The Relationship of Internal Academic Measures of Success and Graduation Rates

by

Jessica L. Chrabaszcz

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Approved by

James Witte, Chair, Professor of Education Foundations,
Leadership and Technology
Maria Witte, Associate Professor of Education Foundations,
Leadership and Technology
David DiRamio, Associate Professor of Education Foundations,
Leadership and Technology
Joni Lakin, Assistant Professor of Education Foundations,
Leadership and Technology

Abstract

The National Collegiate Athletic Association (NCAA) has continued to implement metrics to determine the number of student-athletes who are academically eligible to compete within their sport and ultimately earn a degree. The following study applied Tinto's Student Integration Model to three metrics that are used by the NCAA.

The study examined whether Academic Progress Rate (APR), a semester by semester metric developed by the NCAA, could predict Graduation Success Rate (GSR), a six year cohort metric also developed by the NCAA. Lastly, the study examined the correlation between GSR and Federal Graduation Rate (FGR), a six year cohort metric that was developed by the Federal government and applies to all institutions that receive Federal funding.

The data set consisted of 240 samples and 720 total scores which were taken from 2003-2006 for APR, GSR, and FGR. Due to the sample size of specific sports over the three year period, not all samples were included in the final analysis. The sports excluded were men's tennis, men's golf, men's basketball, men's soccer, women's basketball, women's gymnastics, women's volleyball, women's golf, women's tennis, women's bowling, and women's lacrosse.

The six sports that had a sample size that were 20 or larger were analyzed with a correlation and a significance level of .05. However, to take into effect any error that was present, the Bonferroni adjustment was made. Therefore, for the results to be significant once the adjustment was taken into consideration, alpha needs to be less than .0083 (.05/6).

Men's swimming and softball were significant as their p values were $< .0083$. Therefore, for these two sports APR is a predictor of GSR. Conversely, the p values for baseball, football, women's soccer, and women's swimming, were all greater than $.0083$; and, therefore, they are not statistically significant. As a result baseball, football, women's soccer, and women's swimming APR are not a predictor of GSR.

Additionally, the following correlations existed between GSR and FGR. Men's swimming had a strong positive correlation indicating that there was a strong relationship when comparing FGR to GSR. In addition, women's soccer and softball had moderate to strong positive correlations when comparing FGR to GSR. Lastly, all of the remaining sports, baseball, football, and women's swimming, had moderate correlations when comparing FGR to GSR.

Additional research is needed to identify possible trends in the data for student-athletes APR, GSR, and FGR rates as well as to increase the sample size of years from which all three scores were collected.

Acknowledgments

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Susan, thank you for always being there to support me from the day I missed my flight three times. You have been a constant positive influence in my life and someone I can always go to for support and guidance. You have no idea how much you mean to me.

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Dad, at times I feel like this might mean more to you than it does to me. I cannot thank you enough for instilling a pride in education in each one of us. Now when you tell people your daughter is a doctor, it will no longer be a stretch of the truth but rather a fact. You have truly pushed me to accomplish this feat, and I am thankful you always had us put education first. A is for aardvark. I am not sure I know much past that, but I know that at least.

Mom, I saved the best for last. Thank you for listening to me for countless hours about how stressed I was, about how I never thought I would finish, and about how I was so stupid for trying to tackle this during football season. Thank you for supporting my goals and ambitions and never thinking they were too large for me to tackle. You are the epitome of the person I hope to become one day, and having you there for me always means more than you will ever know.

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I did it… Dr. J, Dr. Biz, Dr. Chrabs….onto the next degree I go… kidding, well maybe not. Thank you all again. I love you more than you know.

Dedication

Throughout this process I have always hoped that Babci was there with me. I know she is looking down on me and smiling, but the wish that she could be here in person is one that I still continue to have.

Babci a large part of me accomplishing this is because of you. Even in the short amount of time that we had together you always reminded me of a few things:

1. Your dreams are never out of reach

2. Be present and love people

3. Keep your commitments

4. Work hard and good things will come to you

5. Leave time to have some fun

You are truly an inspiration to me every day. I look up to you and there is never a day that you are not on my mind. I hope you are able to smile down and say to your friends in heaven, "that is my granddaughter, she is a doctor and I am so proud of her." You mean the world to me and until we meet again, I will forever keep you in my heart. I love you!

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Chapter I

Introduction

"College athletics have occasionally failed to fulfill their obligation of providing genuine

educational opportunities to student-athletes" (Ferris, Finster & McDonald, 2004, p. 555).

However, as Comeaux notes (2001),

> Over the past decade, the National College Athletic Association (NCAA) Division I
>
> Board of Directors has intensified its efforts to improve the educational experiences of
>
> student-athletes and to bring some sense of balance between athletics and the university's
>
> traditional educational roll" (p. 521).

To make this objective clear, the NCAA has put standards and expectations into place so

that student-athletes not only succeed on the athletic playing fields but also in the classroom. "In

January 1990, the NCAA membership passed legislation that mandated for the first time the

collecting and public reporting of student-athlete graduation rate data" (Petr & Paskus, 2009, p.

78). The final methodology for calculating graduation rates were adopted from the Department

of Education, Student Right-to-Know Act. This act was passed in 1990 and required all student-

athletes graduation data be published (Petr & Paskus, 2009).

In 1995, the NCAA began collecting data known as the Graduation Success Rate (GSR),

in response to college and university presidents who wanted graduation statistics that more

accurately reflect the situations that specifically pertain to student-athletes ("NCAA grad rates

top 80 percent," 2011). GSR accounts for the academic outcomes of student-athletes who

transfer from one institution to another ("Understanding the Graduation Success Rate," n.d.).

One major difference between the NCAA measure of GSR and Federal Graduation Rates (FGR)

is that FGR does not count student-athletes that transfer into an institution and counts student-

athletes that transfers out as graduation failures (Horn & National Center for Education Statistics, 2010).

In addition to GSR, the NCAA also established the Academic Progress Rate (APR). This measure was first put into place during the 2003-2004 academic year and is a metric that accounts for the eligibility and retention of every student-athlete, each term (Satterfield, Croft, Godfrey, & Flint, 2010).

This study will allow academic advisors, athletic administration, the NCAA, and higher education officials to determine if APR are a predictor of GSR for student-athletes. This will allow these individuals to use the term by term metric as an indicator for student-athletes that are not succeeding as well academically as a coach, team, program and department would expect. In addition, it will compare GSR to FGR which does not take into account certain situations that pertain specifically to student-athletes.

Statement of Problem

Federal Graduation Rates (FGR) have been used in the past to measure student-athletes' success within higher education institutions. However, this metric did not take into account certain circumstances that only pertain to student-athletes. Therefore, the National College Athletic Association (NCAA) put into place two metrics that are more consistent with measuring student-athlete academic success specific to their situation. There was a lack of research found addressing the degree to which these metrics predict student-athlete academic success and their relationship to the federal metric. Therefore, this study examined if there is a relationship between Academic Progress Rate (APR) as a means to predict Graduation Success Rate (GSR) for student-athletes. In addition, this study examined the relationship between GSR and FGR, specific to student-athletes.

Purpose of Study

The purpose of this study was to investigate the metric of Academic Progress Rates (APR) as a means to predict Graduation Success Rates (GSR) amongst student-athletes within the Southeastern Conference (SEC). In addition, this study also sought to examine the relationship between GSR and Federal Graduation Rate (FGR). The data were used to identify a relationship between APR and GSR. It was then used to compare GSR to FGR within student-athletes in major collegiate athletic programs. The significance of such findings will allow future higher education professionals, athletic administration, and the National College Athletic Association (NCAA) to understand the correlation between APR and GSR, as well as the relationship of GSR to FGR which do not take into account circumstances that only pertain to student-athletes.

Research Questions

1. What is the relationship between Academic Progress Rates and Graduation Success Rates within Southeastern Conference Institutions?

2. Do Academic Progress Rates predict Graduation Success Rates?

3. What is the relationship between Graduation Success Rates and Federal Graduation Rates?

Limitations of the Study

This study was limited to intercollegiate programs within the Southeastern Conference (SEC) from 2003-2006. These limits exist because Academic Progress Rates (APR) were not established and accounted for until 2003 (Satterfield, Croft, Godfrey, & Flint, 2010). APR are reported by National Collegiate Athletic Association (NCAA) institutions each year. In addition,

the NCAA reports a multi-year rate for APR, which is a four year average (NCAA Division I Manual, 2012).

This study was also limited to intercollegiate programs within the SEC from 2003-2006 because Graduation Success Rates (GSR) are measured in a six year cohort (Petr & Paskus, 2009). Therefore, the most recent record of data that has been reported for these rates are from 2005-2006 academic year.

Only data available through the NCAA database was used in this study.

Assumptions of the Study

1. The data used in this study were taken from the National Collegiate Athletic Association (NCAA) research database; therefore, it is assumed that all information that was reported was truthful and without bias.

2. The conclusions of this study should be limited to Division I intercollegiate athletics. Generalizability should be limited to the geographical area of the Division I Southeastern Conference. Any application of this study outside of this geographical area should be conducted with caution.

Definition of Terms

The following definition of terms will assist with clarification of context throughout this study:

1. Academic Progress Rate (APR): The Academic Progress Rate measures the academic achievement of Division I teams during each academic term. Each student-athlete earns one point for staying in school and one point for being academically eligible. A team's total points are divided by points possible and multiplied by 1,000 to produce the team's APR ("Division I Academic Progress Rate," 2010). APR is reported to the National

Collegiate Athletic Association (NCAA) each year and the NCAA develops a four year, multi-year APR Rate (NCAA Division I Manual, 2012).

2. Assistant Athletic Director/Associate Athletic Director/Senior Associate Athletic Director: High-level administrators within an athletics department who typically oversee individual sports, departments or specific operations within the department. Each of these titles can be interchangeable based on rank and depending on the university or institution.

3. Chief Operating Officer/Deputy Athletics Director/Executive Associate Athletic Director/Executive Senior Associate Athletic Director: Second highest ranking official within an athletics department. Each of these titles can be interchangeable based on rank and depending on the university or institution.

4. Committee on Academic Performance: This committee administers the academic performance program. It consists of 15 members including a minimum of two chancellors or presidents, one faculty athletics representative, one director of athletics, one senior woman administrator and one conference administrator. The committee will include at least two members from each of the three Division I membership subdivisions. All committee members should be on the staff of a Division I active institution or conference. A president or chancellor member shall serve as chair. After the chair has served two full terms, the Board of Directors may extend his or her term at two-year intervals (NCAA Division I Manual, 2012, p. 377).

5. <u>Director of Athletics (AD):</u> Highest ranking official within an athletic department.

6. <u>Division I Institution:</u> An institution that meets the standards for membership in the definition set forth by the National Collegiate Athletic Association (NCAA). These institutions must have at least fourteen sports, at least seven of which must be women's sports and must offer financial athletic scholarships. It is the highest level of athletic competition for intercollegiate athletics with approximately 347 institutions (June, 2012) competing at this level (NCAA Division I Manual, 2011).

7. <u>Football Bowl Subdivision (FBS):</u> Renaming of Division I-A in 2006. The highest level of Division I competition in which football programs are eligible for competition in post season bowls (Russo, 2007).

8. <u>Football Championship Subdivision (FCS):</u> Renaming of Division I-AA. This subdivision uses a playoff system for competition and crowns an NCAA champion upon completion; the teams in this division are not eligible for post season bowls (Russo, 2007).

9. <u>Federal Graduation Rate (FGR):</u> This is compiled by the U.S. Department of Education and is used as an indicator of academic success for all college students. In addition, this rate also looks specifically at the cohort of student-athletes measured under this metric. Federal Graduation Rate measures the percentage of first-time, full-time freshmen who graduate within six years of entering their original four-year institution. This rate does not

take into account student-athletes who transfer from an institution before graduating but are in good academic standing. It also does not take into account those students who transfer to an institution and earn a degree ("What is the Graduation Success Rate?" n.d.).

10. <u>Graduation Success Rate (GSR):</u> The NCAA developed the Division I Graduation Success Rate in response to college and university presidents who wanted graduation data that more accurately reflected the mobility among college student-athletes. The rate measures graduation rates at Division I institutions and includes student-athletes transferring into the institutions. The GSR also allows institutions to exclude from the computation student-athletes who leave their institutions before graduation so long as they would have been academically eligible to compete had they remained ("Graduation Success Rate", 2011).

11. <u>National Collegiate Athletics Association (NCAA):</u> Governing body of Division I, II, and III athletic programs. This association, with advisement from its member institutions, sets rules and guidelines for all colleges and universities as well as for its student-athletes to follow. According to the 2011-2012 NCAA Division I Manual,

> By-Law 1.3.1 Basic Purpose: The competitive athletics programs of member institutions are designed to be a vital part of the educational system. A basic purpose of this Association is to maintain intercollegiate athletics as an integral part of the educational program and the athlete as an integral part of the student body and, by so doing, retain a clear line of demarcation between intercollegiate athletics and professional sports (p. 1).

By-Law 1.3.2 Obligations of Member Institutions: Legislation governing the conduct of intercollegiate athletics' programs of member institutions shall apply to basic athletics' issues such as admissions, financial aid, eligibility and recruiting. Member institutions shall be obligated to apply and enforce this legislation, and the enforcement procedures of the Association shall be applied to an institution when it fails to fulfill this obligation (p. 1).

12. Nonprofessional Sport: For the purpose of this study, a nonprofessional sport is one in which an athlete participates and may be paid for doing so; however, they are not self-sufficient based solely on the salary they earn from competition. The following sports were considered nonprofessional in the following study: Men's Swimming, Women's Gymnastics, Softball, Women's Soccer, Women's Swimming, Women's Volleyball, and Women's Lacrosse.

13. Professional Sport: For the purpose of this study, a professional sport is one that an athlete can compete in and fully support themselves finically based solely on their salary to compete in that sport. The following sports were considered professional: Baseball, Men's Basketball, Football, Men's Tennis, Women's Basketball, Men's Golf, Women's Golf, Men's Soccer, Bowling, and Women's Tennis.

14. Reliability: Generally defined as the consistency of the results. In case study research, reliability is the measure to the extent that two different researchers come to the same conclusions using the same procedures (Gall, Borg, & Gall, 1996).

15. <u>Senior Woman Administrator (SWA):</u> This position is appointed at every National Collegiate Athletic Association institution by the Director of Athletics to a female within the organization. If the Director of Athletics is a female, this position will be appointed to another female within the organization. Responsibilities will vary based on the institution.

16. <u>Student-Athlete:</u> An individual whose academic enrollment was solicited by a member of an athletic staff or by another member of athletic interest. This individual competes for an athletic team sponsored by the institution while also being enrolled academically at the institution (NCAA Division I Manual, 2011).

17. <u>Southeastern Conference (SEC):</u> A conference within NCAA Division I competition that is comprised of the following universities: University of Alabama, University of Arkansas, Auburn University, University of Florida, University of Georgia, University of Kentucky, Louisiana State University, University of Mississippi, University of Missouri, Mississippi State University, University of South Carolina, Texas A&M University, University of Tennessee and Vanderbilt University.

18. <u>Validity:</u> Commonly defined as, the degree to which a test measures what it claims to measure. Test scores cannot be valid or invalid, but rather the inferences made from the test scores can be valid or invalid (Gall, et al. 1996).

Organization of the Study

The study was conducted in order to acquire information about the academic progress and graduation success of student-athletes in the Southeastern Conference (SEC) within particular male and female sports in comparison to federal graduation data that was collected. These data are intended to provide useful information and tools to assist athletic administrators, higher education officials, and the National Collegiate Athletic Association (NCAA) in their future attempts to determine the appropriate measures to determine academic success and graduation predictors for student-athletes.

Chapter I introduces the study by presenting a statement of the problem, a purpose of the research, research questions, limitations of the study, assumptions of the study, definition of terms, and an organization of the study. Chapter II contains a review of the related literature which considered Tinto's Student Integration Model as a factor of academic success for student-athletes. It also examines the academic role of the NCAA, Federal Graduation Rates, Academic Progress Rates, and Graduation Success Rates as an indicator of academic success for student-athletes. Chapter III addresses the procedures used in this study including an introduction, purpose of the study, population and sample, data access and collection process, validity and reliability, as well as an analysis of the data. The chapter concluded with a summary of Chapter III. Chapter IV presents the findings of the study and an interpretation of the data. Chapter V offers findings and conclusions, a discussion of the findings, implications, and recommendations for further research.

Chapter II

Review of Literature

Chapter 1 addressed the statement of the problem, the purpose of the study, the research questions, the limitations and the assumptions of the study, definition of terms and the organization of the study. Chapter 2 reviews the literature which considered Tinto's Student Integration Model as a factor of academic success for student-athletes. This chapter also provides an overview of the academic role of the National Collegiate Athletic Association, Federal Graduation Rates, Academic Progress Rates and Graduation Success Rates as an indicator of academic success for student-athletes.

Purpose of Study

The purpose of this study was to investigate the metric of Academic Progress Rates (APR) as a means to predict Graduation Success Rates (GSR) amongst student-athletes within the Southeastern Conference (SEC). In addition, this study also sought to examine the relationship between GSR and Federal Graduation Rate (FGR). The data were used to identify a relationship between APR and GSR. It was then used to compare GSR to FGR within student-athletes in major collegiate athletic programs. The significance of such findings will allow future higher education professionals, athletic administration, and the National College Athletic Association (NCAA) to understand the correlation between APR and GSR, as well as the relationship of GSR to FGR which do not take into account circumstances that only pertain to student-athletes.

Research Questions

1. What is the relationship between Academic Progress Rates and Graduation Success Rates within Southeastern Conference Institutions?

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Tinto's Student Integration Model

Tinto's Student Integration Model provided the theoretical framework for this study. Building on Spady's work and Durkheim's Theory of Suicide, Tinto formulated a theory explaining the process of what motivates individuals to leave colleges and universities before the completion of a degree (Cabrera, Castaneda, Nora, and Hengstler, 1992). As Tinto noted (1997), "One thing we know about persistence is that involvement matters. The more academically and socially involved individuals are; that is, the more they interact with other students and faculty, the more likely they are to persist" (p. 168). The greater a student's involvement in college life, the more likely they are to develop knowledge and academic skills to be successful and persist throughout college to graduation.

As noted by Tinto (1997), it is necessary to get students involved, especially early in their college careers in order to retain them. Student-athletes face extra pressures that the traditional student never encounters. However, student-athletes are students first, and in order to succeed academically and socially, there are certain factors that must be present within the university to aid them in succeeding and retaining them. Athletics is not the sole determinant in the pursuit of student retention. There are six conditions within an institutions control that aid in the retention

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and support of student success. These conditions are commitment, expectations, support, feedback, involvement, and learning (Tinto, 2005).

If an institution is committed to student success, especially among low-income and under-represented students, institutions will always find a way to achieve that end. As stated by Tinto (2005), "institutional commitment is more than just words, more than just mission statements issued in elaborate brochures; it is the willingness to invest the resources and provide the incentives and rewards needed to enhance student success" (p. 2). Without this commitment to succeed; programs, expectations, and activities may be put in place for students but rarely do they ever make it long-term in order to assist students in succeeding, both academically and socially.

The second condition that must be present for students to succeed is expectations. It is necessary for an institution to place expectations on students. As explained by Tinto (2005), "no student rises to low expectations" (p. 2). Too often students have far less expectations placed on them than what is perceived. Without high expectations in place, there is little to no incentive for students to succeed, aside from personal goals and objectives. In order for students to meet expectations, the university must also do their part. It is necessary to give students the tools they need in order to succeed. "The inability to obtain needed advice during the first year or at the point of changing majors can undermine motivation, increase the likelihood of departure, and for those who continue, result in increased time to degree completion" (Tinto, 2005, p. 2). Therefore, it is necessary for institutions to provide students with the appropriate resources to meet the expectations that are put in place.

The support that students receive directly promotes success. "Research points to three types of support that promote success: academic, social, and financial" (Tinto, 2005, p. 3). As

presented earlier, academic support centers are continually being added to aid student-athletes, the same resources are also necessary for the traditional student to succeed. Developmental educational courses, tutoring, study groups, and academic support programs are necessary tools for students to succeed. In addition to these academic support structures, students all need social support in the form of counseling, mentoring, and diverse student centers (Tinto, 2005). These centers provide a place for students to socially interact with other students that are like them. In addition, they provide a comfort to students based on their sexual orientation, race, gender, nationality, and what they enjoy doing outside of the classroom.

Feedback is the next condition that must exist for students to succeed in higher education. According to Tinto (2005), "students are more likely to succeed in settings that provide faculty, staff and students frequent feedback about their performance" (p. 4). This type of feedback is in addition to testing assessments and allow the student and faculty to adjust their learning and teaching in ways that promote constant learning. This can be done with class interaction, portfolio assignments, papers, in addition to testing which is a necessary component within higher education assessment (Tinto, 2005).

The fifth, and arguably the most important condition to promote success amongst students, is involvement. The more students are involved both socially and academically the more likely they are to persist throughout college and graduate. As Tinto explained (2005),

> This is especially true during the first year of university study when student membership is so tenuous yet so critical to subsequent learning and persistence. Involvement during that year serves as the foundation upon which subsequent affiliations and engagements are built (p. 4).

There is no better place for involvement on campus than in the classroom. For many students this is their only interaction with faculty and other students due to all the outside factors that students currently face. In addition, learning is critical and the center of the college experience to promote success amongst these student-athletes (Tinto, 2005). Students are more likely to persist and graduate in settings that foster learning. "Students who learn are students who stay. Institutions that are successful in building settings that educate all of their students, all not just some, are successful in graduating their students" (Tinto, 2005, p. 5). Students that are actively involved in learning and within environments that promote and foster learning communities are more likely to continue on their college path and graduate.

NCAA Academic Role

The public service announcements made by the NCAA during sporting events are strong. "There are over 400,000 student-athletes in the NCAA, and almost all of them will go pro in something other than sports. The numbers behind the claim are stark, and the message is clear, college graduation matters" (Hosick & Sproull, 2012, p. 31). To ensure that student-athletes are focused not only on the athletic playing field but also in the classroom, the NCAA has in place multiple academic checkpoints and standards that students must fulfill. These requirements begin prior to entering college, continue throughout the student-athlete's academic life, and have an impact on the institution and team long after the student has graduated or left the institution.

To compete in intercollegiate athletics, freshman student-athletes must meet the initial academic eligibility standards set by the NCAA (Heck & Takahashi, 2006). After these criteria are met, there are numerous requirements which remain in place throughout a student-athlete's career that must also be met in order for them to remain eligible for competition. The history of

academic legislation, which put these requirements into place, is long and tedious; however, over the past 25 years NCAA legislation has continued to evolve to where it is today.

The first of these academic standards started in the early 1970's and was known as the 1.6 Rule (Mondello & Abernethy, 2000). According to Mondello and Abernethy (2000), the 1.6 Rule stated that "athletes were required to have a high school GPA and SAT score in a combination that would predict a 1.6 GPA as a college freshman" (p. 1). If these standards were met, as well as the standards of the specific institution that the student was attending, the student was eligible for competition. However, in 1972 the 1.6 Rule was abolished; and that, in effect, eliminated all academic eligibility standards at that time. Consequently, the only standing requirement for student-athletes entering their freshman year of college was graduation from high school (Mondello & Abernethy, 2000).

The lack of initial-eligibility rules after 1972 led to an increase in academic exploitation. The NCAA knew they had to establish new guidelines governing academics for student-athletes. Therefore, the NCAA established Proposition 48 in 1986 as a result of demands to reform athletic postsecondary institutions (Heck and Takahashi, 2006). At that time officials believed that the inclusion of Proposition 48 would raise graduation rates and eliminate some of the criticism that was being directed at institutions (Heck & Takahashi, 2006). The standards put in place by Proposition 48 were the first rigorous academic expectations that were designed to streamline academics across all NCAA institutions. However, the requirements caused controversy amongst NCAA institutions when they were introduced in 1983 (Mondello & Abernethy, 2000). Though the premise of academically streamlining eligibility requirements was respected, critics felt that it penalized African-American students (Heck & Takahashi, 2006). A consensus amongst researchers believed that student-athletes were being exploited for their

athletic talents while their academics were being pushed aside and suffering as a result of athletic competition (Mondello & Abernethy, 2000). It was necessary to have academic standards in place for student-athletes, but what these standards were greatly debated.

In 1983, Proposition 48 was enacted, and it required high school graduates to have a 2.0 grade point average (GPA) in eleven academic courses and a minimum Scholastic Aptitude Test (SAT) score of 700 or American College Testing (ACT) score of 15 (Meyer, 2005). Supporters of the proposition believed that with the increase in academic standards being placed on the student-athletes, these athletes would rise to the occasion and meet these standards in order to be eligible for athletic competition. Proposition 48 also caused high schools to be more aware of the academics that they were providing to their students and assisted high schools in better preparing students for the rigors of college academics (Mondello & Abernethy, 2000).

However, not all students were able to meet the academic rigors and expectations that were put in place with Proposition 48. If a student-athlete was unable to meet the standards, they had to sit out one academic year at the college that they chose to attend. This "year in residence" was established to help acclimate the student to college life and allow them to catch up academically before having to juggle academics and athletics full time as a student-athlete (Mondello & Abernethy, 2000).

"Proposition 48 eventually gave way to Proposition 16 which the NCAA adopted in 1992 and fully implemented during the 1996-1997 academic year," according to Waller (2003, p. 193). Proposition 16 increased the number of core high school classes needed for admission to college from eleven to thirteen and created a sliding scale for each student based on the standardized test score (SAT or ACT) that they achieved. This score, along with their high school GPA, was used to determine initial-eligibility as long as they met the baseline

requirements of 820 on the SAT and a 2.5 GPA or a 1010 on the SAT and a 2.0 GPA. A student would not qualify with an SAT score lower than 820 or a GPA lower than 2.0 (Meyer, 2005).

In March of 1999, federal Judge Ronald Buckwalter in Cureton vs. NCAA ruled that the NCAA could not use minimum test scores to eliminate student-athletes from academic eligibility because the practice was considered discriminatory and unfair to African-American student-athletes (Meggysey, 2000). The premise of minimum test scores, as well as, minimum GPAs was the basis of Proposition 16 and led to an appeal of the above case. On December 22, 1999, in a two-to-one decision, the US Third Circuit Court of Appeals reversed Judge Buckwalter's decision based on a technicality. The Appellate Court did not address the primary issue in the case, thus allowing the NCAA to use Proposition 16 as a means to regulate academic standards (Meggysey, 2000).

Proposition 16, like that of Proposition 48, faced controversy since it was seen as a means to phase out African-American student-athletes in college athletics (Munczinski, 2003). This debate was rooted in the fact that Proposition 16 placed emphasis on SAT scores. Opponents to the proposition believed that the guidelines discriminated along racial and socioeconomic lines. The NCAA continued to defend their stance on the proposition insisting that it was in place to improve graduation rates among student-athletes, especially African-Americans (Munczinski, 2003).

According to Munczinski (2003), adopting Proposition 16 after Proposition 48 allowed for universities to have partial qualifiers. "A student-athlete who was not eligible under Proposition 16 could be classified as a partial qualifier by having a GPA within the qualifier bracket but have an SAT or ACT score below the minimum levels or vice versa" (p. 12). By allowing partial qualifiers, these student-athletes could practice with their teams their first year

on campus while receiving athletics aid and attending the institution full time. However, athletes with an SAT score below 720 were designated as non-qualifiers and were not allowed to receive athletics aid or practice with their teams during their first year of full time academic enrollment at an NCAA member institution (Munczinski, 2003). Each of these levels helped to tier the academic standards and expectations of first time college students who also were tasked with balancing a full-time athletic schedule.

In 1999, in the face of growing ligation against the NCAA due to Proposition 16, the association adopted an additional bylaw that granted partial qualifiers five years to utilize their four years of athletic eligibility. According to Bakker (2005),

This new bylaw prevented a significant amount of litigation from proceeding past summary judgment or motions to dismiss. Courts often pointed to this bylaw stating that there was no relief to be granted through injunction because the petitioner was able to receive four years of athletics participation as well as full scholarship support (p. 175).

In August of 2003, Proposition 16 was amended; and all current NCAA legislation is located in the NCAA Manual. Bylaw 14 houses all academic and general eligibility standards and is titled, Bylaw 14, Eligibility: Academic and General Requirements. NCAA Bylaw 14.3.1.1.1 (2013) states that student-athletes first entering a collegiate institution on or after August 1, 2003 must meet the requirements on the Initial Eligibility Index. According to Meyer, "this index allows college coaches, in every sport, to recruit high school athletes who achieved no better than a 400 on their SAT if they have a 3.55 or above high school GPA" (p. 16).

An institution, specifically the athletic compliance and academic staffs, are responsible for making sure all student-athletes meet academic standards set by the NCAA and the institution's respective conference and institutional policies. As stated in the 2012-2013 NCAA

Manual, "an institution shall not permit a student-athlete to represent it in intercollegiate athletics competition unless the student-athlete meets all applicable eligibility requirements, and the institution has certified the student-athlete's eligibility" (p. 145). If an institution certifies a student-athlete who does not meet these standards or allows them to play without certification, the institution has violated the rules of its membership and will be penalized.

Student-athletes are not only required to meet initial-eligibility standards to begin competition at an institution; they are also responsible to continue to meet academic standards as they progress throughout their academic and athletic careers. These are known as progress toward degree requirements. According to Bylaw 14.01.2 Academic Status, "to be eligible to represent an institution in intercollegiate athletics competition, a student-athlete shall be enrolled in at least a minimum full-time program of studies, be in good academic standing, and maintain progress toward a baccalaureate or equivalent degree" (p. 145). Each of these academic standards can change from institution to institution; however, the basis of the expectations are set within the NCAA Bylaw. All student-athletes must be enrolled full-time, working towards completing degree requirements and be in good academic standing according to their university to compete in intercollegiate athletics. Again, with these standards in place, the expectation is set for each member institution within the NCAA to understand that student-athletes are students first, and athletes second.

Over the past thirty years, these academic standards, now called NCAA Bylaws, have continued to evolve to govern NCAA academics for student-athletes. The first set of standards, were enacted as a reaction to a series of high-profile academic scandals within NCAA institutions and a desire to improve higher education overall (Hosick & Sproull, 2012). As eligibility standards continued to evolve, so too did the research to support the changes. Later

proposals, such as Proposition 16 and Bylaw 14, were set in place after careful research was conducted to predict what was necessary to academically prepare a student for college while they were also competing forty-plus hours a week in athletic competition.

Current academic standards are more rigorous then those in the past and that is a testament to the NCAA increasing their expectations after extensive research and data-based decision making (Hosick and Sproull, 2012). The following are Division I eligibility standards that are currently being applied by the NCAA:

1. Freshman student-athletes must achieve at least 10 of the required 16 core courses before the start of the senior year of high school (including seven in English, math or science).

2. A minimum high school core-course GPA of 2.3 and an enhanced sliding scale combination of GPA and test score are required to be immediately eligible for competition.

3. Incoming freshman who meet the current sliding scale with a 2.0 minimum high school core-course GPA be will be eligible for financial aid and practice as an academic redshirt (Hosick & Sproull, 2012, p. 31).

The Bylaws of Section 14 within the NCAA manual are long and daunting. They continue to evolve and increased exceptions continue to be placed upon each bylaw by institutions and individuals that stress they are not fair to racial minorities and specific groups of student-athletes. However, the NCAA has continued to place an emphasis on student-athletes academics coming before their athletic playing careers. Bylaw 14 continues to govern NCAA academic standards to ensure that students are focused on academics and maintain progress toward degree and academic eligibility. Along with the NCAA, the federal government has also

put standards and measures into place to measure student-athlete graduation success, as well as, graduation success of the entire student body. This metric is called Federal Graduation Rates (FGR).

<div align="center">Federal Graduation Rate</div>

According to Petr & Paskus (2009), "The collection of this NCAA Federal Graduation Rate (FGR) was initiated with the 1984 entering class of Division I student-athletes" (p. 79). The NCAA was required to release this data beginning in 1990 through the Department of Education Student Right-to-Know Act (Horn & National Center for Education Statistics, 2010). The law requires universities receiving federal funds to report FRG for all students, and more specifically to report separately the FRG for student-athletes. Chen, Bersudskaya, Cubarrubi (2011) stated,

> In addition, it requires postsecondary institutions that receive Title IV funds to submit an annual report to the Department of Education containing information on enrollment and graduation rates disaggregated by gender, race/ethnicity, receipt of athletic scholarships, and by type of sport (p. 3).

In addition to this information, the law also requires universities to provide additional information to the federal government. This information includes, but is not limited to, cost of attendance, accreditation and academic program data, security reports, and financial aid (Southall, 2012). The purpose of FRG is to calculate how many students earn degrees within six years of initially enrolling in an institution. However, there has been criticism about this measure because FGR does not take into account situations that are specific to student-athletes. The FGR is not adjusted, for example, for student-athletes who transfer in or out of a specific institution regardless of whether or not they finish their degree elsewhere and are academically eligible. It

also does not factor in students who change their enrollment status from full-time to part-time after their initial count into a cohort (Southall, 2012).

Federal Graduation Rates are extremely straightforward as they determine the extent to which colleges and universities retain and graduate students who begin as full-time undergraduates (Southall, 2012). Due to this lack of distinction for student-athletes, the NCAA no longer recognizes FRG as a determinant factor for academic progress of athletic teams and has their own metric of GSR and APR to hold their athletic programs, coaches, and administrators accountable.

According to LaForge & Hodge (2011), "Central to the issue of developing institutional academic policy based upon the NCAA metrics and the federal metric are concerns that FGR may not provide an accurate measure of student-athletes' academic success" (p. 218). One example of this involves a student-athlete who chooses to leave an institution early due to the pursuit of a professional career. Under FGR regulations, these students are seen in the same light as those students who leave due to academic reasons (LaForge & Hodge, 2011). The FGR does not take into account academic eligibility when transferring to another institution. It is simply seen as the student leaving school early without obtaining a degree in the six year time frame from when they entered the institution. There are certain situations that pertain strictly to student-athletes that should be considered and taken into account when assessing academic performance, as well as developing metrics to make sure these standards and expectations are being met.

To fully understand FGR, it is important to understand how it is computed. According to LaForge & Hodge (2011), "FGR computation for student-athletes is the percent of student-athletes initially enrolled in the fall of year n who graduated by the fall of year n+6" (p. 220). Table 1 below includes sample data for both FGR and GSR computation. The data is for a

sample population of ten student-athletes. The GSR portion will be discussed in further detail later in this chapter.

Table 1

Sample Data for FGR and GSR Computation

	Initially Enrolled in Fall of Year *n*	Transferred in and Initially Enrolled in the Following Semester	Left School after Enrolling – Academically Eligible	Left School after Enrolling – NOT Academically Eligible	Graduated by Fall of Year *n* + 6
SA1	Y				Y
SA2	Y		Y		
SA3	Y				Y
SA4	Y				Y
SA5	Y			Y	
SA6	Y				Y
SA7	Y				
SA8		Y			Y
SA9		Y	Y		
SA10		Y			Y

NCAA Academic Performance Metrics: Implications for Institutional Policy and Practice, 2011, p. 220

The following is the explanation of Table 1 according to the NCAA Academic Performance Metrics: Implications for Institutional Policy and Practice (2011).

Table 1 above shows a population of 10 student-athletes (SA), identified as SA1 through SA10. This could represent a specific sports team or athletes of a certain gender or ethnicity. The 10 SAs in Table 1 are assumed to be receiving athletics' financial aid. The first two columns in Table 1 indicate the enrollment status of each SA as of the beginning of the fall of year *n*. SA1 through SA7 initially enrolled in the fall of year *n*; whereas, SA8 through SA10 either transferred to the institution or initially enrolled in the following semester at midyear. The last three columns indicate the academic status of each SA at the time of their departure from the school. SA2 and SA9 left school after enrolling without graduating but were academically eligible to compete as student-

athletes when they left. SA5 left school after enrolling without graduating and was not

academically eligible to compete as a student-athlete at the time of his/her departure.

SA1, SA3, SA4, SA6, SA8, and SA10 remained at the institution until graduation and

completed their degree requirements by the fall of year $n+6$.

The cohort group for computing FGR is SA1, SA2, SA3, SA4, SA5, SA6, and SA7. This

is noteworthy because it indicates that the FGR methodology includes only those SAs

enrolled at the beginning of the school year (i.e., in the fall of year n). Midyear enrollees

(SA8, SA9, and SA10), whether first-time students or transfers, are not included in these

computations.

Because four (SA1, SA3, SA4, and SA6) of the seven student-athletes in the cohort group

graduated by fall of year $n+6$, the population of student-athletes in Table 1 has a FGR of

57% based on the following calculation: FGR = (4/7) * 100 = 57 (p. 220).

The example above shows how FGR is determined and how certain groups of students

(those that leave an institution for a professional team, for example) are accounted for within

FGR. FGR can also be useful for comparisons within an institution that might yield insights into

how student-athletes compare to all students on campus, as well as, for comparisons amongst

programs across institutions. As the LaForge & Hodge notes (2011),

FGR can also be used for benchmarking a collegiate athletic team across institutions

provided the statistic used for benchmarking is the difference between institutional FGR

and athletic team FGR. The different score controls for the unique characteristics of

individual institutions and allows meaningful inter-institutional comparisons (p. 225).

When athletic team FGR are used as a means to compare institutions on the same level,

all professional opportunities and additional reasons for a student-athlete's departure are taken

into account; and each of the comparisons prove to be meaningful for similar institutions, between conferences and across divisional levels.

Though FGR are accounted for and collected for each institution receiving federal aid, there are a number of limitations to FGR which has led the NCAA to use other metrics to measure academic success within athletic programs. As Ferris, Finster, and McDonald note (2004),

> One major limitation of the measure is that it does not measure all athletes. Only those student-athletes who have enrolled full time and receive athletically related financial aid (i.e., athletic scholarship) in their first year of enrollment are counted in the measure. The statistic does not include non-scholarship athletes, or "walk-ons", nor does it count "recruited walk-ons" who might eventually receive an athletic scholarship after their first year of enrollment (p. 558).

All of these limitations are significant concerns as walk-ons and recruited walk-ons make up close to 50% of all athletes within an institution. A second limitation of FGR is the size of the athletic population for any one cohort (Ferris, Finster, & McDonald, 2004). Due to the small sample size within a conference, institution, or team, a ten year population is examined within college athletics. However, small population sizes can cause a large swing in FGR from year to year making its usefulness limited.

There are additional limitations within FGR as Ferris, Finster, and McDonald note (2004),

> A third limitation of the statistic involves its status as a "lagging indicator," measuring the results of a process only after its conclusions. This is problematic in that it does not provide "real-time" feedback on the system of educating athletes (p. 559).

In addition, the FGR fails to acknowledge the differences in academic rigor amongst majors and institutions when collecting academic data to determine graduation rates. Lastly, FGR only looks at individuals who remain at and graduate from the same institution six years after enrolling. Any student who transfers from the institution or takes longer than six years to complete a degree is counted against the institution regardless of whether they were eligible upon transferring or graduated after the six year timeframe (Ferris, Finster, & McDonald, 2004).

Reporting of student-athlete FGR began due to the Student Right-to-Know Act in 1990 as a means of tracking educational data within a six year cohort (Horn & National Center for Education Statistics, 2010). As student-athlete academic data continued to be analyze, the NCAA realized this measure was no longer realistic due to the number of student-athletes who transferred from an institution or left to play professional athletics. Therefore, the NCAA began to research and develop their own metrics to measure graduation success. The most commonly used metrics within the NCAA are GSR and APR. GSR most closely mirror FGR and are used to examine circumstances that are specific to student-athletes that ultimately take into account the time in which it takes student-athletes to graduate.

Graduation Success Rate

Graduation Success Rate (GSR) is a measure that was developed by the NCAA in 1995 to determine academic success for student-athletes separate from FGR. This rate is unique for student-athletes in that it only applies to those student-athletes who receive athletics aid (LaForge & Hodge, 2011). The rate differs from FGR because it does not penalize student-athletes who transfer and are academically eligible, and it credits the institution for midyear transfers who enroll and graduate (Sander, 2009). As Sander notes (2009),

The NCAA uses its own formula to calculate the GSR of Division I athletes. The figures

are different from the graduation rate calculated by the U.S. Department of Education.

The NCAA statistics, unlike the federal ones, do not penalize institutions when athletes

transfer to other colleges as long as they depart in good academic standing (p. 1).

One downfall of this measure is that GSR only tracks if a student-athlete leaves and is

eligible. It does not follow the student throughout the rest of their career to see if they do, in fact,

graduate or drop out from the next institution they attend. This problem is most likely lessened

when the student-athlete arrives at their new institution and is now considered a part of that

program's GSR calculations (Denhart, Villwock & Vedder, 2009).

All NCAA Division I institutions are responsible for the graduation success and academic

standards of their student-athletes as it relates to each individual institution's academic

principles. As an institution, the school must determine the amount of emphasis to place on FGR,

GSR, and APR when considering the academic rigor and expectations of the university as a

whole (LaForge & Hodge, 2011). As LaForge & Hodge note (2011),

NCAA Division I member institutions are accountable for the APR and GSR of their

athletic teams and other minimum NCAA academic regulations as a condition of

participation in NCAA events. Athletic conferences may also have academic policies.

However, broader institutional academic policy affecting student-athletes remains the

purview of each individual school (p. 217).

In addition to academic standards placed on APR, GSR and FGR by a specific institution,

each academic program must also meet the requirements set forth by the NCAA in order to

remain a member of the association. NCAA Bylaw 23.01.3.3 states (2013),

An institution shall not be eligible to enter a team or individual competitor in a

postseason competition (including NCAA championships and bowl games) unless it has

submitted, by the applicable deadline, its GSR in a form approved and administered by

the Committee on Academic Performance (p. 377).

In addition to the standards that are noted above, NCAA Bylaw 23.02.2 notes (2013),

The Committee on Academic Performance shall determine the minimum acceptable

GSR. The Committee on Academic Performance shall publish an explanation of the GSR

calculation to the membership annually (p. 377).

There are specific expectations within the NCAA Manual set forth by the Committee on

Academic Performance in order for a school to continue membership within the NCAA and

participate in intercollegiate competition, specifically post season competition. Though these

regulations differ from FGR regulations, there is still a large emphasis on the academic

proponent of college athletics.

Each university and athletic program is responsible for reporting their GSR to the NCAA

to determine if their program is eligible for competition within the NCAA. GSR is completed

and accounted for on a sport-by-sport basis. As Denhart, Villwock & Vedder note (2009), "there

is a great disparity in GSR rates by gender and sport" (p. 12). This is illustrated in the Table 2

below for cohorts 1997-2000 and 1998-2001.

Table 2

Average GSR for Division I Student-Athletes, 1997-2000 & 1998-2001

Category	1997-2000 Cohorts	1998-2001 Cohorts
Division I Overall	77%	78%
Division I Men	70%	71%
Division I Women	87%	87%
Division I FBS	78%	79%
Division I FCS	75%	75%
Division I No Football	79%	81%

The Academic-Athletics Trade-Off, 2009, p. 12.

One of the disparities noted in Table 2 for GSR is between males and females. Females in the 1997-2000 cohort graduated at a rate 17% higher than their male counterparts; and in the 1998-2001 cohort, females graduated at a rate 16% higher than their male counterparts. As noted by Denhart, Villwock & Vedder (2009),

> Male sports dominate athletic budgets. However, female athletes graduated at a 16% higher rate than male athletes in the 1998-2001 study years. The proportion of allocated funds to male sports programs verses female sports programs correlates negatively with graduation rates (p. 12).

An examination into specific sports at the University of Wisconsin-Madison showed an even greater disparity amongst male and female athletes.

Table 3

GSR, University of Wisconsin-Madison, 1998-2001 Cohorts

Men's Sports	GSR	Women's Sports	GSR
Swimming	89%	Tennis	100%
Basketball	86%	Ice Hockey	96%
Cross Country/Track	83%	Swimming	94%
Wrestling	79%	Cross Country/Track	91%
Tennis	75%	Volleyball	91%
Ice Hockey	72%	Crew/Rowing	84%
Soccer	71%	Basketball	80%
Football	63%	Softball	82%
Golf	50%	Soccer	81%
		Golf	75%

The Academic-Athletics Trade-Off, 2009, p. 14.

Table 3 above noted that the male sports that generated the most revenue, which are Basketball and Football, had some of the lower GSR scores compared to that of their female counterparts and non-revenue generating male sports. In comparison, female sports, which did not generate considerable revenue, had much higher GSR than the male sports. The female sport that generated the most revenue typically amongst female college athletics is Women's Basketball. It is within the lower GSR scores that are indicated above in comparison to all of the female sports that were accounted for (Denhart, Villwock & Vedder, 2009). Therefore, there is a negative correlation between money allocated to programs that generate revenue and academic performance according to the GSR for male sports (Basketball and Football) and the female sport (Basketball).

There are additional differences that must also be accounted for when looking at the GSR in comparison to the FSR within athletic programs. According to LaForge & Hodge (2011),

The major difference between GSR and FGR is the definition of the cohort group. With FGR, the cohort group is defined and "locked in" at the beginning of the school year, and the graduation of those students is tracked six years later. With GSR, the cohort group is

modified by adding transfers and midyear enrollees and subtracting early departures in good academic standing (p. 222).

One obstacle that further convolutes the GSR calculation occurs when a coach credits a walk-on student-athlete with a scholarship that they were not receiving prior to their entrance into an academic institution. These student-athletes are then moved into the GSR countable cohort, where previously they were not counted because they did not receive athletic aid (LaForge & Hodge, 2011). This happens quite often by allocating a student-athlete that has a great academic record a minimal amount of athletic funds to help boost a team's GSR and, thereby, remain eligible for post season competition within the NCAA.

Table 4 below is a sample of ten student-athletes who entered and left an athletic program at different points throughout their career. Table 4 illustrates an example of how to calculate GSR within a college athletic team and how to count each individual student-athlete.

Table 4

Sample Data for FGR and GSR Computation

	Initially Enrolled in Fall of Year n	Transferred in and Initially Enrolled in the Following Semester	Left School after Enrolling – Academically Eligible	Left School after Enrolling – NOT Academically Eligible	Graduated by Fall of Year $n + 6$
SA1	Y				Y
SA2	Y		Y		
SA3	Y				Y
SA4	Y				Y
SA5	Y			Y	
SA6	Y				Y
SA7	Y				
SA8		Y			Y
SA9		Y	Y		
SA10		Y			Y

NCAA Academic Performance Metrics: Implications for Institutional Policy and Practice, 2011, p. 220

The following is the explanation of the above table according to the NCAA Academic

Performance Metrics: Implications for Institutional Policy and Practice (2011).

In Table 4, the cohort group for GSR consists of SA1, SA3, SA4, SA5, SA6, SA7, SA8,

and SA10. SA2 and SA9 were included in the cohort for FGR but not GSR because they

left in good academic standing. SA8, SA9, and SA10 were not included in the cohort for

FGR because they were not enrolled at the beginning of school year, but they are

included in the GSR cohort. Thus, the cohort for GSR was eight students; whereas, the

cohort for FGR was seven students.

Because six (SA1, SA3, SA4, SA6, SA8, and SA10) of the eight student-athletes in the

cohort group graduated by fall of year $n+6$, the population of student-athletes in Table 4

has an NCAA GSR of 75%, as shown in the following computation: GSR = (6 / 8) * 100

= 75 (p. 222).

As noted in the example above, the NCAA's method of computing graduation success

yields a higher graduation rate than the FGR for academic success of student-athletes.

The GSR is also useful to assess the academic performance of teams within an institution.

As LaForge & Hodge note (2011), "GSR removes early departures in good academic standing

from the cohort. There is, therefore, little ambiguity surrounding the interpretation of a low

GSR" (p. 226). A low GSR often indicates that the academic performance within those particular

teams is poor because GSR does not take into account when a student-athlete leaves in good

academic standing. On the other hand, FSR may or may not indicate low academic performance

because it penalizes an institution for a student who leaves early whether or not they are

academically eligible. Therefore, campus comparisons of GSR between sports is valid and useful

because it reflects the same academic rigors amongst teams, and it removes the effects of differing professional opportunities from sport to sport (LaForge & Hodge, 2011).

The NCAA has been tracking GRS in comparison to FGR since 1998, and GSR for student-athletes continues to outpace the FGR collected for student-athletes and the general student population. The NCAA argues this is the case because GSR is more accurate (Grad Rates Hit High Marks, 2010). According to the NCAA (2010),

By counting incoming transfer students and midyear enrollees, the GSR increases the total number of student-athletes tracked for graduation by more than 36%. The NCAA also calculates the FGR for student-athletes. It is the only rate by which to compare student-athletes to the general student body (p. 1).

Table 5 is a comparison of FGR to GSR beginning in 1998 and concluding in 2003. Table 5 compares the FGR of the general student population to the FGR of student-athletes and finally to the GSR that is computed by the NCAA for student-athletes.

Table 5

Federal Graduation Rates to Graduation Success Rates

	2003	2002	2001	2000	1999	1998
Federal Graduation Rate Percentage of General Student Body	63	62	62	62	61	60
Federal Graduation Rate Percentage Student-Athletes	64	64	64	63	63	62
NCAA Graduation Success Rate Percentage Student-Athletes	79	79	78	77	77	76

Grad Rates Hit High Marks, 2010

According to the NCAA (2010),

Using the federal government's methodology, which does not count transfer students and is less accurate than the GSR, Division I student-athletes who entered college in 2003

graduated at 64%. This is still the highest federal rate ever and one point higher than the

general student body (p. 1).

Noticeably for GSR, institutions are not penalized for outgoing transfer student who

leave an institution in good academic standing and are given additional points toward the overall

rate for students that transfer into an institution and graduate (Grad Rates Hit High Marks, 2010).

These two differences between FGR and GSR greatly affect the overall score.

Though the NCAA continues to use GSR to measure the academic success of student-

athletes over a six year period, another metric has also been developed by the NCAA. This

metric is in addition to GSR and has helped to develop standards that universities and athletic

programs are required to meet in order to participate in post season play and remain eligible with

the NCAA. Academic Progress Rate (APR) takes it one step further than GSR as it accounts for

the eligibility and retention of each student-athlete each academic term (Academic Progress

Rate, 2013).

<center>Academic Progress Rate</center>

Academic Progress Rate (APR) was established during the 2003-2004 academic year as a

response when leaders within college athletics recognized a need to track student-athletes

throughout their college careers (Christy, Seifried, & Pastroe, 2008). Since the APR is a snapshot

of each athlete, on each specific team, within each academic semester, it provides the athletic

department, administrators and coaches with a progress indicator of how each athlete is

completing progress towards degree requirements and moving towards graduation (Division I

Academic Progress Rate, 2010). Therefore, if an athlete falls off track with their academic

progress, APR allows the team and institution time to help the athlete continue to progress

towards the ultimate goal of graduation.

In addition to APR standards, each athletic program and individual is responsible for making progress towards degree requirements in order to remain eligible. If these requirements are not met, in addition to meeting the APR requirements, schools will face penalties from the NCAA (Christy, Seifried, & Pastroe, 2008). As Christy, Seifried and Pastroe note (2008),

> After two years, an athlete must have completed 40% of the school's requirements for graduation (as opposed to 25% under the old system); at the end of three years, an athlete must have completed 60%; and after four years 80% of the school's requirements for graduation must be completed (p. 2).

The above requirements insure that a student-athlete is not taking courses that will just allow them to remain eligible but will also apply towards their degree. The ultimate goal of each institution should be to graduate student-athletes; therefore, progress toward degree requirements put standards in place to ensure student-athletes are earning credits toward the ultimate goal of graduating with a four year degree (Christy, Seifried, & Pastroe, 2008).

Each Division I team is required to calculate its APR each academic year. Based on eligibility, graduation, and retention of each scholarship student-athlete, within the each team, this number is a maximum of 1,000 and continues to decline from there. This decline may be a result of athletes leaving an institution when they are academically ineligible or by not remaining eligible at their current institution. Teams that score below certain thresholds can face consequences such as practice restrictions, loss of scholarships, and post-season limitations. Multiyear rates are based on a four year cohort (Student-Athletes Continue Classroom Success, 2013). According to the NCAA (2013),

> In order to compete in the 2013-2014 postseason, teams must achieve a 900 multi-year APR or a 930 average over the most recent two years. The same standard was in place for

the 2012-2013 academic year. This standard will increase to a multi-year rate of 930 which predicts a Graduation Success Rate of approximately 50% or a 940 two year average APR for the 2014-2015 postseason (p. 1).

Table 6 below reflects the NCAA Academic Performance Metrics: Implications for Institutional Policy and Practice (2011) that will aid in explaining how APR is calculated. As noted by the NCAA (2013),

Each student-athlete receiving athletically related financial aid earns one retention point for staying in school and one eligibility point for being academically eligible. A team's total points are divided by points possible and then multiplied by one thousand to equal the team's Academic Progress Rate score (p. 1).

Table 6

Sample Data for APR Calculation

| | Academic Year *n* | | | |
| | Fall Semester of Year *n* | | Spring Semester of Year *n*+1 | |
	Eligible	Retained	Eligible	Retained
SA a	Y	Y	Y	Y
SA b	Y	Y	Y	
SA c	Y	Y	Y	Y
SA d	Y	Y		
SA e	Y		Y	Y
SA f	Y	Y	Y	Y
SA g	Y	Y	Y	Y
SA h	Y	Y	Y	Y
SA i	Y	Y	Y	Y
SA j	Y	Y	Y	

NCAA Academic Performance Metrics: Implications for Institutional Policy and Practice, 2011, p. 223

The following is the explanation of Table 6 according to the NCAA Academic Performance Metrics: Implications for Institutional Policy and Practice (2011).

The following student-athletes earned both the retention point and the eligibility point in the fall semester and the spring semester of the academic year: SAa, SAc, SAf, SAg,

SAh, and SAi. The data shows that SAb and SAj earned both the retention and the eligibility point in the fall semester but left school in the spring semester even though they were academically eligible to compete. Therefore, SAb and SAj earned the eligibility point in the spring semester but not the retention point.

SAe was eligible to return and compete in the fall semester but did not enroll. However, SAe did return in the spring semester and was eligible to compete. Therefore, SAe earned the eligibility point but not the retention point in the fall semester and earned both points for the institution in the spring semester.

Finally, SAd left school after the fall semester after being declared academically ineligible for participation in athletics in the spring semester. Thus, SAd was "0 for 2" in the spring semester, costing the institution both the retention point and the eligibility point.

For the cohort group of 10 student-athletes in the Table 6, a total of 40 APR points were possible (10 possible retention points in the fall semester, 10 possible eligibility points in the fall semester, 10 possible retention points in the spring semester, and 10 possible eligibility points in the spring semester).

The data shows that 35 of the 40 possible points were earned. The computation of APR for the population of student-athletes in the table above is as follows: APR = (35 / 40) * 1,000 = 875. Thus, if the data set above represented a specific sports team, possible NCAA penalties involving loss of scholarships could result because the team's APR is below the acceptable level of 925 (p. 224).

Adjustments can also be made to APR when institutions feel that a loss of a point is not justified. In certain situations an institution's athletic administration can appeal to the NCAA to

adjust their rate. Below is an example from the NCAA Academic Performance Metrics:

Implications for Institutional Policy and Practice (2011) for such cases.

> Suppose that the institution in Table 6 believed that it should not be held accountable for
> lost points related to SAb, SAe, and SAj. Specifically, SAe was not in school in the fall
> semester because of a serious illness that required medical treatment. Also, suppose that
> SAb and SAj both left school in the spring semester in good academic standing to pursue
> professional opportunities in their sports. Upon appropriate documentation of the medical
> situation of SAe and documentation proving the professional departure of SAb and SAj,
> assume that the NCAA granted the requested adjustments from the institution, and the
> lost retention points for SAb, SAe, and SAj were "forgiven." The forgiven retention
> points reduce the denominator of the APR calculation from 40 to 37 while not affecting
> the number of points earned in the numerator (35). Under this scenario, the revised
> computation of APR is as follows: APR = (35 / 37) * 1,000 = 946. The revised APR of
> 946 puts the population of student-athletes in Table 6 in good academic standing with
> regard to the NCAA penalty threshold of 925 (pgs. 224 & 225).

The above exception is one of the negatives of APR amongst NCAA Academic Reform standards. According to Le Crom, Warren, Clark, Maroll and Gerber (2009),

> After its enactment, changes have already been made to the APR measure. The first of
> these changes came in the form of forgiving the APR retention point for a student-athlete
> who leaves school to play sports professionally or for any other reason outside of the
> control of the student-athlete (p. 16).

In addition to this point of contention is the fact that APR is only calculated for student-athletes who receive athletic financial aid. This factor could influence the way in which athletic

money is distributed to either increase or decrease the population size to produce a positive APR (Le Crom, Warren, Clark, Maroll & Gerber, 2009). However, there are also many positives that are associated with the use of APR for academic institutions and athletic programs.

APR should be examined on a regular basis to ensure that teams are compliant with NCAA regulations. This is especially true as regulations continue to increase each year to make sure that teams are putting academic success before athletic success. In addition, APR is a real time statistic that is computed each academic semester by the academic office for athletic programs. Therefore, it can be used to compare teams against one another within an institution since each sports team deals with the same academic factors present at the institution (LaForge & Hodge, 2011).

As the NCAA continues to increase standards through the Committee on Academic Performance, it is important that institutions stay abreast of these legislative changes and take the appropriate measures to guarantee compliance and the academic success of their student-athletes. Table 7 below indicates the changes that have taken place and continue to be implemented through 2016 from the NCAA (2011).

Table 7

Academics

Change	Effective Date
Postseason Access APR Requirement	2012-2013 and 2013-2014 postseasons = either 900 four-year average or 930 average over most recent two years
	2014-2015 postseason = either 930 four-year average or 940 average over most recent two years
	2015-2016 postseason and beyond = 930 four year average.
New APR Penalty Structure and Filters	2012-2013 and 2013-2014 = 900 four year average
2-4 Transfer Requirements	2014-2015 and beyond = 930 four year average Student-athletes enrolling in a collegiate institution full time on or after August 1, 2012
Initial-Eligibility Standards	Student-athletes enrolling in a collegiate institution full time on or after August 1, 2015

Brutlag Hosick, 2011, p.1.

In addition to the above academic changes, the Division I Board of Directors also approved a new three-level penalty structure (2011):

1. The first level of the new structure limits teams to 16 hours of practice a week, over five days, with the lost four hours to be replaced with academic activities. This represents a reduction of four hours and one day per week of practice time.

2. The second level adds competition reduction, either in the traditional or nontraditional season, to the first-level penalties.

3. The third level, where teams could remain until their rate improves, provides for a menu of penalty options including coaching suspensions, financial aid reductions, and restricted NCAA membership (Brutlag Hosick, 2011, p.1).

Also, the board approved additional changes for two-year transfer student-athletes with an increase in the grade point average for those student-athletes that want to transfer into an institution from 2.0 to 2.5 and limited the number of physical education courses to two. In addition, two year college transfers who were not initially ineligible out of high school will be required to complete a core curriculum that includes English, math and science courses (Brutlag Hosick, 2011).

Lastly, the board approved new initial-eligibility standards that student-athletes must meet before being allowed to participate in collegiate athletic activity. As noted by Brutlag Hosick (2011),

> The proposal increases the standard for immediate access to competition to at least a 2.3 GPA and an increased sliding scale. Specifically, student-athletes would need to earn a half-point higher GPA for a given test score compared to the current standard (p. 1).

In addition to the standards above, college presidents have also agreed with a recommendation to require prospects to successfully complete 10 of the 17 total required core courses before the start of their senior year of high school. Seven of those ten courses must be in English, math and science (Brutlag Hosick, 2011).

The standards that have been put in place by the NCAA are known as Division I Academic Reform Standards. According to the NCAA Division I Academic Reform (2011), "the NCAA's foremost academic goal is for the student-athlete to graduate with a meaningful degree which prepares them for life" (p. 1). Each of the reforms start with an increase in academic standards at the high school level and continue through the collegiate setting with APR, progress toward degree requirements and ultimately GSR (Division I Academic Reform, 2010).

Institutions have made it a priority to provide support services for student-athletes to help them meet the demands of the NCAA progress toward degree requirements, APR and GSR. Some of these measures include priority class scheduling, mentoring, tutoring, and time management assistance (Ridpath, 2010). In addition, many athletic programs provide specific centers for student-athletes that have one on one tutoring, academic counselors, study and academic skill sessions, life skills classes, advance scheduling and drug and alcohol counseling (Ridpath, 2010).

Table 8 is a summary of the primary academic data collections that have been taken by the NCAA. According to Petr & Paskus (2009), "Table 8 details the context related to their development, illustrates how the data are actually collected and highlights the ways in which the data have been used to create NCAA policy" (p. 78).

Table 8

Summary of Major NCAA Division I Academic Data Collections

Data Collection	Description	Years	Predecessors
NCAA Federal Graduation Rates Data	Six-year graduation rates of scholarship freshman student-athletes and student bodies at NCAA member institutions	1984 Freshman to present	
NCAA Graduation Success Rate Data	Six-year graduation rates of student-athletes that account for transfer students (both into and out of institution), midyear enrollees, and some non-scholarship athletes	1995 Freshman to present	
NCAA Eligibility Center Data	High school transcript data on all prospective student-athletes at	1994 to present	I Initial-Eligibility Clearinghouse (IEC)
Academic Performance Program Data	Division I and II institutions Term-by-term college transcript data for all scholarship student-athletes in Division I	2003 to present	Academic Performance Study (APS) Academic Performance Census (APC)

Petr & Paskus, 2009, p. 79.

Summary

Chapter 2 reviewed the literature which described Tinto's Student Integration Model as a theoretical framework for this study (Cabrera, Castaneda, Nora, and Hengstler, 1992; Tinto, 1997; Tinto, 2005). The NCAA Academic Role on APR, GSR and FGR were examined in detail (Hosick & Sproull, 2012; Heck & Takahashi, 2006; Mondello & Abernethy, 2000; Meyer, 2005; Waller, 2003; Meggysey, 2000; Munczinski, 2003; Bakker, 2005; NCAA Division I Manual, 2013). The chapter also evaluated a six year metric that was developed by the Federal Government, FGR (Petr & Paskus, 2009; Horn & National Center for Education Statistics, 2010; Chen, Bersudskaya, Cubarrubi, 2011; Southall, 2012; LaForge & Hodge, 2011; NCAA

Academic Performance Metrics: Implications for Institutional Policy and Practice, 2011; Ferris, Finster, & McDonald 2004). Additionally, research was considered on a six year metric that was develop by the National Collegiate Athletic Association, GSR, that is unique for student-athletes (LaForge & Hodge, 2011; Sander, 2009; Denhart, Villwock & Vedder, 2009; NCAA Division I Manual, 2013; The Academic-Athletics Trade-Off, 2009; NCAA Academic Performance Metrics: Implications for Institutional Policy and Practice, 2011; Grad Rates Hit High Marks, 2010). The chapter concluded with an examination of a metric that was developed by the NCAA to track the semester by semester academic progress of student-athletes, APR (Christy, Seifried, & Pastroe, 2008; Division I Academic Progress Rate, 2010; Student-Athletes Continue Classroom Success, 2013; NCAA Division I Manual, 2013; NCAA Academic Performance Metrics: Implications for Institutional Policy and Practice, 2011; Le Crom, Warren, Clark, Maroll & Gerber, 2009; LaForge & Hodge, 2011; Brutlag Hosick, 2011; Division I Academic Reform, 2010; Ridpath, 2010; Petr & Paskus, 2009).

Chapter III

Methods

Chapter 1 introduced the statement of the problem, the purpose of the study, the research questions, the limitations and the assumptions of the study, definition of terms, and the organization of the study. Chapter 2 reviewed the literature which considered Tinto's Student Integration Model as a factor in determining academic success for student-athletes. Chapter 2 also provided an overview of the academic role of the National Collegiate Athletic Association (NCAA) and a discussion of Federal Graduation Rates (FGR), Academic Progress Rates (APR), and Graduation Success Rates (GSR) as indicators of academic success for student-athletes. This chapter details the sample population, data access, and collection process used within the study. Chapter 3 concludes with a discussion of the reliability and validity of the data and an explanation of the analysis of data.

This study was a secondary analysis of data that was provided by that NCAA and examined the APR as a predicator of GSR in comparison to FGR.

Purpose of Study

The purpose of this study was to investigate the metric of APR as a means to predict GSR amongst student-athletes within the Southeastern Conference (SEC). In addition, this study also sought to examine the relationship between GSR and FGR. The data were used to identify a relationship between APR and GSR. It was then used to compare GSR to FGR within student-athletes in major collegiate athletic programs. The significance of such findings will allow future higher education professionals, athletic administration, and the NCAA to understand the correlation between APR and GSR, as well as the relationship of GSR to FGR which do not take into account circumstances that only pertain to student-athletes.

Research Questions

1. What is the relationship between Academic Progress Rates and Graduation Success Rates within Southeastern Conference Institutions?

2. Do Academic Progress Rates predict Graduation Success Rates?

3. What is the relationship between Graduation Success Rates and Federal Graduation Rates?

Sample Population

The research sought to examine the relationship between APR as a predictor of GSR. In addition, the research sought to examine the relationship between GSR and FGR. The relationship between APR and FGR was not examined because the NCAA uses GSR as a measure to indicate graduation success rather than FGR when evaluating academic institutions, programs, athletic departments, and specific teams. FGR is still measured by the federal government; however, the NCAA no longer places much emphasis on this metric. The participants in this study included a sample of student-athletes from fourteen Division I NCAA institutions within the SEC. Respondents included both men and women from various ethnicity groups including White, Black, Hispanic, and Asian groups.

The institutions were all four-year colleges and universities that included both public and private institutions ranging in size. These data were collected on an annual basis by the NCAA in order to produce APR, GSR and FGR from 2003-2006.

The data consisted of 240 scores for APR, GSR, and FGR within each of the fourteen universities in the SEC. The total data set was 720 total scores. The numbers of set of scores, APR, GSR, and FGR, for each sport are represented below in Table 9.

Table 9

Representation of Set of Scores by Sport

Sport	Number of Scores
Baseball	37
Men's Basketball	7
Football	42
Men's Swimming	20
Men's Tennis	1
Women's Basketball	10
Women's Gymnastics	9
Softball	24
Women's Soccer	33
Women's Swimming	31
Women's Volleyball	8
Men's Golf	3
Women's Golf	3
Men's Soccer	6
Women's Tennis	2
Women's Bowling	1
Women's Lacrosse	3
Total	240

Data Access and Collection Process

The data reported by the NCAA and Federal Government are public information and are accessed by many agencies to use for research purposes. The data used for this dissertation were given to the researcher by the NCAA. The data can also be obtained manually on the NCAA research database as well as through the NCAA data sharing initiative (Paskus, 2013). The NCAA not only has the data that they collect for their specific metrics from each member institution (APR and GSR) but they also have the FGR for all universities that accept federal funding. FGR data is used by the NCAA to make comparisons between the FGR and the NCAA GSR to improve the GSR metric that was developed by the NCAA.

Academic metrics within the NCAA continue to be developed and analyzed as more focus continues to be placed on academics in relation to the student-athlete. "Because

intercollegiate athletics is part of the fabric of the university, student-athletes must be committed to academic achievement and the pursuit of a degree" ("Academics," 2011, p. 1). In 1993, the Academic Performance Program began to resemble the accreditation process for the academic side of colleges and universities; since then, it has gone through a number of changes to the point of how it currently operates (Brutlag Hosick, 2012). According to Brutlag Hosick (2012), "nearly twenty years ago, Division I schools began a certification program which was designed to resemble the academic accreditation process of colleges and universities" (p. 1). The original program required universities to complete self-examinations every few years. However, in 2010 college presidents began to demand a change in the athletics certification program. This change came as the presidents were fed up with a process that was perceived as expensive and overly burdensome on campuses. The program that emerged, under the leadership of NCAA President Mark Emmert, was one that provided an annual accounting of academics, student-athlete experience, fiscal management and inclusion (gender and ethnicity) within NCAA Division I programs (Brutlag Hosick, 2012). It also allowed Division I programs the ability to formulate some comparisons between individual athletics departments within subdivisions (Brutlag Hosick, 2012).

The major difference in the new academic performance program and the former program is that the burden of accountability shifts from campus offices to the NCAA National Office (Brutlag Hosick, 2012). According to Brutlag Hosick (2012),

The reports will be complied using data that campuses are required to send to the NCAA through other systems – including academic data from the Graduation Success Rate compilation and financial information from the dashboard indicators project. About 80

percent of the information for the new program will be provided through these types of reports with the remainder to be created on campus (p. 1).

The new program, which has been named the Division I Institutional Performance Program, focuses on four main areas of review. One of these areas of focus is academics. Within the academic portion of the program, the program focuses on the following four areas (Brutlag Hosick, 2012):

Academics

- o   Analysis and review of data already being collected (Academic Progress Rate, Graduation Success Rate)
- o   Academic support available
- o   Eligibility Certification
- o   Entering academic profiles

Source: Brutlag Hosick, 2012, p. 1.

The purpose of the Academic Performance Program is to ensure that the Division I membership is dedicated to providing student-athletes an educational environment that mirrors the athletic arena they are given to succeed. According to the NCAA Manual (2012),

A central focus of the academic performance program is to provide student-athletes with exemplary education and intercollegiate-athletics experiences in an environment that recognizes and supports the primacy of the academic mission of its member institutions while enhancing the ability of male and female student-athletes to earn a four-year degree (p. 377).

The metrics developed by the NCAA are required in order to be in compliance with the benefits and membership of the association. According to the NCAA Manual (2012), "each

active member is responsible for annually submitting documentation demonstrating its compliance with the academic performance program, including the submission of data for the APR, the academic performance census (APC), and the GSR" (p. 9).

The NCAA Manual (2012) outlines the disclosure requirements of participating institutions within the NCAA. These requirements are used when collecting the APR and GSR for member institutions. Federal Graduation Data is received by the federal government. The federal government requires universities receiving federal funds to report graduation rates for all students and more specifically to report separately the graduation rates for student-athletes.

APR, GSR, and FGR are each collected by the appropriate agencies (NCAA and Federal Government) and then released by the NCAA within their data collection and research tab on the NCAA.com/research portal.

This released data is useful to see if the metrics are measuring what they intend to measure and are also used to assess penalties from the NCAA for those institutions that do not meet minimum requirements.

<center>Validity and Reliability</center>

When referring to validity, the researcher is referring to the degree to which a test measures what it claims to measure (Gall, et al. 1996). Validity evidence related to constructs are difficult to establish because constructs are challenging to identify and measure accurately (Ross and Shannon, 2008). Constructs are general traits or abilities. However, according to Ross and Shannon (2008), "because of their complex nature, it is difficult to produce a single test from which valid inferences can be made about the construct as a whole" (p. 237). Therefore when measuring a new instrument for validity, the most important type of validity is construct validity.

"Evidence of construct validity means evidence that the instrument is measuring the construct that it is intended to measure" (Litzinger, et al. 2007, p. 311).

APR set out to measure if a student-athlete is retained by a particular institution and, in addition, if they are eligible when retained. APR was established during the 2003-2004 academic year as a response when leaders within college athletics recognized a need to track student-athletes throughout their college careers (Christy, Seifried, & Pastroe, 2008).

GSR is a measure that was developed by the NCAA in 1995 to determine academic success for student-athletes separate from the FGR. This rate is unique for student-athletes in that it only applies to those student-athletes who receive athletics aid (LaForge & Hodge, 2011). In contrast, FGR calculates all students that earn degrees within six years of initially enrolling in an institution.

Each of these rates are continually tracked and evaluated to ensure their validity for tracking the academic success of student-athletes. Test scores cannot be valid or invalid, but rather the inferences made from the test scores can be valid or invalid (Gall, et al. 1996). As noted by Shannon and Ross (2008), "measures of constructs should produce score that indicate the amount of the trait that an individual possess. A score from such a measure should produce a valid judgment" (p. 237). Therefore, the following study is examining the degree to which APR, GSR, and FGR measure what they intend to measure, specifically for student-athletes who face additional academic challenges associated with being a college athlete.

Reliability is generally defined as the consistency of the results. The more consistent the results from an evaluation are, the more reliable they are. Results from a measure do not need to be identical for each test; however, they must be consistent throughout the measure (Ross and Shannon, 2008).

Data Analysis

The data consisted of 240 scores for APR, GSR, and FGR within each of the fourteen universities in the Southeastern Conference. The total data set was 720 total scores. Only sports that had all three rates from 2003-2006, APR, GSR and FGR, were used in this study. Each of these sports and universities are listed below.

APR, GSR, and FGR were used from the following sports: Baseball, Men's Basketball, Football, Men's Swimming, Men's Tennis, Women's Basketball, Women's Gymnastics, Softball, Women's Soccer, Women's Swimming, Women's Volleyball, Men's Golf, Women's Golf, Men's Soccer, Women's Tennis, Women's Bowling, and Women's Lacrosse.

All fourteen academic institutions in the NCAA SEC were represented. These institutions are: University of Alabama, University of Arkansas, Fayetteville, Auburn University, University of Florida, University of Georgia, University of Kentucky, Louisiana State University, Mississippi State University, University of Mississippi, University of Missouri, Columbia, University of South Carolina, Columbia, University of Tennessee, Knoxville, Texas A&M University, College Station and Vanderbilt University.

The APR, GSR and FGR were combined into a dataset by school and sport and then analyzed using version 20 of SPSS. This program was used to analyze the results for the data gathered from the sports and institutions.

To answer all of the research questions thoroughly, descriptive statistics were needed. Sparks-Jackson and Silverman (2010) describe descriptive statistics as "statistics that synthesize and summarize data sets. They highlight important characteristics of a collection of measurements, like the most common typical values, as well as average difference among or between individuals" (p. 155). The dependent variable (DV) for this study was GSR. The

independent variables in this study were APR and FGR (IVs). The study sought to measure if APR (IV) was a predictor of GSR (DV). In addition, how do GSR and FGR (IV) compare to one another.

A correlation was used to determine how GSR affected APR, as well as what the relationship between GSR and FGR are. All three rates are used in Higher Education as a measure of graduation success, though each rate takes into account different circumstances for students and student-athletes specifically. As noted by Ross and Shannon (2008), "the correlation between two continuous variables basically assesses how well the variables correspond in terms of high and low values" (p 133). A correlation is considered a descriptive statistic and a measure of strength of association between two variables. The strength of the correlation explain how well two variables line up. If they perfectly align, in a positive or negative direction, they will represent a perfect correlation of either r = +1 or r = -1 (Ross and Shannon, 2008).

Summary

This chapter reiterated the purpose of the study and the research question. Further, this chapter described the population as student-athlete APR, GSR, and FGR from 2003-2006, from all fourteen schools in the Southeastern Conference and seventeen sports. This chapter also discussed the data access and collection process. The chapter concluded with a discussion of the reliability and validity of the data used and an explanation of the analysis of data that was used. The data dictated that descriptive statistics be used along with a correlation for the methodology and analysis.

Chapter IV

Findings

Chapter 1 introduced the statement of the problem, the purpose of the study, the research

questions, the limitations and the assumptions of the study, and the definition of terms. Chapter 2

reviewed the literature which considered Tinto's Student Integration Model as a factor in

determining academic success for student-athletes. Chapter 2 also provided an overview of the

academic role of the National Collegiate Athletic Association (NCAA) and a discussion of

Federal Graduation Rates (FGR), Academic Progress Rates (APR), and Graduation Success

Rates (GSR) as indicators of academic success for student-athletes. Chapter 3 reiterated the

purpose of the study, the research questions, setting and participants, and procedure used within

the study. The chapter also discussed the data access and collection process and concluded with a

discussion of the reliability and validity of the data and an explanation of the analysis of data.

Chapter 4 focuses on the results of the APR data predicting GSR in comparison to FGR.

Purpose of Study

The purpose of this study was to investigate the metric of APR as a means to predict GSR

amongst student-athletes within the Southeastern Conference (SEC). In addition, this study also

sought to examine the relationship between GSR and FGR. The data were used to identify a

relationship between APR and GSR. It was then used to compare GSR to FGR within student-

athletes in major collegiate athletic programs. The significance of such findings will allow future

higher education professionals, athletic administration, and the NCAA to understand the

correlation between APR and GSR, as well as the relationship of GSR to FGR which do not take

into account circumstances that only pertain to student-athletes.

Research Questions

1. What is the relationship between Academic Progress Rates and Graduation Success Rates within Southeastern Conference Institutions?

2. Do Academic Progress Rates predict Graduation Success Rates?

3. What is the relationship between Graduation Success Rates and Federal Graduation Rates?

Results

The data consisted of 240 scores for APR, GSR and FGR within each of the fourteen universities in the Southeastern Conference (SEC). The total data set was 720 total scores. Only sports that had all three rates from 2003-2006, APR, GSR and FGR, were used in this study.

APR, GSR, and FGR were used from the following SEC sports: Baseball, Men's Basketball, Football, Men's Swimming, Men's Tennis, Women's Basketball, Women's Gymnastics, Softball, Women's Soccer, Women's Swimming, Women's Volleyball, Men's Golf, Women's Golf, Men's Soccer, Women's Tennis, Women's Bowling, and Women's Lacrosse.

The descriptive statistics for GSR, FGR and APR were calculated for each of the following sports, by rate: Men's Baseball, Men's Football, Men's Swimming, Women's Softball, Women's Soccer, and Women's Swimming. These sports represent those with 20 or more participants. These statistics are reported below in Table 10.

Table 10

Descriptive Statistics GSR, FGR & APR

Sport	Sample Size	GSR Mean	SD	FGR Mean	SD	APR Mean	SD
Baseball	37	76.2	19.0	41.5	18.7	934.4	33.2
Football	42	69.1	13.3	55.0	12.9	941.6	26.8
Men's Swimming	20	76.7	20.4	65.4	21.5	961.3	27.1
Softball	24	90.7	15.8	75.2	17.6	964.5	32.4
Women's Soccer	33	90.0	12.8	67.9	21.4	967.9	22.5
Women's Swimming	31	92.5	9.4	81.3	16.9	976.0	15.0

Note. GSR & FGR is measured on a scale of 100, APR is measured on a scale of 1000

The range for the GSR mean was highest for Women's Swimming with a mean of 92.5 and Football had the lowest mean of 69.1. Therefore, Women's Swimming has a mean GSR of 92.5% and Football has the lowest mean GSR of 69.1%. In addition the range for GSR, standard deviation was 9.4 for Women's Swimming to 20.4 for Men's Swimming. Therefore, for Women's Swimming the scores differ from the mean 9.4 points and for Men's Swimming they differ from the mean score 20.4 points.

Women's Swimming also had the highest mean for FGR of 81.3 and Baseball had the lowest mean of 41.5. Therefore, Women's Swimming has a mean FGR of 81.3% and Baseball has the lowest mean FGR of 41.5%. In addition the range for FGR standard deviation was lowest with Football at 12.9 and again highest for Men's Swimming with FGR standard deviation mean of 21.5. Therefore, for Football the scores differ from the mean 12.9 points and for Men's Swimming they differ from the mean score 21.5 points.

The range for the APR by sport mean was highest for Women's Swimming with a mean of 976.0 and Baseball had the lowest with a mean of 934.4. Therefore, Women's Swimming has a mean APR of 976.0 and Baseball has the lowest mean APR of 934.4. Finally the range of the APR standard deviation was 15.0 for Women's Swimming to 33.2 for Baseball. Therefore, for

Women's Swimming the scores differ from the mean 15.0 points and for Baseball they differ from the mean score 33.2 points.

What is the relationship between Academic Progress Rates and

Graduation Success Rates by Southeastern Conference Institutions?

APR and GSR are both metrics that were developed by the NCAA to track the academic progress of student-athletes. As noted in Chapter 2, APR are a snapshot of each athlete, on each specific team, within each academic semester. This metric provides the athletic department, administrators and coaches with a progress indicator of how each athlete is completing progress towards degree requirements and moving towards graduation (Division I Academic Progress Rate, 2010). Therefore, if an athlete falls off track within their academic progress, APR allows the team and institution time to help the athlete continue to progress towards the ultimate goal of graduation.

GSR is a metric that is unique for student-athletes in that it takes into account circumstances and situations that are specific to student-athletes (LaForge & Hodge, 2011). GSR are most often compared to FGR due to their similarity, except that FGR metrics do not take into account factors that are specific to college athletes. In addition, both GSR and FGR are metrics that are measured with a six year cohort. GSR differ from FGR because it does not penalize student-athletes who transfer and are academically eligible, and it credits the institution for midyear transfers who enroll and graduate (Sander, 2009). As Sander notes (2009),

> The NCAA uses its own formula to calculate the GSR of Division I athletes. The figures are different from the graduation rate calculated by the U.S. Department of Education. The NCAA statistics, unlike the federal ones, do not penalize institutions when athletes transfer to other colleges as long as they depart in good academic standing (p. 1).

One important thing to note about each rate is that APR are measured on a scale of 1,000 and GSR and FGR are measure on a scale of 100. The following data set consisted of 240 sets of scores for APR, GSR and FGR over a three year time span. 2003-2006. The total data set was 720 total scores. As noted above, these rates were for 17 sports within the 14 institutions in the SEC.

Each sport was evaluated as a whole dataset, independent of each school, because of the factors that affect each sport differently. Football, at one institution for example many experience similar circumstances that Football at another institution experience. However the same cannot be said for Women's Soccer at one institution and Football at another. Therefore, each sport was looked at independent of the university with which it was associated. Also, athletic programs at each university were not evaluated with all of their sports included in a dataset. Each sport that was represented in the sample was studied independent of sex of athlete, institution, location, etc.

In addition, each sport, from each university was not represented for every year that data were collected. Some sports had data from all three years (2003-2004, 2004-2005, and 2005-2006) and others were studied for just two or one of those years. Though all sports were not studied over all three years, all data sets that are observed have all three scores included for the year or years that were studied.

Also, only sports that had data sets that were 20 or larger were included in the final analysis. Samples sizes that were less than 20 provided results that were not relevant because the sample they were obtained from was too small. This is explained in further detail below.

Does Academic Progress Rates predict Graduation Success Rates?

The following sports were analyzed to see if APR is a predicator of GSR: Men's Baseball, Men's Football, Men's Swimming, Women's Softball, Women's Soccer, and Women's Swimming. Originally there were 720 scores or 240 data sets. Once the following sports were eliminated there were 561 scores or 187 data sets remaining. Table 11 provides the sports that were deleted before computation due to sample size being less than 20.

Table 11

Eliminated and Non Computed Sports

Sport	Sample Size
Women's Basketball	10
Women's Bowling	1
Women's Golf	3
Women's Gymnastics	9
Women's Lacrosse	3
Women's Tennis	2
Women's Volleyball	8
Men's Basketball	7
Men's Golf	3
Men's Soccer	6
Men's Tennis	1

The six sports that have a sample size that were 20 or larger were analyzed with a correlation and a significance level of .05. However, to take into effect the error that is present the Bonferroni adjustment was made. Therefore, for the results to be significant, once the adjustment is taken into consideration, alpha needs be less than .0083 (.05/6) to determine if APR is a predictor of GSR. These results are reported below in Table 12.

Table 12

r, APR to GSR

Sport	Sample Size	Sig	r
Baseball	37	.167	.232
Football	42	.307	.162
Men's Swimming	20	.000	.733
Women's Soccer	33	.009	.448
Softball	24	.002	.608
Women's Swimming	31	.025	.021

Table 12 indicates that once the Bonferroni adjustment was made, Men's Swimming and Softball were significant as both values were < .0083. Therefore, for these two sports APR is a predictor of GSR. Conversely, the p value for Baseball, Football, Women's Soccer, and Women's Swimming, as indicated above, were all greater than .0083 and therefore they are not statistically significant. As a result, for Baseball, Football, Women's Soccer, and Women's Swimming APR are not a predictor of GSR.

In addition to testing the level of significance for each of these sports, the correlation coefficient, r, also indicated a strong positive linear relationship to a weak positive linear relationship for APR as a predictor of GSR. The correlation coefficient measures the strength and the direction of a linear relationship between two variables. Values between 0 and 0.3 indicate a weak positive linear relationship. Values between 0.3 and 0.7 indicated a moderate positive linear relationship. Values between 0.7 and 1.0 indicated a strong positive linear relationship (Ratner, n.d.). A perfect correlation occurs when all points lie exactly in a straight line, either with a positive slope of +1 or a negative slope of -1.

For the above sports, Men's Swimming has a strong positive relationship when using APR to predict GSR. Therefore, there is a strong relationship when using APR as a predictor of

GSR. For Women's Soccer and Softball each of these sports have a moderate positive

relationship when using APR as a predictor of GSR. Finally, Baseball, Football, and Women's

Swimming have a weak positive linear relationship between APR and GSR.

<div align="center">What is the relationship between Graduation Success Rates

and Federal Graduation Rates?</div>

Table 13 below is a report of the Pearson Correlation (r) between Federal Graduation

Rate (FGR) and Graduation Success Rate (GSR) for the following sports: Baseball, Football,

Men's Swimming, Softball, Women's Soccer and Women's Swimming.

Table 13

r, FGR to GSR

Sport	Sample Size	Sig	r
Baseball	37	.015	.398
Football	42	.000	.566
Men's Swimming	20	.000	.882
Women's Soccer	33	.000	.684
Softball	24	.000	.662
Women's Swimming	31	.001	.559

As noted above in Table 13, values between 0 and 0.3 indicate a weak positive linear

relationship. Values between 0.3 and 0.7 indicated a moderate positive linear relationship.

Values between 0.7 and 1.0 indicated a strong positive linear relationship (Ratner, n.d.).

In Table 13 above Men's Swimming has a strong positive correlation indicating that there

is a strong relationship when comparing FGR to GSR. In addition, Women's Soccer and Softball

have a moderate to strong positive correlation when comparing FGR to GSR. Lastly, all of the

remaining sports, Baseball, Football, and Women's Swimming have moderate correlations when

comparing FGR to GSR.

Professional vs. Nonprofessional

In addition to these findings, there was also a significant difference between professional and nonprofessional sports with the data that were analyzed. A professional sport, for the purpose of this study, is one that an athlete can compete in and fully support themselves financially. The following sports were considered professional: Baseball, Men's Basketball, Football, Men's Tennis, Women's Basketball, Men's Golf, Women's Golf, Men's Soccer, Bowling, and Women's Tennis.

Contrary to this, a nonprofessional sport, for this study, was one in which an athlete participates and may be paid for doing so; however, they are not self-sufficient on the professional market due to their athleticism alone. The following sports were considered nonprofessional in the following study: Men's Swimming, Women's Gymnastics, Softball, Women's Soccer, Women's Swimming, Women's Volleyball, and Women's Lacrosse. It is important to note that though some of these sports do have professional leagues, the determination was based on if an athlete could be solely self-sufficient by just participating in their sport outside of sponsorships, TV commercials, additional employment, etc.

The data were composed for 112 professional sport samples and 128 nonprofessional sport samples. Pearson's Correlation, r, for nonprofessional sports are moderate with a value of .469 and the Pearson's Correlation, r, for professional sports are moderate to weak with a value of .336.

Table 14 indicates that for both professional and nonprofessional sports the test result were significant as all values were < .05. Therefore, for each of these groups of sports APR is a predictor of GSR.

Table 14

r, APR to GSR, Professional vs. Nonprofessional

Sport	Sample Size	Sig	r
Professional	112	.000	.336
Nonprofessional	128	.000	.469

In addition, professional sports have a moderate correlation at 0.550 and nonprofessional sports have a moderate to high correlation between FGR and GSR at 0.693, when comparing FGR to GSR. This is indicated below in Table 15.

Table 15

r, FGR to GSR, Professional vs. Nonprofessional

Sport	Sample Size	Sig	r
Professional	112	.000	.550
Nonprofessional	128	.000	.693

Male vs. Female

There was also a significant difference between male and female sports. The following female sports were studied: Women's Basketball, Women's Gymnastics, Softball, Women's Soccer, Women's Swimming, Women's Volleyball, Women's Golf, Women's Tennis, Women's Bowling, and Women's Lacrosse. The following male sports analyzed in this study were: Baseball, Men's Basketball, Football, Men's Swimming, Men's Tennis, Men's Golf, and Men's Soccer.

The data were composed of 116 male sport samples and 124 female sport samples. Pearson's Correlation, r, for male sports are moderate to weak with a value of 0.314 and the Pearson's Correlation, r, for female sports are also moderate to weak with a value of 0.366 when describing the linear relationship between APR and GSR.

Table 16 indicates that for both male and female sports the test result was significant as all values were < .05. Therefore, for each of these groups of sports APR is a predictor of GSR.

Table 16

r, APR to GSR, Male vs. Female

Sport	Sample Size	Sig	r
Male	116	.000	.314
Female	124	.000	.366

In addition, male sports have a moderate correlation at 0.517 and female sports also have a moderate correlation between FGR and GSR at 0.600 when comparing FGR to GSR. This is indicated below in Table 17.

Table 17

r, FGR to GSR, Male vs. Female

Sport	Sample Size	Sig	r
Male	116	.000	.517
Female	124	.000	.600

Summary

A correlation was conducted to test whether APR are a predictor of GSR It was also conducted to test the relationship between GSR and FGR.

To take into effect the error that was present, the Bonferroni adjustment was made. Therefore, for the results to be significant, once the adjustment is taken into consideration, alpha needs be less than .0083 (.05/6). The results indicated that once the Bonferroni adjustment was made, Men's Swimming and Softball were significant as the p values were < .0083. Therefore, for each of these sports APR is a predictor of GSR. However, the p value for Baseball, Football,

Women's Soccer, and Women's Swimming were above 0.0083; therefore they are not statistically significant and APR are not a predictor of GSR for these sports.

Additionally, Women's Soccer and Men's Swimming have high correlations which indicate these sports have a strong relationship when comparing FGR to GSR. In addition, all of the remaining sports, Baseball, Football, Softball, and Women's Swimming have moderate correlations when comparing FGR to GSR.

Finally, a correlation was also conducted to see if professional and nonprofessional sports APR can predict GSR, both proved to be true. In addition, professional sports have a moderate correlation at 0.550 and nonprofessional sports have a high correlation between FGR and GSR at 0.693. A correlation was also conducted for male and female sports. Both were significant as APR predicts GSR. Also, male sports have a moderate correlation at 0.517 and female sports also have a moderate correlation between FGR and GSR at 0.600.

Chapter 5

Findings and Conclusions, Discussion, Implications and

Recommendations for Future Research

Chapter 1 introduced the statement of the problem, the purpose of the study, the research

questions, the limitations and the assumptions of the study, and the definition of terms. Chapter 2

reviewed the literature which considered Tinto's Student Integration Model as a factor in

determining academic success for student-athletes. Chapter 2 also provided an overview of the

academic role of the National Collegiate Athletic Association (NCAA) and a discussion of

Federal Graduation Rates (FGR), Academic Progress Rates (APR), and Graduation Success

Rates (GSR) as indicators of academic success for student-athletes. Chapter 3 reiterated the

purpose of the study, the research questions, setting and participants, and procedure used within

the study. The chapter also discussed the data access and collection process and concluded with a

discussion of the reliability and validity of the data and an explanation of the analysis of data.

Chapter 4 focused on the results of the APR data predicting GSR in comparison to FGR. Chapter

5 provides the findings and conclusions, discussion, implications and recommendations for

future research.

Purpose of Study

The purpose of this study was to investigate the metric of APR as a means to predict GSR

amongst student-athletes within the SEC. In addition, this study also sought to examine the

relationship between GSR and FGR. The data were used to identify a relationship between APR

and GSR. It was then used to compare GSR to FGR within student-athletes in major collegiate

athletic programs. The significance of such findings will allow future higher education

professionals, athletic administration, and the NCAA to understand the correlation between APR

and GSR, as well as the relationship of GSR to FGR which do not take into account circumstances that only pertain to student-athletes.

Research Questions

1. What is the relationship between Academic Progress Rates and Graduation Success Rates within Southeastern Conference Institutions?
2. Do Academic Progress Rates predict Graduation Success Rates?
3. What is the relationship between Graduation Success Rates and Federal Graduation Rates?

Findings and Conclusions

This study investigated the relationship between APR as a predictor for GSR, as well as the relationship between GSR and FGR. These data were obtained from a national database provided by the NCAA as a requirement of compliance to be a member of the association.

The data reported by the NCAA and Federal Government are public information and are accessed by many agencies to use for research purposes. The data used for this dissertation were provided by the NCAA. The data can also be obtained manually on the NCAA research database as well as through the NCAA data sharing initiative (Paskus, 2013). The NCAA not only has the data that they collect from each member institution (APR and GSR) but they also have the FGR for all of their member universities that receive federal funding. FGR data is used by the NCAA to make comparisons between the FGR and the NCAA GSR.

The data consisted of 240 scores for APR, GSR, and FGR within each of the fourteen universities in the Southeastern Conference (SEC). The total data set was 720 total scores. Each of these samples were from 2003-2006 representing all institutions within the SEC. These institutions are: University of Alabama, University of Arkansas, Fayetteville, Auburn University,

University of Florida, University of Georgia, University of Kentucky, Louisiana State University, Mississippi State University, University of Mississippi, University of Missouri, Columbia, University of South Carolina, Columbia, University of Tennessee, Knoxville, Texas A&M University, College Station and Vanderbilt University. Represented in the sample group were 17 sports: Baseball, Men's Basketball, Football, Men's Swimming, Men's Tennis, Women's Basketball, Women's Gymnastics, Softball, Women's Soccer, Women's Swimming, Women's Volleyball, Men's Golf, Women's Golf, Men's Soccer, Women's Tennis, Women's Bowling, and Women's Lacrosse

Due to the sample size of specific sports over the three year period, not all samples were computed in the final analysis. The sports that were excluded from the final sport analysis were Men's Tennis, Men's Golf, Men's Basketball, Men's Soccer, Women's Basketball, Women's Gymnastics, Women's Volleyball, Women's Golf, Women's Tennis, Women's Bowling, and Women's Lacrosse. Only sample sizes that were greater than 20 were reported.

The following sports were examined for APR as a predicator of GSR as well as to determine the relationship between GSR and FGR: Men's Baseball, Men's Football, Men's Swimming, Women's Softball, Women's Soccer, and Women's Swimming.

To determine if APR was a predictor of GSR, a correlation was conducted on each of the sports that had a sample size that was larger than 20. The following sports indicated that APR was a predictor of GSR: Men's Swimming and Softball. However, the p value for Baseball, Football, Women's Soccer, and Women's Swimming were above .0083 therefore they are not statistically significant and APR are not a predictor of GSR for these sports.

Additionally, Men's Swimming has a strong positive correlation indicating that there is a strong relationship when comparing FGR to GSR. Women's Soccer and Softball also should

have a moderate to strong positive correlation when comparing FGR to GSR. Lastly, all of the remaining sports, Baseball, Football, and Women's Swimming have moderate correlations when comparing FGR to GSR.

A correlation was also conducted to see if professional and nonprofessional sports APR can predict GSR. In addition, professional sports have a moderate correlation at 0.55 and nonprofessional sports had a moderate to high correlation between FGR and GSR at 0.69. A correlation was also conducted for male and female sports. Both were significant as APR can predict GSR. Male sports also should have a moderate correlation at 0.52 and female sports also have a moderate correlation between FGR and GSR at 0.60.

Finally, in this study it was found that APR can be used as a predictor for GSR, specifically when observing a population of male to females and professional to nonprofessional sports. Student-athletes do leave collegiate athletic competition to compete professional within their sport before they graduate from college. However, the number of student-athletes that leave to pursue a professional career in small compared the overall population. Therefore, the use of APR as a predictor of GSR is valid the following study.

<div align="center">Discussion</div>

The review of literature in Chapter 2 established the three metrics that are analyzed within this study, APR, FGR and GSR.

APR was established during the 2003-2004 academic year as a response when leaders within college athletics recognized a need to track student-athletes throughout their college careers (Christy, Seifried, & Pastroe, 2008). Each Division I sports team is required to calculate its APR each academic year. Based on the eligibility, graduation, and retention of each

scholarship student-athlete within the team this number can fluctuate from 1,000 and continue to decline. (Student-Athletes Continue Classroom Success, 2013).

According to Petr and Paskus (2009), "The collection of this NCAA Federal Graduation Rate was initiated with the 1984 entering class of Division I student-athletes" (p. 79). The NCAA was required to release this data beginning in 1990 through the Department of Education Student Right-to-Know Act (Horn & National Center for Education Statistics, 2010). The law requires universities receiving federal funds to report graduation rates for all students, and more specifically to report separately the graduation rates for student-athletes.

The purpose of the FGR is to calculate how many students earn degrees within six years of initially enrolling in an institution. However, there has been criticism about this measure because it does not take into account situations that are specific to student-athletes. The FGR is not adjusted for student-athletes who transfer in or out of a specific institution regardless of whether or not they finish their degree elsewhere and are academically eligible. It also does not factor in student-athletes who change their enrollment status from full-time to part-time after their initial count into a cohort (Southall, 2012).

FGR determine the extent to which colleges and universities retain and graduate students who begin as full time undergraduates (Southall, 2012). However, the NCAA no longer recognizes FGR as a determining factor for academic progress of athletic teams and have their own metrics of GSR and APR to hold their athletic programs, coaches, and administrators accountable.

GSR is unique for student-athletes in that it differs from FGR because it does not penalize student-athletes who transfer to other institutions and are academically eligible, and it credits the institution for midyear transfers who enroll and graduate (Sander, 2009).

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This study was interested in the relationship between APR as a predictor of GSR and the relationship between GSR and FGR. Some potential reasons for the results of this study are the small data set size for each individual sport that is represented, as well as, the years of data that were collected. Though the data have been collected for a length of time, the three different data sets only overlap for three years and therefore; does not represent a very large sample size. In addition, as more significance is placed on the results of APR and GSR, the NCAA continues to change the penalties associated with the metrics and the timeliness in reporting each of the scores.

The expectation for the study was to analyze three years of data across sports within all universities within the SEC. However, the lack of data were due to some sports not having data present for each of the three metrics: APR, GSR and FGR. As each of these metrics continue to be evaluated for each individual sport and more data is released, the analysis of each of these metrics individually is vital, as well as, their influence and relationship within one another.

Implications

The results of this study can be used to provide appropriate resources to educators within higher education, but more specifically to administrators at NCAA DI institutions and the NCAA association as a whole. This can most effectively affect the development of academic service programs within athletic departments. It can help to create a focus on what the scores are indicating semester by semester to help with the big picture, graduation of student-athletes. In addition, this study will help assist athletic department academic services groups to decide what is necessary to help student-athletes continue down a path that focuses on progress toward degree requirements.

Additionally, the focus for athletic academic pogroms can be heightened for those sports that APR an indicator of graduation success. By acknowledging that these rates can help to predict the ultimate goal of graduating student-athletes, APR can be examined and used to determine what additional programs, tutors, activities, classes, etc. that particular students need to focus on in order to be academically successful. APR can also be used to look at the sports that are not doing well and indicate why. The more information that is present, the more resources that can be given to student-athletes to aid in their academic success and ultimately graduating.

Lastly, it is important to note the high correlation between GSR and FGR for particular sports. Though each are measured on a 6 year cohort, both scores take into account different factors for student-athletes. Since FGR determine the funding that institutions receive, it is important to concentrate on this number, while also taking into account the NCAA based metric of GSR. Both are important decision making scores for university administrators when reporting such to the federal government and the NCAA respectively.

Recommendations for Future Research

This study was conducted in the beginning stages of three years of data that overlapped between APR, GSR, and FGR. Therefore, future studies will benefit from a larger sample size and more years of complete data sets. In addition to more years of compete data, the study can also increase in sample size by increasing the region, conference, and divisions that are studied. As more data is reported and made public by the NCAA and athletic institutions this will improve research. By increasing the sample size and expanding the scope of the data, it will also allow the researcher to study more divisions, conference, universities and sports.

In addition to increasing the sample size that is studied, it would also be beneficial to see how metrics have changed throughout the increased scrutiny and popularity of the data. How each of the scores have also been calculated and used throughout the years of the data that overlap would also increase the validity and reliability of the results. Results of the recommended study will provide a better understanding of each of the above metrics as they apply to a larger spectrum of universities, student-athletes, professional vs. nonprofessional students, male vs. female, and academic standards within each of the three divisions within the NCAA.

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Appendix 1

NCAA Data Permission Letter

Jessica:

Here is a link that is available on our research webpage. I'm pretty sure that is what you are looking for: http://fs.ncaa.org/Docs/newmedia/public/rates/index.html

Nicole

-----Original Message-----
From: Jessica Chrabaszcz [mailto:jlc0034@auburn.edu]
Sent: Tuesday, February 19, 2013 11:39 AM
To: Bracken, Nicole M.
Subject: RE: Gender-Equity Research

Nicole,

Thank you for your help thus far. I finally had a chance to look everything over and I was wondering if you could help me a little more.

I am going to write my dissertation on GSR compared to FSR over the past five (most current) years. I am going to look specifically at Auburn University and then at the rest of the schools in the SEC.

Would it be possible for you to send me the most current GSR for the SEC (for the past 5 years) compared to that of the FSR (for the past five years)?

Once I have this data I am going to data mine it will looking at gender, sport, region, school, etc.

I will then compare it to Tinto and Ashton and see why do students (particular student-athletes) stay in school, does athletics have an influence?

Thank you in advance for all of your continued help.

Jessica

Appendix 2

Institutional Review Board Approval Letter (copy)

Please note: Use IRBadmin@auburn.edu for questions and information; use IRBsubmit@auburn.edu for protocol/forms submissions.

Dear Ms. Chrabaszcz,

Your protocol entitled "The Relationship of Internal Academic Measures of Success and Graduation Rates" has received approval as "Exempt" under federal regulation 45 CFR 46.101(b) (4).

Official notice:
This e-mail serves as official notice that your protocol has been approved. A formal approval letter will not be sent unless you notify us that you need one.   By accepting this approval, you also accept your responsibilities associated with this approval. Details of your responsibilities are attached. Please print and retain.

Consent documents:
Since you do not have to wait to for the return of any consent documents, please conduct your study at your convenience.

Expiration – Approval for three year period:
***Note that the new policy for Exempt approvals is a *three year approval*. Therefore, your protocol **will expire on July 27, 2016.** Put that date on your calendar now. About three weeks before that time you will need to submit a renewal request.

When you have completed all research activities, have no plans to collect additional data and have destroyed all identifiable information as approved by the IRB, please notify this office via e-mail. A final report is no longer required.

If you have any questions, please let us know.

Best wishes for success with your research!

IRB Administration
Office of Research Compliance
115 Ramsay Hall (basement)
Auburn University, AL 36849
(334) 844-5966
IRBadmin@auburn.edu *(for general queries)*
IRBsubmit@auburn.edu *(for protocol submissions)*