Fountain and Finley’s (2009) examination of ACC football programs found that six of the 11 schools examined had at least one-third of their student-athletes in a single major and all schools had exceeded the 25% cutoff as defined by Case, Greer, & Brown (1987).
With heightened academic standards and a highly competitive athletic landscape facing these football student-athletes, the conflict between the role of student and athlete becomes clear. Adler and Adler (1985) in their study of a private Division I men’s basketball program found students entering college with “idealistic goals and attitudes about their impending academic careers” (p. 241). However, their collegiate experience as a whole altered these attitudes and left many students willing to compromise their academic goals, often blaming others for their shortcomings and externalizing their academic failures (p. 247). To this end, Simons, Van Rheenen, & Covington (1999) explains that student-athletes operate in an area of sharp conflicting interests, where at the heart of their priority setting process looms two counteractive forces: education and athletics.

These two counteractive forces bring into play the notion of social identity theory in this study. Research has suggested that the numerous roles played by an individual are what comprise one’s identity (London, Downey, Bolger & Velilla, 2005). Studies show that all roles played by an individual are not given equal standing in one’s life at any one moment in time (McCall & Simmons, 1978). Chatman, Eccles and Malanchuk (2005) demonstrate the importance of an identity to the individual, known as identity salience, is not static, but rather fluctuating over time based on context and circumstance. The work of Stevenson (1999) with international athletes supported the idea that the actions and perceptions of those around them enhanced the salience of their athletic identity, which in turn, improved their commitment to their sport.

When it comes to student-athletes, Brewer (1991) tells us that the athletic identity is the identification with their role as an athlete. Given the work of Stryker and Serpe
(1982), who found that if those within a person’s role-set give a high level of salience to a specific identity, this social influence will heighten the level of salience of that role at the individual level, one can start to formulate why the athletic identity can be so strong for the student-athlete. Studies show that once salience is given to the athletic role, student-athletes spend a high percentage of their time with coaches, teammates and others in their athletic role-set, strengthening their commitment to this role (Horton & Mack, 2000; Watt & Moore, 2001).

When it comes to their institutional surroundings, LaForge and Hodge (2011) put forth in their work on metrics of student-athlete academic evaluation that graduation success, as measured by either FGR or GSR, will likely be higher at elite private institutions than their public peers, whose mission includes promoting access to higher education. Understanding the differences between institutions, Bell’s (2009) study of role-set influence amongst football players at the Division I FBS level examines only universities classified as “selective” or “more selective” research universities based off the Carnegie Classification system. This decision is supported by prior works that show having academically oriented peers can enhance a student’s academic experience (Crosnoe, Cavanagh, & Elder, 2003; Dennis, Phinney, & Chuateco, 2005; Hurtado, Carter, & Spuler, 1996; Tinto, 1993).

While the athletic department and the institution have undeniable impact on the role salience decisions made by a student-athlete, another set of factors that are held much closer to the individual also come into play. The thoughts and opinions of student-athletes’ peer groups impact the decisions student-athletes will make (Tinto, 1993). Simons et al. (1999) notes that the power that coaches have over the contributions these
student-athletes make to the team due to control over playing time and other in-game decisions looms very large in developing identity salience.

Additionally, the real and perceived benefits of a successful football program to an institution and its athletics department may be an important factor in the promoted salience of the athletic identity. Padilla and Baumer (1994) illustrated that a single win in football over the previous three year period correlated to increased football-related revenues of between $200,000 and $300,000. More recently, Isidore (2010) found that on average, football programs in the six largest conferences earned approximately $15.8 million in the 2009-10 academic-year, or revenue generation well over $1 million per game. These sorts of financial stakes may indeed shift the focus of the student-athlete toward sport at the expense of classroom-related activities.

Conceptual Framework:

Burke (2006) explains that social identity theory is a social psychological examination of intergroup relations, focusing on the idea that group behavior can be attributed to a shared understanding of social group membership. No person is limited to the demands of a sole role within their existence. While an author might balance the roles of daughter, wife, mother, novelist and art enthusiast, a football student-athlete may be a son, boyfriend, brother, teammate, classmate and community volunteer. However, the connection to these roles ebbs and flows, based not only on the individual’s psychology, but also based on group factors. According to Bell (2009), “the concept of identity, as understood in sociological terms, links the individual to society, and defines the roles a person takes on in his life” (p. 22). Bell notes that these roles are perpetuated not only by the individual, but also by society, as identity is what links the individual to
Haslam, Powell and Turner’s (2000) demonstrate this finding in determining that employees were most responsive to group-based needs in situations when the worker’s group identity was salient.

With the connection between society and identities now explained the basic tenants of social identity theory start to emerge. Chatman, Eccles and Malanchuk (2005) demonstrate the importance of an identity to the individual, known as identity salience, is not static, but rather fluctuating over time based on context and circumstance. This context is often formed in the sense of the social settings presented to the individual. The influence of this social setting on role salience is the primary underpinning of social identity theory. The sociologist Merton (1957) in his seminal work on social theory states that social context is established by a person’s role-set, or the group of individuals a person associates his roles with throughout a variety of circumstances.

In the case of this study, there are two identities of interest: college student and football player. The following study examines three categories of variables that impact the social setting presented to these student-athletes. This allows for conclusions to be drawn about the application of social identity theory to the experience of these college students.

**Purpose Statement**

The purpose of this study is to examine the role institutional, departmental and program-specific variables play in influencing Division I FBS football student-athletes’ academic progress, as measured by the NCAA’s Academic Progress Rate (APR), and performance, as measured by the NCAA’s Graduation Success Rate (GSR) through the
framework of social identity theory. This will result in an understanding of characteristics that may influence the identity salience of football student-athletes.

Research Design

Using secondary institutional data provided to the federal government and the NCAA, this quantitative study examines the relationship between institutional, athletic departmental and football program specific variables, and the academic progress and performance of Division I FBS football student-athletes across 120 institutions from the 2003-04 academic-year to the 2009-10 academic-year. This was achieved through comparing measures of academic progress (APR) and academic performance (GSR) between football programs, taking into account three categories of independent variables: institutional, athletic departmental and football program specific.

Within the three different categories of independent variables in the study, there are a total of eight variables. The broadest level of variables looks at the overall academic institution; there are three variables in this category. Two variables that are representative of decisions made at the athletic department level are included in the next category. Lastly, three variables that specifically examine the football programs at these institutions are included.

This study utilized three outcome variables, each of which plays an important part in the academic evaluation of a football program. APR serves as a measure of academic progress toward degree for the NCAA. The average APR score received by these football programs over the period of interest is the first outcome variable. Failing to reach a predetermined APR cutoff point results in sanctions for a given sport program.
The receipt of these sanctions is a second outcome variable. Lastly, GSR is a measure used to evaluate academic success and it serves as a third outcome variable.

In an attempt to draw conclusions about the academic achievements of Division I FBS football programs, this study will regress the eight variables discussed earlier against three outlined academic outcome variables. In the data analysis, each outcome variable will serve as the basis of a regression analysis that models the impact the aforementioned independent variables have on these outcome variables. In total, three regression models will be established to illustrate the role the independent variables play in predicting the three outcomes selected to examine.

**Research Questions.** The following three research questions will guide the study:

1. What combination of institutional, departmental and program-specific variables explains student-athlete academic progress as measured by APR and informed by social identity theory?

2. Informed by social identity theory, what combination of institutional, departmental and program-specific variables explains an institution's football program's receipt of academic-related sanctions due to low APR?

3. What combination of institutional, departmental and program-specific variables explains student-athlete academic performance as measured by GSR and informed by social identity theory?

**Definitions**

Some of the language used in the community of intercollegiate athletics is specific to the industry. What follows is a discussion of those terms that are relevant to this study:
Academic Progress Rate (APR) – According to the NCAA (2011), the APR is the basis that academic-reform is depending on, as it gives administrators a more real-time assessment of program academic performance than the six-year graduation-rates of GSR and FGR. The APR awards two points each term to student-athletes, one for meeting academic-eligibility standards and one for remaining with the institution. A team's APR is the total points earned by the team at a given time divided by the total points possible, then calibrated to a scale of 1000 (NCAA, 2011).

Association of American Universities (AAU) – According to the association’s website (2011), the AAU is a nonprofit organization comprised of 61 leading research universities in North America. These member universities “are on the leading edge of innovation, scholarship and solutions that contribute to the nation’s economy, security and well-being” (AAU, 2011). Since 1900, this organization has set forth to advance the international standing of its member institutions.

Athletic Department Expenditures – Reported with consistent mandates as required by the U.S. Department of Education’s Office of Postsecondary Education (OPE), this institution specific variable speaks to the grand total of all expenses incurred by an athletic department, across all its sports and student-athletes, in a given year. The data are pulled from the OPE Equity in Athletics Disclosure Website database, which accesses annually submitted athletics data that is required by the Equity in Athletics Disclosure Act (EADA) (Equity, 2011).

Average Win Total – Tracked by NCAA records, this term refers to the average number of victories a team achieves over the six football season span of this study. During this period, two institutions were forced to vacate wins by the NCAA due to
violations. However, for the purposes of this study, these programs did retain the wins in question. This variable is included in the study to illustrate trends of athletically successful football programs and while these wins technically did not happen, the author felt their inclusion painted a clearer picture of athletic success for the study.

Bowl Appearances – Those Division I FBS football programs that finish the regular season with six wins are considered eligible for appearance in a single post-season game known as a bowl game. Appearing in such a game lengthens the football season for the team, often overlapping the season with fall term final examinations. Data pertaining to this variable was gathered from the Football Bowl Association (FBA), which is a non-profit member association that represents all post-season college football bowl games (FBA, 2011).

Bowl Championship Series (BCS) – First implemented during the 1998-99 academic year, the BCS is a system of ranking the nation’s elite FBS football programs with the system’s two highest teams facing off in a national championship. According to the BCS website (2011), the system “is designed to ensure that the two top-rated teams in the country meet in the national championship game, and to create exciting and competitive matchups among eight other highly regarded teams in four other bowl games” (p. 1). When it comes to oversight, the BCS is managed by the commissioners of the 11 NCAA FBS conferences, the director of athletics at the University of Notre Dame, and representatives from various bowl organizations.

Since 2005, the ranking system has consisted of three equally weighted components: the USA Today Coaches’ Poll, the Harris Interactive College Football Poll, and an average of six computer rankings. While the Coaches’ Poll consists of the FBS
head coaches, the Harris Poll is composed of votes from an array of coaches, administrators, media members and other stakeholders, with an aim of having a wide spanning representation across conferences. The computer rankings are created by specially designed programs that take into account a number of variables, such as win-loss record, strength of a team’s schedule, game locations, and margin of victory. The composite of computer rankings consists of the average among six different algorithms produced and updated weekly by Jeff Sagarin, Anderson & Hester, Richard Billingsley, Wesley Colley, Kenneth Massey, and Peter Wolfe. Currently, policy calls for the highest and lowest ranking to be dropped, and average the remaining four is taken before combining it with the other polls to produce the overall BCS ranking (Kotchen & Potoski, 2011).

The rankings are also important because they influence the eligibility of teams for invitations to the other four BCS bowl games. The remaining at large BCS bowl invitations are selected by the administrators of the four games themselves, with each game selecting two teams and selection order rotating each year. Additionally, at large invitations are subject to some eligibility restrictions, which include the following:

- a limit of two BCS invitations per conference
- Notre Dame automatically qualify if ranked in the top eight
- a non-BCS conference team automatically qualify if ranked in the top 12 or if ranked in the top 16 and better than the champion of a BCS conference.

While the BCS rankings are used for determining the eligibility of teams for at large BCS bowl invitations, the individual bowls have on occasion selected teams ranked in worse positions (Kotchen & Potoski, 2011).
Coaching Change – This term refers to the turnover of coaches experienced by a football program. In this study, interim or temporary coaches, often promoted from an existing coaching staff when a head coach leaves a team mid-season, are not counted as an additional coaching change due to their extremely temporary nature. A history of head coaches is kept by the NCAA.

Conference Affiliation – For the purposes of this study, it is important to indicate if each institution is a member of a so-called “major conference” or not. These conferences are those that have been evaluated by the BCS system as automatic qualifying conferences. The Division I conferences evaluated for this status were the: Atlantic Coast, Big East, Big Ten, Big 12, Conference USA, Mid-American, Mountain West, Sun Belt, Pac-12, Southeastern and Western Athletic. Each conference had an opportunity to earn annual automatic qualification through a four-year evaluation covering the regular seasons of 2004, 2005, 2006 and 2007. In accordance with this evaluation, the Atlantic Coast, Big East, Big Ten, Big 12, Pacific-12 and Southeastern Conferences met the threshold and earned automatic qualification through the 2013-14 season (BCS, 2011). Please remember that data from this study is cutoff at the 2010-11 academic-year and thus, conference realignment that occurred after this time will not be included.

Control – Control is explained by the Carnegie Classification system as either public or private, as this categorization was one of the main reasons behind the development of the classification system in 1970 (2011).

Division I Football Bowl Subdivision (FBS) – According to the NCAA (2008), this classification of intercollegiate athletic participants is comprised of institutions that
sponsor at least 14 sports (seven sports for men and seven for women, or six for men and eight for women) with two team sports for each gender. Football Bowl Subdivision schools are usually fairly elaborate programs that can offer up to 85 full grant-in-aids (commonly known as scholarships) for their football programs. Additionally, Football Bowl Subdivision teams have to meet minimum attendance requirements (average 15,000 people in actual or paid attendance per home game), which must be met once in a rolling two-year period.

*Federal Graduation Rate (FGR)* – According to the NCAA (2011), the FGR is a measure that assesses first-time full-time freshmen in a given cohort and only counting them as academic successes pending graduation from their institution of initial enrollment within a six-year period. This measure fails to account for transfers into or out of an institution, and has limitations because of the prevalence of transferring in intercollegiate athletics. However, it is the only rate that allows a direct comparison between student-athletes and the general student body.

*Football Program Expenditures* – Reported with consistent mandates as required by the U.S. Department of Education’s Office of Postsecondary Education (OPE), this institution specific variable speaks to the grand total of all expenses incurred by a football program in a given year. The data are pulled from the OPE Equity in Athletics Disclosure Website database, which accesses annually submitted athletics data that is required by the Equity in Athletics Disclosure Act (EADA) (Equity, 2011).

*Graduation Success Rate (GSR)* – According to the NCAA (2011), the GSR is a graduation-rate computation that is also part of its academic reform initiative. Like FGR, this measure assesses graduation over a six-year period, but the rate includes transfer
students, unlike the federal rate. Also unlike the FGR, the GSR accounts for midyear enrollees. It is calculated for every sport.

*Identity Salience* – According to Stryker and Serpe (1984), “identity salience is a readiness to act out an identity as a consequence of the identity’s properties as a cognitive structure of schema” (p. 17). It is identity salience that develops a hierarchy for one’s identities with various identities being organized by their probability of coming forth based on a series of situations.

*Knight Commission on Intercollegiate Athletics* – According to the Knight Commission website (2011a), this group of higher education decision makers works with colleges and universities to direct intercollegiate athletics programs to stay within their educational missions. It was founded in 1989 after a prolonged period of issues within college athletics.

*Major Clustering* – Major clustering is a phenomenon that occurs when there exists a high percentage of student-athletes within a specific major (Gaston Gayles, 2010). According to the author, this occurs frequently in the social and behavioral sciences and is associated with the idea that student-athletes may be pushed toward certain majors by academic advisors. Gaston Gayles explains that this phenomenon is complicated by the progress to degree requirement of APR.

*National Collegiate Athletic Association (NCAA)* – According to the organization (2011), the NCAA is a membership organization comprised of over 1,000 colleges and universities, which feature 400,000 plus student-athletes competing across three divisions in 23 sports. The organization was formed to protect the interests of student-athletes, emphasizing athletic and academic excellence.
Public/Private Institution – Provided by the Carnegie Foundation for the Advancement of Teaching (2011), this variable examines the origin of control at each institution.

Limitations

Within this study, there are a few limitations that beg mention. With the landscape of athletic conferences changing regularly, it is important to be reminded that the data used in this study predates the start of the 2011-12 academic-year and any conference realignment that occurred during that football season or afterward. However, it does capture data during the conference realignment that occurred for the 2005-06 academic-year. For the purposes of institutional classification as it pertains to conference membership, this study matched institutional membership with its conference membership as of the 2010-11 academic-year.

Also, having entered new area of heightened academic accountability in the NCAA, administrators are asked to use metrics that have been constructed within the last decade. Since its launch in 2004, the NCAA has in fact made minor changes to the APR twice. LaForge and Hodge (2011) point out that GSR and APR, unlike their federal counterpart, can be managed to some extent through roster management tactics, like asking struggling students to transfer or through clustering students in easier majors.

Lastly, it is important to note that any impact on identity salience made by pre-college experiences or social factors such as family history and socioeconomic status cannot be measured due to the standards established by the Family Education Rights and Privacy Act (FERPA). However, that is not to say that such factors do not influence identity salience.
**Significance of the Study**

This study has implications not only for researchers, but also for practitioners in the field of intercollegiate athletics. There is little in the way of prior research examining APR and GSR, largely due to the recent development of these metrics. Existing research on the topic of social identity theory fits the topic and establishes a theoretical basis to build on our understanding of tradeoffs made between the role of student and athlete that face these young people. Discovering variables that play significant roles in creating similarities or differences in the academic outcomes of these student-athletes may direct future research, probing this topic to determine what causes such discrepancies so that the student-athlete experience may be heightened going forward.

As for practitioners, understanding the differences on an institutional, departmental and program level that promote or hinder academic success should be helpful in guiding and informing decision making by administrators and coaches. For example, if it is discovered that those programs who more frequently visit bowl games struggle to produce strong academic metrics, decision makers might be interested in adjusting the bowl schedule or system holistically. On the other hand, if a positive relationship is found between average win total and either GSR or APR, practitioners may be able to quiet those who complain that winning is done at the expense of academic accomplishment. Regardless of these findings, in this era of heightened accountability within higher education and intercollegiate athletics, it is important that research is provided to answer questions and promote transparency.
Summary

The development of the APR and GSR were both heavily influenced by calls over the last two decades to heighten accountability and academic focus in intercollegiate athletics, especially in revenue producing sports like football. These two metrics, when used in tandem, are thought to provide an insightful look at the academic state of an intercollegiate athletics program, taking into consideration the unique qualities of the experience of the student-athlete. Due to the recent launch of these new metrics, this quantitative study will provide a new lens through which to view academic performance measures.

While prior work on the topic provides an array of applicable data, a critical mass of work exists that suggests the balancing of the role of student and athlete is toughest for those participating in revenue generating sport programs. Therefore, by examining pertinent variables at all levels of the football student-athlete’s experience, from institution type to within the athletic department to experiences within the sport program itself, the study provides a framework to examine variables on three different levels. Moreover, these variables can then be isolated to evaluate any role that they may play in altered identity salience of the student-athletes.

This chapter has established a general understanding of the topic and has developed a roadmap for the remainder of this research. Having introduced the topic, explained the conceptual framework and outlined the research design, it is important to firmly establish how this work informs the body of previous research. In order to do so, previous research on this topic must be examined.
CHAPTER 2: LITERATURE REVIEW

The academic landscape facing today’s Division I collegiate student-athletes, football or otherwise, is much more complex than it was decades ago. In this new era, institutions and their sport programs are to be held accountable for student progress toward degree, eligibility and graduation, all while facing more pressure than ever to succeed on the playing field. Thus, a confrontation exists between two often conflicting social identities. On one hand, one finds prospective institutional monetary gains, hopes of a professional career, a conflicted peer group and a coaching staff that is often equally conflicted pushing these young men toward putting their role as an athlete first. On the other, one takes note of the NCAA and other parties eager to usher in academic focus and accountability for today’s student-athletes, aligning the goals of intercollegiate athletics with the ideals of institutions of higher education.

As we set out to determine what institutional, departmental, and football program characteristics best project academic accountability of their student-athletes, we must first consider what existing literature tells us about these topics, so that this work may better inform future research and build on existing research developments. In launching this investigation, a review of previous literature pertaining to academic preparedness of student-athletes prior to their arrival on campus is required. The discussion then moves to the academic experience of these football student-athletes, looking specifically at three societal factors that influence their college experience: the institution, their athletic department and the football program. The review then presents and discusses the development of academic success measures in intercollegiate athletics and the changes brought on by this era of increased academic accountability. Finally, an understanding of
the theoretical framework of social identity theory provides us with an informative lens through which we can evaluate the tradeoffs made between the salience of two pressing identities for these young men: the student and the athlete.

**The Pre-College Experience**

Before criticizing or praising the academic outputs (grades and diplomas) of student-athletes, we must first look at the input factors contributing to the success or failure of this population. Many studies have shown that for both student-athletes and their non-athlete peers, the academic preparedness of students entering college is a strong determining factor of college achievement. To this end, research suggests that pre-college experiences, demographic factors and academic ability have shown to be strong predictors of college grade point average (Lang et al., 1988; Sellers, 1992). In accordance with these findings, Maloney and McCormick (1993) examined the academic records of all students enrolled at Clemson University during the 1988-89 academic-year, analyzing a total of 279,302 course grades, to find that a student’s high school performance has a significant impact on their college career.

The findings of Purdy et al. (1982) connect this linkage between preexisting academic success and ability of Division I student-athletes to perform academically in a college setting. Looking at GPA and graduation rate of greater than 2,000 student-athletes over 10 years at a major university, the authors found that athletes were outperformed by their non-athlete peers, attributing causality to athletes entering their college studies with inferior academic backgrounds, which resulted in poorer grades and lower graduation rates. Moreover, this seminal piece of literature also found participants
in the major revenue sports, football and basketball, boast both the poorest academic potential and performance. This is not to imply that most student-athletes reject the role of student, as Adler and Adler (1987) observed, “Most incoming college athletes observed approached their academic role with initial feelings of idealism” (p. 445). Rather, it is to suggest that their pre-college experiences often placed them in situations where academic success was more difficult to come by than it was for their peers.

Comeaux and Harrison (2007) study of over 1,700 freshman football and men’s basketball players indicates that race is also an important predictor of collegiate academic achievement, with high school GPA for white student-athletes serving as a stronger predictor of college GPA than their black peers. Again, this reminds us of the work of Lang et al. (1988) and Sellers (1992) who found that many Black student-athletes matriculate from high schools and environments with inferior academic resources, thus tending to be less academically prepared than their white counterparts. Supporting this finding was work done by the Atlanta Journal-Constitution that found student-athletes entering college at Bowl Championship Series (BCS) schools had SAT scores 124 points lower than other students (Knobler, 2008). Meanwhile, football players scored 220 points lower than the average for all students (Lederman, 2008).

Hood, Craig and Ferguson (1992), as well as Pascarella and Smart (1991) also identify that there are challenges in researching the educational impacts of athletic participation on college student-athletes because of variations in the recruitment of these students. Research has shown that these student-athletes are gathering from a unique populous with high school experiences, aptitudes and socioeconomic environments that are unique from those experienced by non-athletes (Pascarella et al., 1999). Gaston-
Gayles (2004) supported this finding with her study of 211 Division I college athletes at a single institution, finding that ethnicity, in addition to ACT scores and academic motivation, were significant factors in predicting academic performance of the student-athlete.

Interestingly though, with statistical controls in place for student background characteristics that influenced academic aptitude, the academic achievement of athletes and their non-athlete peers were roughly equal (American College Testing Program & Educational Testing Service, 1984; Hood, Craig & Ferguson, 1992; Pascarella & Smart, 1991; Smith & Dizney, 1966; Stuart, 1985). This coincides with the work of Sack and Thiel (1979) who found college athletic participation to enhance the social mobility to those from low socioeconomic backgrounds. Supporting this finding by looking at the 2004 NCAA Graduation-Rate Report, Matheson (2007) concludes that after accounting for differences in race and ethnic group and the fact that scholarship athletes represent groups with lower average graduation rates than their non-athlete peers, graduation rates for football players actually match or exceed those of their peers. Matheson also found that men’s basketball players, the other “revenue” sport in college athletics, explained over a quarter of its perceived shortfall in graduation rates because of this phenomenon. So, while we must recognize that the preparedness of student-athletes for the academic rigors of college play a role in their viability as successful college students, there is more to the picture of student-athlete academic success than solely what takes place on campus.
The Student’s Campus Learning Environment

**Conflict between student and student-athlete activities.** In a seminal piece of research in this area, Adler and Adler (1985) interviewed and observed 38 basketball players and seven coaches at a private Division I men’s basketball program from 1980-84. In their work, the authors found students entering college with “idealistic goals and attitudes about their impending academic careers” (p. 241). However, their collegiate experience (athletic, academic and social experiences) altered these attitudes and left many students willing to compromise their academic goals, often blaming others for their shortcomings and externalizing their academic failures. This finding suggests a troubling road for the student-athlete, who is often subjected to multiple demands on their time and energy. In fact, despite earlier attention paid to demographics and experience-based variables of college recruits, Pascarella et al. (1999) found that irrespective of precollege development and experiences, football and male basketball players had negative cognitive affects from sport participation. And while the work of Adler and Adler (1985) pertained to men’s basketball, we find football players struggling to succeed academically at a similar pace, as the two sports graduate student-athletes at the lowest rates of any teams, 67% for football and 62% for men’s basketball (NCAA, 2008).

LeCrom et al. (2009) inform the existing literature on the subject with a more comprehensive and updated look at the topic, examining student-athlete retention, as measured by APR, for student-athletes from a single mid-major Division I Conference from 2001-2005, compiling some 12,980 observations. The authors found that male student-athletes were retained at lower rates than their female counterparts, and team sport participants also performed worse than their individual sport peers, also marking a
troubling trend for a football program. These findings supported the more sport-specific research of Maloney and McCormick (1993), who examined 279,302 course grades from Clemson students, athletes and non-athletes, from 1985-1989, finding that student-athletes in both football and men’s basketball performed worse than their non-athlete and other sport peers alike. When looking for causality of such a discrepancy between sport programs, Fountain and Finley (2009) inform the research by illustrating that while the graduation rate for all Division I student-athletes (63% for the 1999-2000 freshman class) exceeds that for all non-athletes (61% for the same cohort), subdivisions made in the data on the basis of gender, race and sport call for considerable concern. For instance, male African American basketball players graduated at a rate of only 42% and importantly noted for this study, Division I football players at a rate of 54%.

While the work of Rishe (2003) suggests that no correlation exists between student-athlete graduation rate and athletic success, his work does go on to illustrate the subdivisions that can be found when analyzing these statistics by sport, illustrating that a gap exists between the graduation rates of male student-athletes and female student-athletes at major athletic programs. Rishe suggests this gap occurs because of the financial stakes of big time athletics and the pressures to succeed on the playing field for athletes in these programs, “especially in football and basketball” (p. 417). Those in the industry that are tasked with providing academic services to these struggling student-athletes support this view, pointing out that low-performing students are accepted because coaches do not want to compete against schools that accept talented, but academically poor students, and thus, feel that they have no choice but to bring them to campus (Wolverton, 2008). Regardless of reasoning, Pascarella et al. (1999) warn us that
“competing in major revenue-producing sports simply absorbs so much physical and psychological energy that there is only a limited amount left to make the kinds of intense investments in one’s academic experience that enhance cognitive growth” (p. 23). In hopes of coping with the academic demands placed on today’s student-athlete, some in the industry predict that the future of intercollegiate athletics will involve not only tutors, but an increased utilization of learning specialists to work with athletes and allow coaches to continue recruiting students with marginal academic abilities (Wolverton, 2007).

Institutional influence. The ability to recruit athletes with wide spanning levels of academic abilities like those mentioned by Wolverton (2007) varies from institution to institution, a variation that can later have an impact on academic performance metrics. For example, LaForge and Hodge (2011) put forth in their work that graduation success, as measured by either FGR or GSR, will likely be higher at elite private institutions than their public peers, whose mission includes promoting access to higher education. In fact, it is logical to posit that any metric used across institutions to compare the academic success of their athletes is influenced to some extent by the institution. Pascarella and Terenzini (1991) also pointed out that using grades as a variable to measure college learning fails to account for institutional grading differences, which are likely to vary based on the academic selectivity of the institution. As pointed out by Helliker (2011), this academic selectivity also plays a role in how institutions lump themselves together into conferences. When considering conference membership and expansion from ten to 12 teams PAC-12 President Larry Scott spoke to this point nothing, "the academic brand is as important as the athletic brand," adding that his conference "prides itself on being
best of breed academically as well as athletically" (Helliker, 2011, p. 1). These comments were echoed by Chris Hill, the athletics director at the University of Utah, one of two institutions admitted by the conference, as he commented, "From the outset of our talks with the Pac 10, it was clear that we wouldn't have been part of the conversation if not for our profile as a research institution—as well as our athletic success" (p. 1).

Variations in the level of preparedness of a college football student-athlete are tied to this study by examining institutional characteristics, such as conference affiliation, public or private school status and academic reputation (as measured by AAU membership status). The selection of these variables takes into consideration the wide spanning student-athlete demographics that end up on various institutional campuses, but they alone do not tell the entire story.

While typecasting institutions may be of some value, evidence suggests a closer look at the academic issues within the classroom is also important. Tinto (1993) exhibited that positive peer support and interaction plays a critical role in the academic success and maturation of a college student. Tinto was able to attribute faculty involvement with the student as one of the strongest predicting factors of graduation within a six year window, confirming the work of Wilson (1975) who noted that the strength of interaction between the student and faculty members accounted for a positive correlation with the student’s “intellectual orientation” (p. 180), a concern for the population of potentially marginal students one may find within the make-up of certain athletic programs. Harrison et al. (2006) expanded on this finding in their work on minority student-athletes, discovering that while a strong rapport between faculty and a student-athlete played a positive part in the student’s education, the quality of this
relationship, more so than the quantity of student-faculty interactions, was a much better predictor of academic success. Comeaux and Harrison (2007) built further on this finding, uncovering that academic success for men’s basketball and football student-athletes was at some level related to the nature of student-faculty interactions, as faculty members, who for example, encouraged students toward attending graduate school, made a strong impact on the academic success of these students. Thus, while research suggests the institution, its mission and prestige may impact academic achievement, quality experiences in the classroom are also a vital part of this experience.

**Departmental influence.** Below the institutional level and above the football program, we find an important level of social influence on the student-athlete that plays a central part in role salience decisions: the athletic department. At this level, many important decisions are made that impact the culture presented to student-athletes. In many ways, the loudest messages are made by the funding decisions this area is required to make, which will serve as a focal point of this study.

**Facilities.** Nearly 20 years after releasing a landmark report citing existing problems in intercollegiate athletics, the Knight Commission on Intercollegiate Athletics noted in its report, *Restoring the Balance* that “the costs of competing in big-time intercollegiate sports have soared. Rates of spending growth are breathtaking. This financial arms race threatens the continued viability of athletics programs and the integrity of our universities. It cannot be maintained” (2010, p. 1). The Knight Commission (2010) supports this claim with a number of eye-opening statistics such as median spending per athlete at the major conference level coming in between four and 11 times more than that spent on education-related activities for their students. Furthermore,
it explains that the average athletic budget at this level, considering growth trends, will exceed $250 million by 2020, adding only seven athletic programs generated enough revenue to return a profit in each of five years preceding the report.

According to experts, the start of this booming period in facilities growth occurred between 1995-2005, a ten year period in which, according to the *SportsBusiness Journal*, at least $15.2 billion was spent on college athletics facilities, with greater than $6.4 billion being exhausted on football programs (King, 2005). While some of this money went into refurbishing stadiums and providing departments with luxury seats that can in turn generate money for the department, over $600 million was spent improving athletic training facilities (King, 2005), whose comfort and amenities have drawn criticism for potential excess more than once in the university community.

Since the NCAA has become armed with the ability to take away scholarships from programs that do not perform academically thanks to APR-based sanctions, the facilities arms race has extended beyond new locker rooms and stadiums and on to student-athlete academic centers. As reported by *The Chronicle of Higher Education*, no longer are team study halls located in vacant classrooms or empty cafeterias, as major college programs have taken to building academic-services buildings, often exceeding 20,000 square feet (Wolverton, 2008).

**Budgets.** Considering the current spending climate in intercollegiate athletics, much has been made about the ability for all institutions to keep spending at this pace. Some institutions have responded to the strain placed on their overall budget by cutting sport programs offered by the institution, leading groups like the Knight Commission and the Women’s Sports Foundation to note that the culture of excess spending in some
sports has ultimately eliminated opportunity for other student-athletes. While the
Women’s Sport Foundation (2011) has called for “schools to embrace the principle of
gender equity and equal treatment as the norm” (p. 1), some have claimed that,
ultimately, financially strapped institutions are unable to keep up with the spending habits
of those that are better off and have opted to cut sports perceived as non-revenue.
Although this occurrence contradicts the logic associated with past finding that higher
education success rates have been associated with programs with somewhat lower
revenues in the past (Padilla & Baumer, 1994), it seems possible that as college athletics
have become more associated with revenue generation, findings like those made by
Padilla and Baumer may be less important to institutional leadership.

As of the 2008 fiscal year, the NCAA reported that 25 Division I Football Bowl
Subdivision institutions reported positive net revenues for their athletic programs, with
the median at about $3 million in excess revenue per institution (Brown, 2009).
However, median deficit for the other nearly 100 programs participating at this level is
about $8 million a year, signifying a rather large gap between what has been called the
“haves” and “have-nots” of college athletics (Brown, 2009). This deficit is covered by
institutional resources to keep their athletic departments operational in most instances
according the NCAA. However, when coupling the current climate of shrinking budgets
in higher education with the facilities boom and the increased resources needed to assure
compliance with the NCAA’s heightened academic standards, one finds a troublesome
image of the competitive landscape facing a majority of teams at the Football Bowl
Subdivision level who fail to turn a profit within their athletic department.
Interestingly, the financial challenges laid out in today’s competitive environment are played out not only on the playing field, but also in the classroom. Following the release of APR scores from the 2009-10 academic-year, Moltz (2011) noted that of the eight teams that were banned from postseason participation because of poor academic standards, four of those programs are from Historically Black Colleges and Universities and a fifth is from an institution that is categorized by the federal government as predominately Black. Although only three of these eight banned teams were football teams and none of them compete at the Division I FBS, the comments surrounding this study bring concern to the notion that only resource rich institutions are suited to deal with the heightened accountability for academic performance. In fact, Wolverton (2007) tells us that since 1997, the budgets for academic services have ballooned at the nation’s biggest institutions, doubling on average to over $1 million a year. Sensing such a gap years ago, the NCAA has now introduced the Supplemental Support Fund, which represents $1 million in grant funding earmarked for low-resource institutions with academic needs, not just HBCUs (Moltz, 2011), but doubts still exist as to if this is enough aid for these struggling institutions.

While the struggles of HBCUs may be representative of institutions who lack the resources to thrive academically and athletically, calls for change may impact those who opt for athletic success at the expense of academic performance. Widely known throughout intercollegiate athletics for the group’s clamoring for academic reform, the Knight Commission in its 2010 report entitled Restoring the Balance: Dollars, Values and the Future of College Sports, put forth that teams should be on track to graduate 50 percent of their student-athletes to remain eligible for postseason play and that money
generated from postseason play should be partially distributed to the institutions that meet the NCAA’s graduation requirements. Using GSR as its metric to evaluate graduation rates, according to the Knight Commission more than $146 of the $409 million, or approximately 36 percent, of the revenue earned for postseason appearances in the past five NCAA men’s basketball tournaments were earned by teams with GSRs under 50 percent (Knight, 2011b). This call to change has been supported by the U.S. Secretary of Education, Arne Duncan, who stated, “It’s time to end rewarding teams millions of dollars for winning basketball games when they are failing to graduate their players. In the era of the ‘million-dollar game,’ I join the Knight Commission in advocating a reward system that recognizes teams that meet minimal academic standards” (Knight Commission, 2011b, p. 1).

**Football program influence.** At this point, it seems important to identify the elements of a football program that make it unique to many of its intercollegiate counterparts. From squad size to revenue potential, from coaches’ compensation to student-athlete professional aspirations, when it comes to college football, everything appears bigger. However, bigger is not necessarily better and in this case, along with this inflated importance comes heightened attention. Here we investigate what prior research tells us about the experience of college football student-athletes, the game they play, and any trade-offs between the two.

**The football player in the classroom.** To date, large amounts of research have been conducted on the influence athletics has on undergraduate admissions (McCormick & Tinsley, 1987; Tucker & Amato, 1993; Murphy & Trandel, 1994), student body graduation rates (Tucker, 2004; Mixon & Trevino, 2005) and donations (Tucker, 2004;
Currently, some research has been conducted that connects athletic winning and student-athlete graduation rates. However, these studies leave us with mixed results.

One side of the story shows that football players on winning programs struggle in the classroom. The in-season effect, a term favored by Maloney and McCormick (1993), is a decrease in individual student grades when their sport is in-season, a phenomenon that exists only in revenue sports according to their research. Here, the researchers interject that the possible cause of this trend is the pressure enhanced by the monetary importance of successful programs in football and men’s basketball, a pressure that forces athletes in these sports to accept a more rigorous athletic load at the expense of their studies. Amato et al. (1996) suggest that one challenge presented to FBS football programs is the longstanding format for post-season play at this level. Unlike all other NCAA sports, the FBS post-season consists of a series of bowl games that span the month of December and go into January. Amato’s study compared the performance of 89 of the then existing 106 FBS (then known as Division I-A) programs to 67 of 84 FCS (then known as Division I-AA) and found, all things being equal, a single bowl appearance reduces the average graduation rate of a football student-athlete by more than three percentage points.

On the other hand, research conducted by Lucas and Lovaglia (2005) using initially published APR scores for Division I FBS institutions indicates that major college football programs, whose athletes make higher levels of academic progress (as measured by the APR), are just as likely to win as those programs whose athletes make little progress. This suggests a climate in which an academically strong team is just as likely
to succeed on the field as a team that struggles in the classroom, as there is no correlation between APR and winning. However, since this study, adjustments to the APR have been made and institutions have had more time to allocate resources toward this metric if so inclined.

**Competition hampered by regulations.** Regardless of its impact on grades, there are critics who put forth that the battle of developing a winning college football program is like playing against a stacked deck of cards. The NCAA’s regulation over its student-athletes and competition is justified by the organization because of its efforts to promote fairness and create a competitive balance between institutions. However, as Eckard (1998) points out, cartel theory suggests that the enforcement of such regulations inhibits weaker teams from rising to the top and protects those at the top from new competitors. Looking at the rankings and standings of major college football from the 1920s until 1995, with a benchmark year of 1952 noted as when “effective NCAA enforcement began” (p. 348), Eckard found that competitive balance declined after 1952 by all measures.

Further still, Maxcy (2004) argues the NCAA’s ‘power conferences’ act as a monopoly and as a result, enjoy incredible revenues. The authors suggest that the six conferences that comprise the Bowl Championship Series (BCS) are quite effective at consolidating money and power. Supporting this notion, Sutter and Winkler (2003) conclude that despite attempts to create parity in college football, great competitive imbalances still exist.

These claims of hampered competition are important to keep in mind. In the attempt to find commonalities between programs that perform well in the classroom and
determine if on field performance is correlated to such success, previous research must be recognized. The evidence suggesting that on field performance may be controlled to some extent by predetermined factors may play a role in explaining future academic outcomes.

**Coaches’ role.** The prediction offered by Wolverton (2007) that heightened personalized attention may serve as the future course for student-athletes is well supported by the existing body of research on this topic. Student-athletes, as explained by Simons et al. (1999), often operate in an area of sharp conflicting interests, where at the heart of their priority setting process looms two counteractive forces: education and athletics. Simons explains that although coaches are required to excuse missed practices for academic reasons, student-athletes shy away from this exemption, opting for make-up class work over a missed athletic practice. “Coaches possess the power to decide which athletes will play or start in the games, [and] many students believe, correctly or incorrectly, that they will be penalized by their coaches for choosing academic commitments over athletic ones” (p. 158). Therefore, it is of no surprise that Bell’s 2009 qualitative study of the experiences of 41 Division I FBS student-athletes, 31 of the participants spoke of the involved role their head football coach took in monitoring their academics, and 13 reported that their coach deemphasized their chances of having a professional career and suggested that the student-athlete concentrate on receiving a degree. Applying the work of Bell to Simons’ research, we can logically infer that the role of a coach in helping the student-athlete cope with these conflicting interests by emphasizing the importance of the education of the student-athlete will improve the academic focus of the student. Moreover, the work of Pensgaard and Roberts (2001) on
the motivational climate of seven elite level athletes, reminds us that coaches play an
important role in establishing motivation and guiding the efforts of an athlete.

Institutions have even gone as far as to incentivize coaches to encourage strong
academic performance by tying bonuses to the academic performance of their teams.
Some (Eichelberger & Levinson, 2007) have criticized this performance incentive
deeming it mouth service to match the ideals of athletics to higher education, with others
adding that the practice merely widens the gaps between resource rich departments and
those struggling to make ends meet (Upton, 2011). Perhaps in light of this criticism, or in
an effort to further enhance accountability for academic performance, the NCAA
announced in August of 2010 that it would release single-year APRs for Division I head
coaches in six sports, including football (Brutlag Hosick, 2010). Developed by the
NCAA’s Committee on Academic Performance, this step was taken to promote
accountability and transparency. Jim Isch, NCAA Interim President 2009-10 noted that
the metric was meant to stress the imperative role that head coaches play in the academic
development of these athletes.

**A New Landscape of Academic Accountability**

In 1988, the NCAA set out to clear the air over the demands being placed on
college student-athletes, investing $1.75 million in a study of 4,083 students (athletes and
non-athletes) across 42 NCAA Division I member institutions, all of which were
involved in time consuming extracurricular activities. The seminal nature of this research
is explained by the comments of Martin A. Massengale, chair of the NCAA Presidents
Commission in 1988 and chancellor of the University of Nebraska in Lincoln, who noted,
“this is truly a landmark study for college athletics and provides the first national data on student athletes” (Bower, 1988, p. 357). This study unearthed that on average football playing students invested 30 hours a week on their sport in season, and 18 hours per week during the off-season, figures that exceeded the cumulative amount of time they invested in preparing for and attending class (Bower, 1988). Importantly, the NCAA has responded to these results. In the more than two decades since this study was conducted, it has implemented stricter practice and participation limitation for its student-athletes, while calling for higher standards of academic performance as well.

These higher standards were initiated in 2003-04 when the NCAA initiated drastic academic reform, including not only the introduction of APR and GSR, but also revising its initial eligibility standards (LaForge & Hodge, 2011). One major reason for the development of the APR metric is that both FGR and GSR inherently operate with a significant time lag, as students (both athlete and non) are expected to depart from the institution six years after their enrollment, creating a significant delay between enrollment and the reporting of a graduation rate (LaForge & Hodge, 2011). While APR measures the progress of the athlete toward a degree, GSR is the often cited metric used for graduation rates amongst student-athletes, as it accounts for their greater propensity toward mobility when compared to their non-athlete peers (Denhart, Villwock & Vedder, 2009). All three metrics, GSR, APR and FGR are needed to evaluate student-athlete academic performance, and while all three have limitations, their use in concert with one another provides an insightful picture that can guide institutional policy making for student-athletes (LaForge & Hodge, 2011).
Federal Graduation Rate vs. Graduation Success Rate. GSR is different than the FGR because unlike its federal counterpart it does not penalize an institution when a student-athlete leaves the school in good academic standing, whether it is to transfer or to play professionally (Denhart, Villwock & Vedder, 2009). According to the NCAA, the GSR captures 37 percent more student-athletes than the federal rate (2010a). Removing the effect of transferring student-athletes on the graduation rates for the 1999-2000 freshman cohort, the GSR reported a graduation rate of 77%, up from the FGR of 63% for this same group of students (Fountain & Finley, 2009). However, the argument that athletes transfer at higher rates than other students has not been conclusively verified and while GSR attempts to control for this variable, it does not give us an apples to apples comparison to the study body at large (Denhart, Villwock & Vedder, 2009). Thus, more work must be done before we can paint an entirely accurate picture of student-athlete academic success.

Academic Progress Rate. While FGR and GSR measure academic performance, we look to a new metric developed by the NCAA to inform us on student-athlete progress to graduation. According to the NCAA (2011):

“the APR is the fulcrum upon which the entire academic-reform structure rests. Developed as a more real-time assessment of teams' academic performance than the six-year graduation-rate calculation provides, the APR awards two points each term to student-athletes who meet academic-eligibility standards and who remain with the institution. A team's APR is the total points earned by the team at a given time divided by the total points possible.”
Adopted in April 2004, APR is based on a scale of 1,000 points and at the time of this study, requires each sport program at the NCAA level to maintain a score of above 925 in order to avoid facing penalties. In order to meet progress to degree requirements, a student-athlete is required to be 40% of the way to a degree by the end of their second year on campus, 60% of the way along by the end of year three and 80% finished by the end of year four (Denhart, Villwock & Vedder, 2009).

When using APR student-athletes earn a retention point for staying at the institution and an eligibility point for satisfying the NCAA’s continuing eligibility requirements. Student-athletes are scored the same way for widely surpassing these requirements as they are for inching past them. Thus, using the APR as a standalone measure for academic success does not provide a clear picture of a team’s, or an institution’s, academic landscape (LaForge & Hodge, 2011). Therefore, it must be used in concert with other academic metrics.

As mentioned previously, serious sanctions and penalties have been laid out by the NCAA for programs that fail to meet minimum APR thresholds. While first time violators are granted some leniency with a warning, repeat offenders face losing scholarships, recruiting abilities, practice time and eventually postseason bans or banishment from the NCAA (Denhart, Villwock & Vedder, 2009). The NCAA (2010a) explains that those programs whose APR is below 900 face sanctions that increase in severity with consecutive years below this threshold in the following manner:

- **Year 1**: a public warning letter for poor performance
- **Year 2**: restrictions on scholarships and practice time
• **Year 3**: loss of postseason competition for the team (such as a bowl game or the men’s basketball tournament)

• **Year 4**: restricted membership status for an institution. The school’s entire athletics program is penalized and will not be considered a part of Division I

This relatively young metric has experienced a few minor changes in its application and calculation since its implementation. The NCAA (2010a) adopted the first of these changes in August 2006, allowing teams with less than a 900 score on their APR to gain relief from penalties by demonstrating improvement in their APR. Additionally, in 2008, the policy for evaluating transfer students with a 2.6 GPA or higher was also adjusted.

Most recently however, in August 2011, the NCAA’s Division I Board of Directors approved a future heightening of academic standards of achievement for college students. This decree called for a future raise in the APR benchmark for program sanctions from 925 to 930. Furthermore, it enhanced bans from NCAA governed post-seasons (although the BCS, not the NCAA governs the football post-season) and added financial penalties to those programs that do not perform in the classroom (Sander, 2011a). While this decision leaves institutions facing a future with tougher academic standards for their football student-athletes, questions about the merits of the policy change, and APR as a whole, still exist.

**Issues with APR.** The implementation of the APR is not without critique or objection. Moreover, as the NCAA looks to heightened punishments for failing to meet even higher APR marks, these objections may become even louder. The detractors of
APR have three main qualms with the metrics: its artificial nature, the expense associated with compliance, and fairness to the student-athlete.

*Artificial nature.* LaForge and Hodge (2011) note that GSR and APR, unlike their federal counterpart, can be managed to some extent, as programs might look to encourage student-athletes that are struggling academically to transfer before their poor performance hurts the program’s score. While this might represent a positive in the situation where coaches search for better institutional fits for student-athletes, the possible manipulation of the metric also implies the data still demand close examination. Some in the industry have speculated that with the recent advent of APR, and the penalties associated with it, athletic departments will now be more careful with their admissions decisions to avoid losing scholarships or incurring other penalties (Wolverton, 2007).

These penalties have also brought to light problematic tradeoffs between the student and athlete identities of these individuals. Amongst the critics is Gerald Gurney (2011), senior associate athletic director for academics and student life and assistant professor at University of Oklahoma. Gurney takes aim at the APR, calling it “manufactured” (p. 4) and suggesting that the metric has failed to meet its goal of improving access for minority student-athletes while “diminishing the academy” (p. 2).

*Expense.* Some critics argue that the increased academic standards appear to be enhancing the class system in college athletics. Sander (2011a) notes that these objectors claim that since the launch of the APR and its associated penalties, only the large and wealthy athletic programs with expensive academic-support services are equipped. Gurney (2011) supports this claim, noting that institutions are ballooning their budgets
for student-athletes academic support. Illustrating this point, Leung (2011) explains that under the existing ban for post-season play, when it came to men’s basketball only less wealthy programs (Cal State Northridge, Grambling, Louisiana-Monroe and Southern) were banned from post-season play.

Student-athlete fairness. Lastly, but importantly, is the subject of how APR standard impact the student-athlete. On the subject of the heightening of APR requirements to 930, Amy Perko, executive director of the Knight Commission on Intercollegiate Athletics, objects, noting that absent of stronger initial eligibility requirements for incoming student-athletes, these changes are “not fair to the athletes who are not prepared to do the college-level work” (Grasgreen, 2011, p. 1).

Knobler (2008) supports this claim, noting that recent changes have merely widened the gap between the academic abilities of student-athletes and the rest of the institution’s student body. Gurney (2011) suggests that this results in steering student-athletes toward majors that provide less academic resistance due to large numbers of electives. Palaima (2011) comments that this phenomenon represents a failure in higher education to ensure these individuals “legitimate experiences as students” (p. 1). He goes on to argue that both new metrics, APR and GSR, “serve as smoke screens for the big-time sports programs to keep exploiting student athletes without making it possible for many of them to be students” (p. 2).

Impact of APR penalties. Historically, research shows that there is no significant negative financial impact in the short run on institutions with sanctions and penalties for NCAA violations (Padilla & Baumer, 1994). However, with significant changes to the academic landscape of academic performance occurring so recently, there
is little research on the implications of APR-related penalties and their competitive or financial impact on a broad level. However, trends have emerged as to which institutions and programs have struggled most to deal with these changes and what adaptations are occurring to avoid penalty.

As noted by Wolverton (2008), in today’s landscape of college athletics, one finds competition for players having a loosening impact on admissions combined with stiffer progress-to-degree requirements than ever before. This has left schools trying to essentially do more with less when it comes to keeping these students eligible. With the threat of losing scholarships and worse looming for poor academic performance, programs have invested heavily in trying to avoid this fate. However, Moltz (2011) informs us that of the eight teams that were banned from postseason play due to the poor academic performance, four of the institutions punished were historically black colleges and universities (HBCUs) and a fifth was a predominately black institution. Moreover, of the 103 programs punished by the NCAA of their academic performance, 33 were from HBCUs. The penalties handed down to these institutions may signify a fear being voiced in the athletic community, as Moltz puts forth this is “a sign of the widening gap between the “haves” and the “have-nots” in college sports” (p. 1).

However, rather than receive these costly penalties, there have been reports of compromised academic integrity that have arisen. Members of the campus community have cried out that college athletes’ lack of academic preparation and commitment to learning diminishes academic integrity (Lumpkin, 2008). For example, the work of Lawrence, Hendricks and Ott (2007) in their survey of faculty found that one-third of faculty members believe academic standards are lowered to achieve athletic success in
football and men’s basketball. This finding represents a dangerous crossroad where, as Libby (2007) suggests, athletic success comes at the expense of academic integrity. This compromised integrity can come not only from lowering faculty expectations, but also in jeopardizing the opportunity of the student to pursue their own academic interests freely.

Fountain and Finley’s (2009) put forth a series of reasonable concerns pertaining to heightened academic standards commenting, “While the goal of the APR, to increase graduation rates of athletes, is admirable, the means utilized by schools to avoid loss of scholarship could prove to be dubious. Pressure on coaches, and subsequently on academic advisors and professors, to find new and creative ways for players to stay eligible and ultimately graduate is not a new issue” (p. 3). The authors go on to suggest that while recruiting better prepared student-athletes or committing more resources to academic services are possible outcomes, another effect to be considered is for institutions to continue to “recruit athletes of marginal academic ability and seek easier majors, courses and professors to ensure a reasonable graduation rate,” or clustering (p. 3). The potential for encroachment on a student’s academic freedom is illustrated by the remarks of Sandy Meyer, assistant director of the academic-support center for athletes at Penn State University, who noted that with the current climate of penalties for poor academic performance, there is too great of a risk for a student-athlete to select anything other than a “safe” major (Wolverton, 2007, p. 1).

Fountain and Finley (2009) examination of clustering in ACC football programs found that six of the 11 schools examined had at least one-third of its student-athletes in a single major and all schools had exceeded the 25% cutoff for clustering as defined by Case et al. (1987). Moreover, it has been shown that clustering occurs at a different
magnitude based on race. Fountain and Finley (2009) exhibited in their study of ACC
football programs that at over half the schools they examined over 75% of the program’s
minorities student-athletes were enrolled in just two majors. And while one common-excuse given for clustering is that certain majors allow more flexibility in scheduling for
athletes, this significant rift between the rate at which white and minority athletes register
in these majors rejects this reasoning to a large extent. One longstanding suggestion to
counter this problem of clustering comes from the seminal work of Case, Greer and Brown
(1987) who suggested the relocation of advisement of student-athletes out of the athletic
department. However, this suggestion did not gain popularity at the Division I FBS level.

Furthermore, some like Wright State University Athletics Director, Michael J.
Cusack (2007) have complained that on an individual level, the progress to degree
requirements trap student-athletes in majors they may have transferred out of due to poor
fit. Furthermore, he also adds that the retention component can unfairly punish a
program if a student-athlete decided to transfer, but fails to keep up academically before
doing so, an unfair burden to a coach and team.

Social Identity Theory

Keeping in mind previous research, it is necessary to move forward and connect
with the theoretical basis for this study. The name “student-athlete” illustrates a duality
of roles these young people are engaged it. Social identity theory will help to explain the
dynamics of the interplay between these two roles and build on the findings of the
previous research explained earlier in this section.

As we set out to examine the role institutional, departmental and program-specific
variables play in influencing Division I FBS (formerly Division I-A) football student-
athletes’ academic progress and performance, we hope to develop an understanding of what characteristics define the environment that best promotes the student identity of its football student-athletes. However, in order to do so, a firm understanding of the relationship between the roles of student and athlete must be mapped out. The following section will first introduce social identity theory to the reader, then move on to explain the primary conflict that exists between the student and athlete identities of the student-athlete. Then, we will look at specific levels of the intercollegiate experience to explain how institutional, department and program specific characteristics impact the tradeoff between these two conflicting identities.

**Background of Social Identity Theory.** Developed by Henri Tajfel and John Turner (1979), social identity theory is a social psychological examination of intergroup relations, group membership and group processes. The theory focuses on the idea that group behavior can be attributed to a shared understanding of social group membership (Burke, 2006). Burke explains that the theory is “framed by a conviction that collective phenomena cannot be adequately explained in terms of isolated individual processes or interpersonal interaction alone” (p. 111).

According to Bell (2009), “the concept of identity, as understood in sociological terms, links the individual to society, and defines the roles a person takes on in his life” (p. 22). In their work, *Identity and Interactions*, McCall and Simmons (1978) contend that a person’s various role-identities provide a lens for how he interprets his experiences throughout life. Furthermore, the numerous roles played by an individual are what comprise one’s identity (London, Downey, Bolger & Velilla, 2005). For the male
football student-athletes in this study, a focus is given to the interaction between their student identity and their athletic identity.

Studies show that all roles played by an individual are not given equal standing in one’s life at a given moment in time (McCall & Simmons, 1978). Chatman, Eccles and Malanchuk (2005) demonstrate the importance of an identity to the individual, known as identity salience, is not static, but rather fluctuating over time based on context and circumstance. This context is often formed through a given social setting. As explained by Merton (1957) in his seminal work on social theory, this social context is established by a person’s role-set, or the group of individuals a person associates his roles with in a variety of circumstances. The work of Stevenson (1999) with international athletes supported the idea that the actions and perceptions of those around them enhanced the salience of their athletic identity, which in turn, improved their commitment to their sport. Moreover, in their study of workers, Haslam, Powell and Turner (2000) found that group-based needs were especially important to the individual in situations when the worker’s social identity, or their role as a teammate, was salient.

**Social role conflict: Athlete vs. Student.** When it comes to student-athletes, Brewer (1991) tells us that the athletic identity is the identification with their role as an athlete. Given the work of Stryker and Serpe (1982), who found that if those within an individual’s network give a high level of salience to a specific identity, this social influence will heighten the level of salience of that role at the individual level, one can start to formulate why the athletic identity can be so strong for the student-athlete. Studies show that once salience is given to the athletic role, student-athletes spend a high percentage of their time with coaches, teammates and others in their athletic role-set,
perpetuating their commitment to this role (Horton & Mack, 2000; Watt & Moore, 2001). Furthermore, the work of DeBrock, Hendricks, and Koenker (1996) suggested that football and basketball male student-athletes have more trouble in the classroom and graduating because of the margin between the potential financial returns from professional careers in sport and the earning potential driven by their college degrees. Thus, we start to develop a compelling case for the prevailing salience of the athlete role.

Bell (2009) explains that those undergraduates who identify themselves with the role of “student” have an academic identity. The conflict between these two identities for salience being settled in large part by the social situations student-athletes partake in. However, the works of Adler and Adler (1987, 1991) demonstrate how the athletic role impacts decision making, friendships, and importance of other roles played by the student-athlete. Bell (2009) adds that a “team culture” can influence athletic and academic decision making on the individual level.

**Institutional influence.** Examining previous works on social identity theory, we find that the landscape where the student-athlete battles between their student and athlete identities is different from one institution to another. Earlier in this work, many of these variables were promoted when discussing the campus learning environment. LaForge and Hodge (2011) put forth in their work on metrics of student-athlete academic evaluation that graduation success, as measured by either FGR or GSR, will likely be higher at elite private institutions than their public peers, whose mission includes promoting access to higher education. Understanding the differences between institutions, Bell’s (2009) study of role-set influence amongst football players at the Division I FBS level examines only universities classified as “selective” or “more
selective” research universities based off the Carnegie Classification system. This decision is supported by prior works that show having academically oriented peers can enhance a student’s academic experience (Crosnoe et al., 2003; Dennis et al, 2005; Hurtado et al., 1996, Tinto, 1993).

The academic orientation of an institution and its competing institutions may indeed impact the social experiences of an athlete. For instance, as of 2010, all of the participating members of the Big 10 conference (11 institutions at the time) boasted membership in the American Association of Universities, which according to its website is, “an organization of 61 leading public and private research universities in the United States and Canada.” Thus, we find that the institution itself can play a part in the salience of the two roles student-athletes find themselves juxtaposed between.

**Departmental influence.** Moving past the institutional level and the broader environment these student-athletes find themselves in, one finds variability within each athletic department that alters the experience of the student-athlete and impacts role salience. These variables impact the campus-learning environment of the student-athlete only, not their non-athlete peers, as they are not provided access to these amenities and services. One very important variable in this area is athletics departmental spending. According to the Knight Commission (2010), as of 2008, four of the five BCS conferences were spending on average over $100,000 per athlete per year, with the Southeastern Conference (SEC) leading the way, spending $144,592 annually per student-athlete. Meanwhile, also competing at the Division I FBS level, both the MAC and Sun Belt Conferences were spending below $50,000 per year on each student-athlete. Despite this spending, the NCAA reported that 25 Division I Football Bowl Subdivision
institutions reported positive net revenues for their athletic programs, with the median at about $3 million in excess revenue per institution (Brown, 2009). However, median deficit for the other nearly 100 programs participating at this level is about $8 million a year. This gap signifies a rather large gap between what has been called the “haves” and “have-nots” of college athletics (Brown, 2009).

This phenomenon, when considering in concert with the previously discussed work of Moltz (2011), who noted that four of the eight teams banned from postseason participation because of poor academic standards after the release of the 2009-10 APR were from historically black colleges and universities, paints a scary picture when it comes to the connection between financial resources and academic achievement. As explained by Wolverton (2007), “institutions continue to pour big bucks into academic-support systems” (p. 1) and thus, larger academic budgets are being used to meet the heightened academic standards and penalties, a trend he refers to as the “APR effect” (p. 1). And while Bell (2009) illustrated the important role of athletic academic support centers and student-athlete advisors, the research from the Knight Commission indicates this extensive outpouring of resources may not be financially feasible for all that compete at this level of college athletics.

These dueling financial strains placed on programs with limited resources force difficult decisions to be made. While underfunding educational initiatives at the expense of athletic achievement is certainly not an ideal objective for athletic administrators, it should be acknowledged that this may be a harsh reality. Therefore, some departments may lack the funding necessary to create an academic culture that enhances the salience of the student role, while also sponsoring an athletically competitive football program.
**Football program influence.** While the athletic department and the institution have undeniable impacts on the role salience decisions made by a student-athlete, another set of factors also come into play. These influences are those that are related to the football program itself. As previously discussed, the thoughts and opinions of a student-athletes peer group impact the decisions a student-athlete will make (Tinto, 1993). Looking further, one finds that the role of the coach and the success of the team can also play a part in developing role salience.

**Role of coach.** When it comes to the clash between the conflicting roles tugging on today’s football student-athlete, the culture that exists within the football program appears to contribute strongly to identity salience. As explained earlier by Simons et al. (1999), the power that coaches have over the contributions these student-athletes can make to the team through control over playing time and other in-game decisions looms in developing identity salience. Furthermore, one can imagine that coaches, who hold players accountable for class attendance, grades and other academic metrics, leveraging playing time and other athletic rewards for clearing academic measures, could be effective in enhancing the salience of the student identity within the team. Moreover, in Bell’s (2009) work, we found that a number of student-athletes highlighted the role played by coaches in deemphasizing their chances of having a professional career and rather, highlighted the opportunity the student-athletes had to pursue a degree.

Further yet, the NCAA appears to have bought in to the notion that coaches play an important role in developing the academic climate around a program with their recent legislation. The organization’s decision to release single-year APRs for Division I head coaches in sports, including football (Brutlag Hosick, 2010), illustrates the recognition
and accountability being given to the coach for the role they play in promoting academic achievement. So while coaches seem capable of promoting an academically oriented culture, questions remain as to what extent this role may be embraced by coaches.

**Impact of athletic success.** The real and perceived benefits of a successful football program appear to be an important factor in the promoted salience of the athletic identity. While previously discussed pressures to win in sports like football have become imbedded in the culture of so many campuses across our nation, this phenomenon is certainly not without reason. Long holding is research that indicates the athletic success of Division I football programs can lead to financial gains for the institution. Padilla and Baumer (1994) illustrated that a single win in football over the previous three year period correlated to increased football-related revenues of between $200,000 and $300,000. More recently, we have found that on average, football programs in the six largest conferences earned approximately $15.8 million in the 2009-10 academic year, or revenue generation well over $1 million per game (Isidore, 2010).

Moreover, the athletic role salience gained by the ‘big business’ nature of college football, institutional compensation of head football coaches may be another indicator of trouble. According to an examination of coaches’ contracts that took place in 2007, 52 of the 81 coaching contracts at the Division I FBS level included academic bonuses for the classroom performance of their student-athletes (Eichelberger & Levinson, 2007). However, it is also pointed out that in many of these contracts, which often exceed $1 million per year, these academic bonuses are dwarfed by huge athletic performance incentives, citing the contract of University of California at Berkeley head coach, Jeff Tedford, who makes $3.3 million a year with a maximum academic bonus of $25,000,
which is less than 1 percent of his total contract (Eichelberger & Levinson, 2007). This trend appears dangerous when referring back to the identity salience of the student-athlete, as while we recognized that coaches can play a large role in promoting academic oriented role development, many existing practices in the landscape of college football do not encourage coaches from capitalizing on this ability.

Summary

As we set out to use social identity to examine the role institutional, departmental and program-specific variables play in influencing academic progress and performance at football programs in Division I FBS institutions, we are reminded that this study is intended to develop an understanding of what characteristics best define an institution that excels at promoting the student identity of its football student-athletes; a list of these characteristics in question is provided in Table 1. This work is intended to build on the previously discussed works in this field that were previously discussed in this chapter.

Table 1
Citation Table for Independent Variables

<table>
<thead>
<tr>
<th>Measures</th>
<th>Theme</th>
<th>Variable</th>
<th>Citation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent</td>
<td>Institutional</td>
<td>AAU Institution</td>
<td>Bell (2009), Pascarella and Terenzini (1991)</td>
</tr>
<tr>
<td>Independent</td>
<td>Institutional</td>
<td>Private/Public</td>
<td>LaForge and Hodge (2011)</td>
</tr>
<tr>
<td>Independent</td>
<td>Institutional</td>
<td>Major conference</td>
<td>Helliker (2011)</td>
</tr>
<tr>
<td>Independent</td>
<td>Departmental</td>
<td>Athletic Department Expenditures</td>
<td>Brown (2009), Moltz (2011)</td>
</tr>
<tr>
<td>Independent</td>
<td>Departmental</td>
<td>Football program expenditures</td>
<td>Brown (2009), Moltz (2011)</td>
</tr>
<tr>
<td>Independent</td>
<td>Program-Specific</td>
<td>Coaching Change</td>
<td>Bell (2009), Simmons (1999), Bruinlag Hosick (2010)</td>
</tr>
<tr>
<td>Independent</td>
<td>Program-Specific</td>
<td>Average win total</td>
<td>Padilla and Baumer (1994); Isidore, 2010; Maloney and McCormick (1993)</td>
</tr>
<tr>
<td>Independent</td>
<td>Program-Specific</td>
<td>Number of bowl appearances</td>
<td>Amato et al. (1996);</td>
</tr>
</tbody>
</table>
In the next chapter, the methods of inquiry for this study will be examined to demonstrate how this work will build on the value of previous research. Leaning heavily on self-reported information from NCAA member institutions and government reports, the quantitative approach to mobilizing the institutional, departmental and program-specific variables used in this study will be highlighted. Additionally, the methods of data analysis also must be brought to light.
CHAPTER 3: RESEARCH METHODS

Introduction

Accountability for the academic success of student-athletes has become an increasingly important topic in intercollegiate athletics over the last decade, as proven by recent conversations to further heighten APR requirements for today’s student-athletes (Sander, 2011a). With multi-million dollar coaches’ contracts and billion dollar television contracts reshaping intercollegiate athletics, the attention paid to major college football programs appears to be growing exponentially. A main goal of this study was to look closer at the academic measures used to assess student-athletes and determine what aspects of their collegiate experience may impact these measures. This chapter discusses the research methods used to examine this relationship, as data sources, variables, and analysis will be addressed.

Research Design

Using secondary institutional data provided to the federal government and the NCAA, this quantitative study examines the relationship between institutional, athletic departmental and football program specific variables, and the academic progress and performance of Division I FBS football student-athletes. This was achieved through comparing differences in academic progress (APR) and academic performance (GSR) between football programs, while taking into account variables such as institutional type, departmental spending and on-field success. The selection of these three categories of variables was informed by the literature review, as the objective of this study was to build on the previous work in this area while applying a new lens of observation provided to us by the NCAA’s implementation of the APR and GSR. Furthermore, the study was also
informed by prior research on social identity theory, as the variables selected speak to the interplay between the roles of student and athlete juggled by these individuals and their role salience decisions.

**Data Source and Population**

The institutions examined in this study were all classified as Division I Football Bowl Subdivision (FBS) institutions, who participated at the highest level of intercollegiate football within the NCAA’s membership. These schools included both public and private institutions, and members of major (Atlantic Coast, Big East, Big 12, Big Ten, PAC10 and Southeastern) and non-major (Mid-American, Mountain West, Sun Belt, and Western Athletic) conferences, as well as independent programs that lack conference affiliation (Notre Dame, Army). According to NCAA Bylaws (2008) 20.9.7.1 through 20.9.7.4, member institutions at the FBS level must sponsor 16 sport programs (rather than 14, which is required of other Division I members) and also must play 60% of its football schedule against other FBS teams, average at least 15,000 in attendance for its football contests and exceed minimum requirements for football and departmental grants-in-aid.

The data used in this study came from requisite institutional reporting, either to the United States government or the NCAA. While institutional funding status (i.e. public or private) is filed with the federal government, the athletic department budgetary figures used in this study also came for the federal government, out of the U.S. Department of Education’s Office of Postsecondary Education from its Equity in Athletics Database (2011). Additionally, the Association of American Universities’ website explains the association’s classification and accreditation (2011). Lastly, data
involving on-field and academic performance of football student-athletes came from those results achieved between 2004-05 and 2009-10 academic years. This data follows consistent reporting mandates across institutions as imposed by the NCAA.

**Variables in the Study**

As discussed in Chapter 2, research suggests that institutional (Comeaux & Harrison, 2007; Harrison et al., 2006; Helliker, 2011; LaForge & Hodge, 2011; Pascarella & Terenzini, 1991; Tinto, 1993; Wilson, 1975), departmental (Brown, 2009; Knight Commission, 2010; Moltz, 2011; Wolverton, 2008) and program-specific (Amato et al., 1996; Bell, 2009; Lucas & Lovaglia, 2005; Maloney & McCormick, 1993; Simons et al., 1999) variables can all play a role in impacting the academic performance of a Division I football student-athlete. The following section examines these three conceptual areas of independent variables, and also presents those outcome variables that were used to evaluate academic performance.

**Independent variables.** As shown in Table 2, this study relied on three different categories of independent variables. Each one of these categories played a significant role in the study because it represents a level of the society in which the student-athlete functions and thus, impacts salience between the roles of student and athlete. The broadest level of variables is that which looks at the overall academic institution. The study utilized three institutional variables to measure the variables’ relation to the study’s outcome variables. These variables characterize the university and include: AAU accreditation, public/private status and conference affiliation. Next, two variables that were representative of decisions made at the athletic department level were included in the next category. These two variables were athletic department expenditures and
football program expenditures. These variables influence the amount of resources available to those participating in intercollegiate athletics and the football program itself. The final classification of variables looks specifically at the football programs at these institutions. The three program-specific variables included in this study were: coaching change, average win total, and bowl game appearances.

Table 2
Illustration of Independent Variable Grouping and Source

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Institutional Variables</strong></td>
<td><strong>Group 1</strong></td>
<td><strong>Group 2</strong></td>
<td><strong>Group 3</strong></td>
</tr>
<tr>
<td>AAU Institution</td>
<td>AAU</td>
<td>Athletic Department Expenditures</td>
<td>US Dept of Ed</td>
</tr>
<tr>
<td>Public/Private</td>
<td>Carnegie Foundation</td>
<td>Football Program Expenditures</td>
<td>US Dept of Ed</td>
</tr>
<tr>
<td>Conference</td>
<td>NCAA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Institutional variables.**

*AAU institution.* An institution’s status as accredited by the American Association of Universities speaks to level of academic prestige. According to the association’s website, these member universities “are on the leading edge of innovation, scholarship, and solutions that contribute to the nation’s economy, security and well-being” (2011, p. 1). To a similar end, Bell’s (2009) study of football players at the Division I FBS level examined only universities classified as “selective” or “more selective” research universities based off the Carnegie Classification system. This decision was supported by prior work that shows having academically oriented peers can
enhance a student’s academic experience (Crosnoe et al., 2003; Dennis et al, 2005; Hurtado et al., 1996, Tinto, 1993).

This categorical variable was measured in the study through the use of a dummy variable, with AAU institutions being coded as a “1” and non-AAU institutions receiving a “0.” Incorporating academic prestige into this study by examining AAU status not only falls in order with previous literature, it also supports the context of social identity theory. Institutional academic prestige, as identified by Bell (2009), has the potential to impact the educational environment in a way that alters student role salience.

Private/public institution. In this study, the origin of institutional control was provided by the Carnegie Foundation for the Advancement of Teaching (2011). LaForge and Hodge (2011) put forth in their work that graduation success, as measured by either FGR or GSR, will likely be higher at elite private institutions than their public peers, whose mission includes promoting access to higher education. Considering this contention, the examination of this categorical variable fit nicely into the study of those institutional elements that may influence academic performance. Moreover, since institutional type impacts the social setting of the student-athlete, this variable may attribute to role salience and social identity.

Conference affiliation. Conference affiliation is first an institutional variable, although some might argue it could also be seen as a departmental variable. Some conferences pride themselves on the academic pursuits of their member institutions and the academic consideration given to their athletic participants. For instance, prior to the start of the 2011-12 academic-year, all members of the Big Ten conference were members of the AAU, making it home to many of the nation’s best research universities
(Abourezk, 2011). However, the dividing line between “major” conferences and others does tend to suggest trends in athletic department spending, a variable examined more closely in the next section. As previously discussed, the Knight Commission (2010) found that median spending per athlete at the major conference level (see Table 3 for more detail) comes in between four and 11 times more than that spent on education-related activities for their students, a multiplier far higher than that at non-major schools.

Table 3

<table>
<thead>
<tr>
<th>Conference Name</th>
<th>BCS Automatic Qualification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic Coast (ACC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Big East</td>
<td>Yes</td>
</tr>
<tr>
<td>Big Ten</td>
<td>Yes</td>
</tr>
<tr>
<td>Big 12</td>
<td>Yes</td>
</tr>
<tr>
<td>Conference USA (C-USA)</td>
<td>No</td>
</tr>
<tr>
<td>Independent</td>
<td>No</td>
</tr>
<tr>
<td>Mid-American (MAC)</td>
<td>No</td>
</tr>
<tr>
<td>Mountain West (MWC)</td>
<td>No</td>
</tr>
<tr>
<td>PAC 10</td>
<td>Yes</td>
</tr>
<tr>
<td>Southeastern (SEC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Sun Belt</td>
<td>No</td>
</tr>
<tr>
<td>Western Athletic</td>
<td>No</td>
</tr>
</tbody>
</table>

Here, the “major” and “non-major” conferences are separated categorically. This term is defined by the BCS agreement and that organization’s identification of automatic qualifying conferences (BCS, 2011). These automatic qualifying conferences are referred to as “major” conference. Conference membership is based on conference alignment as of the end of the 2010-11 academic-year. In this study, an understanding of how conference affiliation may attribute to difference in academic performance will be developed. As it relates to social identity theory, incorporating this variable helps
develop an understanding of whether or not the competitive landscape of a “major” conference impacts the interplay between the role of student and athlete differently than it does at the “non-major” level.

**Departmental variables.**

*Athletic department expenditures.* The need to analyze athletic department budgets is rooted in existing literature. Moltz (2011), Wolverton (2007) and the Knight Commission (2010) amongst others have illustrated the correlation between departmental spending and academic success for student-athletes. The information used in this study is made public by institutions to the United States Department of Education. While some correlation between spending and conference affiliation was expected, outliers may exist and should be accounted for in this study. This continuous variable is measured in American dollars. The measure will provide insight as to whether or not the commitment of financial resources made by an athletic department to its student-athletes impacts the academic success of football student-athletes.

*Football program expenditures.* Also obtained from the US Department of Education, the spending that was earmarked specifically for the football program demanded consideration to account for funding allocations made at the departmental level. Although tied to the football program specifically, this variable is classified as departmental because the decision to fund each sport at its given level is made by athletic department administration, not the sport itself. This continuous variable is also measured in American dollars. The measure will provide insight as to whether or not the commitment of financial resources made by an athletic department to its football program impacts the academic success of football student-athletes.
**Program-specific variables.**

**Coaching change.** The turnover of coaches experienced by a football program is a control variable measured continuously to evaluate important changes to the student-athletes’ social environment. Chapter two discussed the work of Simons et al. (1999) who explained the power of coaches over student-athletes because of their control over desired outcomes like playing time or in-game playing opportunities. Bell’s (2009) qualitative study of student-athletes found that students highlighted the candor given by coaches who emphasized the opportunity of achieving a degree while deemphasizing the importance of continuing with sports.

Yet while coaches seem capable of promoting an academically oriented culture, questions remain as to whether or not the culture of intercollegiate athletics does anything to evoke this responsibility, especially when so much of the spoils may be there for the victors on the field. Regardless, one sees that the rapport between student-athlete and coach could play a role in the identity salience decisions made by these students, and thus a connection to social identity theory exists. Inherently, this rapport could suffer due to coaching turnover.

**Average win total.** Existing literature suggests conflicting opinions exist as to whether winning impacts academic success. Maloney and McCormick (1993) and Amato et al. (1996) found that playing football significantly hampered academic performance. However, Lucas and Lovaglia (2005) found that major college football programs, whose athletes make higher levels of academic progress (as measured by the APR), are just as likely to win as those programs whose athletes make little progress. However, a critical mass of APR data has accumulated since this study and the topic
requires additional research at this time. Regardless, this continuous variable will illustrate how the academic climate around a winning football program impacts academic performance and the social identity of student-athletes.

*Bowl appearances.* Over the last decade, winning at least six games in a football season classified that program as bowl eligible. While not guaranteed a spot in a bowl game, the majority of teams that reach this mark will participate in a single postseason game known as a bowl. Oversight of the bowl post-season is conducted by the Football Bowl Association (FBA), a non-profit association whose membership includes those Division I conferences that participate in the bowl season (FBA, 2011).

These bowl games are traditionally played either in December or January, with the more prestigious bowls usually being played later than others. Therefore, the more successful the team, the longer the football season in most cases. This phenomenon sets the stage for the “in-season effect” proposed by Maloney and McCormick (1993), as well as Amato’s (1996) theory on bowl participation. This existing research suggests that prolonged football seasons hamper academic performance. Thus, looking at this continuous variable as a factor that may impact academic performance or progress was important.

**Outcome variables.** As illustrated by Table 4, this study utilized three outcome variables, each of which plays an important part in the academic evaluation of a football program. In the data analysis, each variable serves as the basis of a regression analysis that models the influence the aforementioned independent variables have on these outcome variables. In total, three regression models were created to examine the role these independent variables play in explaining each of the outcomes (APR, APR-related
Sanctions, and GSR). The use of each of the three dependent variables, on which the regression models were based, illustrated how the study’s independent variables influenced the role salience decisions made by the football student-athletes at the institutions in question.

Table 4
Outcome Variable Grouping and Source

<table>
<thead>
<tr>
<th>Outcome Variables – Academic</th>
<th>Regression Model 1</th>
<th>Regression Model 2</th>
<th>Regression Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
<td>Source</td>
<td>Variable</td>
<td>Source</td>
</tr>
<tr>
<td>Academic Progress Rate</td>
<td>AAU</td>
<td>APR Sanctions</td>
<td>NCAA</td>
</tr>
</tbody>
</table>

Average academic progress rate. The importance of the Academic Progress Rate was explained in detail previously. As of the 2009-10 season, the NCAA called for each program to maintain a score of at least 925 on a scale of 1,000 points to avoid facing sanctions. Its incorporation into this study hinged upon its implementation by the NCAA as the key metric in measuring student-athlete academic progress. Denhart, Villwock and Vedder (2009) explain the premise of the metric and its emphasis on progress to degree, while LaForge and Hodge (2011) emphasize both retention and eligibility. While APR alone does not complete the illustration of program academic orientation, it starts to build a compelling case for the ability of the student-athlete to meet the challenges of an academic curriculum.

Academic progress rate sanctions. Research explains that the penalties associated with poor APR scores have garnered attention from those in college athletics (Wolverton, 2007). Moltz (2011) provided evidence that program resources are heavily
involved in avoiding or succumbing to these penalties. Libby (2007) explains that with athletic success threatened by penalties, issues of academic integrity can now be found. These issues include the promoting of clustering in majors perceived as more flexible or fitting to an athlete’s schedule (Fountain & Finley, 2009). By taking this continuous variable into account, evidence either supporting or rejecting these claims may be provided. Additionally, this study should demonstrate if trends exist amongst those institutions that endured penalties, allowing for the development of hypotheses about the conflict between the roles of student and athlete.

*Average graduation success rate.* GSR is an outcome variables used to evaluate academic performance. GSR is the often cited metric used for graduation rates amongst student-athletes, as it accounts for their greater propensity toward mobility when compared to their non-athlete peers (Denhart, Villwock & Vedder, 2009). The GSR includes all freshman who enter college in a given year, but unlike the federal graduation rate, it goes on to exclude from its denominator those student-athletes who leave the institution in good academic standing (i.e. transfer). The figure’s numerator is comprised of those students within the program that go on to graduate, leaving us with a percentage score interpreted as the graduation success rate. While GSR also does not complete the picture of academic climate around a specific program, it can be used in tandem with APR to develop a better understanding of this climate.

**Analysis of the Data**

As discussed in the first chapter, this study examined three research questions related to the purpose of identifying institutional, departmental and program-specific variables that influence football student-athlete academic progress and performance.
This study was based on the ability to regress multiple independent variables across selected outcome variables in a multivariate regression model that results in an enhanced understanding of characteristics defining an institution that best promotes the student identity of its football student-athletes.

**Multivariate regression.** In an attempt to draw conclusions about the academic achievements of Division I FBS football programs, this study regressed the three categories of variables discussed earlier (institutional, departmental and program) against three academic dependent variables. This set up is used to inform readers about the institutional, departmental and program-specific characteristics that are significantly associated with academic performance, as it is defined by our three regression models. Multiple regression analysis was selected because it represents a flexible method of data analysis that examines the relationship between dependent variables with a multitude of other factors, allowing one to examine the effects of a single variable or many variables while evaluating the effects of other variables (Cohen, Cohen, West & Aiken, 2003).

**Research Question 1 - Academic Progress Rate.** The first research question was: “What combination of institutional, departmental and program-specific variables explains student-athlete academic progress as measured by APR and informed by social identity theory?” This question was examined with SPSS version 19.0 (2011), conducting a multivariate regression that used an array of institutional, departmental and program-specific variables as independent variables to measure any role they played in impacting the APR achieved by each football program.

**Research Question 2 – Academic Progress Rate sanctions.** The second research question was: “Informed by social identity theory, what combination of
institutional, departmental and program-specific variables explains an institution's football program's receipt of academic-related sanctions due to low APR?” This question was examined with SPSS (2011, Version 19), conducting a multivariate regression that used an array of institutional, departmental and program-specific variables as independent variables to measure any role they played in impacting the likelihood of the football program receiving penalties based on low APR scores.

**Research Question 3 – Graduation Success Rate.** The third research question was: “What combination of institutional, departmental and program-specific variables explains student-athlete academic performance as measured by GSR and informed by social identity theory?” This question was examined with SPSS (2011, Version 19), conducting a multivariate regression that used an array of institutional, departmental and program-specific variables as independent variables to measure any role they played in impacting the GSR achieved by each football program.

**Summary**

This chapter presents the study’s research methods, explaining selected variables and the development of multiple regression models. With the variables informing not only the purpose, but also the framework provided by social identity theory, the study was positioned to provide answers to the presented research questions by measuring the impact of the selected variables on these models.

Although media attention given to college athletics is expansive, and the attention provided to the academic endeavors of these students is garnering more attention as well, empirical data in this area of research is still lacking. While popular media and academia both have opined on the subjects of APR and GSR for college student-athletes, more data
analysis is needed to support conclusions with sound statistical backings. Looking closely at aspects of the college experience that vary between institution, athletic department and football program, we are poised to discover those elements of the collegiate experience found to significantly impact academic performance for football student-athletes.

Although APR and GSR have become thoroughly integrated into the lexicon of intercollegiate athletics, research on the effectiveness and impact of these relatively young metrics remains limited. Using existing data provided by these institutions to the NCAA or the federal government, this study develops three regression models to help inform existing research as to what elements of the football student-athlete’s collegiate experience tend to influence these metrics. With the methodology of this research now explained, we move on to explore the results of the study, exploring those variables that were found to make an impact on this study.
CHAPTER 4: RESULTS

Introduction

The purpose of this study is to examine the role that institutional, departmental and program-specific variables play in influencing Division I FBS football student-athletes’ academic progress, as measured by the NCAA's Academic Progress Rate (APR), and performance, as measured by the NCAA’s Graduation Success Rate (GSR) through the framework of social identity theory. This will result in an understanding of characteristics that may influence the identity salience of football student-athletes. Given this information, conclusions may be formed regarding the dynamics of this group of student-athletes, explaining differences based on institutional, departmental and program-specific variables.

The following chapter will consist of two main components. First, descriptive statistics of the variables investigated in the study will be presented and reviewed. Secondly, this chapter will then present the results of the three regression models that were developed to answer the research questions. These results will be summarized and analyzed to conclude the chapter.

Descriptive Statistics

Data analyses for this study were conducted using SPSS version 19.0 (2011). There are exactly 120 institutions that participate in the NCAA’s Division I FBS level. However, due to the federal nature of two of these institutions, the U.S. Air Force Academy and the U.S. Naval Academy, expenditure information was not available, leaving a final sample size of 118. The following section provides descriptive statistics
for the entire data set used in this study, examining the independent variables on which the study’s three regression models rely. These variables are presented within three classifying subgroups: institutional, departmental and program-specific. The section then goes on to illustrate the three dependent variables of the study, with each one providing the basis of a regression model.

**Institutional variables.**

**AAU institution.** 37 members of the 118 institutions in the data set were recognition by the AAU as part of its membership at the conclusion of this study, symbolizing a class of leading research universities in North America. This group represented 31.3%, or nearly one third, of the study’s population. The remaining 81 institutions were not members of the AAU, representing 68.7% of the population.

**Private/Public.** Informed by the Carnegie Foundation for the Advancement of Teaching, data shows that 14.4%, or 17 institutions, in the FBS were private. The remaining 101 were classified as public institutions, which represented 85.6% of the study’s population.

**Major conferences.** In accordance with the agreement FBS institutions made with the BCS, each conference had an opportunity to earn annual automatic qualification into the BCS through a four-year evaluation covering the regular seasons of 2004, 2005, 2006 and 2007. In accordance with this evaluation, the Atlantic Coast, Big East, Big Ten, Big 12, Pacific-12 and Southeastern Conferences met the threshold and earned automatic qualification through the 2013-14 season. Therefore, institutional membership in one of these six conferences classifies the institution as a member of a “major” conference. Given these guidelines, 65 institutions in the FBS (see Table 5), or 55.1% of
the population in this study, were members of these major conferences. The remaining 53 institutions are not members of a major conference, which represented 44.9% of the population.

Table 5
Conference Membership

<table>
<thead>
<tr>
<th>Major Conferences</th>
<th>Non-Major Conferences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conference</td>
<td>Members</td>
</tr>
<tr>
<td>Atlantic Coast</td>
<td>12</td>
</tr>
<tr>
<td>Big East</td>
<td>8</td>
</tr>
<tr>
<td>Big Ten</td>
<td>11</td>
</tr>
<tr>
<td>Big 12</td>
<td>12</td>
</tr>
<tr>
<td>Pacific-12</td>
<td>10</td>
</tr>
<tr>
<td>Southeastern</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>65 (55.1%)</td>
</tr>
</tbody>
</table>

Departmental variables.

Athletic department expenditures. Provided by the U.S. Department of Education’s Office of Postsecondary Education (OPE) and its Equity in Athletics Disclosure website, this publically accessible figure measures average overall spending by an athletic department over an academic year throughout the years of the study. The mean expenses incurred by a department were measured at $38,839,175.57 per year with a standard deviation of $20,523,555.79.

Football program expenditures. Also provided by the U.S. Department of Education’s Office of Postsecondary Education (OPE) and its Equity in Athletics Disclosure (EADA) website, this publically accessible figure measures average overall spending by an institution’s football program over an academic year throughout the years of the study. The average expenses incurred by a football program were measured at
$10,178,333.40 per year with a standard deviation of $5,218,826.57. Given the average expenses incurred by an athletics department were measured at $38,839,175.57 per year, it should be noted that the average expenses incurred by a football program of $10,178,333.40 per year represents 26.2% of the total athletic department budget.

**Program-specific variables.**

**Coaching change.** Provided by NCAA records, this public accessible data measures the turnover of coaches experienced by a football program. In this study, it serves as a control variable measured to evaluate important changes to the student-athletes’ social environment. On average, during the six seasons that this study examined, a football program had 1.76 head coaches leading its football student-athletes with a standard deviation of .636.

**Average win total.** Provided by NCAA records, this continuous variable refers to the average number of victories a team achieves per season over the six football season span of this study. Generally speaking, a football regular season in the FBS during this period consisted of 12 games, with the possibility of one or two more games due to post-season play (i.e. conference championship games and bowl game appearances). The average win total for the institutions in this study is approximately 6.38 games per season with a standard deviation of 2.23.

**Number of bowl appearances.** Provided by the Football Bowl Association (FBA), a non-profit member association that represents all post-season college football bowls, this variable accounts for institutional appearances in post-season play, a factor that lengthens the student-athletes’ football season. Once a team accumulates six wins in a given season, they become bowl eligible, but not every six-win team is selected for
participation in a bowl. According to the data set, over the six seasons this study examined, the average football program appeared in a bowl game 3.12 times with a standard deviation of 2.06.

**Dependent variables.**

*Average academic progress rate.* Provided by NCAA records, this public accessible measure awards two points each term to student-athletes, one for meeting academic-eligibility standards and one for remaining with the institution. A team’s APR is the total points earned by the team at a given time divided by the total points possible, then calibrated to a scale of 1000. As shown in Table 6, the average football program had an APR of 939.26 with a standard deviation of 19.18.

Table 6

Descriptive Statistics for Independent Variables

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average APR</td>
<td>939.261299</td>
<td>19.1831591</td>
<td>118</td>
</tr>
<tr>
<td>APR Sanctions</td>
<td>.49</td>
<td>.976</td>
<td>118</td>
</tr>
<tr>
<td>Average GSR</td>
<td>64.85310746</td>
<td>11.381958842</td>
<td>118</td>
</tr>
</tbody>
</table>

*Academic progress rate sanctions.* As previously discussed, the APR requires each sport program at the NCAA level to maintain a score of above 925 in order to avoid facing sanctions. These sanctions are tracked and recorded by the NCAA and are accessible to the public. During the course of this study, the average football program received .49 APR-related sanctions with a standard deviation of .976, or almost twice the mean. More specifically, of the 118 institutions in the study, 30 received penalties with a total of 58 sanctions received among them over the period of time examined. Table 7
provides a complete listing of the institutions that received sanctions, please note that all of these institutions are public in nature.

Table 7
Institutions Receiving APR-Related Sanctions

<table>
<thead>
<tr>
<th>Institution</th>
<th>APR-Related Sanctions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowling Green State University</td>
<td>1</td>
</tr>
<tr>
<td>Central Michigan University</td>
<td>1</td>
</tr>
<tr>
<td>Florida Atlantic University</td>
<td>4</td>
</tr>
<tr>
<td>Florida International University</td>
<td>3</td>
</tr>
<tr>
<td>Kent State University</td>
<td>1</td>
</tr>
<tr>
<td>Middle Tennessee State University</td>
<td>2</td>
</tr>
<tr>
<td>New Mexico State University</td>
<td>3</td>
</tr>
<tr>
<td>Northern Illinois University</td>
<td>1</td>
</tr>
<tr>
<td>San Diego State University</td>
<td>2</td>
</tr>
<tr>
<td>San Jose State University</td>
<td>2</td>
</tr>
<tr>
<td>SUNY at Buffalo</td>
<td>4</td>
</tr>
<tr>
<td>Temple University</td>
<td>3</td>
</tr>
<tr>
<td>University of Akron</td>
<td>2</td>
</tr>
<tr>
<td>University of Alabama at Birmingham</td>
<td>3</td>
</tr>
<tr>
<td>University of Arizona</td>
<td>1</td>
</tr>
<tr>
<td>University of Colorado, Boulder</td>
<td>1</td>
</tr>
<tr>
<td>University of Hawaii, Manoa</td>
<td>3</td>
</tr>
<tr>
<td>University of Idaho</td>
<td>3</td>
</tr>
<tr>
<td>University of Kansas</td>
<td>1</td>
</tr>
<tr>
<td>University of Louisiana at Lafayette</td>
<td>2</td>
</tr>
<tr>
<td>University of Louisiana at Monroe</td>
<td>1</td>
</tr>
<tr>
<td>University of Louisville</td>
<td>1</td>
</tr>
<tr>
<td>University of Maryland, College Park</td>
<td>1</td>
</tr>
<tr>
<td>University of Minnesota, Twin Cities</td>
<td>1</td>
</tr>
<tr>
<td>University of Mississippi</td>
<td>1</td>
</tr>
<tr>
<td>University of Nevada, Las Vegas</td>
<td>2</td>
</tr>
<tr>
<td>University of North Texas</td>
<td>2</td>
</tr>
<tr>
<td>University of Toledo</td>
<td>3</td>
</tr>
<tr>
<td>Washington State University</td>
<td>1</td>
</tr>
<tr>
<td>Western Michigan University</td>
<td>2</td>
</tr>
</tbody>
</table>
**Average graduation success rate.** Provided by the NCAA, the GSR is a graduation rate computation. Like FGR, this measure assesses graduation over a six-year period, but the rate includes transfer students, unlike the federal rate. Also unlike the FGR, the GSR also accounts for midyear enrollees and is calculated for every sport. As previously shown in Table 6, the average football program had a GSR of 64.85 and a standard deviation of 11.38.

Lastly, in addition to understanding means and the standard deviations of the variables in the study, the relationship between these variables must be accounted for, as well. In order to do so, a correlation was conducted among the eight independent variables to test for collinearity. The results of the correlation analysis indicated that multicollinearity did not exist among the variables used in the three regression models, as tolerances ranged from .113 to .893 and VIF ranged from 1.119 to 8.869. Following this analysis, an examination of the regression analyses associated with the study’s research questions will be presented.

**Research Question One**

The first research question asked, “What combination of institutional, departmental and program-specific variables explains student-athlete academic progress as measured by APR and informed by social identity theory?” Using regression analysis, a model was run with the data available for the 118 institutions in this study. Data analysis was performed with eight independent variables, three categorical (AAU institution, public/private and major conference) and five continuous (athletic department expenditures, football program expenditures, coaching change, average win total and
number of bowl appearances). These variables were used to explain the dependent variable, average APR score.

In the regression, the three dichotomous categorical variables were coded as AAU institutions “1” with all others coded “0,” private schools “1” with all others coded “0,” and lastly, major conference institutions “1” with all others coded “0.” As for the dependent variable, average APR score, programs received a score ranging from 0 – 1000. Across the 118 institutions in the study, the average APR score was reported at 939.26.

In the first regression model, the first indicator was the ANOVA generated by the analysis, which was found to be significant, justifying that this model is in fact linear. The adjusted R squared was .395 or 39.5% of the variance (or error) in the average APR that can be explained by this model. Using a confidence level of 95%, the only significant variable in the model was private institutions, which was found to have significance of $p = .000$ and a positive beta of 25.678. This result suggests that the private control of an institution should increase an institution’s average APR score by 25.678 points above the reported beta for average APR score.

As illustrated in Table 8, no other variables (AAU institution, major conference, athletic department expenditures, football program expenditures, coaching change, average win total, or number of bowl appearances) were significant in the APR regression model. However, it may be important to note that of the remaining seven independent variables, all but coaching change produced positive betas, which suggests a positive correlation with average APR score. Coaching change, produced a beta of -.031,
indicating that the transition of a program’s leadership may result in a less favorable academic performance as measured by APR.

Table 8
Model 1 – Average Academic Progress Rate

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1</td>
<td>(Avg. APR - Constant)</td>
<td>919.103</td>
</tr>
<tr>
<td></td>
<td>Coaching Changes</td>
<td>-0.031</td>
</tr>
<tr>
<td></td>
<td>Average Wins</td>
<td>0.065</td>
</tr>
<tr>
<td></td>
<td>Major Conference</td>
<td>3.396</td>
</tr>
<tr>
<td></td>
<td>Bowls</td>
<td>2.468</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>25.678</td>
</tr>
<tr>
<td></td>
<td>AAU</td>
<td>1.903</td>
</tr>
<tr>
<td></td>
<td>Athletic Department Exp.</td>
<td>1.410E-7</td>
</tr>
<tr>
<td></td>
<td>Football Program Exp.</td>
<td>4.167E-8</td>
</tr>
</tbody>
</table>

Research Question Two

The second question asked, “Informed by social identity theory, what combination of institutional, departmental and program-specific variables explains an institution's football program's receipt of academic-related sanctions due to low APR?”

As discussed earlier in Chapter Three, the answer to this question was analyzed by using SPSS. Using regression analysis, a model was run with the data available for the 118 institutions in this study. Data analysis was performed on all eight independent variables: three categorical (AAU institution, public/private and major conference) and five continuous (athletic department expenditures, football program expenditures, coaching
change, average win total and number of bowl appearances). These variables were used to explain the dependent variable, APR-related sanctions.

In the regression, the three dichotomous categorical variables were coded as AAU institutions “1” with all others coded “0,” private schools “1” with all others coded “0,” and lastly, major conference institutions “1” with all others coded “0.” As for the dependent variable, total number of APR-related sanctions, across the 118 institutions in the study, the average number of sanctions was reported at .49, which means that the average institution in this study has received .49 sanctions during the period being examined.

As for the second regression model, the first indicator was the ANOVA generated by the analysis, which was found to be significant, justifying that this model is in fact linear. The adjusted R squared was .249 or 24.9% of the variance (or error) in the receipt of APR-related sanctions that can be explained by this model. Using a confidence level of 95%, the significant variables in the model were bowl appearance and private institution status. Bowl appearance was found to have a significance of $p = .027$ and a beta of -.210. This result suggests that appearance in a bowl game should decrease an institution’s receipt of APR-related sanctions, with a bowl appearance decreasing the occurrence of .210 sanctions. On the other hand, private control of an institution was also found to have a significance of $p = .014$ and a beta of -.596. This result suggests that private status should decrease an institution’s receipt of APR-related sanctions by .210 sanctions. Thus, the model suggests that those programs with private status and those appearing more often in bowl games are less likely to receive APR-related sanctions. As illustrated in Table 9, no other variables (AAU institution, major conference, athletic
department expenditures, football program expenditures, coaching change, or average win total) were significant in the APR regression model. While \( p = .055 \) for major conference affiliation did not meet the stringent requirements for significance, it did deserve some attention here due to its powerful negative beta of \(-.525\). This negative beta suggested that participation in a major conference may have a strong negative relation to the receipt of APR-related sanctions.

Table 9

Model 2 – Academic Progress Rate Sanctions

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>( t )</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(APR Sanctions - Constant)</td>
<td>1.036</td>
<td>.359</td>
<td>2.882</td>
</tr>
<tr>
<td></td>
<td>Coaching Changes</td>
<td>.066</td>
<td>.130</td>
<td>.507</td>
</tr>
<tr>
<td></td>
<td>Average Wins</td>
<td>.088</td>
<td>.089</td>
<td>.989</td>
</tr>
<tr>
<td></td>
<td>Major Conference</td>
<td>-.525</td>
<td>.271</td>
<td>-1.939</td>
</tr>
<tr>
<td></td>
<td>Bowls</td>
<td>-.210</td>
<td>.094</td>
<td>-2.236</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>-.596</td>
<td>.239</td>
<td>-2.500</td>
</tr>
<tr>
<td></td>
<td>AAU</td>
<td>.078</td>
<td>.211</td>
<td>.371</td>
</tr>
<tr>
<td></td>
<td>Athletic Department Exp.</td>
<td>-1.250E-9</td>
<td>.000</td>
<td>-.110</td>
</tr>
<tr>
<td></td>
<td>Football Program Exp.</td>
<td>-9.683E-9</td>
<td>.000</td>
<td>-.229</td>
</tr>
</tbody>
</table>

Research Question Three

The study’s final research questions asked, “What combination of institutional, departmental and program-specific variables explains student-athlete academic performance as measured by GSR and informed by social identity theory?” Using a regression analysis, a model was run with the data available for the 118 institutions in this study. Data analysis was performed on all eight variables explained in the descriptive
Data analysis was performed with eight independent variables, three categorical (AAU institution, public/private and major conference) and five continuous (athletic department expenditures, football program expenditures, coaching change, average win total and number of bowl appearances). These variables were used to explain the dependent variable, average GSR score.

In the regression, the three dichotomous categorical variables were coded as AAU institutions “1” with all others coded “0,” private schools “1” with all others coded “0,” and lastly, major conference institutions “1” with all others coded “0.” As for the dependent variable, average APR score, programs received a score ranging from 0 – 1000. Across the 118 institutions in the study, the average GSR score was reported at 64.85.

As for the third, and final, regression model, the first noted indicator was the ANOVA generated by the analysis, which was found to be significant, justifying that this model is in fact linear. The adjusted R squared was .249 or 24.9% of the variance (or error) in the average GSR that can be explained by this model. Using a confidence level of 95%, the only significant variable in the model was private institutions, which was found to have significance of p = .000 and a positive beta of 15.355. This result suggests that the private control of an institution should increase an institution’s average GSR by 15.355 points above the reported beta for average GSR score. As illustrated in Table 10, no other variables (AAU institution, major conference, athletic department expenditures, football program expenditures, coaching change, average win total, or number of bowl appearances) were significant in the APR regression model.
Table 10

Model 3 – Average Graduation Success Rate

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Average GSR - Constant)</td>
<td>63.183</td>
<td>4.189</td>
<td>15.083</td>
</tr>
<tr>
<td></td>
<td>Coaching Changes</td>
<td>1.466</td>
<td>1.516</td>
<td>.082</td>
</tr>
<tr>
<td></td>
<td>Average Wins</td>
<td>-.385</td>
<td>1.033</td>
<td>-.075</td>
</tr>
<tr>
<td></td>
<td>Major Conference</td>
<td>3.006</td>
<td>3.153</td>
<td>.132</td>
</tr>
<tr>
<td></td>
<td>Bowls</td>
<td>.143</td>
<td>1.096</td>
<td>.026</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>15.355</td>
<td>2.781</td>
<td>.476</td>
</tr>
<tr>
<td></td>
<td>AAU</td>
<td>1.572</td>
<td>2.460</td>
<td>.064</td>
</tr>
<tr>
<td></td>
<td>Athletic Department Exp.</td>
<td>-1.889E-7</td>
<td>.000</td>
<td>-.341</td>
</tr>
<tr>
<td></td>
<td>Football Program Exp.</td>
<td>5.440E-7</td>
<td>.000</td>
<td>.249</td>
</tr>
</tbody>
</table>

Summary

The purpose of this chapter was to present the results of the study. Initially, descriptive statistics were outlined to illustrate an overview of the dataset and enhance our understanding of the independent and dependent variables in the study. The chapter then presented the results of the three research questions using regression analysis. In all three regression models, the academic performance of football programs at private FBS institutions was significantly higher than performance at public peer institutions. Additionally, participation in post-season bowl games was found to be a significant in explaining APR-related sanctions. These results will be discussed in more detail in Chapter 5, including sections on implications for theory and policy.
CHAPTER 5: DISCUSSION OF RESULTS

Introduction

This study was conducted across the athletic departments of 118 Division I Football Bowl Subdivision (FBS) institutions and examined the role institutional, departmental and program-specific variables play in influencing football student-athletes’ academic measures. This chapter will further discuss the results presented in Chapter 4. The chapter begins with a discussion of the eight independent variables utilized in the study, moving forward to then engage in an in-depth discussion of the three research questions that guided this research. Both of these discussions will be advanced through the framework of social identity theory and the concept of identity salience, as discussed in Chapter 2. The chapter concludes with a discussion of implications of future research and institutional policy.

Summary of Study

This study investigated the connection that exists between the academic evaluation of Division I football programs and the social settings that influence these student-athletes during their intercollegiate career. The social settings that impacted the student-athletes were classified on three different levels. Listed from the broadest level, which influences all students, to the most specific setting, which impacts only those members of the football program, these social settings were classified as: institutional, departmental and program-specific.

Using a multivariate analysis, attributes of all three levels were placed in three regression models to locate trends based on program Academic Progress Rate
performance and Graduation Success Rate. Data analysis was performed with eight independent variables, three categorical (AAU institution, public/private and major conference) and five continuous (athletic department expenditures, football program expenditures, coaching change, average win total and number of bowl appearances). Using a theoretical framework that informs and challenges the dynamic between student and athlete, this study sought to advance the understanding of the complex interplay among higher education institutions, intercollegiate athletics, and football student-athletes.

Discussion of Results

Grounded in the work of Tajfel and Turner (1979) on social identity theory, this study examined the varying social settings presented to groups of Division I FBS football players at the 118 institutions in this study and how these varied settings influence the academics of these student-athletes. Chatman, Eccles and Malanchuk (2005) demonstrated the importance of an identity to the individual, known as identity salience, is not static, but rather fluctuating over time based on context and circumstance. This context is often formed in the sense of a social setting of the individual. Merton (1957) explains this social context is established by a person’s role-set, or the group of individuals a person associates his roles with in a variety of circumstances.

In this study, three levels of variables that play a role in the student-athlete’s environment and influence identity salience are identified. They were: institutional variables, athletic departmental variables and football program-specific variables. While it is recognized that pre-college experiences and characteristics (grade point average,
board scores, gender, ethnicity, socioeconomic status, etc.) may indeed impact the academic evaluation of these student-athletes, the reporting of such variables is protected by institutions and thus, not included in this study. The following sections will discuss the empirical research that informed the inclusion of the study’s eight independent variables, while commenting on the predictive powers of each variable in the study’s three regression models.

**Institutional variables.**

*AAU Institution.* As discussed in Chapter 2, the prestige associated with an institution can influence the academic outcomes of its students. Pascarella and Terenzini (1991) illustrated that using grades as a variable to measure college learning fails to account for institutional grading differences, which are likely to vary based on the academic selectivity of the institution, adding any metric used across institutions to compare the academic success is influenced to some extent by the institution. Bell’s (2009) study of role-set influence amongst football players at the Division I FBS level examined only universities classified as “selective” or “more selective” research universities based off the Carnegie Classification system. Based on this finding, this study builds on Bell’s work by including AAU status as an institutional variable.

In this study, however, institutional status as an AAU accredited college or university did not prove to be an influential predictor of any of the academic variables on which the study’s three regression models were built. Thus, while membership in this elite group of the 61 leading research universities in North America may suggest an influence on faculty retention or graduate student recruitment, it has no significant statistical effect on average APR score, the receipt of APR-related sanctions, or average
GSR score. This finding suggests that when looking at institutional research status and reputation, this variable has no significant influence in predicting the academic achievement of undergraduate football student-athletes.

Therefore, it can be understood that in the case of the groups of football student-athletes in this study, the experiences afforded to this population at an AAU accredited institution did not correlate to a significantly different rate of graduation, eligibility or retention, which are respectively the factors that GSR and APR measure. With collegiate experiences at these prestigious institutions not resulting in significantly higher rates of graduation, eligibility or retention, this finding was not surprising considering the college decision making of student-athletes. In this regard, Letawsky et al. (2003) informs us that the five factors of greatest influence in the college selection process of the student-athlete are: degree-program options, head coach, academic support services, type of campus community and the institution’s sports traditions. So while academic concerns are present in this list, the institution’s academic reputation is not mentioned. This leads to the understanding that institutional academic reputation failed to significantly impact the self-reported recruitment of student-athletes or their rates of graduation, eligibility or retention according to this study.

Public/Private. LaForge and Hodge (2011) put forth in their work that graduation success, as measured by either FGR or GSR, will likely be higher at elite private institutions than their public peers. They posit this because it is public institutions whose mission includes promoting access to higher education. The results of this study provided additional empirical evidence for this finding. In fact, private school status was the only predictor variable found to be significant in all three regression analyses.
This finding supports the notion that institutional mission of providing access to higher education held in common by the nation’s public institutions is a significant factor in predicting the academic achievement of an institution’s football program. The significance of this finding, and its consistency across all three models, is important to consider in concert with the findings regarding other variables in this study, which will be completed later. However, with this institutional variable’s status as the sole significant predictor, one may note that according to the results of this study, the metrics of academic success used in intercollegiate athletics relate less to what any specific institution is doing and more so to the private or public control of the institution.

**Major conference.** Helliker (2011) noted that academic selectivity plays a role in how institutions negotiate conference affiliations. When considering conference membership and expansion from ten to 12 teams PAC-12 President Larry Scott spoke to this point noting, "the academic brand is as important as the athletic brand," adding that his conference "prides itself on being best of breed academically as well as athletically" (p. 1). The Knight Commission (2010) supports this claim, noting median spending per athlete at the major conference level coming in between four and 11 times more than that spent on education-related activities for their students. However, to this end, the results of the study did not indicate membership in a major conference having a significant relationship in any of the regression models.

While Helliker’s (2011) notion that academic selectivity impacts conference alignment may be true, the results of this study do not suggest conference alignment playing a role in the level of academic accomplishment achieved by football student-athletes. Thus, it seems evident that the exposure from extensive television contracts,
preferential treatment in the postseason BCS agreement, or any other advantage afforded to major conference programs does not translate into significantly different levels of academic performance. Considering the ever changing landscape of conference affiliation that exists today, the importance of this finding cannot be understated, as it informs us that altered academic performance is not an empirically supported claim for the justification of realignment efforts.

**Departmental variables.**

**Athletic department expenditures.** As of the 2008 fiscal year, the NCAA reported that 25 Division I Football Bowl Subdivision institutions reported positive net revenues for their athletic programs, with the median at about $3 million in excess revenue per institution (Brown, 2009). However, median deficit for the other nearly 100 programs participating at this level was about $8 million a year, signifying a rather large gap between what has been called the “haves” and “have-nots” of college athletics (Brown, 2009). Additionally, the Knight Commission (2010) reported that only seven athletic programs generating enough revenue to return a profit in each of the past five years. For these reasons, athletic department expenditures were another variable of interest in this study. However, this variable was a non-significant predictor in the three regression models used in the study.

The lack of statistical significance found in the correlation between athletic department spending and these measures of scholastic achievement in some respects brings questions to the notion of “haves” and “have-nots” discussed by those such as Brown (2009). The data in this study illustrates that generous budgetary spending by an athletics department does not correlate to better academic scores. However, the data used
here does not inform the study of exactly how much money of the overall budget is spent annually on academic services. The availability of this data from all relevant institutions would certainly enrich the study.

**Football program expenditures.** According to experts, much of the growth in college athletics facilities occurred between 1995-2005, a ten year period in which, according to the *Sports Business Journal*, at least $15.2 billion was spent on facilities. During this time, an excess of $6.4 billion was spent on football programs (King, 2005). However, despite this aggressive spending on football, football program expenditures were a non-significant predictor in the three regression models.

Although much of the spending identified above is facilities-based, and unlikely to be reported in these annual spending numbers, the sport-specific budget these programs are dealt was important to consider in the study. Once again, in order to address some of the “have” and “have-not” commentary, the inclusion of this data was needed and provides a starting point for conversation. Had a correlation been discovered, this would have been an important finding to support Brown’s (2009) claims that the extensive outpouring of resources may not be financially feasible for all that compete at this level of college athletics.

However, the lack of a correlation between football program spending and academic achievement does not entirely discredit these claims. Despite the absence of a correlation, the data in this study does not account for spending on academic services by sport or department. As discussed by Wolverton (2008), some departments have taken to building 20,000 square foot academic service facilities, and Gurney (2011) noted ballooning budgets for student-athletes’ academic services in recent years.
Therefore, the value of this study would be enhanced if the academic services budget provided for these football programs, or the entire athletic department, was incorporated in future works. Moreover, the potential for reputation damaging opportunity cost decisions, such as cutting sponsored sport programs to enhance funding to other areas, is another factor that may allow programs and departments with fewer resources to reallocate spending and maintain required academic achievement in remaining sports. This is also not accounted for in this study and demands further research.

**Football program-specific variables.**

*Coaching change.* Student-athletes, as explained by Simons et al. (1999) often operate in an area of sharp conflicting interests, where at the heart of their priority setting process looms two counteractive forces: education and athletics. In Bell’s 2009 qualitative study of the experiences of 41 Division I FBS student-athletes, 31 of the participants spoke of the involved role their head football coach took in monitoring their academics. Applying the work of Bell to Simons’ (1999) earlier remarks, one can logically infer that a coach can play an active role in helping the student-athlete cope with these conflicting interests, emphasizing the importance of the education of the student-athlete and improving their academic focus. However, this study found that there was no significant effect on the academic variables caused by a lack of continuity in the program’s head coaching position.

While the practice of paying coaches bonuses based on the academic achievement of their student-athletes has caught on, the notion that coaches are the ones impacting academic outcomes has its objectors (Eichelberger & Levinson, 2007; Upton, 2011).
Similar to the comments made about departmental and program-level spending, one might speculate based on this result that while coaches may influence the academic climate of a team through control of playing time or class attendance policy enforcement (Simons et al., 1999), the academic services available to these student-athletes may indeed be more impactful in improving academic performance.

**Average win total.** Research conducted by Lucas and Lovaglia (2005) using initially published APR scores for Division I FBS institutions indicates that major college football programs, whose athletes make higher levels of academic progress (as measured by the APR), are just as likely to win as those programs whose athletes make little progress. This suggests a climate in which an academically strong team is just as likely to succeed on the field as a team that struggles in the classroom, as there is no correlation between APR and winning. The results of this study supported this conclusion, finding no significant relationship between average win total and any of the academic measures included in this work.

This result indicates that as far as the metrics currently employed by the NCAA can measure, football programs at this level are not winning in concert with lax academic performance. Additionally, this result can be interpreted to suggest that the need to perform academically is not hindering programs from winning on the field. Understanding that average win total is loosely associated to FBS postseason play, as football programs need to have at least six wins to participate in the post-season, this finding brings to mind a study of Division I men’s basketball programs. As discussed in Chapter 2, according to the Knight Commission, more than $146 million of the $409 million, or approximately 36 percent, of the revenue earned for postseason appearances in
the past five NCAA men’s basketball tournaments were earned by teams with GSRs under 50 percent (Knight, 2011). Although the postseason formats for the two sports are not identical, the understanding of any relationship between the on-field and classroom performance of athletic programs remains valuable.

**Number of bowl appearances.** Amato et al. (1996) suggest that one challenge presented to FBS football programs is the longstanding format for post-season play at this level. Amato’s study compared the performance of 89 of the then existing 106 FBS (then known as Division I-A) programs to 67 of 84 FCS (then known as Division I-AA) and found, all things being equal, a single bowl appearance reduces the average graduation rate of a football student-athlete by more than three percentage points. To this end, the ‘in-season effect,’ developed by Maloney and McCormick (1993), states that in revenue sports, individual student grades decrease when their sport is in-season, a period extended by the bowl schedule.

However, contrary to this previous research, appearing in a bowl game was found to have a significant negative relation to the receipt of APR-related sanctions. This result indicates that bowl appearances, which extend the football season significantly in many cases, actually help programs avoid those sanctions granted by the NCAA because of low scores in APR. This finding was particularly interesting because while APR-related sanctions are levied due to a program’s inability to maintain an APR above a certain level, there was no significance found between average APR and bowl appearances.

Positing logic for this finding, one might look closer at the two elements that APR is tracking: retention and eligibility. As noted by the NCAA (2011), implementing APR, each student-athlete can earn two points, one for remaining with the institution and
another for meeting eligibility and progress toward degree standards. Future studies are needed to explore the loss of these points, particularly at those institutions that are successful in making bowl games. Potentially, the enjoyable experience of playing in a bowl game is enough to motivate this group of student-athletes to remain at the institution or meet academic objectives at a significant level, which results in these programs earning APR points and avoiding sanctions. If this is the case, there are important implications for practitioners, as the current bowl system is subject to frequent criticism from those who support alternative post-season formats.

**Implications for Social Identity Theory**

With the findings of the study explained and results discussed, it is important that these outcomes are discussed in terms of social identity theory. This theory, which provides the theoretical framework of the study, informs the study through its explanation of intergroup relations, group membership and group processes (Tajfel & Turner, 1979). These group dynamics have the potential to be impacted by the various social settings student-athletes encounter during their intercollegiate career. The following section discusses the findings of this study as they relate to the social identity theory, providing introspection on the ways in which social settings faced by the student-athlete mirror those dynamics addressed by the theory. This discussion will be organized by the three levels of social settings presented to these student-athletes: institutional, departmental and program-specific.

**Institutional.** There were three institutional variables examined in this study, AAU status, public/private and conference affiliation. Of the three, only public/private
institutional control was found to have any significance, and it was discovered in all three models. This finding coincides with the remarks of Sander, following the report of APR through the 2009-10 academic year, when she stated, “The vast majority of the 350 Division I teams that posted scores below the NCAA’s benchmark for acceptable academic progress are at regional public institutions” (2011b, p. 1). Although Sander’s comments speak to all 350 institutions in Division I and all of their sport programs, not just FBS football programs, her comments bring to light a very interesting phenomenon as it pertains to the influence of the institution on social identity. As discussed earlier, this occurrence, public institutions lagging behind privates in their performance as measured by NCAA metrics, is supported by all three models used in this study. This is to say that average APR, the receipt of APR-related sanctions, and average GSR were all found to be significantly positively correlated to private control over an institution.

As this finding relates to social identity theory, one may hypothesize that the academic performance of a football program is influenced less by the culture surrounding the football program or the athletic department, and more so by some existing dynamic that is isolated to private institutions. Perhaps this dynamic is caused by student-faculty ratio and thus, is more support for the work of Tinto (1993) and Wilson (1975), who note that student-faculty involvement is a key predictor of graduation and academic concern. However, such a conclusion, or relating the finding to institutional mission, class size, admission criteria, student demographics or some currently unidentified trait, begs future research.

Going forward, an understanding that institutional control is a significant factor in predicting football program academic success speaks to the possibility that academic role
salience of student-athletes may be influenced by the institutional setting. This conclusion speaks to the work of Stryker and Serpe (1982), who found that if those within an individual’s network give a high level of salience to a specific identity, this social influence will heighten the level of salience of that role at the individual level. Perhaps it is the case that at these private institutions, the studious culture that exists amongst undergraduate students is so strong that it suppresses the athletic identity of the student-athlete and leads to improved academic outcomes, the basis of this culture coming potentially from heightened admission standards at a private institution.

**Departmental.** The two department-level variables examined in this study, departmental expenditures and football program expenditures, were not found to have any significance in any of the three models. When relating this finding to social identity theory, at first glance, this may suggest that an athletic department does not influence the tradeoff between student and athlete role salience. This finding would suggest peers in the classroom, rather than those within the athletic department that participate in other sports, have a stronger influence over academic performance.

However, this may be more of a function of the data available for the study and the variables used, rather than any wide sweeping generalizations about departmental influence. It should be noted that while the OPE Equity in Athletics Disclosure Website database does provide valuable information about athletic spending, the tool does not provide the level of transparency needed to make more powerful conclusions about spending in intercollegiate athletics. In future works, evaluating the department wide commitment to academic success through incorporating average academic services budget, existence of a dedicated academic success building to student-athletes,
contractual bonuses for student-athlete academic performance and other variables of this nature would provide more evidence to make conclusions regarding the role of the department in the conflict between student and athlete role salience. However, to date, the OPE Equity in Athletics Disclosure Website or any other database houses this sort of information, which represents a challenge for future research in this area.

**Program-specific.** There were three program-specific variables examined in this study: coaching change, average win total, and number of bowl appearances. Of the three, only bowl appearances were found to have any significance. This significance was discovered in the regression model that was based on the receipt of APR-related sanctions. As discussed earlier, the finding of a significant negative correlation between bowl appearances and sanctions, but not between bowl appearances and average APR, was slightly surprising. However, the framework of social identity theory provides reason for pause and a potential explanation for this finding.

With APR being based on retention and eligibility, future work may find that the positive experience of participation in a bowl game results in higher levels of student-athlete retention within the football program. This is to say, the unique collegiate experience of participation in the bowl season results in a stronger commitment to the football program and thus, APR scores that avoid sanctions. Considering the findings of both Adler and Adler (1987, 1991) and Bell (2009), who found the athlete role to impact decision making, friendships, the importance of other roles played by the student-athlete, and team culture, this positive impact of bowl participation seems plausible.
Implications for Institutional Policy

Building on a strong theoretical framework that informs and challenges the dynamic between student and athlete, this study seeks to advance the understanding of the complex interplay between higher education and intercollegiate athletics. In turn, this understanding is intended to help institutional policy makers in assessing the academic climate surrounding their football program. Although a majority of variables taken into consideration in the study do not exert a significant impact on the academic metrics used by the NCAA, the lack of significance in many of these variables still resonates as an important discovery.

One of the most interesting discoveries of the study was the lack of support for claims regarding the division of the FBS into two classes of “haves” and “have nots” in regards to how this phenomenon plays out in the classroom. Citing the competitive landscape on the playing field and heightened academic standards, many such as the Knight Commission (2010b) have claimed that those programs below the top tier of college athletics cannot succeed both athletically and academically. However, whether these groups were identified by conference affiliation, athletic department budget or football program budget, there was no significance found in any of these identifiers’ ability to predict academic performance as measured by APR or GSR.

While future research would benefit any conclusions reached in this area, the results represent reason for pause before accepting the mantra of a class system when it comes to college football, at least in terms of academic performance. However, the results also illustrate that stronger data reporting standards to the OPE Equity in Athletics Disclosure Website would add additional clarity to the topic. Armed with a more
transparent look at institutional spending in athletics, a better grasp on academic performance could be achieved.

Additionally, there was no significance found to the relationship between average win total and APR or GSR. This finding suggests that there is no merit to the notion that teams cannot win both in the classroom and on the playing field. Rather, the finding puts forward that academic success and winning are ideals that programs can achieve in concert with one another.

Limitations

Although this study provides an interesting examination into the academic landscape of college athletics, there are several limitations that are important to highlight. Importantly, this is a single-sport study of football programs that operate at the highest level of intercollegiate athletics. Thus, one should be cautious in generalizing these results across other Divisions of the NCAA and sports, as well. Football at the FBS level remains a unique occurrence in intercollegiate athletics due to both roster size and resource allocation.

Additionally, this study examines the academic success of groups of student-athletes at a collection of institutions, not the specific students themselves. Thus, there is no attention paid to the demographic attributes of the students prior to their arrival to campus. Again, this is not to say that such attributes do not play a role in academic success, rather this information is not readily available to the public.

It deserves to be mentioned that APR and GSR metrics are both relatively new indicators in regards to their existence and implementation. Less than a decade old, these
metrics, and any penalties associated with their results, have been adjusted and most likely, will continue to adapt and change. Hopefully, such changes will be guided by research similar to this work, which is intended to provide feedback for the evaluation of the measure.

On a similar note, it should be repeated that all data used in this study was generated by athletic and academic performance between the 2003-04 and the 2009-10 academic year. Considering the ever changing landscape of intercollegiate college athletics, especially in regards to conference alignment, this may change the application of this study’s results over time. It seems likely that with conference realignment, reevaluating the results associated with the conference affiliation variable in these regression models will be necessary.

Lastly, basic regression is explanatory, and builds no case of causality of its findings. While previous research may inform the findings of this study and suggest causality, the study itself cannot do so. Therefore, while football programs at private schools performed significantly better as measured by APR and GSR, it cannot be concluded that their education at a private school is the reason for these improved marks. Such questions can only be answered using other methodologies.

**Implications for Future Research**

This study sought to investigate the connection that exists between the academic evaluation of Division I football programs and the various social settings that influence these student-athletes during their intercollegiate career. During this inquiry, several questions demanding future research emerged.
First, given that private control was found to be significant in all models studied, future attention should be paid to pre-college factors that may impact the college selection process and lead a football student-athlete to an institution. By including socio-economic status and other information specific to the individual, the understanding of an academically successful student-athlete may grow. Additionally, status as a scholarship, or non-scholarship, student-athlete would heighten this understanding, as well.

Secondly, with an institutional variable found to be significant in all three models, a closer look at additional institutional variables is in order. Variables such as cost, size, and location should be added to this study. Additionally, in future work, information pertaining to admission requirements and the number of student-athletes that are classified as “special admits” should also be considered. The inclusion of this data will better illustrate those institutional factors that enhance academic performance.

A third line of inquiry that is needed is more advanced analyses to examine causality. Based on the finding that football student-athletes at private institutions achieve higher levels of success as measured by today’s NCAA metrics, research that demonstrates causality between private institutional status and these levels of academic success may prove to be valuable. It is possible that such information could allow non-private institutions to replicate those circumstances that heighten academic success.

From a departmental standpoint, another interesting addition to this study would be a thorough examination of the cutting of sport programs at these institutions. Considering the skyrocketing costs of intercollegiate athletics, as identified by The Knight Commission (2010), as well as the cutting of public funds to many institutions of higher education, it has been documented that many institutions have coped with this
strain on resources by cutting sport programs once sponsored. Institutions that take this action to meet the continually rising bar of academic and athletic accomplishment placed upon their athletic programs should be accounted for, as the phenomenon illustrates an important opportunity cost that needs to be measured. Additionally, as discussed previously, future research to explain the relationship between APR-related sanctions and bowl game appearances would be beneficial so a better understanding is developed of the finding of significance in this relationship.

Lastly, applying this model of research to football at other levels of the NCAA, as well as across the multitude of other sport programs would prove to be informative. This study selected FBS-level football because of its resource intensive nature and its status as a focal point for intercollegiate athletics. However, although not all academic measures are the same across the NCAA, an improved understanding of the institutional, athletic departmental and program-specific variables that impact academic performance of other sport programs would be advantageous, as well.

**Summary**

When considering the academic evaluation of the 118 Division I football programs in this study, significance has been identified in the relationship between social settings and the academic performance of student-athletes. Informed by social identity theory, this work found the influence of private control was most strongly associated with the academic performance of these student-athletes, as football programs at private institutions fared significantly better than their public peers in every academic measure the study considered. Equally important, however, was the identification of a number of
variables that suggested non-significant given the data at hand, findings which build on the previous work in this content area. These findings, both significant and not, will add to a growing body of research in this content area, hopefully guiding the work of future policy and inspiring the development of additional research.
REFERENCES


109


VITA

STEVEN C. EIGENBROT

May 2012

University of South Carolina
Department of Athletics
1300 Rosewood Drive
Columbia, SC 29208

seigenbrot@gmail.com

EDUCATION


Master of Sports Administration, Ohio University, June 2007.

Master of Business Administration, Ohio University, June 2007.

Bachelor of Science, Finance and International Business, University of Maryland – College Park, May 2005.

WORK EXPERIENCE

University of South Carolina, Department of Intercollegiate Athletics, Athletic Development, Assistant Director – Major Gifts, 2010 – present.

University of Nevada – Las Vegas, Department of Intercollegiate Athletics, Rebel Athletic Fund, Director of Annual Giving, 2007 – 2010.