An Examination of the Relationships Among Socioeconomic Status, Learning Disabilities, Academic Competence, and Social Fluency for Division I Student-Athletes

by

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Abstract

This study investigated the social skills and academic abilities of Division I student-athletes. The relationship between socioeconomic status, learning disabilities, academic competence, and social skills was examined. The participants included 21,916 first-time full-time freshman student-athletes from 4-year NCAA institutions. The Cooperative Institutional Research Program (CIRP) Freshman Survey (2008) was the primary instrument used to collect data. The method of analysis consisted of several one-way ANOVAs. The results of this study indicate that student-athletes from lower socioeconomic backgrounds have statistically significantly lower academic and social skills than student-athletes from higher socioeconomic backgrounds. The results also indicate that student-athletes with learning disabilities have statistically significantly lower academic and social skills than student-athletes without learning disabilities. The implications of this study suggest that the NCAA and collegiate institutions must provide adequate academic, athletic, and social support to student-athletes from disadvantaged socioeconomic backgrounds as well as those with learning disabilities.

DEDICATION

I dedicate this work to my mother, Karen. On Mother's Day of 1983, you delivered me. You dedicated your life to your children — you dedicated your life to me. You told me I was God's gift to you that first morning. I am forever thankful for all you have done. I know now that you were God's gift to me. You are my greatest blessing. You provided me the inspiration. You always believed in me and encouraged me. You told me as a child that one day I would become a doctor.

Ma, I did it! I'm a doctor.

Acknowledgments

God, you alone are the alpha and the omega; you are the author of my life, perfecter of my faith, and Lord of my salvation. You have stood by me on the mountaintops and in deepest valleys — it is with grace and humility that I thank you. I have always said that every great accomplishment requires opportunity and ability, and I consider myself very blessed and highly favored to have received them both abundantly in this lifetime.

I would also like to thank my committee chair, Dr. Jim Witte. Throughout this process you have provided mentorship, leadership, and direction. I thank you for seeing me through to the end. There is no measure, which can express the value of my tutelage under you. Likewise, I would like to thank Dr. David DiRamio for his support and assistance throughout this process. I cannot thank you enough for your willingness to travel with me along this road. You taught me to seek and to find, and to pursue my inquiries with enthusiasm and determination. Also, with much gratitude, I would like to thank Dr. Maria Witte. Without you, none of this would have been possible. You gave me encouragement, which fueled me and allowed me to sustain a spirit of optimism throughout the journey. To my committee, I thank you all very much. You all have taught me to be a lover of wisdom, a philosopher, a social scientist, a doctor, and for that — doctors I thank you.

Additionally, I would like to thank Dr. Peggy Shippen for her time and attention to this research effort and for serving as my outside reader. I am very appreciative of the feedback you provided, aiding me in this process. In my second semester as a doctoral student, on the first day

of class you greeted me as Dr. Dede. I would like to thank you for what you saw in me and for your influence, support, and encouragement. I would like to thank Nafsaniath Fathema, my fellow graduate student, for her assistance in carrying out my research design. I must also acknowledge Dr. Joni Lakin for her ongoing support and for being an incredible resource to me throughout this study. Likewise, I would like to extend my gratitude to Altamese Stroud-Hill for her assistance with formatting as well as her feedback, which aided me tremendously in completing this study. Furthermore, I would like to thank the Higher Education Research Institute at UCLA for providing the data used to complete this research project, and I extend a special thanks to Mathew Case and Kevin Eagan for their assistance and related correspondence.

As this research effort marks the culmination of my third and final degree from Auburn University, there are many people, which I would like to thank for their love and support. I am so very thankful for my family. In them, God has provided a lifetime of support. My mother Karen and my siblings, Bereni, Soso, and Destiny, have always been there for me. I am very fortunate and blessed to have you all's love and support. I would write with no end if I began to express what you all have meant to me. I can only say that I am we; and this accomplishment is a reflection of where we have come as a family. My earliest memories in life are of you guys reading to me and teaching me how to read, and growing up, ma, I remember the sacrifices you made to move us into the best school districts. As a family, you guys always drove me to be my very best, and from the beginning, I never felt like I was on my own. So for all that you guys have done, I am so very thankful.

I would also like to thank my best friend Allison for her love and support. You have always been there for me. In everything I have ever put my heart to you have always supported me. You have always been so proud of me. Most of all, I thank you for the times when you saw

things in me that I did not see in myself and for encouraging me to be a great person. Having you as a best friend has meant the world to me, and has helped me to stay grounded in my successes and hold my head high in my failures. Without specific mention, I would also like to thank my closest friends who have supported me, and been there for me throughout.

Coach Gene Chizik, no one will ever know how big of a role you played in me earning my Ph.D. To often the game of football has a way of reducing even the greatest of men to mere ball coaches, but you have always meant so much more to so many people — I am one of them. When my mother dropped me off in Auburn, Alabama in 2002 she told me, "son do good." As a man, looking back, I know now that she turned me over to a great ball coach and an even greater man. They say, the seasons of life carry you across many roads, and if you are fortunate enough, you will travel some roads a second time. For me that meant playing for you as an 18 year old young man, going on to earn my bachelors degree, and then returning ten years later to serve as a graduate assistant on your staff while earning my Ph.D. Coach Chizik, I want to thank you, Jonna, and your family for everything you all have done for me over the years. And when it's all said and done, I hope that they will say he went undefeated time and time again, he won national championships, he coached Heisman winners, Outland winners, and Thorpe award winners, but most of all coach, I hope they will say, beyond the green grass and white lines, he was a great man, he was a leader, an inspiration, and a father to many young men. Coach again, I thank you.

I would also like to take the time to thank Jay Jacobs and Tim Jackson for giving me the opportunity, this summer and fall, to write my dissertation. When I was first given the opportunity to work on the administrative side of football, it was hard for me to transition away from the field I've come to love so much; however, working with Tim this summer was an invaluable experience, and I learned a great deal. I want you both to know that I believe,

wholeheartedly, had you all not afforded me the opportunity to write my dissertation this year this would not have been possible. Since I came back to Auburn University and began the doctoral program in January of 2011, the both of you, along with Coach Chizik, have been helpful and supportive of me working towards this goal. People on the outside may not fully understand the role of a football graduate assistant at a major division one program, but gentleman, you have both been in my shoes, therefore, I know you understand and can appreciate what an opportunity this was for me. I never would have imagined that I would earn my Ph.D. while learning to be a football coach and perhaps an athletic director one day. I cannot tell you guys how much this means to me. I would also like to thank the both of you for the model and example you have set for myself and the young men and women you serve and lead everyday in college athletics. You are exemplary men, and I hope to one day follow in your footsteps and become a great man and athletic director.

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I am thankful for the leadership of President Jay Gogue. I would like to thank you for taking the time to get to know me this past year. Having you as my professor was invaluable, and the experience taught me more than I could have ever have imagined about higher education and leadership. I would like to thank you for making yourself accessible and for your contribution to my learning, education, and future.

I would also like to thank my favorite doctor, Mike Goodlett, and most beloved attorney Nancy Davis. Thank you both for your guidance, assistance, and friendship over the years. You guys are two of my all time favorite Auburn people. You are brilliant individuals. The both of you have set a standard of excellence, which I aspire to reach one day, and of all the people who I have looked up to here at Auburn, the two of you I hold in the very highest regards.

I am so very thankful for Troy Smith, Janice Robinson, Richelle Rice, and the late Virgil Starks. Not many people know where the rubber meets the road for student-athletes, for me it started with you all my freshman year. Troy and Janice, the both of you have been the parents, and voice that kept me grounded and driven. From day one, you both told me, "your mother brought you here to earn a degree," and you guys made sure I never lost sight of that.

As a two-time graduate of the rehabilitation and special education department here at Auburn, I will always been thankful for Drs. Browning, Dunn, Darch, Shippen, and Riley for their constant encouragement, belief and support. I would also like to thank you all for encouraging me to apply to the doctoral program and for seeing something special in me.

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graduates, and great Auburn men. I am also thankful for Coaches Brown, Williams, Qualls, and their families for the opportunities and guidance they have provided me provided me in my life.

Additionally, it is of great importance to me, to recognize the efforts of the prior scholars within the continuum of education and academia that have advanced the body of knowledge and scholarly research which serves mankind. While I am confident this research effort will illuminate and add to what is known about student-athletes, I am humbled by this contribution to the body of knowledge and understand — the progression of knowledge is only possible through the successive efforts of many.

In closing, I would like to thank my beloved alma mater, Auburn University, as well as the very kind and generous people of the greater Auburn Community. I am proud to be an Auburn man, and I am very thankful for all of the love and support the Auburn Family has shown me over the years — War Eagle!

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CHAPTER 1. INTRODUCTION

College athletics in higher education present student-athletes with both the benefits and challenges of sport (Astin, 1993b; Gayles, 2009; Gayles & Hu, 2009; McBride & Reed, 1998; Pascarella, Bohr, Nora, & Terenzini, 1995; Pascarella, Edison, Hagedorn, Nora, & Terenzini, 1996; Ryan, 1989; Toma, & Morphew, 2001; Umbach, Palmer, Kuh, & Hannah, 2006; Watt & Moore, 2001; Whitt, Edison, Pascarella, Terenzini, & Nora, 2001; Wolf-Wendel, The Select Committee—Schaefer, 1983; Wolniak, Pierson, & Pascarella, 2001; Wolverton, 2008). While intercollegiate athletics serve to physically develop the athletic prowess and skillsets of student-athletes, the academic and social development of these students are primarily supported by the functions of higher education at large. Though sport is the primary undertaking of collegiate coaches and athletic departments, it is imperative they understand the academic and social abilities of the student-athletes they recruit and serve. Research in higher education has identified that there is a positive correlation between academic and social engagement/ integration, and college outcomes (Astin, 1984, 1993b; Gayles & Hu, 2009; Kuh, Hu, & Versper, 2000; Kuh, Schuh, Whitt, & Associates, 1991; Pascarella & Terenzini, 1991, 2005; Tinto, 1975, 1993).

The National Collegiate Athletic Association (NCAA), the eminent governing body of college athletics in the United States, serves to protect student-athletes and improve their college outcomes (NCAA, 2011); however, in recent years the NCAA and higher education have been the targets of public scrutiny and criticism (Gayles & Hu, 2009). According to Gayles and Hu

(2009), much of the public outcry over the past decade has stemmed from a discontentment for the college outcomes of students-athletes, in particular, graduation rates and student-athletes exiting institutions in poor academic standing. As the NCAA and collegiate community continue to work towards improving outcomes, research and examination of the academic competence and social fluency of student-athletes are needed. At the base of such evaluation and assessment, are the traits and abilities of incoming freshman being acclimated to the academic and athletic rigor of higher education and intercollegiate athletics. As noted by Gayles (2009), "Such academic and athletic demands, particularly for freshman student athletes, can be difficult to balance" (p. 34). Similar findings were expressed more than a decade prior by Pascarella et al. (1995) who asserted, "…intercollege athletic participation has significant consequences for the general cognitive development of both men and women during the first year of college" (p. 380).

Vincent Tinto developed the Theory of Student Departure in 1975, later expanding upon his work in subsequent decades (1987, 1993). Although Tinto's works emphasized college attrition, inversely, his work identified academic and social integration as the critical elements of student retention. It is significant to note his identification of retention and college persistence, as imperative underlying facilitators of goal attainment, which was defined as college graduation, a desired optimal-outcome of higher education and the NCAA for student-athletes. Tinto's theory, Model of Voluntary Student Departure (depicted in Figure 1), and research (1975, 1993) uncovered a significant relationship between academic and social integration, and student retention and persistence. For universities, athletic departments, and coaches, these findings provide guidance and direction by which to refine the recruitment and integration process for student-athletes.

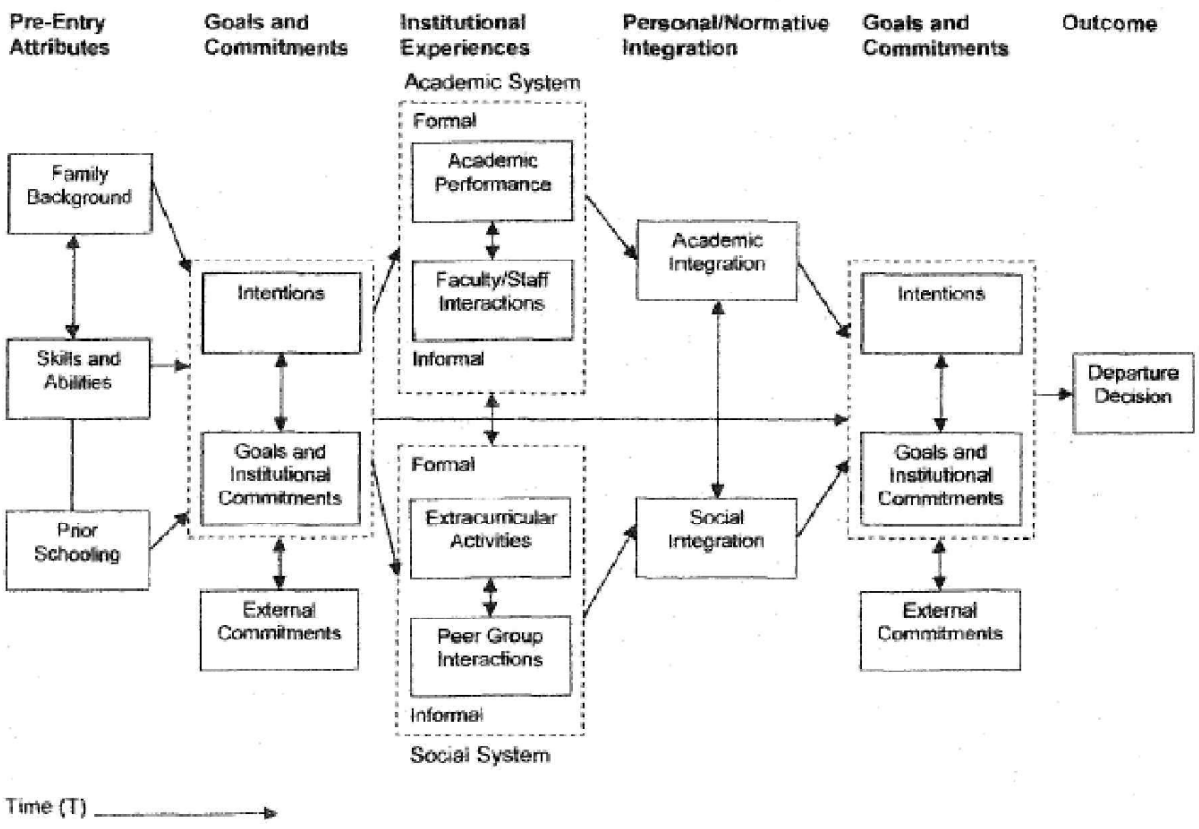


Figure 1: Model of Voluntary Student Departure (Tinto, 1993)

In acknowledging the influence of academic and social integration on retention, persistence, and ultimately graduation, the present research recognizes academic competence and social fluency as essential elements of the freshman composite. Furthermore, Reason, Terenzini and Domingo (2006) revealed the interrelatedness between students' academic competence and social experiences (out-of-class experiences), and academic and social integration as posed by Tinto (1975, 1993). Reason et al. found that students' academic competence and social experiences were correlated to their academic and social integration. The College Experience Model (depicted in Figure 2), developed by Reason et al. provides an illustration of the relationship between the experiences of college students and their college persistence, a predictor of graduation.

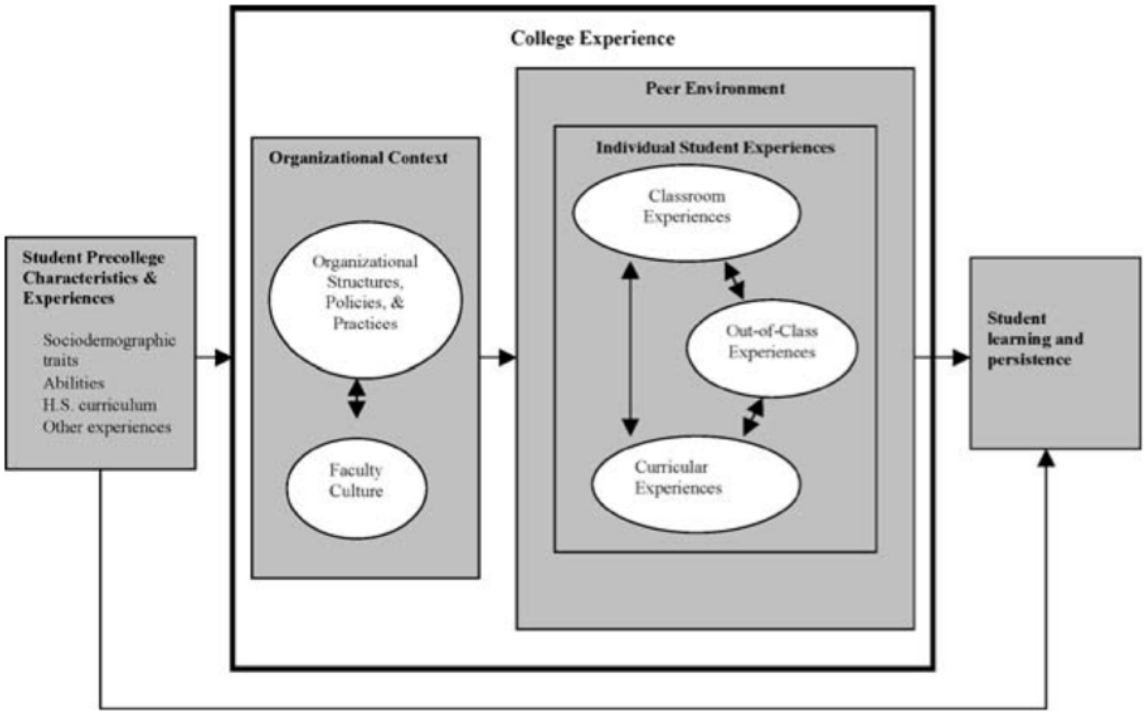


Figure 2: The College Experience Model (Reason et al., 2006)

While the research efforts of Tinto (1975, 1993) and Reason et al. (2006) provided evidence that an independent evaluation of the academic and social skillsets of student-athletes is useful to coaches in and of itself, there is literature which suggests there are other substantial factors, such as socioeconomic status (SES) and learning disabilities (LDs), which significantly impact the successful integration and future outcomes of college bound students (Algozzine, Browder, Karvonen, Test, & Wood, 2001; Bozick, 2007; Easton-Brooks & Davis, 2007; Elliott, & DiPerna, 2002; Griffin, Jayakumar, Jones, & Allen, 2010; Tinto, 1975, 1993; Zhang, 2005).

> The American Psychological Association Office on SES (APA, 2012) defined SES as, Socioeconomic status is commonly conceptualized as the social standing or class of an individual or group. It is often measured as a combination of education, income and occupation. Examinations of socioeconomic status often reveal inequities in access to resources, plus issues related to privilege, power and control. (n.p.)

Other researchers had previously identified these (Hossler, Braxton, & Coopersmith, 1989; Marable, 2003; Orfield & Eaton, 1996; Perna, 2006; Perna & Titus, 2004). Griffin et al. (2010) identified SES as,

> …family resources profoundly influence educational opportunities. Specifically, economic resources, parental education levels, and parental involvement are interrelated constructs with great potential to influence student participation in higher education. Numerous researchers show that wealth and family income are positively related to academic achievement and college attendance. (p. 234)

SES undoubtedly plays an important part in the educational access and outcomes for college bound students and, therefore, should be an important consideration of athletic departments in the recruitment and integration of student-athletes.

Much like SES, LDs have a distinct influence on the educational endeavors of college students (Murray, 2000). Research indicates that student-athletes entering college with LDs face even greater challenges than their teammates without disabilities and require additional support to successfully navigate the college curriculum (DaDeppo, 2009; Murray, 2000). In 2008, Brad Wolverton portrayed the landscape of intercollegiate athletics, as an environment in which student-athletes are called on to devote alarming amounts of time to sport; he further warned that the intense demands of sport are detrimental to the outcomes of student-athletes. Other research provides evidence that coupling LDs with sport at the collegiate level, further exacerbate the difficulties of college for students-athletes (Clark & Parette, 2002; Gayles & Hu, 2009). As expressed by DaDeppo (2009), "…postsecondary outcomes of individuals with LD, including attendance at and graduation from institutions of higher education, continue to lag behind those of their nondisabled peers, particularly at 4-year institutions" (p. 122). Other researchers have

made similar conclusions (Murray, Goldstein, Nourse, & Edgar, 2000; Rojewski, 1999; Vogel et al., 1998, 1999; Wagner & Blackorby, 1996). Given this information, higher education must consider student-athletes with LDs, a scholastically sensitive population for which special provisions must be made to ensure support and successful outcomes.

Statement of the Problem

Student-athletes are a unique population within the continuum of higher education. Numerous research efforts have demonstrated that socioeconomic background, academic competence, social skills, and LDs are meaningful and often significant factors affecting the successful integration and eventual outcomes of students and athletes in higher education (American Psychological Association, 2012; Astin, 1984, 1993b; Clark & Parette, 2002; DaDeppo, 2009; Gayles & Hu, 2009; Kuh, Hu, & Versper, 2000; Kuh et al., 1991; Marable, 2003; Murray, 2000; Orfield & Eaton, 1996; Pascarella & Terenzini, 1991, 2005; Perna & Titus, 2004; Tinto, 1975, 1993). Additional studies reveal the detriment and significance of participation in sport (Gayles, 2009; Gayles & Hu, 2009; Pascarella et al., 1995; Schaefer, 1983). Still, perhaps the discoveries which demand the most attention are those related to freshman, which suggest these athletes experience immense difficulties in their first year (Gayles, 2009; Pascarella, 1995; Schaefer, 1983). Given the challenges facing student-athletes, in particular freshman, it important to expand the scholarly research related to all of the variables that have been identified such as SES, LD, academic competence, and social fluency.

The NCAA, college athletic administrators, and coaches are currently operating from a deficient knowledge base while dealing in high stakes issues related to the outcomes of student-athletes. A number of factors including SES, academic and social ability, as well as LDs are likely to affect student-athletes transitioning into collegiate athletics; however, what is unclear

are the relationship between these variables. While there are studies that have addressed some of the variables, which have been examined in depth in the following chapter, there are no studies that examine all of the noted variables. In reviewing the literature and with all of the information known at this time, there is a gap in the scholarly knowledge base pertaining to student-athletes in higher education. This research addresses the noted gap or lack of knowledge as relating to intercollegiate athletics and higher education efforts needed to meet the needs of student-athletes.

Purpose of the Study

The purpose of this study was to examine Socioeconomic Status (SES) and Learning Disabilities (LDs) and their relationship to academic competence and social fluency for freshman Division I (D-I) student-athletes. Student-athlete characteristics were analyzed pertaining to The Freshman Survey from National Collegiate Athletic Association (NCAA) institutions in 36 states. This research builds upon what is currently known about student-athletes and serves as a resource to those with a vested interest in college athletics and the development of student-athletes. This research will serve to influence the evolution of recruiting or even stimulate the emergence of a new recruiting paradigm in which SES and learning characteristics of incoming student-athletes, viewed in relation to outcome oriented skills, become more centralized components of the overall recruiting process.

Research Questions

This study examined the following questions:

1. What is the relationship between SES and the academic competence of student-athletes?
2. What is the relationship between SES and the social fluency of student-athletes?
3. What is the relationship between LD and the academic competence of student-athletes?
4. What is the relationship between LD and the social fluency of student-athletes?

Significance of Study

This study contributed to the growing body of knowledge in collegiate athletics and higher education (Astin, 1993b; Gayles, 2009; Gayles & Hu, 2009; McBride & Reed, 1998; Pascarella, Bohr, Nora, & Terenzini, 1995; Pascarella, Edison, Hagedorn, Nora, & Terenzini, 1996; Ryan, 1989; Toma, & Morphew, 2001; Umbach, Palmer, Kuh, and Hannah, 2006; Watt & Moore, 2001; Whitt, Edison, Pascarella, Terenzini, & Nora, 2001; Wolf-Wendel, The Select Committee—Schaefer, 1983; Wolniak, Pierson, & Pascarella, 2001; Wolverton, 2008). Using the information found in this study, athletic departments will be better equipped to serve students from varying socioeconomic backgrounds. This study builds on previous research efforts that revealed parents' education, income, and occupation are correlated to the college attendance, persistence, and outcomes of college students (Marable, 2003; Orfield & Eaton, 1996; Perna & Titus, 2004; Tinto, 1975, 1993). Furthermore, this study will be beneficial to coaches, academic counselors, and advisors assisting student-athletes with LDs as they integrate and adjust to the academic climate of college. Given the findings of those who argued that participation in sport has a detrimental effect of isolating student-athletes from the general college population (Gayles & Hu, 2009; Wolverton, 2008), this study proliferates what is known about the social fluency of student-athletes and will be useful to college athletics in overcoming the socially-isolating affects of sport.

The findings of this study will be useful to intercollegiate athletics at various levels. The NCAA stands to gain, as they have information which is useful for developing policy. Universities are better able to support student-athletes and monitor academic progress. Coaches and athletic departments have a generalized profile of student-athletes by individual characteristics. Individual departments with in the university, such as the Office for Students

with Disabilities, are better equipped to aid the progress of student-athletes with disabilities. In addition to these benefits, this study was significant because it filled a void in the empirical literature related to student-athletes in higher education.

Limitations of the Study

This research has limitations, which should be considered by the reader throughout the review of this study. The population sample used in this study is a group of student-athletes from NCAA, D-I institutions. This presents some noteworthy limitations. Because this study only looked at student-athletes, this study cannot compare student-athletes to non-athletes to determine the specific effects of participation in sport. Also, because the population sample used in this study came from NCAA, D-I institutions, it does not reflect athletes at schools in lower divisions (i.e. Division II or III) or non-NCAA athletic programs. A survey was used to conduct this study; therefore, respondents were limited to the answers choices available on the survey. It is also relevant to note that a quantitative method of analysis was used to conduct this study, and the results are not likely to yield some of the information that is typical of a qualitative study.

Assumptions of the Study

This study was conducted based on the following assumptions:

1. The respondents answered The Freshman Survey (TFS) honestly and accurately.
2. The TFS is a valid and reliable instrument.
3. The TFS can sufficiently measure academic competence and social fluency.
4. The final assumption of this study pertains to the identification of student-athletes.

Although there was no single item on TFS which asked respondents, are you a student-athlete, two items were used to surmise student-athlete status. The first item used to distinguish student-athletes stated, “Below are some reasons that might have influenced your decision to attend this

particular college. How important was each reason in your decision to come here? (Mark one answer for each possible reason)" (Appendix A: TFS, 2008, p. 3). One of the reasons listed below the indicated item stated, "The athletic department recruited me" (Appendix A: TFS, 2008, p. 3). This research made the assumption that athletic departments only recruit student-athletes. Furthermore, the NCAA Academic and Membership Affairs Staff (2011) stated, "A student-athlete is a student whose enrollment was solicited by a member of the athletics staff or other representative of athletics interests…" (p. 62).

A second question was used to identify student-athletes which stated, "What is your best guess as to the chances that you will: …Play varsity/intercollegiate athletics" (Appendix A: TFS, 2008, p. 4)? Response options included: no chance, very little chance, some chance, and very good chance. This research was interested in those students that marked some chance or very good chance. A more detailed description of how both of the noted items were used in combination is provided in Chapter 3.

Definition of Terms

Academic Competence: These are skills, abilities and general scholastic comprehensions used for academic endeavors. The TFS items, which were used to measure academic competence, were: academic ability, creativity, artistic ability, and mathematical ability. A study conducted by Reason et al. in 2006, which used the National Survey of Student Engagement (NSSE) as the primary research instrument, defined academic competence using several factors synonymous with those identified in this definition (i.e. writing clearly and effectively, thinking critically and analytically, speaking clearly and effectively, analyzing quantitative problems, using computing and information technology, and acquiring a broad general education).

Deep South: This is the southernmost region of the United States. These states include Florida, Georgia, Alabama, Arkansas, Louisiana, Mississippi, Texas, and South Carolina.

Division I (D-I): As defined by the NCAA Academic and Membership Affairs Staff (2011), in the 2011-2012 NCAA Division I Manual, D-I is the highest level of athletic competition in the NCAA. D-I schools are set apart in that they are expected to maintain meet higher standards than schools in other divisions. D-I schools are expected to generate more revenue, participate in a greater number of spectator sporting events (i.e. football), maintain a higher volume of fan attendance at sporting events, schedule and compete against predominantly other D-I programs, meet higher academic standards for student-athlete eligibility, and provide more athletic scholarship and financial aid to student-athletes.

Football Bowl Subdivision (FBS): As noted in the NCAA Academic and Membership Affairs Staff's (2011) definition of D-I, D-I schools are expected to participate in more spectator sports, and as further described by the manual, a greater emphasis is placed on football in particular, which preludes FBS classification. As defined by the NCAA Academic and Membership Affairs Staff (2011), FBS classification represents the highest level of football competition in the NCAA. FBS institutions must meet additional requirements, beyond those of other D-I schools. Theses requirements include: scheduling and playing at least 60 percent of games against other FBS schools, playing a minimum of five regular season home games against FBS schools, providing an average of 90 percent of the permitted maximum number of overall football grants in aid per year during a rolling two year period, or offer a minimum of 200 athletic grants in aid or expend at least four million dollars on grants in aid to student athletes, and several other standards, which exceed those required of non-FBS institutions.

Football Championship Subdivision (FCS): The FCS represents the second tier or smaller D-I institutions. Given the definition of FBS, the scheduling, fan attendance, financial, and various other requirements made of the FBS schools is far less for FCS schools.

Federal Graduation Rate: As defined by the NCAA (2011), FGR assesses only first-time full-time freshman in a given cohort and only counts them as academic successes if they graduate from their institution of initial enrollment within a six-year period. It makes no accommodation for transfers into or out of an institution. (p. 2)

Graduation Success Rate: As defined by the NCAA (2011), GSR begins with the federal cohort, and adds transfer students, mid-year enrollees, and non-scholarship students (in specified cases) to the sample. Student-athletes who leave an institution while in good academic standing before exhausting athletics eligibility are removed from the cohort of their initial institution. (p. 2)

Learning Disabilities (LDs): According to the Individuals with Disabilities Act of 2004 (IDEA), as provided by United States Department of Education (USDE), Office of Special Education Programs (OSEP), a student can be identified as having a LD if they do not achieve adequately at age or grade level standards provided these student have been delivered age and grade at grade level instruction. While primary and secondary schools use the IDEA's definition of LD, universities rely on the Americans with Disabilities Act's (ADA; 1998) definition which states, "A learning disability is a neurologic disorder that causes difficulties in learning that cannot be attributed to poor intelligence, poor motivation, or inadequate teaching" (n.p.).

National Collegiate Athletic Association (NCAA): As defined by the NCAA Academic and Membership Affairs Staff (2011), the NCAA's purpose is to improve intercollegiate athletics programs for student-athletes, while promoting the development of these students. As a

governing body the NCAA provides policies and regulations designed to endorse fairness and amateurism in sports as well as promote academic standards intended to stimulate the development and successful outcomes of student-athletes.

Revenue Generating Sports (RGS): These are D-I FBS football programs and D-I Men's Basketball programs that generate revenue for their institutions. These schools have the largest athletic budgets in the NCAA.

Social Fluency: These are social skills, attributes, practices, knowledge and behaviors that enable students to interact, engage and develop socially, over the course of their college career. The idea of fluency is that the more developed the social skill set, the easier, more natural, and common social interactions and relationships are for students to build. The specific TFS items used to measure social fluency were: cooperativeness, self-confidence (social), self-confidence (intellectual), understanding of others, and public speaking ability.

Socioeconomic Status (SES): Socioeconomic status is the social and economic class of an individual as measured by a combination of their education, income, and occupation (American Psychological Association, 2012).

Student-athlete: As defined by the NCAA Academic and Membership Affairs Staff (2011), "A student-athlete is a student whose enrollment was solicited by a member of the athletics staff or other representative of athletics interests with a view toward the student's ultimate participation in the intercollegiate athletics program" (p. 62).

Organization of the Study

This study was organized in a five-chapter format. The first chapter of this study, entitled Introduction, was intended to introduce the subject of inquiry, identify the problem which justifies the need for this research, state the purpose for conducting this study, note its

significance, and provide other important information to aid the reader in reviewing this study. The second chapter provides a review of literature and was fashioned to thoroughly examine the research, which has been conducted prior in areas relating to this study. Chapter 3 identified the methods used to conduct this research. The fourth chapter presents the findings of this research, and the fifth and final chapter discusses the outcomes and results of this study as well as their implications. In addition, the fifth chapter presents suggestions for future research.

CHAPTER 2. REVIEW OF LITURATURE

Introduction

The purpose of this study was to examine Socioeconomic Status (SES) and Learning Disabilities (LDs) and their relationship to academic competence and social fluency for freshman Division I (D-I) student-athletes. Student-athlete characteristics were analyzed pertaining to The Freshman Survey from National Collegiate Athletic Association (NCAA) institutions in 36 states. This research builds upon what is currently known about student-athletes and serves as a resource to those with a vested interest in college athletics and the development of student-athletes. This research will serve to influence the evolution of recruiting or even stimulate the emergence of a new recruiting paradigm in which SES and learning characteristics of incoming student-athletes, viewed in relation to outcome oriented skills, become more centralized components of the overall recruiting process.

This chapter is a review of literature focused on student-athletes, college athletics, and higher education. To this end, higher education and college athletics were examined along with the role of the National Collegiate Athletic Association (NCAA). Research studies involving Student-athletes were examined, and particular attention was given to graduation rates, outcomes, and the effect of participation in sport on student-athletes. The role of academic and social integration in higher education was considered, and the leading models and theories in the field were reviewed. Academic competence and social fluency were examined as well as the literary works and studies related to SES and LD for postsecondary students and student-athletes.

The final portion of this chapter provides a summary, recapturing the most relevant findings in this review.

Higher Education and College Athletics

American higher education was established nearly four centuries ago (Cohen & Kisker, 2010). Since its inception in the first half of the 17th century, higher education has grown and evolved. Originally established during the colonial period in America, institutions of higher education were shaped by settlers seeking to break away from the governmental rule and control their European overlords (Cohen & Kisker, 2010). According to Cohen and Kisker (2010), early colleges and universities were founded by churches or religious establishments in alignment with Protestantism, Catholicism, or Anglicanism and created in order to develop clergymen. For centuries access was very limited, and only the elite, wealthy, Anglo settlers attended college.

The University Transformation Era (1870-1945) and College Athletics

While the early periods of colleges and universities are of great significance to higher education, the periods of greatest relevance to this study occurred centuries after institutions of higher education were first created in America. The first period of interest, as illustrated by Snyder (1993) in Figure 3, was the University Transformation Era. There was great expansion in American higher education during this period, which spanned 75 years.

Statistical Portrait of the University Transformation Era, 1870–1945 (Estimates)

	1870	1945
U.S. population	39,818,449	139,924,000
Number of students enrolled in higher education	63,000	1,677,000
Number of faculty	5,553	150,000
Number of institutions	250	1,768
Number of earned degrees conferred (bachelor's, master's, and doctoral)	9,372	157,349
Current-fund revenue (in thousands of current dollars)	14,000	1,169,394

Source: Snyder, 1993.

Figure 3: The University Transformation Era 1870–1945 (Snyder, 1993)

During this period, enrollment in higher education increased by more than 1.5 million students. Much of the growth and expansion in higher education during the University Transformation Era can be attributed to the Morril Act of 1862, which provided every state 30,000 acres of federal land, multiplied by the number of congressmen in the given state (Cohen & Kisker, 2010).

Along with the expansion of students, faculty, and revenue in higher education, this period also marked the transformation of intercollegiate athletics (Cohen & Kisker, 2010). According to Sperber (2004), "Almost every sports historian agrees that the first intercollegiate athletic event in American history was a boat race between Harvard and Yale in 1852 on Lake Winnepesaukee [sic] in New Hampshire" (p. 17). Although the first crew competition preceded

the University Transformation Era, it marked the beginning of sports in higher education. In the years to follow baseball (1859), football (1874), and basketball (1895) would become a part of college athletics (Clotfelter, 2011).

According to Clotfelter (2011), college athletics saw significant advancement during the second half of the 19th century which included Yale's hiring the first a professional coach in 1864, Havard's baseball team expanding competition to a 44 game schedule, and the 1893 Princeton v. Yale football game which attracted 50,000 spectators. The expansion of sports in higher education was underway. While crew was an early favorite and the predominant sport in college athletics for a period, it was swiftly replaced by college football (Sperber, 2004). Unlike other sports, football almost immediately became a source of great revenue for colleges and universities (Clotfelter, 2011).

As the University Transformation Era (1870) began, college football, introduced just four years later, grew in popularity. For the first time, college athletics, much like American universities, saw rapid and sizeable expansion. As stated by Cohen and Kisker, (2010)

> The University Transformation Era saw intercollegiate athletics blossom into major endeavors. Athletics departments had their own budgets; massive stadiums were erected; sporting events filled the pages of the newspapers and were broadcast nationally as radio became widespread… Once intercollegiate sports began in the latter part of the nineteenth century, they grew rapidly, as though they were 'rushing in to fill an emotional vacuum' (Hofstadter, 1952, p. 113). (p. 132)

As football, the catalyst of growth in intercollegiate athletics, expanded so did the spectatorship of the game. As depicted in Figure 4, since its inception, college football has progressively expanded; likewise, spectatorship (given the data available and depicted) has grown in similar fashion.

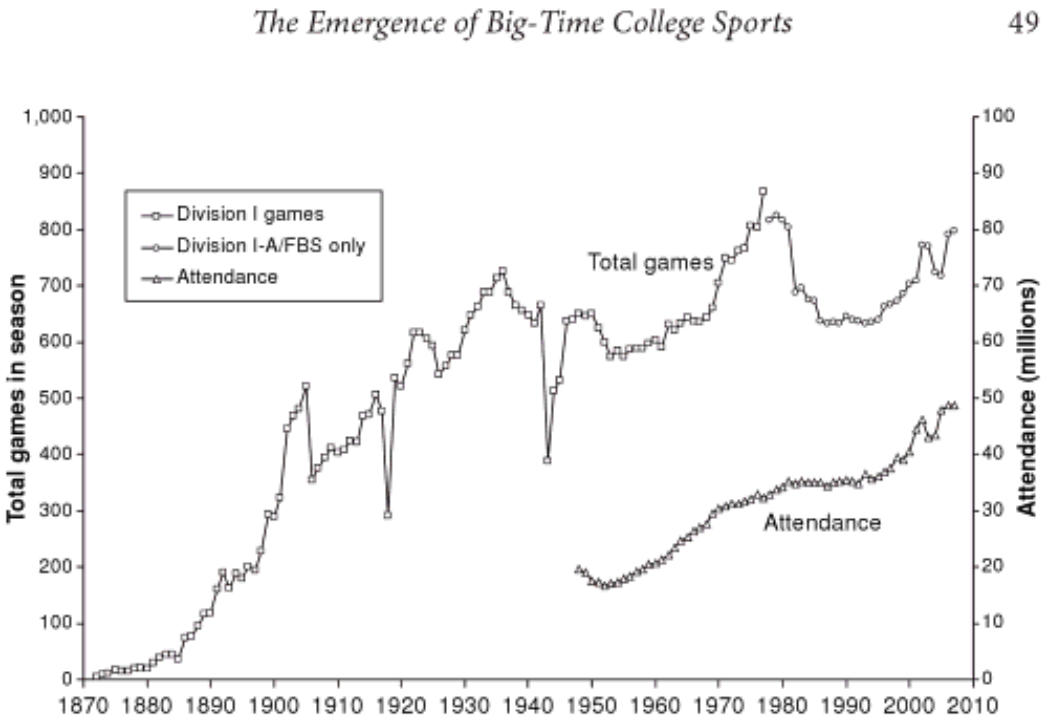


Figure 4: The Expansion of College Football (Clotfelter, 2011)

As expressed by Clotfelter (2011), it was due in large part to many of the gains and advances made in college sports during this period that commercialism, sensationalism, and fanaticism of big-time sports in American universities became a cultural fixation of Americans.

Segregation and Access for African Americans in Higher Education and College Athletics

While there is little dispute about the significance of the gains and advancement in higher education and college athletics during the University Transformation Era, progression came with its limitations. For African Americans, there would not be expeditious change in the university

setting or the racial paradigm of American society (Beck & Tolnay, 1990; Martin, 2002; Spivey, 1983). Nearing the turn of the century, more than 25 years after the 1863 signing of the emancipation proclamation (doctrine freeing African Americans from slavery), Blacks still faced racial oppression in all facets of American life (Beck & Tolnay, 1990). Despite racial tension and civil unrest nationwide, in 1890, amendments made to the Morrill Act included provisions stipulating,

> … no appropriations would go to states that denied admissions to the colleges on the basis of race unless they also set up separate but equal facilities [, a notion that would become, perhaps, the most contested issue of the civil rights movement in the century to follow (King, 1998)]. (Cohen & Kisker, 2010, p. 119)

While recipients of land grants (state institutions) were forced to consider the place of African Americans in higher education, the racial climate in the United States (U.S.) was volatile, turbulent, and often perilous for blacks attempting to cross the threshold of integration (Beck & Tolnay, 1990). In their examination of "… the relationship between economic conditions and the lynching of blacks in the Deep South…," Beck and Tolnay (1990, p. 526) expressed the severity of the hardships faced by African Americans during this period. For Blacks, one of the major struggles of the times were Jim Crow laws (local ordinances segregating White and Black facilities in the South), which disenfranchised African Americans from legitimate, constitutional citizenship. To the contrary, "Constitutional law framed the era of Jim Crow segregation, which by the 1910s had congealed around a narrow interpretation of the Fourteenth Amendment" (Wallenstein, 2005, p. 64). And, while the United States Constitution (1868) (section one of the 14th amendment) reads,

> All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the State wherein they reside. No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws. (n.p.)

African Americas were not afforded the privileges, immunities, or equal protection prescribed by law.

For Black athletes in higher education, most notably those attending or pursuing admission to predominantly White institutions (PWIs), integration was met with aggressive opposition, undue hardship, and hatred in athletic competition, the classroom, and community (Martin, 2002; Spivey, 1983). As the University Transformation Era came to a close, college athletics, along with Olympic and professional sports, became platforms of protest for African Americans (Spivey, 1983). Inextricably aligned with the social struggles of the American people, the 1940s saw colleges and universities engulfed with racial tension and conflict. As expressed by Martin Luther King (Carson, 1998), in the 1940s and 1950s America was beginning a long trying journey, trudging through the muddy rivers of desegregation, and though still in its infancy, a social conscience born of the Civil Rights Movement would emerge, altering the course of American history. For higher education and college athletics, the end of the University Transformation meant a new beginning.

The Mass Higher Education Era (1945–1975) and College Athletics

As World War II (WWII) ended in 1945, higher education was transitioning into what Cohen and Kisker (2010) refer to as the Mass Higher Education Era (1945–1975). Following

WWII Congress passed The Servicemen's Readjustment Act of 1944, commonly known as the GI Bill (Government Issued Bill), which provided financial funding for veterans returning from the war to attend college (Cohen & Kisker, 2010; United States Department of Veteran Affairs, 2012). Enrollment in higher education doubled following the WWII. In addition to the GI Bill, there were other legislations and court rulings during this time which had a significant impact on higher education, especially, for African Americans and Women (Cohen & Kisker, 2010).

Civil Rights, Integration of Blacks in Higher Education, and College Athletics

By the early 1950s, the Civil Rights Movement was underway. Civil rights leaders, such as Dr. Martin Luther King, Jr. and Ralph Abernathy, led masses of African American in sit-ins, kneel-ins, and marches to challenge the establishment of Jim-Crowism and segregation (Carson, 1998). In 1954, the Supreme Court ruling in the landmark case Brown v. Board dispelled the popular segregating Jim Crow notion that educational and other facilities could be established in a manner that was both separate and equal (Administrative Office of the U.S. Courts, 2012). As indicated by Cohen and Kisker (2010), by 1956 similar ruling would reach higher education in the case of Florida ex rel. Hawkins v. Board of Control. Despite these rulings, change in the social climate across the country was slow. As stated by King (Carson, 1998), "A period began in which the emphasis shifted from the slow court process to direct action in the form of protests, economic boycotts, and mass marches…" (p. 139).

During the Mass Higher Education Era, colleges and universities were fully entangled in the social demonstrations of the American Civil Rights Movement. According to King (Carson, 1998), college students played a vital role in the Civil Rights Movement. By his account,

> In 1960 an electrifying movement of Negro students shattered the placid surface of campuses and communities across the south… more than one college saw the total

> student body involved in a walkout protest. This was a change in student activity of profound significance. Seldom, if ever, in American history had a student movement engulfed the whole student body of a college... I was convinced that the student movement that was taking place all over the south in 1960 was one of the most significant developments in the whole civil rights struggle. It was no overstatement to characterize these events as historic. Never before in the United States had so large a body of students spread a struggle over so great an area in pursuit of a goal of human dignity and freedom… The students had taken the struggle for justice into their own hands. (p. 137)

During this period, university students in the Deep South fought discrimination and segregation and American athletes carried a similar message beyond the boarders of America (Spivey, 1983).

According to Spivey (1983), college athletics were a platform for political and social demonstration during the Mass Higher Education Era. As Spivey related, "Although overlooked by scholars in their examinations of the civil rights movement, big-time intercollegiate sport… was an important arena of protest…" (p. 116). He further identified,

> Harry Edwards, a Black former athlete at San Jose State University was the embodiment of the Black protest spirit in college sports. Edwards orchestrated the 1968 Olympic Boycott for Human Rights at Mexico City [momentously remembered for Tommie Smith and John Carlos' Civil and Human Rights demonstration during the games' medal ceremony (depicted in Figure 5)]. The Boycott represented the awakened social consciousness of Black collegiate athletes. (p. 123)

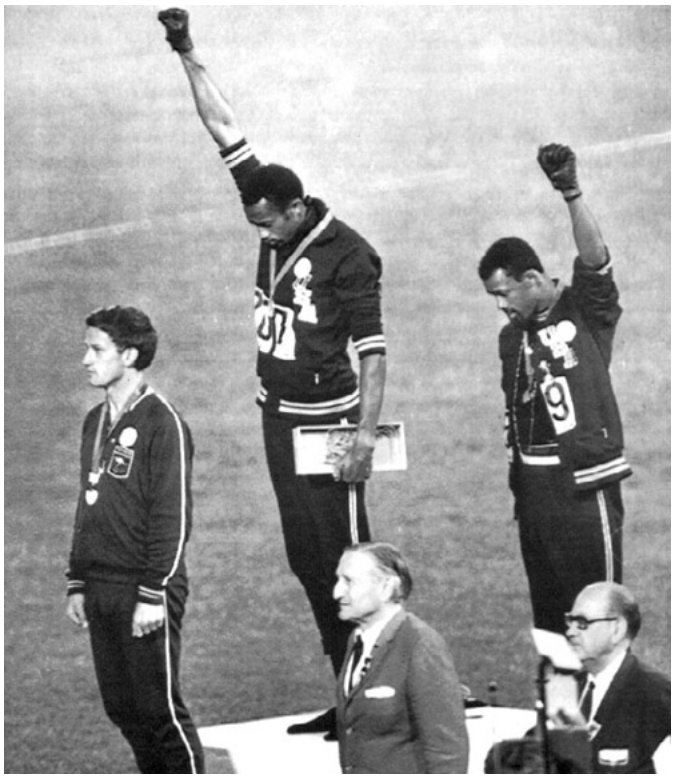


Figure 5: 1968 Olympic Games Medal Ceremony, Demonstration for Human Rights (Sprinters, Tommie Smith, Gold Medalist – middle, and John Carlos, Bronze Medalist – right) (Los Angeles Sentinel, 2011)

Whether by the legislative actions of congress, the passion and determination of college students in the Southern U.S., protest of Black American athletes, or some combination of the three, resistance to African Americans in higher education and college athletics was eroding.

Title IX, Equality for Women in Higher Education and College Athletics

Further legislation stemming from the Civil Rights Movement focused on the struggles of women and social inequality based on gender. In 1972, Title IX of the Education Amendments was introduced which stated, "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under

any education program or activity receiving Federal financial assistance…" (United States Department of Labor, 2010, n.p.). This new statute provided protection and equality for women in higher education, including college sports. NCAA President Mark Emmert noted, "You can make a pretty strong argument that Title IX has had as big an impact on the landscape of the United States as anything" (National Collegiate Athletic Association, 2011). Cohen and Kisker (2010), Clotfelter (2011), and the Women's Sports Foundation (2011) also suggested that Title IX was a momentous decree which redefined the role and participation of women in college athletics.

For the first time in the post Civil Rights era, women and African Americans had attainted equal access to higher education and college athletics. These factors, in combination with veterans returning from WWII, created a great influx of new college bound students during the Mass Higher Education Era (Cohen & Kisker, 2010). The proportion of the growth in higher education during this period is depicted in Figure 6.

Statistical Portrait of the Mass Higher Education Era, 1945–1975

	1945	1975
U.S. population	139,924,000	215,465,000
Number of students enrolled in higher education	1,677,000	11,185,000
Number of faculty	150,000	628,000
Number of institutions (including branch campuses)	1,768	3,004
Number of earned degrees conferred (bachelor's, master's, and doctoral)	157,349	1,665,553
Current-fund revenue (in thousands of current dollars)	1,169,394	39,703,166

Sources: National Center for Education Statistics, 1996a; Snyder, 1993.

Figure 6: The Mass Higher Education Era 1945–1975 (Snyder, 1993)

Much like the preceding era, The Mass Higher Education Era saw tremendous gains, most notably in student enrollment and current-fund revenue, but perhaps the greatest advancement during this period was the social change realized throughout American society.

Collegiate athletics in American higher education have undoubtedly evolved in their 160-year existence. The development and growth of college sports has in many ways paralleled that of higher education and the United States. In reciprocal fashion, intercollegiate athletics and American culture have greatly influenced each other. Although the focus of this study is modern day college athletics, it is imperative to consider how intercollegiate sports were shaped by their interconnectedness to higher education and American society.

The Modern Era of College Athletics (1980–Present)

The advances made in college athletics are multifold. Modern day college athletics are larger than ever before, bolstering intricate, multifaceted athletic departments charged with supporting the academic and athletic development of student-athletes. The NCAA is the eminent governing body over college athletics, which supports and regulates the many facets of college sports. College athletes are a dynamic and special population amongst college students with a diverse range of needs. The Modern Era of College Athletics is more widely supported by those vested in its advancement, more extensively aired amongst sports programing, and more frequently attended by fans than ever before.

National Collegiate Athletic Association (NCAA)

According to the NCAA (2012),

> [The] NCAA was founded in 1906 to protect young people from the dangerous and exploitive athletics practices of the time. The rugged nature of early-day football, typified by mass formations and gang tackling, resulted in numerous injuries and deaths

> and prompted many college and universities to discontinue the sport. President Theodore Roosevelt summoned college athletics leaders to two White House conferences to encourage reforms. [This led to the establishment of the first governing body, which would eventually become the NCAA.] (2012, n.p.)

The NCAA also stated,

> … [The NCAA was originally] founded to protect student-athletes, the NCAA continues to implement that principle with increased emphasis on both athletics and academic excellence. The NCAA is made up of three membership classifications that are known as Divisions I, II and III. Each division creates its own rules governing personnel, amateurism, recruiting, eligibility, benefits, financial aid, and playing and practice seasons – consistent with the overall governing principles of the Association … (2012, n.p.)

In regards to the make up of the association, the NCAA stated,

> The NCAA is a member association composed mostly of higher education institutions … There are 1,066 active member schools in the NCAA membership – 340 in Division I … The NCAA is a presidentially led organization. The Executive Committee is responsible for hiring and evaluating the NCAA president, for budgetary oversight and for establishing Association-wide policy. Presidential groups also lead each division in the form of the Division I Board of Directors, the Division II Presidents Council and the Division III Presidents Council. Athletics administrative professionals, faculty athletics representatives and student-athlete representatives compose an extensive committee structure that examines issues and makes legislative and policy recommendations to leadership groups. In Division I, the Board of Directors is authorized to adopt or modify

legislation (provisions exist for membership review under certain conditions). (2012, n.p.)

Presently the NCAA is comprised of an assortment of sports including: archery, badminton, baseball, basketball, bowling, cross country, equestrian, fencing, field hockey, football, golf, gymnastics, ice hockey, lacrosse, rifle, rowing, rugby, sailing, skiing, soccer, softball, quash, swimming/diving, synchronized swimming, team handball, tennis, track (indoor and outdoor), volleyball, water polo, and wrestling (NCAA, 2012; Zgonc, 2010). As of 2010 the NCAA supported approximately 170,000 D-I student-athletes (NCAA, 2012). In short, the NCAA together with institutions of higher education are chiefly concerned with the college athletics, specifically the welfare student-athletes.

Student-Athletes

Student-athletes are a special population; they are diverse and unique by nature of their roles on campus, emotional commitments to sport, atypical life styles, and their special needs (Carodine, Almond, & Gratto, 2001; Ferrante, Etzel, & Lantz, 1996; Wolverton, 2008). "Unlike non-athletes, student athletes must cope with public scrutiny and extensive time demands on top of regular class work." (Carodine, Almond, & Gratto, 2001, p. 19). Public interest in student-athletes, media attention, and social media popularity create a particularly unique social imbalance in the lives of college athletes. The fabric of student-athletes' lives is woven with many threads. These include sport, social popularity, intense time demands, academic eligibility commitments, physical and mental fatigue from sport, and the experiences typical of family life as experienced by other college students.

As stated by Carodine, Almond, and Gratt (2001), "They [student-athletes] all face huge time commitments, physically grueling workouts, a high-profile existence, and demanding

expectations" (p. 19). The authors added, "Even in the case of an academically gifted students, the combination of academic and athletic requirements can cause incredible strain" (p. 19). Still, others have suggested that student-athletes deal with psychological challenges related to role identity, role conflict, and even self-esteem issues (Carodine, Almond, & Gratto, 2001; Ferrante, Etzel, & Lantz, 1996; Sedlacek & Adams-Gaston, 1992). Provided the complex and diverse nature of student-athletes and their college experiences, it is worthwhile to examine the effect of sport participation on this population.

Student-Athletes and the Effect of Participation in Sports

When considering the factors that make student-athletes in higher education different from their non-athlete peers, the most commonly identified attribute of distinction is their athletic prowess; to this end, the NCAA, athletic administrators, researchers, media, and the public often question the benefit or detriment of sports on student-athletes. In an effort to answer such inquiries, many researchers have conducted studies to determine the effect of participation in sports on student athletes (Astin, 1993b; Gayles & Hu, 2009; McBride & Reed, 1998; Pascarella, Bohr, Nora, & Terenzini, 1995; Pascarella, Edison, Hagedorn, Nora, & Terenzini, 1996; Ryan, 1989; The Select Committee—Schaefer, 1983; Umbach, Palmer, Kuh, & Hannah, 2006; Wolniak, Pierson, & Pascarella, 2001; Wolverton, 2008). The results from these studies found there was no consensus amongst the research community as to the effect of participation in college athletics. The divergence of opinions is trichotomous; therefore, it is necessary to review the various research findings, giving appropriate consideration to positive effect, negative effect, and neutral outcomes or non-effect of participation in sports.

For the many supporters of college athletics, there is reasonable and sufficient evidence to suggest that participation in sports is beneficial to student-athletes (Astin, 1993b; Pascarella,

Edison, Hagedorn, Nora, & Terenzini, 1996; Ryan, 1989). A study conducted by Ryan (1989) used a multiple regression model to examine athletic participation as a predictor of motivation to earn a degree, interpersonal skills, leadership, and satisfaction with college experience. The overall model revealed that in all four instances athletic participation was found to be a statistically significant predictor.

Prior to his examination of interpersonal skills and leadership, Ryan (1989) provided commentary on what he noted to be agreement between the pressures of athletic competition, time and effort commitments, predominantly athletic-structured living arrangements, and what he suggested were commonly accepted affective goals of sports. These goals included increased confidence, cooperation and independent thinking in a group context, and analytical skills used in decision making in sport, which he stated were found in the past to increase self-esteem and interpersonal interactions. Ryan indicated athletic participation had a positive effect and was a relatively strong predictor of interpersonal skills. Further, he found that it was a relatively strong predictor of leadership and a modestly positive predictor for motivation to earn a degree. He also found that student-athletes were more satisfied with their college experience than non-athletes.

Pascarella, Edison, Hagedorn, Nora, and Terenzini (1996) approached the issue of participation in sports from a more academically focused perspective. Pascarella's et al. study concerning student-athletes was comprised of four parts. Cumulatively, precollege variables, environmental emphasis of the institutions attended, student academic experiences, and student social/nonacademic experiences were examined in relation to internal locus of attribution for academic success. In their study, participation in intercollegiate athletics was included in the social or nonacademic experiences of college students. According to Pascarella et al.,

participation in sports was found to have a significant positive association with a student's internal locus of attribution for academic success. Though incapable of resolving the debate over participation in sports, these findings are important because they provide some perspective of how student-athletes feel or see the effect of sport in relation to their academic success. This conclusion recognizes that sport participation was only one part of a larger subset (social/nonacademic experiences).

Much like Ryan (1989) and Pascarella et al. (1996), Astin (1993b) also found that participation in sports had a positive effect on student athletes; however, his findings were dichotomous in that he also identified notable negative or harmful effects, which will be addressed later in this chapter. According to Astin, participation in intercollegiate athletics was positively correlated with self-rated physical health, leadership, and satisfaction with student life. He further suggested that satisfaction with student life was an indication of positive social engagement and interactions by student-athletes.

Despite the varied conditions between these studies there were consistencies among them, which support the notion that participation in sports had a positive effect on student-athletes. Ryan (1989) and Astin (1993b) both identified that sports had a significant positive effect on social outcomes (interpersonal skills and social engagement) as well leadership; additionally, Pascarella et al. (1996) found that participation in sports, as a construct of social/nonacademic experiences, was positively associated to internal locus of attribution for academic success. In similar fashion, Ryan also noted sport was a moderately significant positive predictor of motivation to graduate. The uniformity between these studies support the argument that sports are of academic and social benefit to student athletes. Beyond these ascriptions to sport participation, the studies conducted by Ryan and Astin also found that

student-athletes have a greater overall satisfaction with their college experience. Given this information, there are numerous benefits of participation in sports for student-athletes; however, these claims assuredly come with disagreement and refutation.

As previously mentioned, the study undertaken by Astin (1993b) found that participation in sports was beneficial to student-athletes; however, Astin also provided evidence that show college athletics can be detrimental to student-athletes. Whereas his findings were congruent with the social benefits of sports proposed by Ryan (1989) and Pascarella et al. (1996), Astin's study stood in opposition of his peers in terms of the academic and cognitive outcomes of student-athletes in relation to participation in sports. While Ryan concluded that participation in sports was a modestly positive yet significant predictor of motivation to earn a degree and Pascarella et al. proposed that participation in sports had a significant positive association with internal locus of attribution for academic success, Astin found that sport participation had a significant negative effect on Graduation Record Exam (GRE) Verbal, Law School Admissions Test (LSAT), and National Teacher Examination (NTE) General Knowledge scores. Each of these studies had different variables including: GRE, LSAT, and NTE scores (Astin), motivation to earn a degree (Ryan), and internal locus of attribution for academic success (Pascarella et al.), which were fairly divergent concepts staggered between the undergraduate and graduate level. The differences presented between investigators were not intended to be absolute or suggest perpendicular rebuttal, but rather to illuminate contrary findings between academic and cognitive outcome oriented skillsets.

Confounding findings also existed related to analytical skills and critical thinking. As discussed previously in this chapter, Ryan (1989) found that participation in sport was a relatively strong positive predictor of interpersonal skills and leadership for student athletes. He

also expressed that the affective goals of sport, independent thinking in a group context and analytical skills used in decision making in sport, were in alignment with his findings. To the contrary, McBride and Reed (1998) examined differences between athletes and non-athletes' critical thinking skills and found that participation in sport was related to lower scores for student-athletes. These differences are noteworthy because while Ryan (1989) found sport participation to be a positive predictor, which involved the use of analytical skills in decision making in athletic competition to have social and leadership benefits, McBride and Reed's (1998) findings identified sports as being a hindrance to cognitive development and critical thinking for student athletes.

Pascarella, Bohr, Nora, and Terenzini (1995) conducted a longitudinal investigation of the cognitive effects of intercollegiate athletic participation during the first year of college. Using pre- and post-tests, Pascarella et al. sought to estimate the effects of athletic participation on reading comprehension, mathematics, and critical thinking for student-athletes. The results of this study ascertained that football and men's basketball players had significantly lower end-of-freshman-year average reading-comprehension and mathematics scores than athletes in others sports and non-athletes.

Pascarella et al. (1995) further explained that while male non-athletes and athletes that played sports other than football and men's basketball made modest net gains in freshman-year reading comprehension and mathematics, football and men's basketball players actually exhibited modest freshman-year declines in both areas. Other findings in this study also showed that female athletes had significantly lower average end-of-freshman-year reading-comprehension scores than non-athletes. Furthermore, it should be noted that while the

differences between athletes and non-athletes in end-of-freshman-year reading comprehension and mathematics were significant, the effect of participation in sport was small.

These findings identified by Pascarella, Bohr, Nora, and Terenzini (1995) were noteworthy because they provided evidence that there was a negative correlation between athletic participation and cognitive outcomes for freshman student-athletes; furthermore they echoed a caveat posed more than a decade prior by The Select Committee (The Select Committee—Schaefer, 1983). This committee, established by the NCAA to study and propose solutions to the serious problems affecting college athletics and commissioned as an independent party vested in the interests of student-athletes, studied college sports, student-athletes, and several issues related to participation in sports. In a report provided to the NCAA, The Select Committee, chaired by Schaefer (1983) stated,

> The question of freshman eligibility is complex. The most difficult period for most college students is the initial year. …Furthermore, the start a student makes in his or her first year often determines the pattern that will characterize the individual's college career. Even without the all-too-frequent academic disadvantage resulting from inadequate high school preparation, entering into that difficult transition with a massive, immediate commitment to athletics may leave inadequate time for study and acculturation, and may condemn all but the best and most dedicated students to the likelihood of probation and even failure. (p. 9)

After reviewing several questions related to the integration of freshman into institutions of higher education and college athletics, The Committee—Schaefer (1983) stated,

> After much deliberation, and by a consensus less than unanimous, The Committee concluded that, at best freshman participation in the high-intensity team sports constitutes

an unnecessary hurdle and, at worst, a great hindrance to academic success. It agreed, therefore, to recommend as follows on these issues:

1. Freshman should be ineligible to participate in varsity competition in Division I football and basketball…. (p. 9)

Further recommendations were made by The Committee, all of which suggested the need for careful consideration as to how freshman should be integrated into college athletics. Based on the suggestions made by The Select Committee in 1983 and the more recent studies reviewed, it was clear that the time demands and intensity of participation in sport were, and continue to be exorbitant.

Wolverton (2008) complained that the time commitment and other demands of sport were detrimental to student athletes. In his examination of student-athletes, Wolverton stated that athletes have very limited control over their academic experiences and added, "One in five say their sports participation has prevented them from choosing the major they wanted" (n.p.). In further illuminating the detriments of time commitment and sport demand on student-athletes, Wolverton objected to statements made by the late, former NCAA President Myles Brand during the 2008 annual state-of-the-association address. In the address Brand stated, "… those who participate in our athletics events are students, and students first" (NCAA, 2011). In his rejection of Brand's claim, Wolverton stated,

> … even the NCAA's athletes don't believe that's true. According to an NCAA survey of 21,000 players, the majority view themselves more as athletes than students. It's no wonder major-college football players reported spending an average of 44.8 hours a week practicing, playing, or training for their sport, the survey found, with golfers, baseball

players, and softball players not far behind. That's on top of the time athletes spend in the classroom. (n.p.)

According to Wolverton, during ensuing discussion at the 2008 state-of-the-associate address, former President Brand acknowledged, "…the key question was how much balance athletes had, and whether players had enough time for their academic responsibilities" (n.p.). Wolverton noted that President Brand continued, stating, "Once you get past 40 hours, you're really pushing it" (n.p.). Given the commentary of Brand that stated student-athletes were athletes first and dedicating more than 40 hours a week to sports was pushing the bounds of what serves the best interest of student-athletes. Twenty one thousand student-athletes were surveyed, the majority of which identified more as athletes than students; and football players, who reported they were spending an average of 44.8 hours per week on sport, it was evident there was a disconnect between policy and practice. In light of these issues, there seems to be sufficient evidence to support Wolverton's claims that participation in sports is detrimental to student-athletes.

There was also evidence that the problems associated with the time and demands of sport are perpetual and date back for several decades. These issues are unoriginal to present day college athletics. The Select Committee—Schaefer (1983) voiced concerns about the time demands of sports on student-athletes, stating,

> Some of the abuses with which anyone who has followed intercollegiate athletics would be familiar involve the exploitation of athletes who clearly do not have the ability to perform academically at the college level, [and] the failure of students who have the academic ability to succeed in college but who do not succeed because of their inability to handle the time demands placed upon them by athletic pursuits… (p. 6)

As indicated by the committee, the time commitment and the demands of sport when combined with academic deficiencies made it very difficult for student-athletes to perform at the collegiate level and successfully earn a college degree. Even for student-athletes with sufficient academically ability, the committee expressed concerns as they cited the time demands of sport as a causal agent of failure.

In examination of the time and effort commitments of student-athletes, Bowen and Levin (2003) looked primarily at students attending Ivy League schools. In their study they calculated that on average student athletes spend more than twice as much time on sport than other students spend on even the most time-intensive extracurricular activities. They further suggest that unlike other students, the time commitments of sports commonly conflict with class or laboratory instruction. In agreement with Pascarella et al. (1995), Bowen and Levin concluded football players or athletes in high profile sports (or RGS) significantly underperform in academics. Citing the extreme demands of sport, Bowen and Levin also extended the notion that student-athletes were not as engaged as their non-athlete peers, although their claims were in alignment with those of Wolverton (2008), and Umbach, Palmer, Kuh, and Hannah (2006).

While some have argued the academic and cognitive disadvantages caused by sport participation, others have looked at the social and cultural impact of athletics. Gayles and Hu (2009) explored student engagement and cultural attitudes. It is important to note that the use of the term "participation in sport" should be interpreted in a slightly different manner for this study. This is because this study looked at student-athletes across sports and not in relation to non-athletes; therefore, sport participation in this study referred to the specific sport played. Nonetheless, the findings of this study revealed that student-athletes in high profile sports (D-I football and basketball, the RGS) reported significantly less positive cultural attitudes as

compared to student-athletes in low profile sports; furthermore, it was identified male athletes had significantly less positive cultural attitudes when compared to female athletes. These findings were important as there was a significant correlation between student-athletes in high profile sports and less interaction with non-teammates and other students. This study also identified that these types of interactions with others were positively and significantly related to positive cultural attitudes.

The empirical evidence has indicated the positive effect of sport participation and suggested sports were harmful to student-athletes; therefore, it remains necessary to consider and explore the research which describes the neutrality or non-effect of athletic participation. Umbach, Palmer, Kuh, and Hannah (2006) studied the effect of sport on student-athletes across four variables. The variables included student engagement, perceptions of campus environment, self-reported gains, and grade point average. While some of the variables examined in this study were the same as those used in other previously reviewed research (Bowen & Levin, 2003), the findings were dissimilar. As stated, Umbach et al. declared,

> Much has been made recently about the Bowen and Levin (2003) report that student-athletes who attend highly selective institutions do not experience campus life in the same qualitatively beneficial ways as do their non-athlete peers. This infers that athletes do not engage in effective educational practices at the same level as other students and, therefore, may are not gain as much from college. Results from this study do not support such a sweeping conclusion. One reason may be that Bowen and Levine's sample—limited to students attending Ivy League schools—differs from the national sample used for this study. (p. 725)

In their examination of the effect of participation in sport Umbach et al. (2006) said, "Our results show that student-athletes are at least as engaged overall, and in some areas are more engaged, compared with their non-athlete peers" (p. 725). Generally speaking, a synopsis of their findings reveals that participation in sports does not have a significant effect, but rather it suggests there is a more or less neutral or non-effect.

Wolniak, Pierson, and Pascarella (2001) also examined the effect of athletic participation for males on a series of outcome variables. In this study, they compared male athletes in revenue sports to athletes in other sports and non-athletes. Much like Umbach et al. (2006), Wolniak et al.'s overall model reflected that male athletes did not differ significantly from athletes in non-revenue generating sports or non-athletes. Wolniak et al. also suggested that there was no significant difference found for academic motivation. This finding is contradictory to that of Ryan (1989) who found that there was a significant positive relationship between participation in sports and motivation to earn a degree.

In reviewing of the literature related to participation in college athletics, it seems unlikely a consensus will be reached regarding the effect of sports on student-athletes. It is also plausible, that where well-founded conclusions were drawn, their relevance to present day athletics will fade or at a minimum change, as time itself passes. For decision makers and others given the onus to do what is best for student athletes, the empirical data should be used to effectively develop and guide best practices as well as to correct oversights and shortcomings in college athletics. For many leaders in college athletics today, the most valued measure, and perhaps the issue from which inquiry regarding effect (or non-effect) of participation in athletics spawned, are graduation rates.

Participation in D-I Sports and Graduation Rates

Prior to the following exploration of graduation rates several distinctions should be made. It should be noted that all of the statistical information pertaining to graduation rates were derived from two research reports, namely, Trends in Graduation-Success Rates and Federal Graduation Rates at NCAA Division I Institutions (NCAA, 2011) and the NCAA Student-Athlete Ethnicity Report (NCAA, 2011). The data reported in this study on graduation rates included four consecutive cohort groups spanning 2001–2004; however, additional longitudinal data dating back to prior decades was included where deemed appropriate. Graduation rates are based on a widely and commonly accepted metric (6 years to complete a 4 year degree – 150% time).

In discussing graduation rates, the terms Federal Graduation Rate (FGR) and Graduation Success Rate (GSR) will be used recurrently, and the following distinction as provided by the NCAA (2011) is both critical and pertinent:

- FGR assesses only first-time full-time freshman in a given cohort and only counts them as academic successes if they graduate from their institution of initial enrollment within a six-year period. It makes no accommodation for transfers into or out of an institution. The rate is very limited because it ignores the large number of transfer students in higher education, but it is still the only rate that allows a direct comparison between student-athletes and the general student body.
- GSR begins with the federal cohort, and adds transfer students, mid-year enrollees, and non-scholarship students (in specified cases) to the sample. Student-athletes who leave an institution while in good academic standing before exhausting athletics eligibility are removed from the cohort of their initial institution. This rate provides a

> more complete and accurate look at actual student-athlete success by taking into account the full variety of participants in Division I athletics and tracking their academic outcomes. (p. 2)

Although the measuring and reporting methods noted may arouse debate or discussion, at the present time, FGR and GSR are the most comprehensive and meaningful standards by which to evaluate outcomes for student-athletes, especially in comparison to non-athletes.

Discussion related to graduation rates has been separated into two sections. The first section includes descriptive statistics and related commentary for (all) D-I athletics. The second section provides the same information; however, it will only include RGS. Lastly, participation statistics (i.e. number of African American males in D-I sports) will also be discussed, as together, graduation rates and participation in sports have some relevance to one and other.

Graduation Rates of D-I Athletics

The graduation rates for D-I are especially meaningful to the present research for two reasons, first because the sample population for this research was D-I student-athletes and secondly because graduation rates provide some depiction of the outcomes for student-athletes. Prior to examining the graduation rates for D-I student-athletes, participation statistics by gender, ethnicity, and sport were explored. Figure 7 as provided by the NCAA (2011) provides an estimate of athletes by gender and ethnicity participating in D-I athletics between the years of interest (2001–2004).

ESTIMATED STUDENT-ATHLETE RACE AND ETHNICITY FREQUENCIES FOR DIVISION I

Year	American Indian/ Alaskan Native		Asian/Native Hawaiian/Pacific Islander		Black, Non-Hispanic		Hispanic		Other		Two or More Races		White, Non-Hispanic	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
All Sports														
1999-00*	268	192	1,168	1,029	19,625	8,686	2,427	1,515	4,966	4,232			55,298	45,622
2000-01*	308	237	1,172	1,099	20,746	9,482	2,811	1,651	3,763	3,077			52,697	45,104
2001-02*	313	284	1,264	1,200	20,745	9,690	2,868	1,872	3,125	2,552			53,979	47,489
2002-03*	320	237	1,403	1,395	21,423	10,150	2,888	1,966	2,919	2,519			54,508	49,349
2003-04*	371	284	1,380	1,450	21,329	10,413	3,100	2,312	2,803	2,566			54,056	49,234
2004-05*	348	254	1,452	1,556	21,797	10,913	3,258	2,357	2,720	2,338			54,588	49,976

Figure 7: Student-Athlete Ethnicity and Gender Data (NCAA, 2011, p. 192)

A brief inspection of Figure 7 shows that Whites were by and large the majority participants in D-I with roughly 100,000 student-athletes on average per year between 2001 and 2004. Figure 8 also provides the same breakdown by percentage.

STUDENT-ATHLETE RACE AND ETHNICITY PERCENTAGES FOR DIVISION I

Year	American Indian/ Alaskan Native		Asian/Native Hawaiian/Pacific Islander		Black, Non-Hispanic		Hispanic		Other		Two or More Races		White, Non-Hispanic	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
All Sports														
1999-00*	0.3	0.3	1.4	1.6	22.9	13.8	2.8	2.4	5.8	6.7			64.4	72.6
2000-01*	0.4	0.4	1.4	1.7	24.3	14.8	3.3	2.6	4.4	4.8			61.6	70.4
2001-02*	0.4	0.4	1.5	1.8	24.3	14.7	3.4	2.8	3.7	3.9			63.1	72.1
2002-03*	0.4	0.3	1.6	2.0	24.6	14.8	3.3	2.9	3.4	3.7			62.6	71.9
2003-04*	0.4	0.4	1.6	2.1	24.6	14.9	3.6	3.3	3.2	3.7			62.3	70.6
2004-05*	0.4	0.4	1.7	2.2	24.8	15.4	3.7	3.3	3.1	3.3			62.2	70.5

Figure 8: Student-Athlete Ethnicity and Gender Data by Percentage (NCAA, 2011, p. 126)

Upon examination, the percentage breakdown for D-I sports shows that White and Black athletes comprise the vast majority of D-I athletes. On average, between 2001 and 2004, Black males attributed for roughly 25 percent of male athletes, while White males accounted for about 62 percent of male athletes. Together, Black and White males accounted for about 87 percent of

all male student-athletes. Similarly, Black and White women combined accounted for 86 percent of all female student-athletes.

In regards to graduation rates, a study conducted by the NCAA (2011) provided useful data. In this study, the NCAA sought to compare D-I student-athletes in the 2000–2003 cohorts to D-I student-athletes in the 2001–2004 cohorts; however, this section is focused primarily on the later grouping of cohorts (2001–2004). In Figure 9, the NCAA (2011) provided the GSRs for D-I student-athletes during the period of interest.

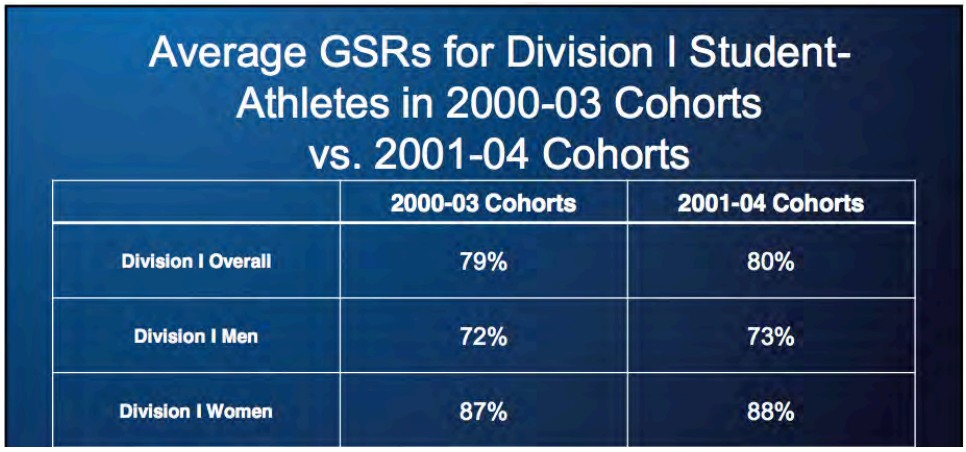


Figure 9: GSR Rates 2000-2003 and 2001-2004 Cohorts (NCAA, 2011, p. 8)

An examination of Figure 9 shows that the GSR for D-I student-athletes between 2001 and 2004 was 80 percent. The NCAA also provided other GSR data, which were identified by ethnicity and gender; however, only data for the 2003 and 2004 cohorts were provided (Figure 10). Whites and Blacks were the only ethnic groups represented in this data.

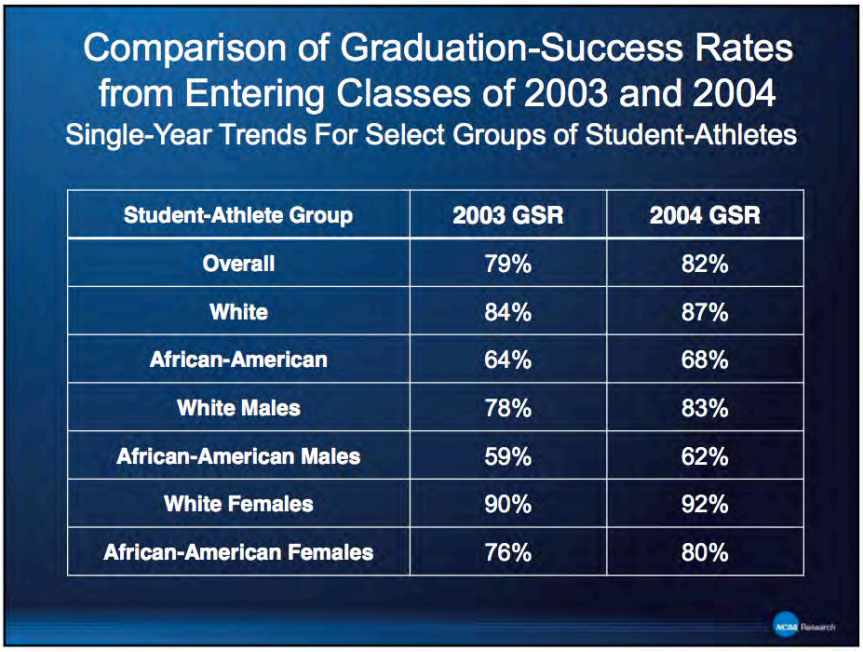
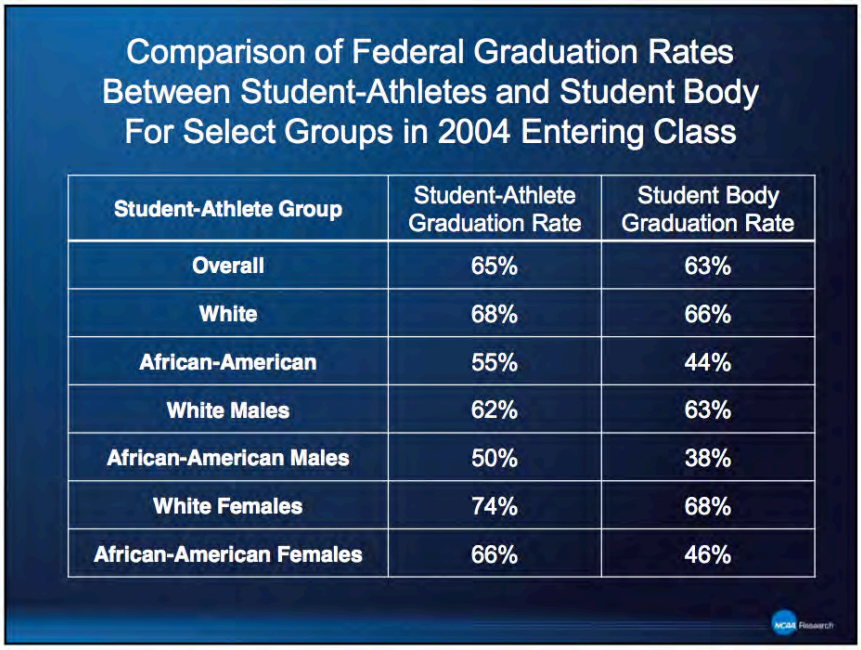


Figure 10: GSR 2003 and 2004 Cohorts (NCAA, 2011, p. 11)

About 87 percent D-I of student-athletes were Caucasian or African American, which most likely explains why this NCAA report (Trends in Graduation-Success Rates and Federal Graduation Rates at NCAA Division I Institutions) only provided statistics for these two ethnic groups. Nonetheless, it is meaningful to note that in 2003 African American male GSRs were 19 percent lower than White males, and African American female GSRs were 14 percent lower than White females. Overall, in 2003, GSRs for Blacks were 20 percent lower than Whites and 2004 was similar as the overall GSR for Blacks was 19 percent lower than that of Whites — 21 percent lower for Black men and 12 percent lower for Black women. This data reveals that females graduate at higher rates than males.

Although a comparison amongst athletes is certainly meaningful and relevant as it shows ethnic and gender disparities, inquiry of the effect of participation in sports often looks to compare graduation rates of student-athletes to those of non-athletes. This comparison calls for

exploration of FGR. Unlike the GSR (the NCAA's standard graduation rate metric), the FGR is a more basic calculation, and graduation percentages tend to be significantly lower than GSR. For example, while the overall GSR for student-athletes in the 2004 cohort was 82 percent (as previously depicted in Figure 10), the FGR that same year was 65 percent or 17 percent lower (as depicted in Figure 11). Nonetheless, the FGR is a very useful metric in comparing student-athletes and non-athletes. As shown in Figure 11, in 2004 overall student-athletes' and non-athletes' FGRs were fairly similar.



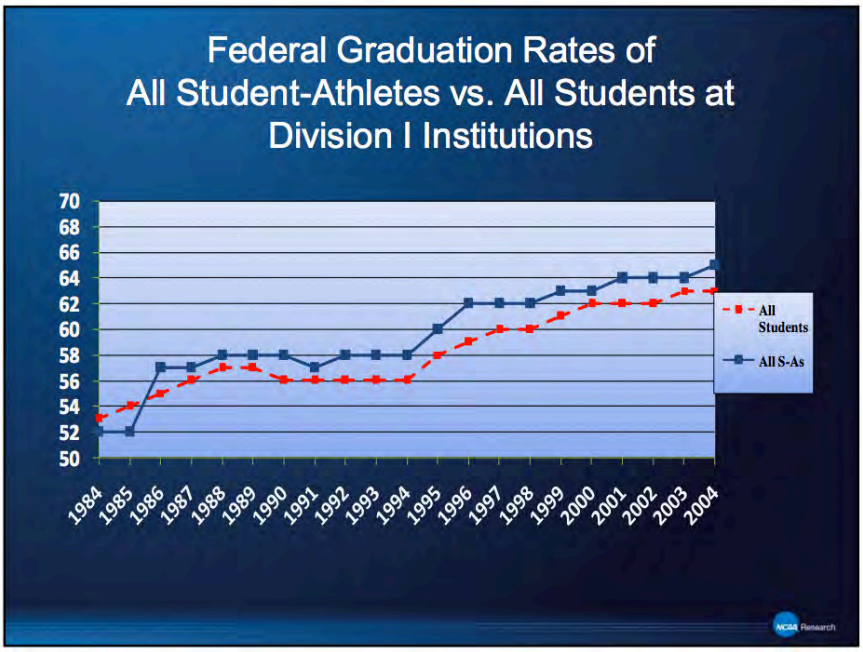
Student-Athlete Group	Student-Athlete Graduation Rate	Student Body Graduation Rate
Overall	65%	63%
White	68%	66%
African-American	55%	44%
White Males	62%	63%
African-American Males	50%	38%
White Females	74%	68%
African-American Females	66%	46%

Figure 11: FGR 2004 Cohort Student-athletes vs. Non-athletes (NCAA, 2011, p. 22)

In looking at these data, some notable discrepancies in favor of athletes can be found — especially for African Americans, in particular Black women. The data revealed that in 2004 Black male student-athletes' FGRs were 12 percent higher than their non-athlete counterparts, and Black female student-athletes' FGRs were 20 percent higher than their non-athlete

counterparts. Although these data only represent a single cohort it seems to suggest that athletes have better outcomes than non-athletes.

The NCAA (2011) provided longitudinal data spanning 21 years (Figure 12), which supports the claim that students who participate in sports (D-I student-athletes) tend to graduate, as measured by FGR, at a higher percentage than their non-athlete peers. A breakdown by Ethnicity (shown in Figure 13) also verified that this trend held true for both Caucasian and African American student-athletes



Note. S-As = student-athletes

Figure 12: FGR 1984-2004 Student-athletes vs. Non-athletes (NCAA, 2011, p. 25)

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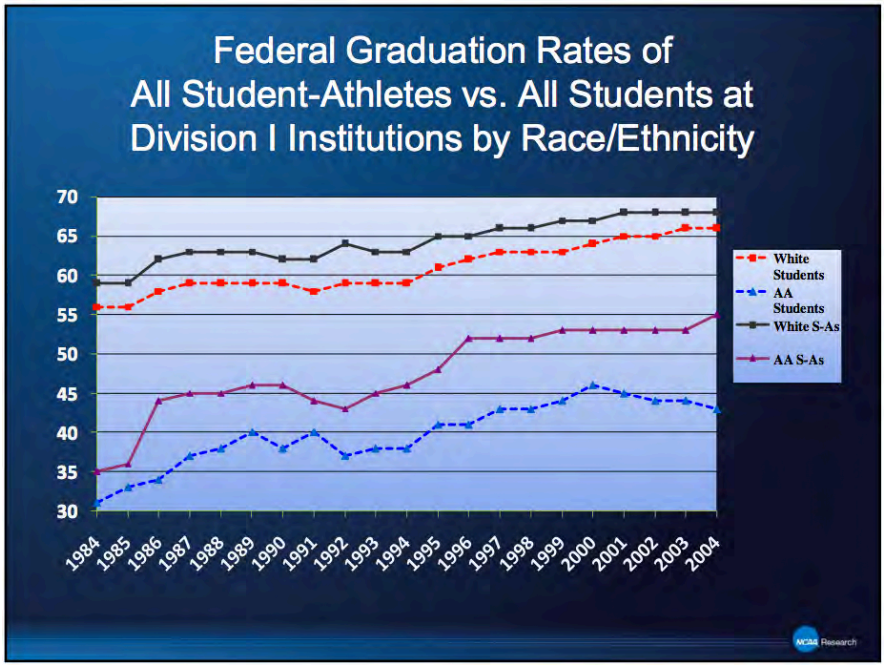


Note. S-As = student-athletes and AA African Americans

Figure 13: FGR 1984-2004 Student-athletes vs. Non-athletes by Ethnicity (NCAA, 2011, p. 26)

This longitudinal data shows that Black and Caucasian student-athletes have consistently had better outcomes than their non-athlete peers for many years. Furthermore, this shows that FGRs for student-athletes has increased over the decades at a similar if not higher rate than that of non-athletes. In discussing the effect of participation in sports, these findings are far from absolute but do provide some evidence that outcomes for athletes have been better than those of non-athletes and outcomes have been improving gradually.

Graduation Rates RGS

In college athletics revenue generating sports receive the most media coverage and generate the most spectators; therefore, there is also significant interest in the academic success or failure of these athletes. The term revenue generating sports (RGS) refers to select athletic programs, which include D-I men's basketball and D-I football that generate revenue for their

institutions. D-I football is divided into the Football Bowl Subdivision (FBS) and Football Championship Subdivision (FCS), and only the former (FBS) is a part of RGS. In general, other athletics programs (i.e. gymnastics or swimming and diving) do not generate money for universities, but rather cost these schools a great deal of money to fund and operate. Revenue generating sports tend to draw the attention of scholars and critics for two distinct reasons. First, because beyond simply generating extra cash flow for collegiate institutions, several of the top football and basketball programs across the country are extremely lucrative and produce millions upon millions of dollars for these schools; a relatively small portion of which generate as much as 100 million dollars in revenue (NCAA, 2011). Secondly, some have called into question the notion or idea of exploitation of African American student-athletes (Eitzen & Purdy, 1986; Farrell, 1990; Leonard II, 1986; The Select Committee—Schaefer, 1983).

The idea that Black student-athletes in RGS are exploited by intercollegiate athletic programs and the NCAA stems from several interconnected ideologies. As shown in Figures 14 and 15, participation percentages reveal that a high percentage of African American men participate in either football or basketball. As a result, these sports see an equal proportion (football) and sometimes greater proportion (basketball) of African American participants as compared to White student-athletes. Because of this some scholars and critics seek to compare GSRs and FGRs between Black and White students-athletes participating in RGS (Eitzen & Purdy, 1986; Farrell, 1990; Leonard II, 1986). The existing discrepancies call into question the recruitment of Black athletes that are said to be ill prepared for college, simply to exploit their athletic prowess and profit from their participation in sports. In totality, these issues make up the foundation of the racially charged claim: Black athletes generate millions of dollars for collegiate institutions, but many of these students do not graduate from college.

As shown in Figure 7, between 2001 and 2004, there were roughly 21,000 African American men athletes on average per year participating in D-I athletics (NCAA, 2011). Figure 14 (football) and Figure 15 (men's basketball) reveal that the vast majority of these athletes (African Americans) participated in football or basketball.

ESTIMATED STUDENT-ATHLETE RACE AND ETHNICITY FREQUENCIES FOR DIVISION I

Year	American Indian/ Alaskan Native		Asian/Native Hawaiian/Pacific Islander		Black, Non-Hispanic		Hispanic		Other		Two or More Races		White, Non-Hispanic	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Football (Division I Overall)														
1999-00*	73	N/A	313	N/A	9,711	N/A	439	N/A	1,398	N/A			12,619	N/A
2000-01*	87	N/A	325	N/A	10,272	N/A	517	N/A	704	N/A			12,054	N/A
2001-02*	107	N/A	358	N/A	10,535	N/A	521	N/A	705	N/A			12,407	N/A
2002-03*	92	N/A	402	N/A	11,056	N/A	547	N/A	577	N/A			12,447	N/A
2003-04*	91	N/A	407	N/A	11,241	N/A	610	N/A	598	N/A			12,260	N/A
2004-05*	79	N/A	396	N/A	11,433	N/A	589	N/A	578	N/A			12,009	N/A
2005-06*	236	N/A	403	N/A	11,434	N/A	529	N/A	603	N/A			11,872	N/A
2006-07*	98	N/A	402	N/A	11,503	N/A	558	N/A	733	N/A			11,770	N/A
2007-08*	101	N/A	452	N/A	11,904	N/A	607	N/A	580	N/A	65	N/A	11,949	N/A
2008-09*	101	N/A	465	N/A	11,916	N/A	668	N/A	741	N/A	138	N/A	12,075	N/A
2009-10*	112	N/A	511	N/A	12,058	N/A	644	N/A	775	N/A	354	N/A	11,871	N/A
Football (Division I-FBS)														
1999-00*	51	N/A	207	N/A	5,343	N/A	237	N/A	931	N/A			6,452	N/A
2000-01*	52	N/A	234	N/A	5,592	N/A	256	N/A	363	N/A			6,227	N/A
2001-02*	80	N/A	255	N/A	5,925	N/A	283	N/A	301	N/A			6,588	N/A
2002-03*	61	N/A	302	N/A	6,140	N/A	296	N/A	198	N/A			6,525	N/A
2003-04*	55	N/A	294	N/A	6,178	N/A	380	N/A	223	N/A			6,455	N/A
2004-05*	42	N/A	291	N/A	6,348	N/A	308	N/A	250	N/A			6,467	N/A
2005-06*	118	N/A	281	N/A	6,527	N/A	318	N/A	206	N/A			6,391	N/A
2006-07*	55	N/A	315	N/A	6,491	N/A	332	N/A	310	N/A			6,481	N/A
2007-08*	69	N/A	335	N/A	6,707	N/A	343	N/A	254	N/A	38	N/A	6,375	N/A
2008-09*	65	N/A	320	N/A	6,644	N/A	361	N/A	360	N/A	63	N/A	6,333	N/A
2009-10*	64	N/A	371	N/A	6,787	N/A	344	N/A	415	N/A	177	N/A	6,161	N/A

Figure 14: Participation by Ethnicity D-I Football (FBS) (NCAA, 2011, p. 197)

ESTIMATED STUDENT-ATHLETE RACE AND ETHNICITY FREQUENCIES FOR DIVISION I

Year	American Indian/ Alaskan Native		Asian/Native Hawaiian/Pacific Islander		Black, Non-Hispanic		Hispanic		Other		Two or More Races		White, Non-Hispanic	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Basketball														
1999-00*	10	20	15	32	2,647	1,630	75	69	257	254			1,667	2,448
2000-01*	18	22	12	36	2,803	1,804	70	79	161	132			1,598	2,368
2001-02*	14	26	11	40	2,875	1,883	76	80	160	132			1,609	2,380
2002-03*	21	27	11	57	2,903	1,938	67	79	128	115			1,618	2,308
2003-04*	14	26	10	60	2,905	1,987	76	87	127	132			1,578	2,235
2004-05*	28	23	20	60	2,892	2,076	73	77	124	120			1,594	2,115
2005-06*	17	16	27	76	2,941	2,173	90	76	116	115			1,493	2,158
2006-07*	6	17	19	52	3,053	2,250	93	95	237	223			1,643	2,107
2007-08*	3	16	20	59	3,090	2,367	92	63	215	186	28	23	1,671	2,013
2008-09*	8	16	28	48	3,100	2,478	106	77	219	183	34	35	1,634	1,978
2009-10*	13	15	32	73	3,158	2,432	96	73	239	194	61	63	1,583	1,916

Figure 15: Participation by Ethnicity D-I Men's Basketball (NCAA, 2011, p. 194)

Together, Figures 14 and 15 revealed that of the 21,000 African American student-athletes participating in D-I athletics each year, roughly 3,000 played men's basketball and 11,000 played (FBS) football; furthermore, while not depicted in either figure it should be noted that an additional 6,000 played FCS football (the second tier or lower subdivision of D-I football). Astoundingly, of the 21,000 Black student-athletes, 20,000 or 95 percent play football or basketball; however, in discussing RGS, FCS schools must be eliminated, as these programs are not considered revenue generators. Even still, the remaining 14,000 or 70 percent of Black student-athletes participating in D-I athletics were members of RGS. This is an important concept when relating back to some of the exploitation theories expressed prior (Eitzen & Purdy, 1986; Farrell, 1990; Leonard II, 1986; The Select Committee—Schaefer, 1983).

Previously, it was identified that Caucasian males attributed for roughly 62 percent of male athletes across all D-I sports and African American males accounted for just 25 percent, 37 percent less that their White counterparts. In RGS the percentage of Whites to African Americans was much different. As shown in Figure 16 (football) and Figure 17 (men's basketball), Black and White athletes were fairly equally represented in football while there was a relatively large gap in basketball favoring African Americans.

STUDENT-ATHLETE RACE AND ETHNICITY PERCENTAGES FOR DIVISION I

Year	American Indian/ Alaskan Native		Asian/Native Hawaiian/Pacific Islander		Black, Non-Hispanic		Hispanic		Other		Two or More Races		White, Non-Hispanic	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Football (Division I Overall)														
1999-00*	0.3	N/A	1.3	N/A	39.5	N/A	1.8	N/A	5.7	N/A			51.3	N/A
2000-01*	0.4	N/A	1.3	N/A	42.1	N/A	2.1	N/A	2.9	N/A			49.4	N/A
2001-02*	0.4	N/A	1.4	N/A	42.6	N/A	2.1	N/A	2.8	N/A			50.1	N/A
2002-03*	0.4	N/A	1.6	N/A	43.8	N/A	2.2	N/A	2.3	N/A			49.3	N/A
2003-04*	0.4	N/A	1.6	N/A	44.3	N/A	2.4	N/A	2.4	N/A			48.3	N/A
2004-05*	0.3	N/A	1.6	N/A	45.4	N/A	2.3	N/A	2.3	N/A			47.7	N/A
2005-06*	0.9	N/A	1.6	N/A	45.4	N/A	2.1	N/A	2.4	N/A			47.1	N/A
2006-07*	0.4	N/A	1.6	N/A	45.9	N/A	2.2	N/A	2.9	N/A			47.0	N/A
2007-08*	0.4	N/A	1.8	N/A	46.4	N/A	2.4	N/A	2.3	N/A	0.3	N/A	46.6	N/A
2008-09*	0.4	N/A	1.8	N/A	45.6	N/A	2.6	N/A	2.8	N/A	0.5	N/A	46.3	N/A
2009-10*	0.4	N/A	1.9	N/A	45.8	N/A	2.4	N/A	2.9	N/A	1.3	N/A	45.1	N/A
Football (Division I-FBS)														
1999-00*	0.4	N/A	1.6	N/A	40.3	N/A	1.8	N/A	7.0	N/A			48.7	N/A
2000-01*	0.4	N/A	1.8	N/A	43.2	N/A	2.0	N/A	2.8	N/A			48.1	N/A
2001-02*	0.6	N/A	1.9	N/A	43.8	N/A	2.1	N/A	2.2	N/A			48.8	N/A
2002-03*	0.4	N/A	2.2	N/A	45.1	N/A	2.2	N/A	1.5	N/A			48.0	N/A
2003-04*	0.4	N/A	2.1	N/A	45.1	N/A	2.8	N/A	1.6	N/A			47.1	N/A
2004-05*	0.3	N/A	2.1	N/A	46.1	N/A	2.2	N/A	1.8	N/A			47.0	N/A
2005-06*	0.8	N/A	2.0	N/A	46.9	N/A	2.3	N/A	1.5	N/A			45.9	N/A
2006-07*	0.4	N/A	2.3	N/A	46.4	N/A	2.4	N/A	2.2	N/A			46.3	N/A
2007-08*	0.5	N/A	2.4	N/A	47.5	N/A	2.4	N/A	1.8	N/A	0.3	N/A	45.1	N/A
2008-09*	0.5	N/A	2.3	N/A	47.0	N/A	2.6	N/A	2.5	N/A	0.4	N/A	44.8	N/A
2009-10*	0.4	N/A	2.6	N/A	47.4	N/A	2.4	N/A	2.9	N/A	1.2	N/A	43.0	N/A

Figure 16: Participation Percentages by Ethnicity D-I Football FBS (NCAA, 2011, p. 131)

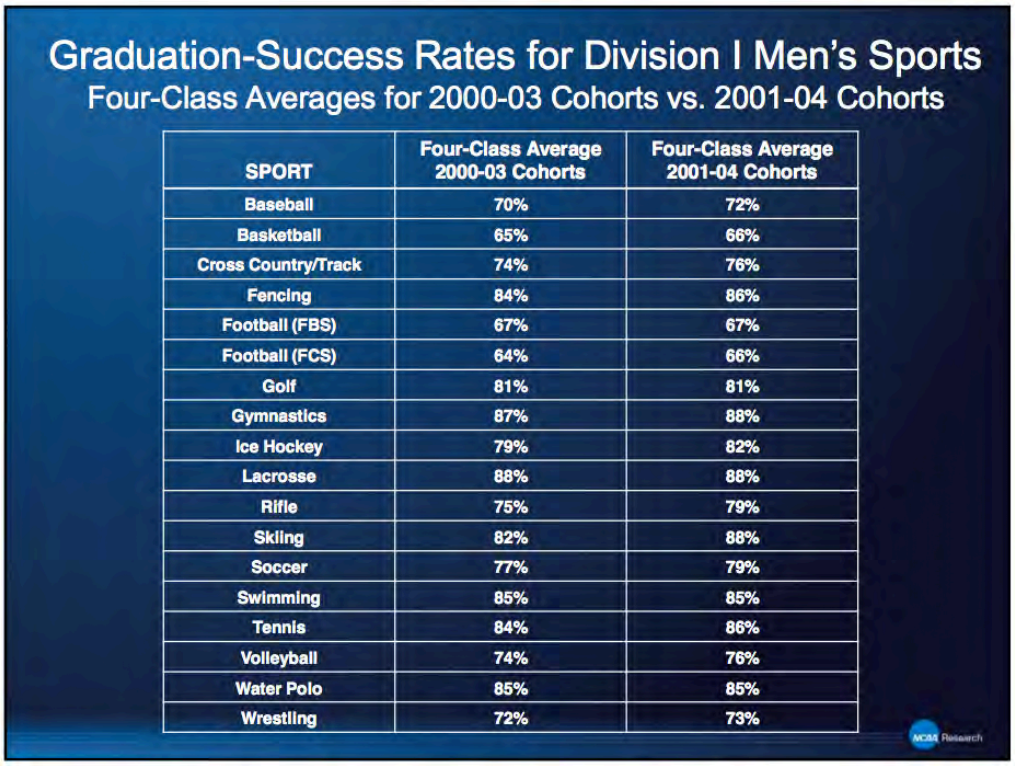
STUDENT-ATHLETE RACE AND ETHNICITY PERCENTAGES FOR DIVISION I

Year	American Indian/ Alaskan Native		Asian/Native Hawaiian/Pacific Islander		Black, Non-Hispanic		Hispanic		Other		Two or More Races		White, Non-Hispanic	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Basketball														
1999-00*	0.2	0.4	0.3	0.7	55.0	35.7	1.6	1.5	5.3	5.6			34.6	53.6
2000-01*	0.4	0.5	0.2	0.8	57.1	38.6	1.4	1.7	3.3	2.8			32.5	50.6
2001-02*	0.3	0.5	0.2	0.8	57.7	39.7	1.5	1.7	3.2	2.8			32.3	50.2
2002-03*	0.4	0.6	0.2	1.2	57.9	40.9	1.3	1.7	2.6	2.4			32.3	48.7
2003-04*	0.3	0.5	0.2	1.3	58.2	41.6	1.5	1.8	2.5	2.8			31.6	46.8
2004-05*	0.6	0.5	0.4	1.3	57.8	43.7	1.5	1.6	2.5	2.5			31.9	44.6
2005-06*	0.3	0.3	0.5	1.6	58.9	44.6	1.8	1.6	2.3	2.4			29.9	44.3
2006-07*	0.1	0.4	0.4	1.1	60.4	47.4	1.8	2.0	4.7	4.7			32.5	44.4
2007-08*	0.1	0.3	0.4	1.2	60.4	50.1	1.8	1.3	4.2	3.9	0.5	0.5	32.6	42.6
2008-09*	0.2	0.3	0.5	1.0	60.4	51.5	2.1	1.6	4.3	3.8	0.7	0.7	31.9	41.1
2009-10*	0.3	0.3	0.6	1.5	60.9	51.0	1.9	1.5	4.6	4.1	1.2	1.3	30.5	40.2

Figure 17: Participation Percentages by Ethnicity D-I Men's Basketball (NCAA, 2011, p. 128)

Examination of Figure 16 provides evidence that between 2001-2004 African American males accounted for roughly 45 percent of D-I (FBS) football players while Caucasians accounted for about 48 percent. Additionally, Figure 17 shows that during this same time frame Blacks accounted for about 58 percent of D-I men's basketball players while Caucasians accounted for about 32 percent. Summation of data provided in both figures reveals a rather noteworthy finding. Whereas previously, it was identified that White males attributed for roughly 62 percent of male athletes across all D-I sports and African American males accounted for just 25 percent, in the RGS, African American males accounted for 52 percent of student-athletes while White males represented 40 percent, 12 percent less than their Black counterparts.

These findings are particularly important to the discussion of graduation rates in RGS. Figure 18 shows that between 2001-2004 GSRs for RGS, which were more than 50 percent African American, faired poorly as compared to other D-I sports.



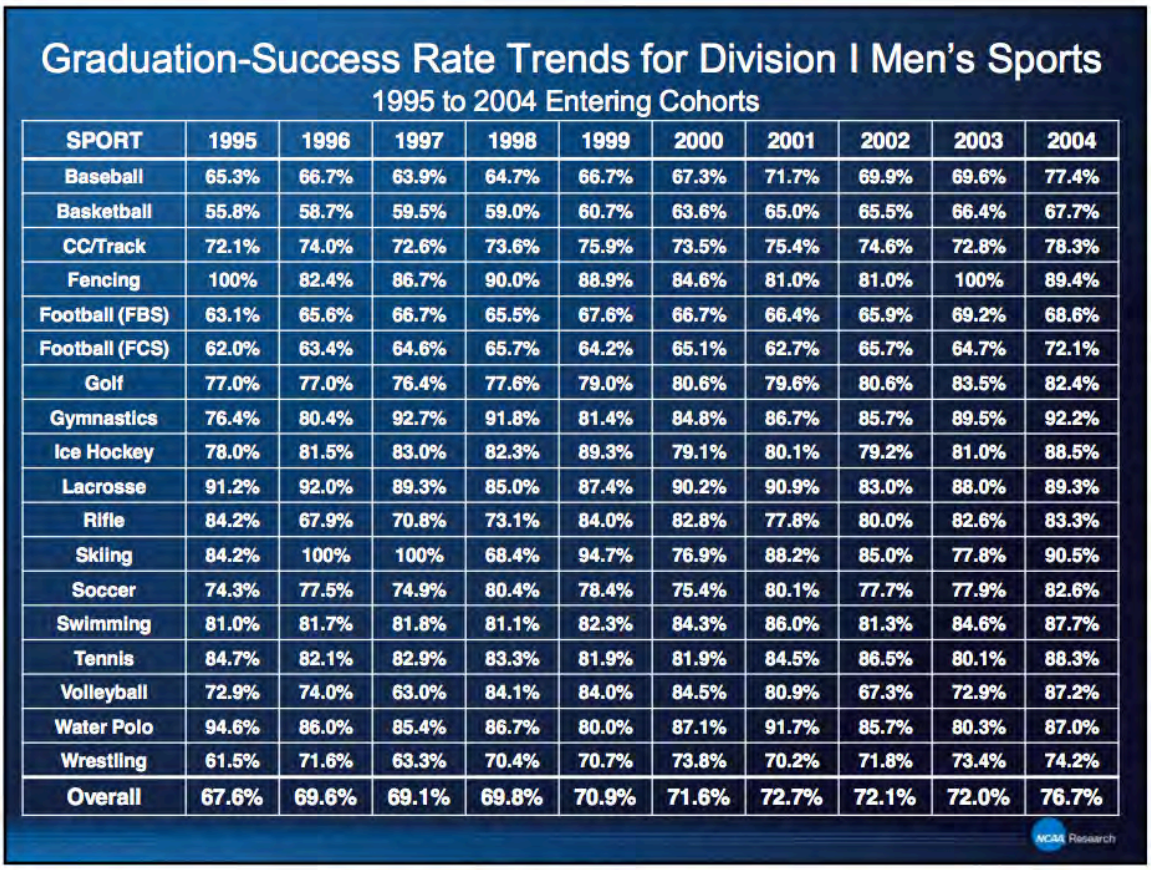
Graduation-Success Rates for Division I Men's Sports

Four-Class Averages for 2000-03 Cohorts vs. 2001-04 Cohorts

SPORT	Four-Class Average 2000-03 Cohorts	Four-Class Average 2001-04 Cohorts
Baseball	70%	72%
Basketball	65%	66%
Cross Country/Track	74%	76%
Fencing	84%	86%
Football (FBS)	67%	67%
Football (FCS)	64%	66%
Golf	81%	81%
Gymnastics	87%	88%
Ice Hockey	79%	82%
Lacrosse	88%	88%
Rifle	75%	79%
Skiing	82%	88%
Soccer	77%	79%
Swimming	85%	85%
Tennis	84%	86%
Volleyball	74%	76%
Water Polo	85%	85%
Wrestling	72%	73%

Figure 18: GSRs D-I Men's Sports 2000-2003 and 20001-2004 (NCAA, 2011, p. 8)

Longitudinal data as provided by the NCAA (2011), presented in Figure 19, revealed that RGS have struggled as compared to other D-I sports for many years.



Graduation-Success Rate Trends for Division I Men's Sports

1995 to 2004 Entering Cohorts

SPORT	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Baseball	65.3%	66.7%	63.9%	64.7%	66.7%	67.3%	71.7%	69.9%	69.6%	77.4%
Basketball	55.8%	58.7%	59.5%	59.0%	60.7%	63.6%	65.0%	65.5%	66.4%	67.7%
CC/Track	72.1%	74.0%	72.6%	73.6%	75.9%	73.5%	75.4%	74.6%	72.8%	78.3%
Fencing	100%	82.4%	86.7%	90.0%	88.9%	84.6%	81.0%	81.0%	100%	89.4%
Football (FBS)	63.1%	65.6%	66.7%	65.5%	67.6%	66.7%	66.4%	65.9%	69.2%	68.6%
Football (FCS)	62.0%	63.4%	64.6%	65.7%	64.2%	65.1%	62.7%	65.7%	64.7%	72.1%
Golf	77.0%	77.0%	76.4%	77.6%	79.0%	80.6%	79.6%	80.6%	83.5%	82.4%
Gymnastics	76.4%	80.4%	92.7%	91.8%	81.4%	84.8%	86.7%	85.7%	89.5%	92.2%
Ice Hockey	78.0%	81.5%	83.0%	82.3%	89.3%	79.1%	80.1%	79.2%	81.0%	88.5%
Lacrosse	91.2%	92.0%	89.3%	85.0%	87.4%	90.2%	90.9%	83.0%	88.0%	89.3%
Rifle	84.2%	67.9%	70.8%	73.1%	84.0%	82.8%	77.8%	80.0%	82.6%	83.3%
Skiing	84.2%	100%	100%	68.4%	94.7%	76.9%	88.2%	85.0%	77.8%	90.5%
Soccer	74.3%	77.5%	74.9%	80.4%	78.4%	75.4%	80.1%	77.7%	77.9%	82.6%
Swimming	81.0%	81.7%	81.8%	81.1%	82.3%	84.3%	86.0%	81.3%	84.6%	87.7%
Tennis	84.7%	82.1%	82.9%	83.3%	81.9%	81.9%	84.5%	86.5%	80.1%	88.3%
Volleyball	72.9%	74.0%	63.0%	84.1%	84.0%	84.5%	80.9%	67.3%	72.9%	87.2%
Water Polo	94.6%	86.0%	85.4%	86.7%	80.0%	87.1%	91.7%	85.7%	80.3%	87.0%
Wrestling	61.5%	71.6%	63.3%	70.4%	70.7%	73.8%	70.2%	71.8%	73.4%	74.2%
Overall	67.6%	69.6%	69.1%	69.8%	70.9%	71.6%	72.7%	72.1%	72.0%	76.7%

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Figure 19: GSRs D-I Men's Sports1995-2004 (NCAA, 2011, p. 15)

Given the data depicted, it is clear RGS have traditionally lagged a great deal behind the vast majority of D-I men's sports. This would also hold true if women's sports were included, in fact the disparity would be fairly larger as women consistently have far better GSRs than men, as shown in Figure 20.

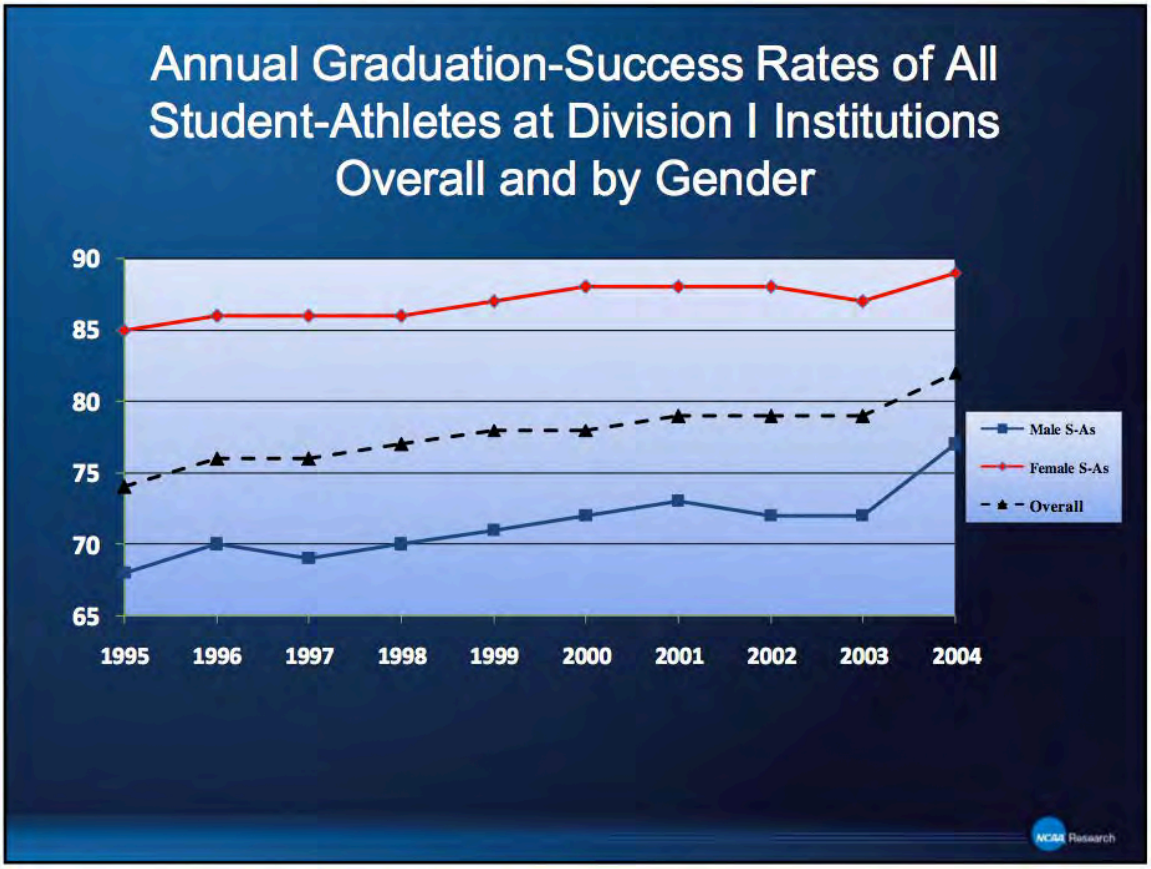
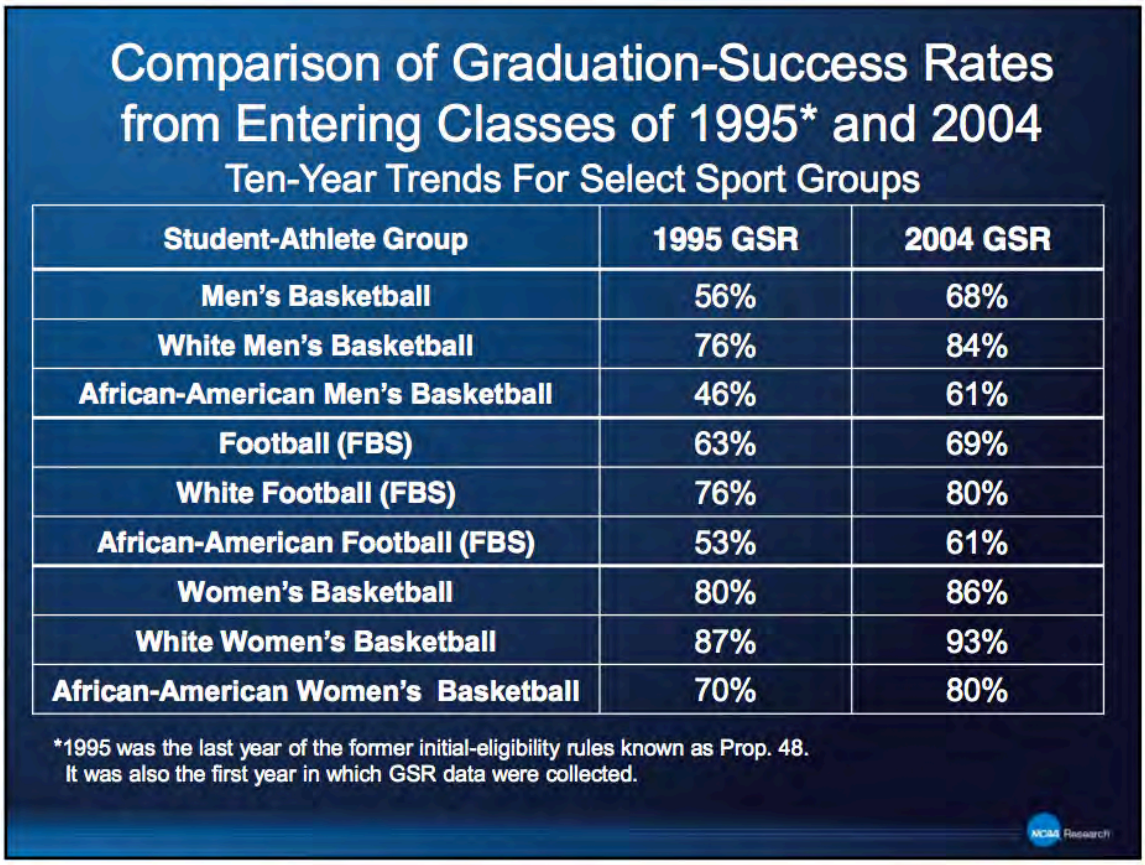


Figure 20: GSRs by Gender D-I Sports 1995-2004 (NCAA, 2011, p. 13)

The data presented thus far, while relevant, only reveal the participation percentages for African Americans and Whites in RGS and their GSRs; however, these data have not fully addressed the source of exploitation theories. In order to better understand why researchers have suggested Blacks in RGS are exploited, it is necessary to look at GSR by ethnicity. A comparative look at 10 year trends of GSRs for RGS (provided in Figure 21) demonstrate that while D-I GSRs have steadily improved, outcomes for African Americans in RGS have continually been staggeringly lower than those of their White counterparts.



Comparison of Graduation-Success Rates from Entering Classes of 1995* and 2004

Ten-Year Trends For Select Sport Groups

Student-Athlete Group	1995 GSR	2004 GSR
Men's Basketball	56%	68%
White Men's Basketball	76%	84%
African-American Men's Basketball	46%	61%
Football (FBS)	63%	69%
White Football (FBS)	76%	80%
African-American Football (FBS)	53%	61%
Women's Basketball	80%	86%
White Women's Basketball	87%	93%
African-American Women's Basketball	70%	80%

*1995 was the last year of the former initial-eligibility rules known as Prop. 48.
It was also the first year in which GSR data were collected.

Figure 21: GSRs by Ethnicity and Gender D-I Sports 1995-2004 (NCAA, 2011, p. 13)

According to Figure 21, between 1995 and 2004 male African Americans basketball players' GSRs were 61 percent, an alarming 23 percent lower than their Caucasian male counterparts, whose GSR's were 84 percent. Similarly, African American Football players' GSRs were 61 percent, which was 19 percent lower than Whites, whose GSRs were 80 percent. These trends in football and basketball are provided in Figures 22 and 23.

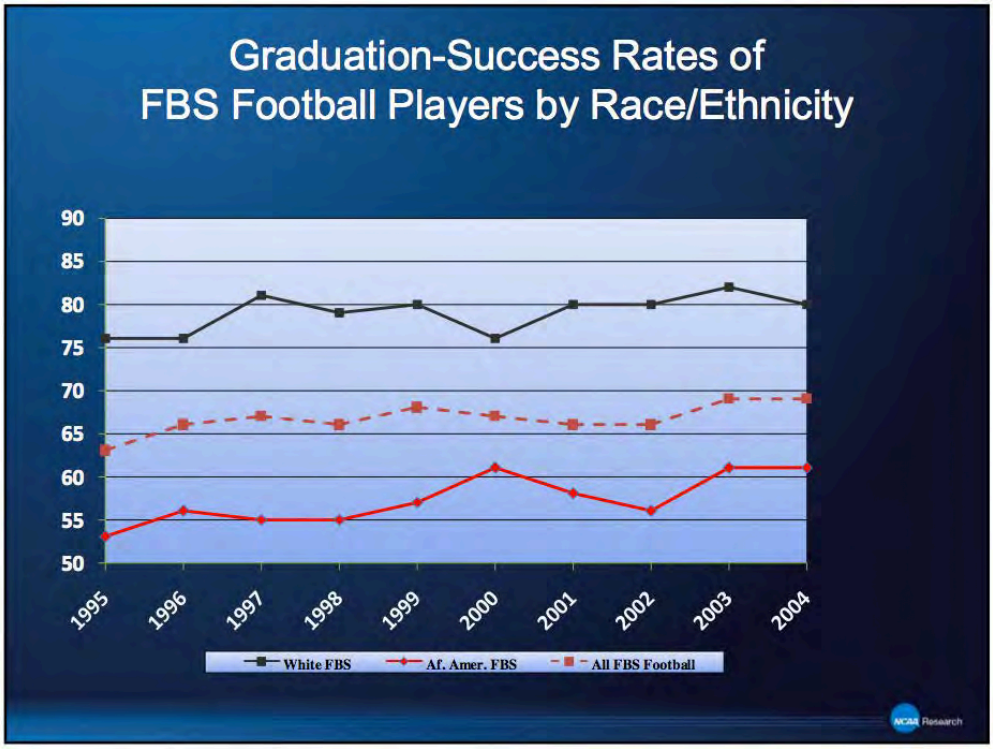


Figure 22: GSRs by Ethnicity D-I Football (FBS) 1995–2004 (NCAA, 2011, p. 16)

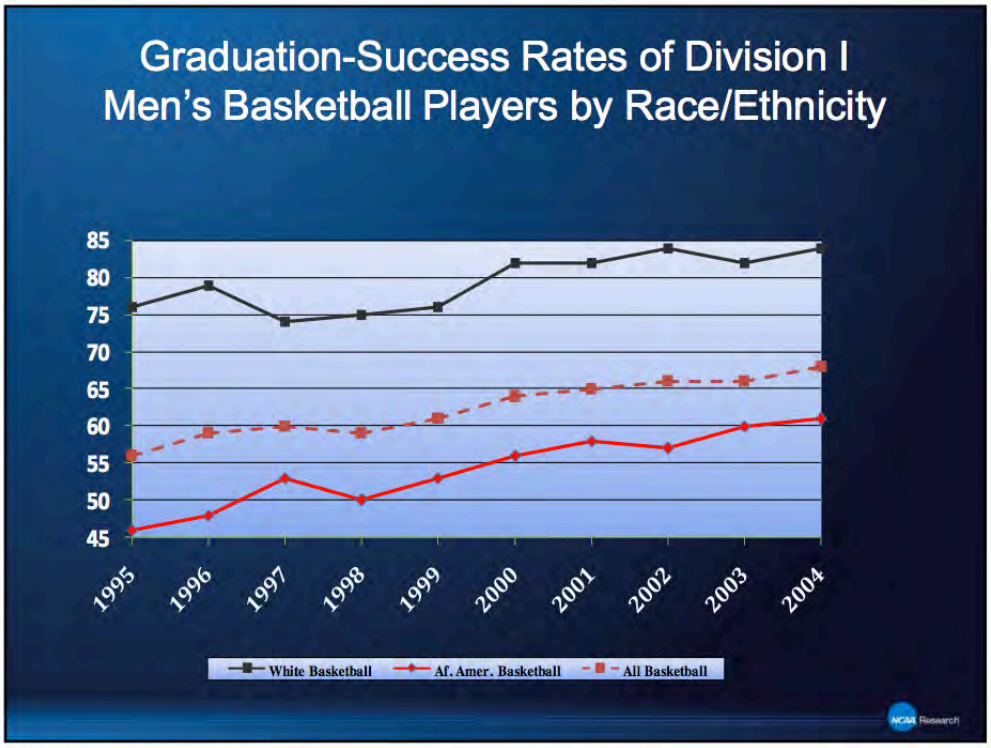
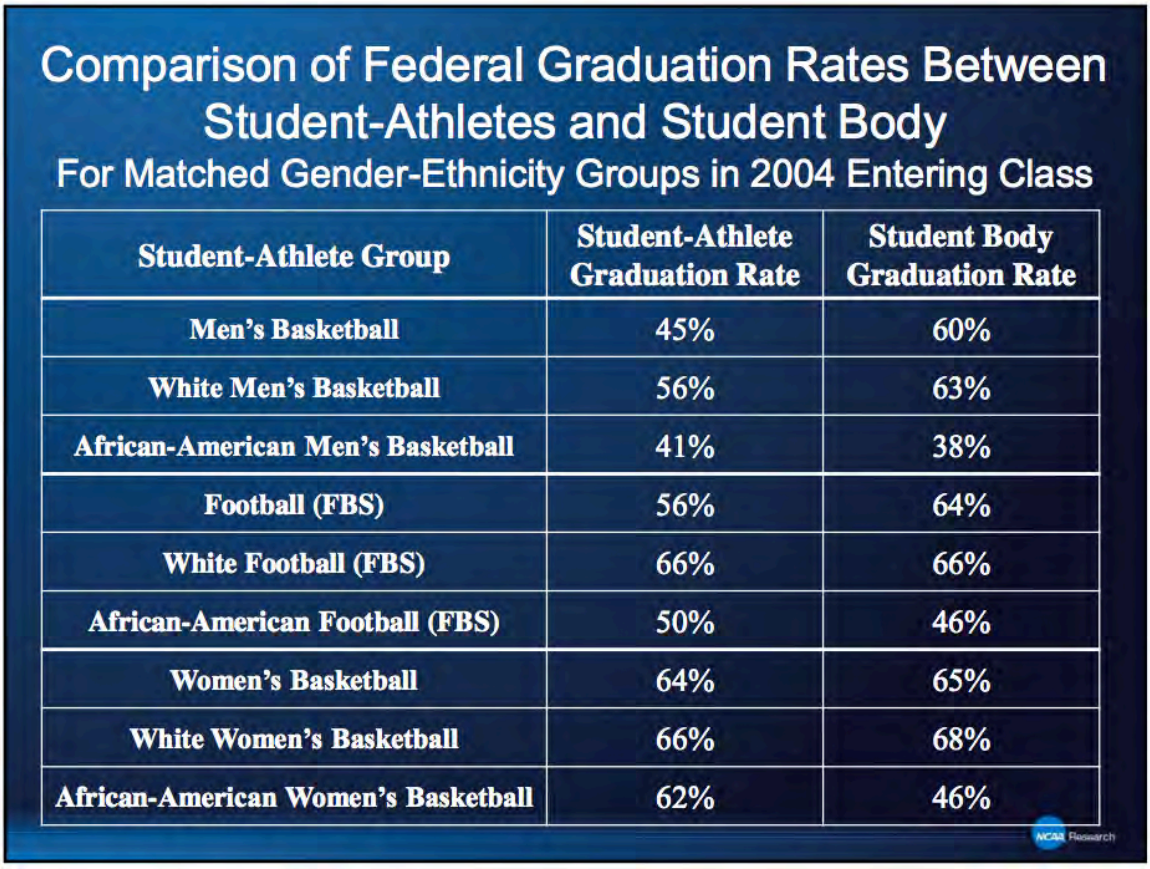


Figure 23: GSRs by Ethnicity D-I Basketball 1995–2004 (NCAA, 2011, p. 16)

Collectively, GSRs for both football and basketball combined (see Figure 21) reveals that between 1995 and 2004, Whites had a GSR of 82 percent while Blacks had a GSR of 61 percent, 21 percent lower than White student-athletes.

There is a discrepancy in RGS participation percentages between Blacks and Whites, favoring African Americans by 12 percent, and the discrepancies in RGS GSRs between Blacks and Whites, favoring White student-athletes by 21 percent. From 1984 to 2004, D-I student athletes (as a whole) graduated (as measured by FGR) at a higher rate than their non-athlete counterparts and student-athletes in RGS graduated at considerably lower rates. In 2004, FGRs for student-athletes in RGS were far lower than those of their non-athlete counterparts (see Figure 24).



Comparison of Federal Graduation Rates Between Student-Athletes and Student Body

For Matched Gender-Ethnicity Groups in 2004 Entering Class

Student-Athlete Group	Student-Athlete Graduation Rate	Student Body Graduation Rate
Men's Basketball	45%	60%
White Men's Basketball	56%	63%
African-American Men's Basketball	41%	38%
Football (FBS)	56%	64%
White Football (FBS)	66%	66%
African-American Football (FBS)	50%	46%
Women's Basketball	64%	65%
White Women's Basketball	66%	68%
African-American Women's Basketball	62%	46%

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Figure 24: FGR by Ethnicity and Gender D-I Athletes vs. Non-Athletes 2004 (NCAA, 2011, p. 23)

A look at the FGRs in 2004 (matched by ethnicity) shows that in men's basketball, student-athletes' FGRs were 15 percent lower than non-athletes. In similar fashion, FGRs for football players were 8 percent lower than rates for non-athletes. In total, FGRs for student-athletes in RGS were 23 percent lower than for non-athletes. These findings should be acknowledged with some reservation, as this data is only reflective of a single cohort (2004). Nonetheless, the culmination of data provided in this section only heighten the concerns regarding the effect of participation in athletics, especially for African Americans in RGS. Given the convoluting elements of such inquiry, researchers will continue to look towards the factors, which traditionally have been most closely aligned or correlated with retention and persistence, critical precursors and predictors of graduation.

Academic and Social Integration

The inspection of college attrition, retention, persistence, and graduation have been among the paramount undertakings of researchers, institutions of higher education, and college athletics for many years (Astin, 1975, 1993a, 1993b; DiPerna, 1997; DiPerna, & Elliott, 1999; Elliot & DiPerna, 2002; Hu, 2010; Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007; National Survey of Student Engagement, 2004, 2007; Reason, Terenzini, & Domingo, 2006; Terenzini, Pascarela, & Ernest, 1978; Tinto, 1975, 1987, 1993). Dissimilar to the philosophies on the effect of participation in athletics, the research findings on college outcomes and sentiments of investigators have been vastly homogenous (Astin, 1975, 1993a, 1993b; National Survey of Student Engagement, 2004, 2007; Terenzini, Pascarela, & Ernest, 1978; Tinto, 1975, 1993). It is widely agreed that academic and social integration are the predominate factors attributed to college attrition, and inversely retention, as well as college persistence and graduation (Astin, 1975, 1993a, 1993b; Hu, 2010; National Survey of Student Engagement, 2004, 2007; Tinto,

1975, 1993). Among the many who have studied these phenomena is Vincent Tinto (1975, 1987, 1993).

In his study of college attrition, Tinto (1975) distinguished the notion that students lacking social and academic integration were more likely to withdrawal from institutions of higher education. While Tinto was one of the first to apply these concepts in the context of college departure, his revelations on integration were not the first of their type. In developing his model and theory of voluntary student departure, Tinto relied partly upon the work of Emile Durkheim (1951). Durkheim, a French scholar of education and sociology, examined various societal constructs in order to identify the causal agents of suicide. Durkheim concluded there were four types of suicide — one of which was egotistical suicide (the other three are not pertinent to discussion of college retention). In his discussion of egotistical suicide, Durkheim said, "… we reached the general conclusion: suicide varies inversely with the degree of integration of the social groups of which the individual forms a part (p. 209). By Durkheim's account, individuals have a social and intellectual connection to society, which he suggests gives them a sense of meaning or value for their very existence. Durkheim further concluded that when both forms of integration (social and intellectual) cease to persist, an individual becomes far more vulnerable and often times commits suicide.

In his analysis of Durkheim's (1951) Theory of Suicide, Tinto (1975, 1987, 1993) cited parallels between suicide or withdrawal from society and college dropout. This is not to suggest that Tinto likened the act of suicide to dropping out of college, but rather through analogous application, he implemented the concepts of social and intellectual integration as posed by Durkheim, to the context of higher education, diverging slightly, replacing intellectual integration with academic integration. Drawing from Durkheim's theory amongst others, Tinto

constructed the framework for his study of college attrition. He further developed the model and theory of Voluntary Student Departure, again, with some influence from the work of Durkheim.

Although many similarities can be found between the works of Durkheim (1951) and Tinto (1975, 1987, 1993), the settings and conditions under which integration was explored, serve to distinguish one from the next. In acknowledging these differences, Tinto relayed that the notion of integration, proposed by Durkheim, resulted in a level conformity to a larger homogeneous group or to societal social and intellectual norms, and this differed from integration as applied in the university setting. As expressed by Tinto, the university was different from the greater community in that it consisted of many subcultures in which values and beliefs tended to be more diverse or heterogeneous. He continued, noting that although integration was essential to student retention, it did not imply conformation to norms or values of the system at large.

Integration as Tinto (1975, 1987, 1993) described, applied in the collegiate setting, was meaningful to the vitality of both the academic and social systems of college. He noted the primary function of the academic system was education of students; further adding, it was centrally based in the classroom and laboratory environments. Simply stated, academic integration deals with the involvement of students in the daily scholarly activities of college. These activities may include class assignments or discussion, written papers, homework assignments, research, tests, midterms and final exams, presentations, projects, and other academic related undertakings. In contrast, Tinto identified the social system of college to be one in which meeting the needs of students was the focus, and the settings as he described, varied from residence halls to other collective gathering areas outside the classroom. With a less finite construct than academic integration, social integration involves student engagement in the

many facets of college life that extends beyond the academic realms. Some examples may include intramural sports, fraternities and sororities, student government, community and campus organizations, clubs, living arrangements, personal and family life, and other social aspects of college.

Tinto (1975, 1987, 1993) elaborated on these systems, by further defining the formal and informal nature and structure of each system. By this identification, he illustrated the interconnectedness or overlap of social and academic integration. For example, at a given university, a class assignment calls for students to attend an annual conference in their field. At the conference individuals meet others with whom they in turn develop long-term social relationships. Under the same construct or ideology, a fraternity at this institution, seeking to change the social or behavioral habits of its members, assigns individuals within the organization research duties related to alcohol consumption. This in turn results in the development of partnerships between fraternity members and professionals from the university institutional research department, who together, examine the drinking patterns of fraternity organizations during the fall semester.

Ultimately, Tinto (1975, 1987, 1993) concluded that although the academic and social systems of a university are distinct, their interrelatedness make them mutually relevant to one another.

> In some instances, academic failure may arise not from the absence of skills but from the debilitating impact of social isolation upon a person's ability to carry out academic work. …Though our theory of student departure must take account of the distinct academic and social systems of a college, it must be recognized that these systems are invariably

> interwoven. Events in one may directly or indirectly influence, over time, events in the other. (Tinto, 1993, p. 108)

By his account, integration was the fabric, which bound students to the institutions. Terenzini, Pascarela, and Ernest (1978) conducted a study testing Tinto's theory of attrition and reported largely similar findings regarding integration, and rendered his work conceptually useful. Much like Tinto, they sought to determine differences between those who left college and those who remained. According to Terenzini et al.,

> After all other variables have been controlled, stayers, as compared with leavers, report more frequent contact with faculty members; find their academic program more 'exciting,' 'enjoyable,' 'stimulating,' 'different,' and 'provocative;' and report that their academic program is less 'boring,' 'dull,' or 'irrelevant.' (p. 17)

Their findings, similar to those of Tinto, point to the relationship between of student engagement, integration, and retention.

In congruence with Tinto's (1975, 1987, 1993) declaration and the confirmatory findings of Terenzini et al. (1978), Astin (1975, 1993a) conducted research on the integrative attributes of the college environment. Similar to Tinto and Terenzini et al., he found that a lack of student community, which he defined as "infrequent socializing among students, little student interactions outside of class, and a high degree of student apathy" (p. 17), was detrimental to the individual student; furthermore he demonstrated, like Tinto, the interlinking of the academic and social systems on college campuses was inextricable. In uncovering the commonality between these systems and their effect on retention and persistence, Astin (1993a) professed,

> A number of negative student outcomes are associated with attending an institution where there is a lack of student community. The strongest negative effect is on the students'

> overall satisfaction with the college experience. …Lack of community is also negatively associated with the students' emotional health and with the ability to complete college. Finally, lack of student community is negatively associated with overall academic development, and especially with the development of cultural awareness, writing skills, critical thinking, foreign language skills, and preparation for graduate school. (p. 17)

Astin (1975) also noted,

> A student's chances of completing college can be significantly influenced by environmental circumstances. … Students concerned about maximizing their chances of finishing college should seriously consider leaving home and living in a college dormitory. … membership in social fraternities or sororities, is also significantly related to staying in college. These findings support the theory that student persistence to some extent depends on the degree of personal involvement in campus life and environment. (1975, p. 107)

Provided what is known about the significant effects of academic and social integration on student attrition, retention, persistence, and graduation, as well as the connectedness of these variables, it can be said that together, these factors are of absolute relevance to the present research effort, and they prescribe value and meaning to the constructs. It is the impact of academic and social integration on student outcomes, which signifies the necessity to examine academic competence and social fluency.

Academic Competence

Academic competence is a comprehensive scholastic skillset, which enables students to engage and integrate into the academic systems of colleges and universities. These skills, abilities, and general scholastic comprehensions are typically used for knowledge acquisition and

academic endeavors. As stated by Elliot and DiPerna (2002), "Academic competence… is defined as a multidimensional construct composed of the skills, attitudes, and behaviors of a learner that contribute to academic success" (p. 87). There is no single commonly agreed upon definition, which specifies the exact measures of academic competence; however, the indicators used in this study were largely supported by the research efforts of leaders in the field (DiPerna, 1997; DiPerna, & Elliott, 1999; Elliot & DiPerna, 2002; Reason, Terenzini, & Domingo, 2006).

Academic competence as applied in this study explored: academic ability, intellectual self-confidence, mathematical ability, writing ability, computer skills, artistic ability, creativity, drive to achieve, and public speaking ability. A study conducted by Reason, Terenzini, and Domingo (2006) defined academic competence using several factors synonymous with those explored in this study. The measures used by Reason et al. included: writing clearly and effectively, thinking critically and analytically, speaking clearly and effectively, analyzing quantitative problems, using computing and information technology, and acquiring a broad general education. An adjacent comparison of the identifiers used in both studies, (writing ability—writing clearly and effectively, mathematical ability—analyzing quantitative problems, public speaking—speaking clearly and effectively, and computer skills—using computing and information technology) reveals a considerable amount of consistency between the measures.

Still others have conferred with academic competence as described in this study. For instance, some have used reading, writing, calculating, solving problems, attending, questioning, studying, and motivation to measure academic competence (DiPerna, 1997; DiPerna, & Elliott, 1999; Elliot & DiPerna, 2002). Comparison of the measures used, (writing ability—writing, mathematical ability—calculating/solving problems, and drive to achieve—motivation) shows notable congruence. Rothstein (2004) contends schools should produce basic math skills,

literacy, creativity, communication skills, and appreciation for art, which can be likened to mathematical ability, academic and writing ability, creativity, public speaking, and artistic ability as examined in this study. Howard (2010) identified several other educational measures which included: leadership skills, creativity, artistic ability, and persuasive speaking. These measures were similar to leadership ability, creativity, artistic ability, and public speaking ability as examined in this study. Specific components of academic competence will invariably change as they are applied across various settings or contextually defined by researchers.

Despite the lack of consensus related to the individual measures of academic competence, there is some agreement about the identifiable characteristics. Academic competence is significant to higher education as it relates to student engagement and integration, which are predictors of persistence. Others have confirmed the persistence variable (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007; National Survey of Student Engagement 2004, 2007). Hu (2010), stated "… [persistence] has almost become synonymous with student success; and student engagement is considered the pathway to success in college" (p. 97). According to Reason et al. (2006), academic competence prepares and positions students to engage in learning opportunities provided by collegiate institutions. This is important because if student engagement is relative to academic skills and abilities, then it can be said that academic competence is a necessary agent of integration.

In suggesting that academic integration as posed by Tinto (1975, 1987 1993) and Astin (1975, 1993b) is partially dependent upon academic competence, it is further argued that students with higher levels of competence will be more fully integrated in the collegiate academic system. Conversely, students without the skills to engage and integrate will most likely be susceptible to academic failure, and dismissal or withdrawal. While it can certainly be

said that academic competence is important, it is only one of two factors of primary interest to this research. Both Tinto (1993) and Astin (1993b) cited academic integration as well as social integration as significant predictors of college outcomes; therefore, in much the same manner in which academic competence was reviewed, social fluency will now be examined.

Social Fluency

Social fluency is a compilation of social skills, attributes, practices, knowledge, and behaviors that promote student interaction, engagement, and the development relationships in the college environment. The concept of fluency is to suggest that the more advanced the skills and other social attributes, the easier, more natural, and more common social interactions and relationships are for students to build. The specific measures social fluency used in this study were: cooperativeness, self-confidence (social), understanding of others, self-understanding, popularity, leadership ability, and emotional health. The given group of measures is not particularly unique to inquiry of social enablers; however, fluency is relevant as it characterizes smoothness or fluidity of social engagement.

In a study conducted by Hu (2010) on the effect of engagement on student persistence, it was found that a "… high-level engagement in social activities is positively related to student persistence in college" (p. 104). This is meaningful because persistence, as previously mentioned, is a precursor to positive college outcomes. In his study Hu, used four items to measure social/community engagement, these included participation in events sponsored by a fraternity or sorority, participation in residence hall activities, participation in events or activities sponsored by groups reflecting your own cultural heritage, and participation in community service activities. Hu found that (together) these variables, which collectively comprised social/community engagement, were a significant predictor of student persistence. Others

inspecting the social context of higher education have used the same and similar measures as Hu (Astin, 1975, 1993b; Tinto, 1975, 1993); furthermore, they have also identified that social integration refers to the activities and behaviors that students are involved in, outside of the academic system of college. This study recognized the diversity in skills and attributes, which can serve as enablers to student engagement and integration, and acknowledged the vastness of the host of such enablers; therefore, it is not argued that the measures used in this study are all inclusive nor an exhaustive compilation, but rather a sufficient and adequate representation of fluency within the social domain, useful and relevant to integration and engagement in the social systems of colleges and universities.

Academic competence and social fluency were selected as the dependent variables of this study because of their importance to higher education, especially in the fashion in which they are meaningful to engagement and integration. In order to advance what is presently known about academic competence and social fluency, it is important to look at various factors, which may impact or influence these variables. Understanding the academic abilities and sociability of incoming (freshman) student-athletes, call for the inspection of their learner traits as well as their family backgrounds. The present study sought to understand the relationship between these academic and social skills, and SES and LD. As the independent variables of this study, SES and LD were important, if only for their relative synonymy to opportunity and ability.

Socioeconomic Status (SES)

According to Easton-Brooks and Davis (2007),

> In the 1960s, researchers began making use of SES as a proxy measure of the accrued historical differences in resources and status… Starting with the Equality of Educational Opportunity Study [The Coleman Report] (Coleman et al., 1966), hundreds of studies use

> SES to account for variance in educational outcomes and to explain differences in outcomes across ethnic and racial groups. (p. 530)

Most commonly measured by educational attainment, income, and occupation, SES has been, and will likely always be, one of the great considerations in educational research, practice, and policy. SES reflects many differences in individual student backgrounds, and it will always useful in understanding the educable traits of students.

A conduit of opportunity, perhaps SES, is in fact "the great divide;" that which separates those who gain access to higher education and those who cannot afford it; those who come from families where a college education is the norm, expected of the successor, and those who are first generation students; the difference between financial empowerment and economic futility; the learned and unlearned; and, the socially influent and communal obscurity. SES is for many, a means to educational advancement, as it stands as the gateway to resources in primary and secondary schooling. As stated by Howard (2010),

> The mantra of education as the proverbial 'equalizer' is promoted more in the United States than perhaps in any other nation in the world; it is seen as the commodity that helps to transform life chances, improve and reduce the gap between the haves and the have-nots. (p. 9)

Noting the opportunity latent implications of SES as related to postsecondary education, the present research has deemed the investigation of SES in education to be of great value to the scholarly body of knowledge in the field of higher education. It is important because it further illuminates what is known about student engagement and integration as posed by Tinto (1975, 1987, 1993), Astin (1975, 1993b), and others (DiPerna, 1997; DiPerna, & Elliott, 1999; Elliot &

DiPerna, 2002; Hu, 2010; Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007; National Survey of Student Engagement, 2004, 2007; Reason, Terenzini, & Domingo, 2006).

In reemphasizing the sentiments of Easton-Brooks and Davis (2007) who indicated that hundreds of studies have been conducted related to SES, it can be said, the breadth of literature related to SES as it applies to education is voluminous; however, this study examined aspects of SES which are relevant to academic competence, social fluency, and college integration. In inspecting the literature, it was clear, the most abundant and quite possibly most meaningful association drawn between SES and education was related to the achievement gap, which in the words of Howard (2010), "… [is] perhaps the single most pressing and perplexing issue in education today…" (p. 10).

The achievement gap, as defined by many (Bowen, Kurzweil, & Tobin, 2005; Howard, 2010; Mortimore & Blackstone, 1982; Rothstein, 2004), refers to the discrepancy in educational outcomes between individuals from high SES backgrounds and low SES backgrounds, as well as educational disparities between various races or ethnic groups. Not to be mistaken, the achievement gap is not purely an academic construct.

> The gap is reflected most clearly in grades, standardized test scores, high school graduation rates, placement in special education and advanced placement course, and suspension and expulsion rates. (Howard, 2010, p. 12)

It is the chasm between the education related, academic, and social achievements and outcomes of the rich and the poor, and Whites and Blacks. This is by no means a suggestion that other ethnic groups (Latin Americans, Native Americans and some Asian Americans) are not commonly identified as low scholastic performers (Bowen, Kurzweil, & Tobin, 2005; Coleman et al., 1966), nor that one group (Whites) comprises the higher performers (as Asians are also

frequently cited as high achievers) (Coleman et al., 1966), it is simply accenting what the literature emphasizes most when referring to the achievement gap.

A likely explanation for the Black and White portrayal of the disparity in educational outcomes leads back to the Equality of Educational Opportunity Study (Coleman et al., 1966), which sought to examine the educational differences between Whites and Blacks in the 1960s. The Coleman Report was said to be the first to apply SES to educational outcomes (Easton-Brooks & Davis, 2007); furthermore, Kiviat (2000) proclaims, "The Coleman Report is widely considered the most important education study of the 20th century" (n.p.). It has been cited heavily in the literature (Easton-Brooks & Davis, 2007; Howard, 2010; Mortimore & Blackstone, 1982), and nearly unanimously, researchers conferred with the findings of Coleman et al., which suggested the lowest performers and poorest students are African Americas (Anyon, 2005; Bowen, Kurzweil, & Tobin, 2005; Easton-Brooks & Davis, 2007; Griffin, Jayakumar, Jones, & Allen, 2010; Howard, 2010; Rothstein, 2004; Wilson, 2009). Conversely, the wealthy and high achieving students are Caucasians (Anyon, 2005; Bowen, Kurzweil, & Tobin, 2005; Coleman et al., 1966; Easton-Brooks & Davis, 2007; Griffin, Jayakumar, Jones, & Allen, 2010; Howard, 2010; Rothstein, 2004; Wilson, 2009).

In discussing race, it should also be expressed that while research frequently pairs Blacks and low income students, and Whites and high income students, these constituent groups are not mutually the same (Anyon, 2005; Bowen, Kurzweil, & Tobin, 2005; Coleman et al., 1966; Easton-Brooks & Davis, 2007; Griffin, Jayakumar, Jones, & Allen, 2010; Howard, 2010; Rothstein, 2004; Wilson, 2009). Also, research has indicated an over representation of Blacks in the lower class (Bowen, Kurzweil & Tobin, 2005; Griffin, Jayakumar, Jones, & Allen, 2010); it has been found that African Americans were more likely to have uneducated parents than Whites

(Bowen, Kurzweil & Tobin, 2005; Cota-Robles & Gordan, 1999; Howard, 2010); and, even when controlling for SES, there is still a sizable achievement gap between Whites and Blacks (Bowen, Kurzweil & Tobin, 2005; Howard, 2010). It should also be noted that these groups are not exclusive. Statistically, measures tend to deal with averages, and Blacks and low income students out perform the mean score of their higher income Caucasian peers in some instances. All things considered, there is a culmination of factors responsible for coupling race and economic status in discussing SES and the achievement gap.

Indeed perplexing, the roots of the achievement gap and access to higher education trace back to the Civil Rights Movement. According to Coleman et al. (1966), The Coleman Report,

> … was conducted under the provisions of Section 402 of the Civil Rights Act of 1964, to provide the U.S. President and the U.S. Congress with data concerning 'the lack of availability of equal educational opportunity for individuals by reason of race, color, religion, or national origin….' (p. 7)

The findings in the Coleman study laid much of the groundwork for successive research on SES in education. It was also considered valuable because of the expanse of this study. The Coleman Report was a study of national scope and included roughly 568,000 students, spread across the 1st, 3rd, 6th, 9th, and 12th grade. It included more than 70,000 teachers and principals (Coleman et al., 1966). More precise figures, separated by participant type, are provided in Figure 25.

1. 1st Grade File 76,133
2. 3rd Grade File..... 135,750
3. 6th Grade File..... 125,170
4. 9th Grade File..... 134,030
5. 12th Grade File 97,660
6. Teacher File 66,826
7. Principal File 4,081

Total 639, 650

Figure 25: The Coleman Report, Participants by Type (Coleman et al., 1966)

Going beyond its extensiveness, generalizability, and political influence, The Coleman Report (Coleman et al. 1966) was also useful because it pioneered the quest of the government, academe, and society at large to understand the achievement gap. For the first time, moving beyond the post segregation era, America had a measure or valuation of disparity amongst its pupils. In many regards, The Coleman Report provided a lens by which to examine the effect of SES on the achievement gap, as the findings of this study are frequently the subject of inquiry.

Coleman et al. (1966) discussed the findings, "One must… be aware of the relative importance of a certain kind of thing to a certain kind of person. Just as a loaf of bread means more to a starving man than to a sated one…" (p. 8). This statement simply implies that access to educational resources is more valuable to students from low income families than to those from upper class families. Coleman et al. raised other significant issues including the notion that the achievement gap was residual and compounded as students matriculated through primary and

secondary education; furthermore, deficient schools were cited as being incapable of remedying this problem.

> In discussing access to recourses, Coleman et al. (1966) note several discrepancies; Nationally, Negro pupils have fewer of some of the facilities that seem most related to academic achievement: they have less access to physics, chemistry, and language laboratories; there are fewer books per pupil in their libraries; their textbooks are less often in sufficient supply. (Coleman et al., 1966, p. 9)

This is meaningful, because it shows how inadequate facilities and resources adversely affect development of academic competence. Coleman et al. further illustrated this, reiterating and valuating this relationship, by stating,

> Among the facilities that show some relationship to achievement are several for which minority pupils' schools are less well equipped relative to whites. For example, the existence of science laboratories showed a small but consistent relationship, to achievement, and… Negroes, are in schools with fewer of these laboratories. (p. 22)

Still other more subtle disparities, between educational resources available to Whites and Blacks, were identified. Regarding advanced curriculums and extracurricular programs, Coleman et al. (1966) unveiled that

> Negro… pupils have less access to college preparatory curriculums and to accelerated curriculums… Less intelligence testing is done in the schools attended by Negroes… [and] White students in general have more access to a more fully developed program of extracurricular activities, in particular those which might be related to academic matters (debate teams, for example, and student newspapers). (p. 14)

Although extracurricular programs may not have been an immediate priority of policy makers in creating equality in education in 1966, it can unquestionably be argued that these academic oriented programs contribute to the achievement gap.

In much the same manner as deficits in facilities and supplies, programs and curriculum options were identified, a notable gap in teacher quality was also emphasized (Coleman et al, 1966). Generally speaking (as this was a national study, with wide variations regionally), The Coleman Report (Coleman et al., 1966) found that teachers in Black schools were predominantly Black themselves. These teachers tended to be less educated than White teachers, most of whom taught in predominantly White schools, and the African American teachers were also typically from lower SES backgrounds themselves than their Caucasian counterparts. Here again there was more historical evidence of inequality, which Coleman et al. found influenced the development of academic competence. As Coleman et al. (1966) relayed, "The quality of teachers shows a stronger relationship [than quality facilities or curriculum options] to pupil achievement" (p. 22).

As suggested by the adage prefacing this section concerning the value of bread to a starving man compared to a sated man, Coleman et al. (1966) provided substantiation, indicating, educational resources and provisions were in fact more meaningful to low SES and Black students, than to students from more advantaged backgrounds. To this point, The Coleman Report clarifies,

> "… the achievement of minority pupils depends more on the schools they attend than does the achievement of majority pupils. …The conclusion can then be drawn that improving the school of a minority pupil will increase his achievement more than improving the school of a white child increase his. Similarly, the average minority

> pupil's achievement will suffer more in a school of low quality than will the average white pupil's. In short, whites… are less affected one way or the other by the quality of their schools than are minority pupils. This indicates that it is for the most disadvantaged children that improvements in school quality will make the most difference in achievement. (Coleman, 1966, p. 21)

The Report also shows that "… teacher quality is more important for minority pupil achievement than for that of the majority" (Coleman, 1966, p. 22). Without detracting from the emphasis given or significance attributed to the effect of resources in poor schools, this research is more concerned with the residual, compounding nature of the achievement gap and those factors of greatest significance.

In order to understand the relevance and meaningfulness of the achievement gap to the examination of freshman student-athletes, it is important to uncover the cumulative disparities in achievement, which manifest across successive grade levels in the American education system. In inspecting educational achievement, Coleman et al. (1966) tested several academic competencies among students. The competencies measured included verbal and nonverbal skills, reading, mathematics, and general information. According to Coleman et al.,

> … the average minority pupil scores distinctly lower on these tests at every level than the average white pupil. The minority pupils' scores are as much as one standard deviation below the majority pupils' scores in the first grade. At the 12th grade, results of tests in the same verbal and nonverbal skills show that, in every case, the minority scores are farther below the majority than the 1st graders. … Furthermore, a constant difference in standard deviations over the various grades represents an increasing difference in grade level gap. … the deficiency in achievement is progressively greater for minority pupils at

> progressively higher grade levels. For most minority groups, then, and most particularly the Negro, schools provide no opportunity at all for them to overcome this initial deficiency; in fact they fall farther behind the white majority in the development of several skills…" (p.20)

Based on these findings, it goes beyond presumption to suggest that student-athletes from disadvantaged backgrounds are more likely to exhibit deficits in academic competence upon entering college.

Coleman et al. (1966) were the first to unveil the severe discrepancies in the resources available to students from different economic backgrounds, but it was not their findings regarding resources, which captivated the research community. With appropriate attention given to the variations in school resources, it was Coleman et al.'s findings regarding SES, which became more meaningful. As Rothstein (2004) puts it, in his analysis of The Coleman Report,

> … variation in school resources had very little—almost nothing—to do with what we now term the test score gap between black and white children. Instead, the family backgrounds of black and white students, their widely different social and economic conditions, accounted for most of the difference. (p. 13)

From the source of origin, The Coleman Report reads,

> The first finding is that the schools are remarkably similar in the effect they have on the achievement of their pupils when the socioeconomic background of the students is taken into account. It is known that socioeconomic factors bear a strong relation to academic achievement. When these factors are statistically controlled, however, it appears that differences between schools account for only a small fraction of differences in pupil achievement. … 20 percent of the achievement of Negroes in the South is associated

> with the particular schools they go to, whereas only 10 percent of the achievement of whites in the South is. …This analysis has concentrated on the educational opportunities offered by the schools in terms of their student body composition, facilities, curriculums, and teachers. This emphasis, while entirely appropriate as a response to the legislation calling for the survey, nevertheless neglects important factors in the variability between individual pupils within the same school; this variability is roughly four times as large as the variability between schools. (Coleman et al, 1966, p. 21)

These conclusions indicate that SES or variability between individual students is amongst the most important factors in education related research. Based on Coleman et al.'s findings, many studies have sought to determine the relationship between SES and education related variables (Anyon, 2005; Bowen, Kurzweil, & Tobin, 2005; Howard, 2010; Griffin, Jayakumar, Jones, & Allen, 2010; Mortimore & Blackstone, 1982; Rothstein, 2004; Wilson, 2009).

Without question, The Coleman Report (Coleman et al., 1966) is dated, perhaps outdated, but it can certainly be argued that it has not relinquished all relevance. In education research it continues to render value, and its omission in the literary review and discussion of SES would be remiss. Without contest and in affirmation, it is recognized, much has changed since the 1966 Coleman et al. study; therefore, in the section to follow this literature review looked beyond The Coleman Report, but still, it is noteworthy to acknowledge the sentiments of Rothstein (2004);

> Since the Coleman report, refuting this conclusion [the achievement gap is a by product of SES] has been an obsession of education research… Nonetheless, scholarly efforts over four decades have consistently confirmed Coleman's core finding; no analyst has been able to attribute less than two-thirds of the variation in achievement among schools to the family characteristics of their students. (p. 14)

Given the significance of SES and educational resources on scholastic outcomes, several, more-current studies were reviewed (Anyon, 2005; Bowen, Kurzweil, & Tobin, 2005; Easton-Brooks & Davis, 2007; Gordon, Gordon, & Nembhard, 1994; Griffin, Jayakumar, Jones, & Allen, 2010; Holzman, 2006; Howard, 2010; Mortimore & Blackstone, 1982; O'Connor, 1999; Roderick, 2003; Rothstein, 2004; Wilson, 2009). A review of these studies revealed a high level of congruence with the findings of Coleman et al. (1966). Much like The Coleman Report, Griffin et al. (2010) identified a "concentration of black, poor students in low-resourced schools that fail to provide adequate opportunities to learn" (p. 244). Likewise, Bowen, Kurzweil, and Tobin (2005) found that

> Weak academic preparation has the most significant and damaging impact. Poor and minority children frequently grow up in impoverished neighborhoods and attend primary and secondary schools that are far less well equipped to educate them than schools attended by their more privileged peers. (p. 74)

The authors also provided quantifiable monetary measures of the discrepancies between schools in various neighborhoods. According to Bowen et al. (2005),

> In 2002, the average per-pupil spending was $6,383 at a school in a district with a poverty rate in the highest quartile nationally, …while well-to-do suburbs like Rye and Scarsdale [New York] spent over $13,000. Detroit (with a child poverty rate of 27 percent) spent an average of $9,069 on each student in its public schools, compared to $12,653 in neighboring towns like Bloomfield Hills (where the poverty rate is less than 3 percent). (p. 77)

Provided these findings, it is evident that a fairly large disparity still persists between the educational provisions allocated to schools serving the wealthy and those serving the impoverished.

Adding to the financial numbers, there are several other alarming statistics connected to racial and economic groups. For instance, 58 percent of Black males fail to graduate from high school with their graduating class (Holzman, 2006). One study of Chicago schools found that African American males, as compared to their peers, generally experience a larger drop in academic performance and a higher rate of course failure over their high school careers (Roderick, 2003). This same study found that by the end of ninth grade, 80 percent of Black males in Chicago schools were failing at least one of their courses. Researchers have indicated that disciplinary policies have a disproportionately negative affect on African American boys, which in turn makes them less likely to receive academic help and more likely than White males to receive detentions and be expelled for their misbehavior (Gordon, Gordon, & Nembhard, 1994; Howard, 2010; O'Connor, 1999). Taken from a different prospective, poor and minority students tend to have the greatest behavior problems, they tend to be referred to special education the most, and due to missing classes, are most susceptible to falling behind (Bowen, Kurzweil, & Tobin, 2005; Howard, 2010).

In contrast well-off kids are encouraged from an early age to go to college (Bowen, Kurzweil, & Tobin, 2005). At the secondary level, evidence shows that poor kids are far less likely than kids from higher income families to take the Stanford Achievement Test (SAT) — just 34.2 percent from the lowest income quartile take the test, as compared to 70.1 percent form the highest quartile (Bowen, Kurzweil, & Tobin, 2005). In terms of actual test performance,

wealthy kids also perform much better than their disadvantaged peers (Bowen, Kurzweil, & Tobin, 2005). As indicated by Bowen et al. (2005),

> Combining the probabilities of taking the test in the first place and then scoring… [well,] demonstrates dramatically the advantages associated with coming from a high-SES family. The odds of both taking the test and doing very well on them were roughly six times higher for students from the top income quartile than for students from the bottom income quartile. (p. 80)

Bowen et al. also indicated that 16 years worth of SES and SAT data revealed that the achievement gap was widening. For instance, they found that for students whose parents had only high school diplomas scored 200 points lower on the SATs than student whose parents had college degrees, and students from the highest income families (income of $100,000 or more) scored 300 points higher than students from families earning less than $30,000 annually. Bowen et al. also looked at the National Assessment of Educational Progress reading test and found that only 1 percent of African American 12th graders scored at the advanced level as compared to 6 percent of Caucasians. They found that only 16 percent of Blacks reached the proficient level or higher on the reading assessment, as compared to 42 percent of Caucasians.

Other studies examined offer some reasoning as to why individual SES is so significant to the educational outcomes of students. Several researchers have illuminated the challenges low SES households face, which impact the educational outcomes of students (Bowen, Kurzweil, & Tobin, 2005; Easton-Brooks & Davis, 2007; Griffin, Jayakumar, Jones, & Allen, 2010; Howard, 2010; Mortimore & Blackstone, 1982; Rothstein, 2004). For instance, Bowen et al. (2005) identified that low income children are twice as likely to come from single parent households, than kids from wealthy families, and "It is well-known that children reared in single parent

families are likely to have less favorable educational outcomes than children reared in two-parent families" (Ginther & Pollak, 2000, p. 1). In their examination of the affect of single parent households on the educational outcomes of students, Ginther and Pollak (2000) stated, "Like previous researchers we found that, …living with a single-parent … has a negative and significant effect on adult schooling outcomes and child assessment outcomes" (p. 25). Ellwood and Jencks (2004) concurred, noting that single parent households were significantly disadvantageous to the educational outcomes of children raised in these environments.

Single Parent Households

In 1965, United States Assistant Secretary of Labor, Daniel Moynihan authored, "The Negro Family: The Case For National Action," better known as the Moynihan Report. Much like the Coleman Report (Coleman, 1966), this study shed light on the discrepancies between the American White family and that of the African American. The Moynihan Report (Moynihan, 1965) however, focused more specifically on the variance in family structure between Whites and Blacks, which is important to recognize in discussing single parent families as a subsidiary construct of SES. This Report, as provided by Moynihan, traces the African American family structure through American history. By Moynihan's account, the consequences of slavery, later segregation, and finally urbanization, were debilitating and more frequently disastrous to the Negro community, specifically, the African American family.

Akon (2006), a Senegalese singer and musician, accented Moynihan's (1965) discussion of single parent households. Both Akon and Coleman speak to the lasting impact of slavery on Black families. While Coleman discussed some of the disassembling affects of slavery on the African American family, Akon spoke to the heritage and family structure of Africans prior to slavery. In his song "Mama Africa," Akon sings about the African slave trade and the departure

of Africans from their native land. He sings of their voyage across the Atlantic Ocean to the far westernmost continents (North and South America). As Akon indicated, this occurrence marked the arrival of Africans in the new country, and it is noteworthy because it identifies the origin of the African American. In a remindful and soulful manner, Akon (2006) poetically-vocalized,

A – this, [is] for *all* the love and the life took away;
F – don't *forget* we were bought and trade[d];
R – *ripped* from the land and shipped away;
I – is the *inspiration* we used to survive [i.e. slaves crossing the Atlantic, slavery];
C – you have to see it with your own *cries*;
A – …*add* it up and arrive [calculate and conclude – the arrival of the African],

As Akon further serenaded, Blacks were born of, "MAMA AFRICA!''

Akon (2006) also alluded to the inherent social or cultural traits of Africans as he sung, "pure blackness, oneness so rare… sweet blackness, oneness be there," which suggest the purity, beauty, and unity of an African culture, left untouched. This, to some degree speaks of the nature of African descendants (Blacks), and is important when considering the influence of SES on social fluency. If Akon is correct in positing, Blacks are inherently a unified people, then his discourse is meaningful in understanding the degeneration of the African American family. This work by Akon, also hints that in addition to a more bonded social community, the predecessors of African Americans were also accustomed to high SES or standards of living, in a more luxurious homeland environment (Africa). To this end he personified, (Mama Africa) "Her land is so gold and green…" he continued later, "Her trees have the only cure." Here, Akon made reference to natural riches of the African continent (gold, diamonds, oil, rich crop soil, etc.) as well as natural cures to disease found in the African jungles — all of which were considered wealth of the land, abundant to its inhabitants. Mindful of the sentiments of both Moynihan

(1965) and Akon, it is reasonable to infer that slavery has played a meaningful role in the evolution and deterioration of the African American family unit.

According to Moynihan, by 1965, the bond of many African American families had completely disintegrated, resulting in the departure of Black fathers from the household. These hardships, Moynihan (1965) explained, resulted in African American women becoming the head of almost one-fourth of all Black households. Adding to the plight of children in these environments, Moynihan also provided evidence that single African American mothers are most frequently at the bottom of the SES stratification. For the system (the American Government), absenteeism of Black fathers, or "The Breakdown of the Negro Family… Led to a Startling Increase in Welfare Dependency" (Moynihan, p. 12). For Black children, it meant greater destitution — in education and in life. Put another way, in a succinct manner yet distinguished with great substance, Moynihan suggested, "Negro children without fathers flounder — and fail" (p. 35).

In his review of several studies, Moynihan (1965) discussed the findings of various research efforts, one of which indicated,

> …that children from homes where fathers are present have significantly higher [intelligence] scores than children in homes without fathers. [Additionally,] The influence of the father's presence was then tested within the social classes and… [it was] found that 'a consistent trend within both grades at the lower SES [social class] level appears, and in no case is there a reversal of this trend: for males, females, and the combined group, the IQ's of children with fathers in the home are always higher than those who have no father in the home.' (p. 36)

In his discussion of the studies reviewed, Moynihan found that Black youth from fatherless homes suffered not only from a discrepancy in intellect as compared to White students, but also they often reported a sense of isolation, particularly in making educational decisions. Moynihan suggested the results are "Grade retardation…[,] loneliness of the Negro youth in making fundamental decisions about education… [,] and high school] drop out" (p. 37).

In collective summation of the various data and research probed, Moynihan (1965) disclosed, "The combined impact of poverty, failure, and isolation among Negro youth has had the predictable outcome in a disastrous delinquency and crime rate" (p. 38). Perhaps a more tragic and astounding revelation as offered Moynihan, "It is probable that at present, a majority of the crimes against the person, such as rape, murder, and aggravated assault are committed by Negroes" (p. 38). These problems have compounded and persisted to present day indicating that the effect of fatherless homes since the 1960s has been generational and residual.

Current sources revealed the great expansion of fatherlessness, poverty, and privation in the Black community since the Moynihan Report (Children: Our Ultimate Investment Foundation, 2010; Jackson, 1999; Mandara & Murray, 2006; Texas Department of Corrections and Fulton County, Georgia Jail Populations, 1992; The Annie E. Casey Foundation, 2012). This is not to insinuate that fatherlessness is exclusive to Blacks, but with rates reaching as high as 66% nationally (The Annie E. Casey Foundation, 2012), far greater than all other ethnicities, it can certainly be considered an epidemic amongst African Americans. This is also troubling because over the past 46 years fatherlessness has increased 41 percent, almost 1 percent per year in the Black community (see: Moynihan, 1965; The Annie E. Casey Foundation, 2012). Nonetheless, in considering SES and education, the absence of a father is important as it has many deleterious effects. Researchers have found: The absence of the father is a primary

predictor of drug and alcohol abuse among Black males (Mandara & Murray, 2006); fatherlessness is the greatest contributing factor to aggressive and delinquent behavior (Jackson, 1999); and more than 85 percent of youths in prison grew up in fatherless homes (Texas Department of Corrections and Fulton County Georgia Jail Populations, 1992).

The Children: Our Ultimate Investment Foundation (2010) compiled statistics on children in fatherless homes using various sources. The foundation revealed that

- 63% of youth suicides are from fatherless homes (US Dept. Of Health/Census) – 5 times the average.
- 90% of all homeless and runaway children are from fatherless homes – 32 times the average.
- 85% of all children who show behavior disorders come from fatherless homes – 20 times the average. (Center for Disease Control)
- 80% of rapists with anger problems come from fatherless homes – 14 times the average (Justice and Behavior). (n.p.)

Fatherlessness has a profound impact on the upbringing of children, and must be considered valuable to SES research in education.

The quantitative account of children reared in fatherless homes is staggering. A recent correspondence with A. Simpson (personal communication, August 20, 2012), a 27-year-old African American single mother of one, provided a more qualitative depiction of single-parenthood. According to A. Simpson,

> Raising a child is probably the one of the most difficult things a person can do. From a parenting standpoint, being a single mother is hard. The first few years are definitely the most difficult. Babies need constant nurturing and attention. In homes where there are

two parents, there is less worry and more security. When you raise a child alone, you have to provide for all of their needs financially, socially, and emotionally. When my daughter was born, I wasn't fully prepared for how expensive things would be. Going back to work meant finding child care, which is a worry for any new mother, and decent day care for a newborn is so expensive.

Child Care Aware of America (2012) provided confirmation to this outlook in a press release:

> Families need child care in order to work,' said Ollie M. Smith, Child Care Aware of America's Interim Executive Director. 'But, child care today is simply unaffordable for too many families. This is not a low income issue. Families at nearly every income – except for the very wealthy – struggle with the cost of child care. (p. 1)

According to Child Care Aware of America,

> In 2011, the average annual cost of full-time child care for an infant in a center ranged from about $4,600 in Mississippi to nearly $15,000 in Massachusetts… [, and in home care] ranged from about $4,500 in South Carolina to nearly $10,400 in New York. (p. 7)

This is especially troubling for single parents considering, "In 40 states and the District of Columbia, the average annual cost of center-based infant care exceeded 10 percent of the state's median income for a two-parent family" (p. 7).

Beyond affordability, day care is important because "It also helps children learn the social, emotional, intellectual and physical skills needed to develop in a healthy manner and ultimately to start school ready to succeed" (Child Care Aware of America, 2012, p. 11). Sentiments of the press release also suggested, "…'During the critical years of birth through age 5, 90 percent of a child's brain is developed and essential learning patterns are established which affect school-readiness,…' " (Child Care Aware of America, 2012, p. 2). Furthermore, a report

released by the National Institute of Child Health and Human Development, authored by Vandell et al. (2010) unveiled that quality child care has a long lasting impact on child development, behavior, and cognitive ability. The study conducted by Vandell et al. showed that even 10 years after children have left child care, quality child care was still related to higher academic achievement for low, middle, and high income children.

According to A. Simpson (personal communication, August 20, 2012), the hardships of raising a child alone persist beyond day care concerns.

> … Really, everything you do is in some way connected to your child. What you eat, where you live, and definitely the people around you. Your lifestyle matters; children are very impressionable. A father is very important to every child, girl or boy. They [children] learn so much from human contact and interaction, and there are subtle nuances of life that only a father is equipped to teach a child. I want the best for my daughter, and will give her all that I can, but that doesn't mean she will have what other children in two parent homes will have. Sometimes I worry about the things I cannot provide, because children are perceptive, and as they get older, it becomes more obvious what they lack; so I worry about the impact it will have on her, socially, emotionally, and academically. Time is also a concern. I work long hours, and sometimes I'm physically and emotionally drained by the end of the day when I pick my daughter up, and I still have to feed her, bathe her, and get her ready for bed. Not to mention sometimes we'll play, I'll read to her, we'll watch movies, or just spend time together, but no matter how you cut it, most days it seems like by the time I make dinner and give her a bath, it's time for her to go to bed… Providing for a child is probably more than two times as difficult for a single parent than it is for two, if that makes sense.

Both compelling and revealing, A. Simpson's (2012) dialogue provides meaningful insight into this subject, as well as a qualitative lens by which to understand the differences between children raised in single parent households, and those brought up by both parents. It is also worthy of mention to note that although A. Simpson is a single mother, she is a college graduate, and students with college educated parents tend to fair better than those without educated parents.

Rothstein (2004) examined education as a construct of SES and indicated that educated parents read to their children more and encourage their children to read more when they get older. Mortimore and Blackstone (1982) examined of employment, which is another construct of SES and supported Rothstein's findings. Mortimore and Blackstone identified that parents from low income families have less time to read to their kids because they spend more time working. It may be important to note that the literature review conducted by Mortimore and Blackstone was carried out in London; however, poverty is not a construct of American society, rather it is an epidemic of mankind, and much of their findings parallel those of American researchers.

Mortimore and Blackstone (1982) also provided a host of other work related detriments for low SES families. They stated that parents of low SES are more typically manual laborers, which results in greater fatigue, leaving them with less energy to expend on their children's educational welfare. In discussing the living standards of low income families, Mortimore and Blackstone identified several disadvantages including comfortless housing, inadequate diet, little or no social life, no birthday parties, and constant worry about unemployment; a worry that is appropriate, even warranted, as Mortimore and Blackstone revealed that there is a strong correlation between poverty and unemployment. Still other work related hardships were identified. For instance, lower class parents often experience more work related pressure and

stress, affecting family life, furthermore, these difficulties tended to lead to apathy resulting in a lack of encouragement for children (Easton-Brooks, & Davis, 2007; Griffin, Jayakumar, Jones, & Allen, 2010; Mortimore & Blackstone, 1982).

It is also common for lower class parents to be uninsured, as low paying jobs typically do not provide benefits (Howard, 2010; Mortimore & Blackstone). As a result of this,

> Students from impoverished backgrounds are less likely to have access to medical care and attention, which can allow vision, dental, hearing, asthmatic, and other ailments to go undertreated, or in some cases not treaded at all, undoubtedly influencing school performance. (Howard, 2010, p. 3)

Furthermore, low paying jobs also means less money to spend on academic materials. Here this adds to the obstacle facing these students since they are unable to access school resources. This situation is a byproduct of the home environment rather than school, as was the case in the Coleman et al. (1966) study. "Young children of college-educated parents are surrounded by more books at home while children of less-educated parents see fewer books" (Rothstein, 2004, p. 19). More so, poor parents have less money for books, crayons, puzzles, and other education related materials (Mortimore & Blackstone, 1982, Rothstein, 2004). Even more troubling,

> a number of studies that have reported that many students with high intelligence are unlikely to aspire to a college education or to go to college especially if they come from families of low socioeconomic status, … [or] are members of disadvantaged racial groups. (Sewell & Shah, 1967, p. 2)

This further validates the effect of SES as it reflects a significant impact on even the most able students.

Moving beyond the academic effects, there is evidence to suggest that SES influences the social development of students in impoverished neighborhoods. Low paying jobs often result in families moving often (Howard, 2010), which means these children rarely form long term bonds with students and teachers.

> Furthermore, an increasing number of students who attend U.S. school are homeless, with the number reaching over 1 million during the 2006–2007 academic year (National Center for Homeless Education, 2007). Needless to say, the disproportionate occurrences of violence, crime, drugs, and death that young people in impoverished communities are exposed to on a regular basis have an influence on the social, psychological, and emotional well-being that they bring to school, and these effects often go untreated. (Howard, 2010, p. 3)

Bowen et al. (2005) supported Howard's (2010) claims. According to Bowen et al., poor families in low income neighborhoods experience a higher rate of violent crimes, 53.68 per 1000 people as compared to 26.15 per 1000 for families from higher economic backgrounds. Taking the experiences of low SES students into consideration, it is presumable that these students will have social deficits impacting their social fluency upon entering college.

For students from poor SES backgrounds, there are many challenges that face them in the American education system and these challenges contribute to the achievement gap. In 1966, in response to Civil Rights legislations aimed towards overcoming these differences, the Coleman et al. study concluded that the achievement gap was residual and compounding. In 2005, in offering an explanation to these 40-year-old conclusions, Bowen et al. (2005) stated,

> As a general rule families that have high incomes and high levels of educational attainment when their children are of college age had high incomes and high levels of

> educational attainment when their children were young, and these persistent advantages enabled them to enhance the 'college preparedness' of their children… (p. 77)

Perhaps Rothstein (2004) put it best:

> Think of Coleman's findings this way: all students learn in school, but schools have demonstrated limited ability to affect differences at the rate at which children from different social classes progress. Children from higher social classes come to school with more skills and are more prepared to learn than children from lower classes. All children learn in school, but those from lower classes, on average, do not learn so much faster that they can close the achievement gap.

However stated, these claims date back as far as the 1960s (i.e. Coleman et al., 1966). More current research confirms the notion of a widening gap in achievement (Griffin, Jayakumar, Jones, & Allen, 2010; Oliver & Shapiro, 1997; Shapiro, 2004). Adding to the challenges facing lower income students is family support. Research has identified that apathy and indifference to lower achievement and poor academic outcomes are eventual conditions of long term poverty (Easton-Brooks, & Davis, 2007; Griffin, Jayakumar, Jones, & Allen, 2010; Mortimore & Blackstone, 1982); therefore, students from these families are less likely to receive support and encouragement to overcome their shortcomings.

Although the review of literature regarding SES has not focused on student-athletes, it should be understood that collegiate athletes are merely a sample, subset, or subgroup of the academy or college population, and therefore they should not be exempt to the effects of SES as applied to the greater student body. Furthermore, the effects of participation in athletics should be taken into account when examining the effect of SES on student-athletes. The effect of SES on academic competence and social fluency can be determined by the environment and nurturing

elements of a student's background and has a considerable influence on the academic and social development of student-athletes.

Learning Disabilities

Previously it was suggested that while SES may be associated with opportunity, learning disabilities refer to abilities or lack thereof of abilities. Specifically, and in accordance with the present research objectives, the relationship between learning disabilities (LD), academic competence and social fluency was investigated. Various studies have examined these variables (Clark & Parette, 2002; DaDeppo, 2009; Dalke & Schmitt, 1987; Gerber, 1998; Hoy et al., 1997; National Adult Literacy and Learning Disabilities Center, 1995; National Joint Committee on Learning Disabilities, 1998; Reiff, 1995; Skinner & Lindstrom, 2003; Smith, English, & Vasek, 2002; Spekman, Godlberg, & Herman, 1992). Without exception, these studies reveal that learning disabilities have a significant negative effect on the academic and social outcomes of students.

In order to fully understand the evolution of learning disabilities within the continuum of higher education and college athletics, it is important to explore related litigation and policy, which shaped the landscape for student-athletes with learning disabilities. According to The Department of Justice (2012), The United States of America v. National Collegiate Athletic Association 1998 case, a consent decree was agreed upon between the plaintiff and defendant. The decree was established to improve the collegiate eligibility determination process for student-athletes with learning disabilities. Specific allegations presented against the NCAA, as provided by The Department of Justice read as follows:

> The Department of Justice determined that the NCAA's polices, practices and procedures discriminated against student-athletes with learning disabilities in violation of Title III.

> First, NCAA regulations relating to the certification of high school classes as 'core courses' excluded many classes designed to accommodate students with learning disabilities, without regard for the content of the course. Second, the process for considering exceptions for individual students – the waiver process – placed students with learning disabilities at a significant disadvantage relative to their peers. The Department of Justice received complaints from a number of individuals. These complaints included specific instances in which courses were not accepted as core courses primarily because they were labeled 'remedial' or 'special education' classes. Based upon these complaints and other evidence, the Department concluded that modifications in several NCAA policies were necessary, that reasonable modifications were available, and that these modifications would not fundamentally alter the nature of the NCAA's program. (n.p.)

The resulting policy changes made by the NCAA were multifaceted and included: a waiver process for student-athletes with LD who did not meet or fulfill NCAA eligibility requirements; closer examination of course content for all core courses, and a provision that allowed high school principals to submit remedial, special education, and substitute courses for consideration as core courses; the addition of LD specialists (contracted by the NCAA) to sit on all eligibility waiver committees; and finally, athletic programs were required to hire, NCAA-ADA (Americans with Disabilities Act) Compliance Coordinators.

Davis (1995) also identified NCAA policies (Proposition 48 & 16) that were significant to understanding the eligibility and participation of students-athletes with LDs in intercollegiate athletics. According to Davis, Proposition 16, better known as Prop 16, a more stringent

successor of Prop 48 (Proposition 48), was adopted by the NCAA in order to establish regulatory standards by which to determined eligibility for student-athletes.

> Under Proposition 16, eligibility is determined pursuant to an indexed scale, which requires that high school graduates with a 700 or 17, on the SAT or ACT, respectively, must have at least a 2.5 GPA in a core curriculum that consists of 13 courses [core classes include math, science, history, and English]. A prospective student-athlete with a 2.0 GPA would be required to score at least 900 or 17 on the SAT or ACT, respectively. (Davis, 1995, p. 208)

The issues and criticisms of Prop 16 were much the same as the objections to its predecessor Prop 48, namely, the standards proposed by the NCAA were discriminatory and biased towards Black athletes (Davis, 1995). For many decades, civil rights leaders, coaches, and others fought for African American student-athletes to have equal opportunity to participate in college sports (Davis, 1995). This holds dual value because "Since the 1979 landmark case of Larry P. v. Wilson Riles, it has been well known that African American children are overrepresented in low-achieving special education categories…" (Warner, Dede, Garvan, & Conway, 2002, p. 501). In the case of Prop 48 and 16, the NCAA was called to lower or reconsider the standards of admission, in this instance for Blacks, rather than learning disabled students, which increased the likelihood of LD students being admitted given the aforementioned overrepresentation of Blacks amongst this population.

As reported by the Los Angeles Times (1999),

> A federal judge in Philadelphia ruled … that the NCAA may not use a minimum test score to eliminate student-athletes from eligibility to play college sports because the practice is unfair to blacks. District Judge Ronald L. Buckwalter cited the NCAA's

> research showing that the practice harmed black students' chances of being declared academically eligible. He said there were other methods available to reach the goal of higher graduation rates that would be fairer to blacks."

This ruling, similar to the agreement reached in the consent decree, changed the eligibility process for African American student-athletes. Provided the statues (i.e. consent decree) and policies (i.e. prop 16) related to individuals with LDs and African Americans, certain elements of college athletics changed, in particular recruiting.

This meant that for the first time coaches, especially at schools traditionally known for academic rigor and prohibitive admission standards (i.e. Georgia Institute of Technology), were able to get student-athletes, that would not otherwise qualify, admitted to these schools. Using this rationale coaches at all schools, not just the most selective, began recruiting and signing (awarding scholarships) student-athletes that would not have met previous NCAA eligibility requirements. This really has two main implications; first, an influx of student-athletes with LDs to collegiate athletics and second, an increased number of African American student-athletes, from low SES backgrounds with minimal collegiate preparedness and considered "at-risk," being admitted. Furthermore, this benefitted universities in meeting federal admission diversity mandates. Schools receiving federal funding could maintain admission diversity percentages for low SES, African American students, and learning disabled students, while improving athletic ability in sports programs.

Perhaps illustrative of the change in recruiting practices, a description of participants in a study conducted by Warner et al. (2002) included,

> … full-time college students who had been referred to a university hospital psychology clinic for SLD [specific learning disability] evaluation between 1994 and 1997… The

> sample (N = 117) consisted of 50 African American and 67 European American students. … Even more dramatic [than other statistically significant findings], the overwhelming majority of the African American students were college scholarship athletes (94%), compared to less than half (46%) of the European American students who were scholarship athletes… (p. 504)

These numbers show that the overwhelming majority of Black students with LDs were scholarship student-athletes. Given such a large percentage and the statistical significance, there is evidence that rulings in the consent decree and Prop 16 have had some influence on college recruiting.

One study particularly important to understanding LDs is that of DaDeppo (2009). DaDeppo used Tinto's constructs and model of academic and social integration, previously examined in the present research, as the framework for her study. Examining and addressing many factors considered within the present research effort, DaDeppo (2009) suggested,

> … outcomes such as grade point average (GPA), persistence, and graduation rates for college students with learning disabilities (LD) continue to lag behind those of their nondisabled peers. Reasons for the differences vary but may include academic and social integration, factors identified as important to the success of college students in general. (p. 122)

Importantly, DaDeppo identified that academic and social integration explained persistence for students with LDs.

For students with LDs, the transition from high school to college can be particularly difficult, partly because of a lack of student-autonomy in high school, as compared to college, and as a result of the Individual Education Program (IEP) process (DaDeppo, 2009; Dalke &

Schmitt, 1987; Smith, English, & Vasek, 2002). DaDeppo explained, parents are by and large the primary advocates for high school students with LDs. Furthermore, an IEP is a legally binding commitment between the American education system, and families of students with disabilities, to develop and implement an individualized program of education, which serves to reduce the effects of disability on educability and student performance of learners with disabilities (DaDeppo, 2009).

This means the onus to identify disabilities and provide supports services fall on the education system prior to college; however, in postsecondary education, students must exhibit a higher level of autonomy and awareness of disability in exercising their rights to services. As stated by DaDeppo (2009), "That is, the system changes for students from one of entitlement to one of eligibility" (p. 123). Given these conditions, it is quite possible that prior to higher education, students receive appropriate services and accommodations for their LDs because of the system of support mandated by law in the K–12 setting (Brandt & Berry, 1991; Brinckerhoff, 1993; DaDeppo, 2009; Smith, English, & Vasek, 2002), but once in college, many lack the self-advocacy or the know-how to seek services. In all, this means that many some students with LDs, simply lack meaningful supports in higher education.

Of some benefit to student-athletes with learning disabilities are academic support services. According to Carodine et al. (2001),

> Higher education institutions have realized their obligation to provide a supportive environment as soon as possible for student athletes to succeed. In recognition of the unique needs of student athletes, institutions have begun to enhance their support services programs. In 1991, the NCAA membership passed legislation requiring all institutions to provide academic counseling services to all student athletes. (p. 21)

Unfortunately, Clark and Parette (2002) reported,

> Holistic support programs that address psychosocial issues in academics and athletics can provide necessary assistance to student-athletes… However, the progress that has been made to create more holistic programs of support for student-athletes often times does not or rather cannot accommodate the needs of those students with learning disabilities. (n.p.)

For student-athletes with learning disabilities, this means that while athletic departments provide some academic support, they may not be sufficiently equipped to serve their special needs.

In addition to the systemic barriers facing student-athletes within higher education, there are various inborn difficulties, which affect their academic competence and social fluency. Many researchers have pointed out that LDs affect, written and spoken language (DaDeppo, 2009; Gerber, 1998; National Adult Literacy and Learning Disabilities Center, 1995; National Joint Committee on Learning Disabilities, 1998; Skinner & Lindstrom, 2003). Other disability related deficits include, inability to attend to details of college assignments, difficulty organizing and meeting deadlines, poor time management, and inability to focus on academic tasks (DaDeppo, 2009; Skinner & Lindstrom, 2003; Smith, English, & Vasek, 2002). Clark and Parette (2002) echoed and added to these findings by stating, "Primary characteristics of student-athletes with learning disabilities include problems in academic areas, such as math, reading, writing, and other language-based domains" (n.p.).

Disability related deficits are not exclusive to the academic domain. In fact, studies show that there are many socially debilitating effects of LDs (Clark & Parette, 2002; DaDeppo, 2009; Hoy et al., 1997; Reiff, 1995; Spekman, Godlberg, & Herman, 1992). DaDeppo (2009) and others (Hoy et al., 1997; Reiff, 1995; Spekman, Godlberg, & Herman, 1992) noted individuals with LDs tend to demonstrate poor interpersonal skills, lower self-esteem, and higher levels of

anxiety, and as a result tend to struggle with social interaction and self-advocacy. Similarly, Clark and Parette (2002) as well as Barton and Fuhrmann (1994) found students with learning disabilities experience overall feelings of lack of self-worth, low self-esteem, and poor self-concept.

Given the findings reported related to the effects of LDs on academic and social based skillsets, it is clear, students with disabilities have significant hardships navigating postsecondary education. It is also reasonable to presume, the demands of sport participation on students with LDs, exacerbates their difficulties in college. This means student-athletes with LDs are a particularly fragile population and must be supported in order to succeed in college. Much like their nondisabled peers, DaDeppo (2009) found that students with LDs' intent to persist were based on academic and social integration. According to DaDeppo (2009), academic and social integration were both significantly positively associated with intent to persist for students with LDs. This is important because the intent to persist is a critical component of positive postsecondary outcomes.

Summary of Literature

In summarizing the literature reviewed, it seems that American higher education and college athletics have changed significantly from their inception. The two have mutual and common ties to society, by which both have influenced the American culture, and both have been influenced by cultural and civil changes in America. The modern day student-athlete is a byproduct of a new system — a more complex and convoluted system. The NCAA has served to protect and help student-athletes as they matriculate through college, both as students and as competitors in athletic competition. Given what is presently known about the effect of participation in sports, it is unclear whether or not sports are of benefit or detriment to student-

athletes. Graduation rates seem to indicate that athletes tend to fair better than their non-athlete peers; however, revenue generating sports (RGS) show a particularly alarming reversal of this trend.

A review of academic and social integration yielded fairly consistent results. That is to say that these factors were consistently significantly correlated to attrition, retention, persistence, and ultimately graduation. A review of literature related to academic competence and social fluency, provided evidence that these factors were comprised of the skillsets necessary for meaningful integration and engagement. In considering the background characteristics and ability levels of student-athletes, as they relate to academic competence and social fluency, the literature revealed that both SES and LD were significant. Although, specific sections were not allocated to race and gender, both were discussed throughout, in particular ethnicity.

Given the related literature, it seems Black student-athletes may be at a deficit both socially and academically as compared to Whites; however, these claims come with much uncertainty, as all of the literature examined was not exclusive to student-athletes. Perhaps a stronger claim can be asserted of women, as the literature, for the most part, consistently indicated that women tend to be far better academic performers than men. In all, given the nature of this study, the literature indicated SES and LDs have a meaningful and significant impact on academic and social skills as well as the integration of student-athletes.

CHAPTER 3. METHODS

The purpose of this study was to examine Socioeconomic Status (SES) and Learning Disabilities (LDs) and their relationship to academic competence and social fluency for freshman Division I (D-I) student-athletes. Student-athlete characteristics were analyzed pertaining to The Freshman Survey from National Collegiate Athletic Association (NCAA) institutions in 36 states. This research builds upon what is currently known about student-athletes and serves as a resource to those with a vested interest in college athletics and the development of student-athletes. This research will serve to influence the evolution of recruiting or even stimulate the emergence of a new recruiting paradigm in which SES and learning characteristics of incoming student-athletes, viewed in relation to outcome oriented skills, become more centralized components of the overall recruiting process.

This study was a secondary analysis of data as the data used were provided by the Higher Education Research Institute's (HERI) Cooperative Institutional Research Program (CIRP) at the University of California at Los Angeles (UCLA).

This chapter presents the purpose of this study, research questions, sample population used, as well as the settings, locations, conditions, and method by which data were gathered. The instrumentation used was examined along with the reliability and validity of the given survey. The data collection process was described, and finally, this chapter culminated in a description of the analytical procedures used to conduct this study.

Research Questions

The following research questions were examined in this study:

1. What is the relationship between SES and the academic competence of student-athletes?
2. What is the relationship between SES and the social fluency of student-athletes?
3. What is the relationship between LD and the academic competence of student-athletes?
4. What is the relationship between LD and the social fluency of student-athletes?

Sample Population

This research sought to examine the characteristics of student-athletes nationwide. The participants in this study included a random sample of 21,916 student-athletes, all first-time full-time (FTFT) freshmen, from D-I National Collegiate Athletic Association (NCAA) institutions. Respondents included both men and women, and various ethnicity groups including Whites, Blacks, Hispanics, Asians (included Pacific Islanders), and Others. The participating institutions, 98 in total, were all four-year colleges and universities and included both public and private institutions, ranging from small to large. The institutions were spread across the various D-I NCAA conferences. This was a national sample; the schools included came from 36 states and the District of Columbia (DC), and were located in urban, suburban, and rural areas. A specified list of institutions can be found in Appendix B.

Instrumentation

The Freshman Survey (TFS; 2008)

This study employed quantitative methods to analyze data collected using the TFS (see Appendix A). TFS is a 40-question survey developed by the Higher Education Research Institute (HERI) at UCLA, specifically the Cooperative Institutional Research Program (CIRP).

> The Cooperative Institutional Research Program (CIRP) is a national longitudinal study of the American higher education system. It is regarded as the most comprehensive source of information on college students. Established in 1966 at the American Council on Education, the CIRP is now the nation's largest and oldest empirical study of higher education, involving data on some 1,900 institutions, over 15 million students, and more than 300,000 faculty. CIRP surveys [including TFS] have been administered by the Higher Education Research Institute since 1973. (HERI, 2012, n.p.)

Given its expansive database, researchers (Hurtado & DeAngelo, 2012; Hurtado, Newman, Tran, & Chang, 2010; Norwood, 2009; Veenstra, 2010) have used the TFS to study a wide range of issues related to college freshman which include: predictors of college choice; success amongst engineering students; improving success rates for underrepresented minorities in science, technology, engineering, and mathematics (STEM) fields; diversity and student outcomes; personal growth; as well as many other facets of college for freshman. Provided the 40 year history of TFS, its prior pilot testing and administration, no validity and reliability test (pilot) were required for the present study.

The CIRP TFS collected information about the characteristics of first year college students. According to HERI (2012),

> The survey covers a wide range of student characteristics: parental income and education, ethnicity, and other demographic items; financial aid; secondary school achievement and activities; educational and career plans; and values, attitudes, beliefs, and self-concept. (n.p.)

The HERI also indicated that the survey covers other student characteristics including students' academic preparedness, goals and expectations, social interaction, and behavioral habits. As the present research sought out many of the noted characteristics measured, TFS was determined to be the most useful instrument in gathering the desired data.

Validity and Reliability

In all empirical research it is imperative to establish the validity and reliability of the instrument or instruments used; in this instance, the instrument under examination was The Freshman Survey (TFS). According to Ross and Shannon (2008),

> Validity evidence is depended upon what evaluation is being used for. Researchers and others who use tests or survey instruments must assess scores used from each instrument on the basis of these purposes:
>
> 1. Does the data collection instrument or process measure what it is supposed to (the construct)?
> 2. Does this instrument or process yield the information you need? (p. 235)

The authors indicated that each construct should be rooted in the literature and that a careful examination of prior research should be done in order to identify and establish the validity of both the construct and its indicators (these being the items used to measure the construct).

The present research was chiefly concerned with constructs including socioeconomic status (SES), learning disabilities (LD), academic competence and social fluency. Given the

sentiments of Ross and Shannon (2008) on construct validity, TFS has proven to be a particularly useful instrument of measurement in the given study. According to HERI (2012), TFS was designed in part to measure all of the variables of interest in the present study (SES, LD, academic competence, and social fluency). In addition, the second chapter of this research provided a review of literature and similar studies, which have sought to measure the same constructs as those examined here, and the results of these studies provided evidence that supports the validity of the TFS.

This research has also determined TFS is reliable. As stated by Ross and Shannon (2008), "Reliability may be thought of in terms of consistency. The more consistent results from an evaluation method are, the more reliable they are" (p. 237). Because of the longstanding history of the CIRP TFS and the continued validity and reliability testing of the instrument, the results yielded are highly consistent. TFS is a standardized instrument, which is reviewed each year by a CIRP panel of experts and researchers. The survey is tested by the CIRP, used to conduct research, and modified as needed. These processes add to the construct validity as well as the reliability of this instrument. Furthermore, as previously expressed, the mass use and widespread acceptance of TFS amongst scholars and institutions of higher education, also speak to the validity and reliability of this instrument.

Data Access

A secondary analysis of data was conducted in this study and all data used were provided by the HERI at UCLA; however, a full disclosure of the data collection procedures were provided here within in an effort to ease the duplicability of the present research. It is also important to understand that because the participating colleges and universities paid the HERI to analyze the data collected as a part of the CIRP, and because of the sensitive nature of the data as

provided to the HERI's CIRP, the HERI has strict policies and guidelines by which data can be accessed. The HERI requires that all initial analysis be conducted on site (at the HERI) by the HERI CIRP staff. Through this process, the HERI staff gathers and compiles all of the data collected by individual institutions and inputs the survey response items into an inferential statistics analytical program Statistical Package for the Social Sciences (SPSS).

Individual researchers seeking to access the HERI's CIRP data must follow a prescribed protocol, which includes a written proposal requesting data access. Upon the CIRP review board's approval, data access is granted via safe email transfer or web archive retrieval. As is typical of secondary data, individual respondents' personal identifiers and institutional names were stripped from the data; furthermore, only those data specifically requested were provided.

Data Collection Procedures

The HERI (2012) indicated there were two forms of TFS, one paper and the other an online version. Additionally, there were several guidelines or parameters by which TFS was administered. According to the HERI, the survey was administered sometime between March 15 and October 8, 2012 and they noted,

> The CIRP Freshman Survey is conducted before students start their college careers, and is available as early as March and as late as October. Most campuses conduct the survey during orientation and allow about one hour for survey administration. The best results occur when the survey is administered in a proctored setting. (HERI, 2012, n.p.).

The HERI also provided information regarding the administration of both the paper survey and the online version of the survey. To this end they indicated,

> The Paper Survey is best when administered in a large-group setting during orientation, but is also used in classrooms, residence halls, or small groups. It can also be

> administered through the mail. The Web Survey can be administered either with your campus managing the email notification process, or for ease of use, you can elect to have HERI manage the email notifications to students. A web survey can be more convenient for both you and your students. (HERI, 2012, n.p.)

Undoubtedly, there was a fair amount of flexibility and more than likely some variability in how individual institutions collected data using the TFS; however, the TFS, much like typical or standard surveys, had common administration methods.

Data Analysis

This research employed quantitative methods including both inferential and descriptive statistical analyses. This section provides the constructs and indicators used for each variable analyzed in the current study as well as the methods and specific procedures used to analyze the data. The initial data set provided by the HERI included roughly 149,000 respondents; however, this study was only interested in identifying and attending to those respondents who were student-athletes. TFS did not have a specific question, which asked participants if they were student-athletes, however, two questions from the survey were used in combination to make this distinction.

The first of these items stated, "Below are some reasons that might have influenced your decision to attend this particular college. How important was each reason in your decision to come here" (TFS, 2008, p. 3)? Possible influences listed below this question included my parents wanted me to, my teacher advised me to, and several other options. Among these options was "The athletic department recruited me" (TFS, 2008, p. 3); furthermore, the possible responses for all of these items under this section were very important, somewhat important, and not important. This particular item on TFS was used because D-I collegiate athletic departments

only recruit student-athletes; therefore, all of the participants that marked very important and some of the participants that marked somewhat important were identified as student-athletes (note: students that marked some what important had to meet additional criterion). In addition, it should be noted, the NCAA Academic and Membership Affairs Staff (2011) stated, "A student-athlete is a student whose enrollment was solicited by a member of the athletics staff or other representative of athletics interests with a view toward the student's ultimate participation in the intercollegiate athletics program" (p. 62).

Despite the obvious nature of the first question used to identify student-athletes, it was not used as a standalone criterion. This was because this study acknowledged that for some student-athletes, being recruited by the athletic department was not an important factor in their decision to attend a particular college. This may be especially true of high profile athletes. Because these athletes are recruited by hundreds of schools, it is more likely that being recruited was not an important factor in their decision to attend a particular college. Given this notion, a second item from TFS was used to identify student-athletes. This item stated, "What is your best guess as to the chances that you will: Play varsity/intercollegiate athletics" (TFS, 2008, p. 4)? The corresponding response options included very good chance, some chance, very little chance, and no chance. This question, much like that which related to recruitment, was used to help to identify student-athletes. In this instance, all of the student-athletes who responded there was a very good chance they would play intercollegiate athletics were determined to be student-athletes.

Using both of the given questions, a stringent criterion was developed and used to identify student-athletes. Table 1 identifies the variations of response combinations between the two questions as used to identify student athletes.

Table 1

Student-Athlete Identification Criterion

CHOOSE20	FUTACT7
Very Important	Very Good Chance
	Some Chance
	Less Than Some Chance
Somewhat Important	Very Good Chance
	Some Chance
Not Important	Very Good Chance

Note. CHOOSE20 was the college choice variable (i.e. reason you chose to attend this particular college). FUTACT was a projected future activities variable (i.e. chance you will play intercollegiate athletics.

If a participant marked 'very important that the athletic department recruited me' then all possible response options were accepted for chance they will play intercollegiate athletics; if the participant marked 'somewhat important for the athletic department recruited me,' they also had to mark either 'very good chance' or 'some chance' that they would play intercollegiate athletics; and finally, if the responded marked 'not important' for the athletic department recruited me, then they were required to indicate that there was a very good chance they would play intercollegiate athletics.

By these standards, student-athletes were respondents who had been recruited by the athletic department, or indicated there was a very good chance they would play intercollegiate athletics, or both; furthermore, it should be noted that the vast majority of students identified as

student-athletes in this study indicated that there was a very good chance they would play intercollegiate athletics. Using the criterion described as well as the two variables CHOOSE20 (athletic department recruited me) and FUTACT07 (chance of playing intercollegiate athletics) a new variable, STUDATH (student-athlete), was created. Afterwards, the STUDATH variable was then used as a filter variable to remove all non-student-athletes from the data set. This reduced the originally data set of more than 149,161 respondents down to 21,916.

This research also called for SES to be stratified prior to analysis. It has been well established and identified in Chapter 2 of this study that SES is derived from the combination of occupation, educational attainment, and income. Generally speaking, and in alignment with much of the literature, SES was discussed in fairly generic groupings (i.e. low, middle, and high SES or simply low and high); however, for the purpose of data analysis it is meaningful to indicate how SES was grouped in this study. A study conducted by Witte (1997), provided an extensive examination of the evolution of SES in empirical research. This study revealed that over the years, various examinations of SES have used a number of measures as SES indicators. For example, in the 1950s Hollingshead and Redlich examined education and occupation, as the major constructs of SES. Although useful at the time, the defining indicators of SES continued to evolve. This was primarily the function of two major factors; first, traditional evaluations of SES only looked at the head of household (typically male), and second, the 1970s and subsequent decades saw a major influx of women in the workplace, which had not been accounted for in prior research (Hollingshead, 1975).

By 1987, Gilbert and Khal had identified nine variables, which they suggested measure an individual's SES. These variables included occupation, income, wealth, personal prestige, association, socialization, power, class consciousness, and mobility. Witte (1997), in his review

of these various studies, identified that as the indicators of SES had evolved, and there was much consensus amongst the research community that occupation, income, and education were the identifiers of SES. Despite this seemingly simple construction, the various elements of SES each had more complex layers of how they were derived and influenced an individual's role and class in society. For example, in considering occupation there are several factors beyond gross salary and benefits, which should be considered in evaluating a given career field — one such factor is prestige. Therefore, if a garbage collector in New York City draws a significantly higher income than a minister in Uniontown, AL, a higher level of prestige is generally attributed to the later by virtue of occupation.

Evaluating all of these factors, which comprise SES and influence and individual's social class, Witte (1997) found that an index developed by James and Abney (1992) most sufficiently measured SES. This index (see Appendix C) was used in this study. It should be noted that there was not perfect unison between the index used and the survey instrument. All of the occupations listed on TFS were not included in James and Abney's index. Likewise, educational attainment did not match precisely; however, the index identified and the related literature provided more than sufficient guidance by which to stratify the constructs of SES into quintiles. Additionally, The Occupational Information Network (ONET) (2012) was used in combination with the aforementioned index to cross verify the SES indicators. ONET is a resource developed by the US Department of Labor, which has compiled national data for occupations including national average salaries, job skills, educational requirements, and job responsibilities for a given position.

Using these resources the three determinants of SES were all individually categorized into quintiles; as such, occupation, education, and income are presented in Appendix D (SES-

Quintile Index). Using this SES-Quintile Index, each portion of SES was recoded. For example, each respondent was asked what his or her mother and father's highest levels of education were. The possible responses ranged from grammar school or less, which was originally coded as one, all the way up to graduate degree, which was originally coded as eight (to better understand the original coding of each variable, refer to the 2008 CIRP Freshman Survey Codebook in Appendix E). Given the original coding, graduate degree, previously coded eight was recoded as five, which represented the high SES quintile, and grammar school or less, originally one, maintained a coding of one, which represented the low SES quintile. This recoding method remained consistent for education and occupation; however, income was coded in a similar but slightly different manner. The high SES quintile for income was coded as 10 and the low SES quintile was coded as two. Essentially, these values were double those of education and occupation. This was done to give the three components of SES equal weighting, and further explanation is provided later in this chapter.

For discussion purposes only, a limited excerpt of Appendix D is present in Table 2. This table only reflects the high and low SES quintiles. The original coding is adjacent to each of the SES indicators in columns two, three, and four and the recoding values by SES quintile are in the first column.

Table 2

SES Quintiles Recoding Key

SES Level	Occupation	Education	Income
High (5)	(1) Accountant	Graduate Degree (8)	$250,000 (14)
	(2) Actor/Entertainer		$200,000 (13)
	(3) Architect		$150,000 (12)
	(6) Business Executive		$100,000 (11)
	(16) Dentist		
	(18) Engineer		
	(25) Lawyer		
	(29) Optometrist		
	(30) Pharmacist		
	(31) Physician		
	(32) Policy Maker/Govt		
	(40) Veterinarian		
Low (1)	(43) Laborer Unskilled	Some high school (2)	Less than $10,000 (1)
	(44) Semi-skilled worker	Grammar school (1)	
	(45) Unemployed		
Assigned	(46) Other		

*Note***.** For income, SES levels were double the values shown (i.e. high 10, upper middle 8, middle 6, lower middle 4, and low 2). Also the original codes for occupation, education, and income are adjacent to the given item. Finally, the occupation category Other (46) was assigned SES level as described later.

In discussing SES there are two additional clarifications that should be made. The first deals with an occupation on the TFS — the specific occupation shown in Table 2 was termed Other. This created some ambiguity in classifying this occupation among the various SES levels.

The second issue that required consideration was missing values (where respondents omitted information) on the TFS. Both of these issues were dealt with in the same manner. According to Tabachnick and Fidell (1996), there are several procedures for handling missing data. In discussing the various options Tabachnick and Fidell stated, "A second option is to estimate (impute) missing values and then use the estimates during data analysis. There are at least three popular schemes for doing so; using prior knowledge, inserting mean values, and using regression" (p. 63). The authors further elaborated on various factors, which make one procedure more appropriate than another.

According to Tabachnick and Fidell (1996),

> Prior knowledge is used when a researcher replaces a missing value with a value from a well educated guess. …and if the sample is large and the number of missing values small, this is often a reasonable procedure. The researcher is often confident that the value would have been about at the median, or whatever, for a particular case. (p. 63)

In accordance with these procedures, the present research used prior knowledge to impute missing data. This was because the data set used was large (21,916 respondents) and the number of missing data points were few (800 at most on a single variable but far less in the majority of variables). Furthermore prior knowledge related to SES indicated that there is a strong correlation between education, income, and occupation. Individuals with high SES education generally obtain higher SES occupations, and higher SES occupations generate high SES incomes. By this notion educated estimates were made for missing data and occupations identified as other. For example, if a student's mother and father's education were in the highest quartile, and the mother and father's occupations were in the highest quartile, then the highest

income value was assigned where data were missing. In cases where a given occupation was marked other, the same method was used.

Once the individual constructs of SES had been recoded and missing values were assigned, occupation, education, and income were combined to create a new variable, SES. As indicated earlier, each variable was recoded by quintiles, allowing for scores ranging from one to five for occupation and education, while income ranged from two to 10. Income was recoded in a different manner than were education and occupation so that each element of SES was given equal weight. A total of five responses were taken from TFS to create SES; two of these questions accounted for household education level (one question for mother's education and one for father's education); two of these questions accounted for household occupation level (one for mother's occupation and one for father's occupation); however, the survey asked for household income (not per parent income).

Given the questions used and the recoding values, the maximum value for household education was ten (five for mother's education and five for father's education); the maximum value for household occupation was ten (five for mother's occupation and five for father's occupation); and the maximum value for family or household income was ten. By the method used, each variable used accounted for one third of SES. The highest or maximum value for and individual's SES was 30, and the lowest or minimum value was six. These values were used to calculate the range of possible scores, which were six through 30 or a range of 25 possible scores.

The final step in constructing SES called for this variable to be recoded to create individual quintiles; therefore, the values ranging from 26 to 30 were recoded as five — this was the highest SES quintile. This represented a family (for example) with a household income value

of 10, a household education level of nine (i.e. mother five and father four), and a household occupation level of nine (i.e mother five and father four) — totaling 28; While this is just one example, it should be understood that no matter the combination, SES values reaching at least 26 fell in the high SES category. The values ranging form 21 to 25 were recoded as four (upper middle SES quintile); the values ranging from 16 to 20 were recoded as three (middle SES); the values ranging from 11 to 15 were recoded as two (lower middle SES); and, the values ranging from six to 10 were coded as one (low SES). The results of this recoding procedure meant that each individual respondent fell into an SES category ranging from one to five, which represented each of the SES quintiles.

Some explanation may also be useful in understanding the constructs of LD, the second independent variable used in this study. While this research is primarily concerned with LDs, the instrument used and data provided, allowed for a three-way comparison between participants with LDs, participants without LDs, and student-athletes with other disabilities. It is unclear what the other disabilities were per individual respondent, however, the possible survey disability categories included hearing, speech, orthopedic, partially sighted or blind, health-related, and other. Given these categories, it was assumed that the vast majority of those student-athletes identified as having other disabilities, were most likely students with speech related disabilities or other disabilities (i.e. emotional or behavioral disabilities). This presumption was made because of the physical demands of college athletics, which make it unlikely that students with physical (i.e. sight, hearing, orthopedic) or health disabilities would make up a high percentage of those with other disabilities. Nonetheless, LDs were the primary focus of the disability variable.

For the dependent variables a factor analysis was conducted. For the past 50 years, factor analysis has been used to reduce a large number of traits down to a small number of factors which explain a given construct (George & Mallery, 2011). This study conducted a factor analysis to reduce the number of total traits, from 16 total, to those remaining, which identify the factors that explain academic competence and social fluency. These traits came from specific questions asked of respondents on TFS and included: academic ability, artistic ability, computer skills, creativity, drive to achieve, mathematical ability, writing ability, public speaking ability, self-confidence (intellectual), self-confidence (social), emotional health, cooperativeness, leadership ability, popularity, self-understanding, and understanding of others (See item 27 on TFS, Appendix A).

The findings of the given factor analysis are examined in greater depth in Chapter 4 of this study and discussed at length in Chapter 5; however, it is meaningful to discuss the methods used and to provide a general synopsis of the findings in this chapter, prior to explaining the analysis of variance (ANOVA) used to conduct the advanced analysis. In conducting the factor analysis, all of the noted traits were entered into a principal component analysis, and an extraction criterion was used based on Eigenvalue (Eigenvalues greater than 1); furthermore, a Varimax factor analysis rotation was used. The factor analysis was run and a series of observations were made of the rotated component matrix. These observations were used to reduce the total number of traits in the given model. The traits with the lowest loading levels were removed, and the factor analysis procedure was repeated until only high loading traits remained. The factor analysis revealed that the remaining traits comprised four factors, which cumulatively accounted for 73.017% of the total variance.

The four factors identified comprised the academic competence and social fluency domains — each domain consisted of two of the given factors. The components of academic competence were analytical reasoning and creative expression, and the components of social fluency were social confidence and social compatibility. Each of the four factors was made up of different questions, which will be examined at greater length in subsequent chapters; however, the four factors were not analyzed individually in this study. Although some discussion will be taken up later regarding each of the factors identified, individual analysis was beyond the scope of the present research and not in alignment with the proposed research questions. For this reason, the factors were combined — two making academic competence and two comprising social fluency.

Using the questions of inquiry and the data collected, this research determined an ANOVA to be the most appropriate method of examining the data. Furthermore, SES and LD were categorical variables while academic competence and social fluency were scale variables, again making ANOVA appropriate. When conducting an ANOVA the assumption of homogeneity of variance (or Levene's Test of Equality of Variance) must not be violated. It should be noted that an ANOVA was run in order to answer each of the four research questions, and in all four instances, the assumption of homogeneity of variance was violated. According to Laered Statistics (2012), when the homogeneity of variance is violated, a Welch Test (one-way ANOVA) should be used because it is able to account for unequal variances; furthermore, Games-Howell tests should be used where post hoc tests are necessary. Accordingly, a traditional ANOVA was not used for this study but rather a Welch Test was used. Additionally, Games-Howell tests were used.

As previously indicated, this research sought to identify the relationship between SES, LD, academic competence and social fluency. The proposed research questions and specific methods of analysis are presented below.

The first questioned posed in this research was: What is the relationship between SES and the academic competence of student-athletes? To answer this question, a Welch test (one-way ANOVA) was run. Additionally, a post hoc Games-Howell test was used. The results are presented in Tables 9 through 12.

The second question posed in this research was: What is the relationship between SES and the social fluency of student-athletes? To answer this question, a Welch test (one-way ANOVA) was run. Additionally, a post hoc Games-Howell test was used. The results are presented in Tables 13 through 16.

The third question posed in this research was: What is the relationship between LD and the academic competence of student-athletes? To answer this question, a Welch test (one-way ANOVA) was run. Additionally, a post hoc Games-Howell test was used. The results are presented in Tables 17 through 19.

The fourth question posed in this research was: What is the relationship between LD and the social fluency of student-athletes? To answer this question, a Welch test (one-way ANOVA) was run. Additionally, a post hoc Games-Howell test was used. The results are presented in Tables 20 through 23.

This chapter discussed the purpose of the present study, reviewed the research questions, and the population sample used. The institutions by size, type, and geographical location were identified. The instrument used in this study as well as its validity and reliability were examined. Data collection and data access were addressed, and finally the method of analysis was

discussed. The following chapter will present the findings of the analysis discussed in the present chapter.

CHAPTER 4. FINDINGS

Introduction

The purpose of this study was to examine Socioeconomic Status (SES) and Learning Disabilities (LDs) and their relationship to academic competence and social fluency for freshman Division I (D-I) student-athletes. Student-athlete characteristics were analyzed pertaining to The Freshman Survey from National Collegiate Athletic Association (NCAA) institutions in 36 states. This research builds upon what is currently known about student-athletes and serves as a resource to those with a vested interest in college athletics and the development of student-athletes. This research will serve to influence the evolution of recruiting or even stimulate the emergence of a new recruiting paradigm in which SES and learning characteristics of incoming student-athletes, viewed in relation to outcome oriented skills, become more centralized components of the overall recruiting process.

This study is a secondary analysis of data, as the data used were provided by the Higher Education Research Institute's (HERI) Cooperative Institutional Research Program (CIRP) at University of California at Los Angeles (UCLA).

This chapter presents a review of the instrument used in this study as well as the proposed research questions. The demographic characteristics of the population sampled will be presented, as well as general demographic statistics related to each of the independent variables (IVs), SES and LD. A factor analysis was conducted to reduce the number of items used to

construct the dependent variables (DVs), academic competence and social fluency. The results of the factor analysis will be presented and the construction of the DVs will be presented. Finally, a series of Welch tests (one-way ANOVAs) were conducted and the results will be presented as well as the results of the corresponding Games-Howell post hoc tests conducted.

Instrumentation

A 2008 version of TFS was used to conduct this study. This instrument was developed by the HERI CIRP at UCLA, and has been used extensively over the past 40 years to conduct empirical research in higher education. This instrument was used to gather data related to ethnicity, gender, student-athlete status, disability status, SES, as well as the academic and social characteristics of respondents. The wide spread acceptance and use by universities nationwide as well as the continued efforts to develop and refine the instrument by the HERI's CIRP speak to the validity and reliability of TFS.

Research Questions

This study sought to examine SES, LD, academic competence, and social fluency. The following research questions were examined:

1. What is the relationship between SES and the academic competence of student-athletes?
2. What is the relationship between SES and the social fluency of student-athletes?
3. What is the relationship between LD and the academic competence of student-athletes?
4. What is the relationship between LD and the social fluency of student-athletes?

Sample Population

This research examined the characteristics of student-athletes nationwide. The participants in this study included a random sample of 21,916 student-athletes, all first-time full-time (FTFT) freshmen from D-I National Collegiate Athletic Association (NCAA) institutions. These institutions, 98 in total, were all four-year colleges and universities and included both public and private institutions, ranging from small to large. The institutions were spread across the various D-I NCAA conferences. This was a national sample; the schools included came from 36 states and the District of Columbia (DC), and were located in urban, suburban, and rural settings. A specified list of institutions can be found in Appendix B.

The ethnic composition of student-athletes participating in this study consisted of 14,418 (65.8%) Whites, 2,990 (13.6%) African Americans, 1,562 (7.1%) Asians, 1,630 (7.4%) Hispanic, and 803 (3.7%) Others; 513 or 2.4% of respondents were missing ethnicity data. The gender make up of this study included 12,136 (55.4%) males and 9,633 (44%) females; 147 or .6% of respondents were missing gender data. The disability composition of student-athletes included 20,176 (92.1%) that did not have any disability, 644 (2.9%) student-athletes with LDs, and 1,096 (5%) student-athletes with other disabilities. The demographic data is provided in Table 3.

Table 3

Demographic Characteristics of Study Participants (N = 21,916)

Characteristics		n	%
Ethnicity			
White		14,418	66%
African American		2,990	14%
Asian		1,562	7%
Hispanic		1,630	7%
Other		803	4%
Missing		513	2%
	Total	21,916	100%
Gender			
Male		12,136	55%
Female		9,633	44%
Missing		147	1%
	Total	21,916	100%
Disability Status			
No Disability		2,308	63%
LD		1,009	28%
Other Disability		335	9%
	Total	3,652	100%

Descriptive statistics were also observed in relation to the IVs used in this study, SES and LD. As described previously in Chapter 3, SES was separated into five levels or SES groupings. Table 4 provides the racial composition of each SES level.

Table 4

Demographic Ethnicity Characteristics by SES Level (N = 21,916)

Characteristics	n	%
Low SES		
White	119	16%
African American	298	41%
Asian	74	10%
Hispanic	206	29%
Other	25	3%
Total	722	100%
Lower Middle SES		
White	744	40%
African American	598	32%
Asian	161	9%
Hispanic	280	15%
Other	85	5%
Total	1,868	100%
Middle SES		
White	3564	63%
African American	996	18%
Asian	423	7%
Hispanic	434	8%
Other	230	4%
Total	5,647	100%

(table continues)

Table 4 (continued)

Characteristics	n	%
Upper Middle SES		
White	5,734	76%
African American	689	9%
Asian	502	7%
Hispanic	392	5%
Other	260	3%
Total	7,577	100%
High SES		
White	4,081	78%
African American	326	6%
Asian	386	7%
Hispanic	281	5%
Other	184	3%
Total	5,258	100%

In similar fashion other descriptive statistics related to the IVs have been provided; however, as these tables are not as pertinent to the central focus of this study and immediate discussion, they have been appended. The disability composition for each SES level is provided in Table 5 (see Appendix F), and the disability composition for each ethnic group has been provided in Table 6 (see Appendix G).

A factor analysis was conducted to reduce the number of traits, which were used to create the DVs, academic competence and social fluency. Initially, 16 items from TFS were entered into a factor analysis; however, this procedure reduced total number of items to nine, which comprised four factors. The results of this analysis showed that cumulatively, these factors

accounted for 73.017% of the total variance. The eiginvalues, percentages of variance, and cumulative percentages for the factors are presented in Table 7.

Table 7

Eigenvalues, Percentage of Variance, and Cumulative Percentage for Factors

Factor	Eigenvalue	% of Variance	Cumulative %
1	2.998	33.312	33.312
2	1.365	15.167	48.479
3	1.200	13.330	61.809
4	1.009	11.209	73.017

These four factors were analytical reasoning, creative expression, social confidence, and social compatibility and were used to create the DVs in this study, academic competence (DV1) and social fluency (DV2). The factors, their loading values, means (M), and standard deviations (SD) are presented in table 8.

Table 8

Factor Analysis, Means, Standard Deviations, and Factor Loadings

Item	M	SD	Factor Loadings
Academic Competence (DV1)			
Factor 1: Analytical Reasoning			
Mathematical Ability	3.59	0.995	0.877
Academic Ability	4.02	0.723	0.826
Factor 2: Creative Expression			
Artistic Ability	2.90	1.071	0.899
Creativity	3.69	0.882	0.794
Social Fluency (DV2)			
Factor 3: Social confidence			
Self-Confidence (social)	3.86	0.899	0.844
Self-Confidence (intellectual)	3.94	0.842	0.811
Public Speaking Ability	3.44	1.019	0.744
Factor 4: Social Compatibility			
Cooperativeness	4.04	0.748	0.839
Understanding of Others	3.93	0.782	0.774

Once constructed, the dependent variables, academic competence and social fluency, were examined using Welch tests (one-way ANOVAs). Each of the Welch tests conducted is presented in relation to the specific research question it was intended to answer.

The first research question examined in this study asked: What is the relationship between SES and the academic competence of student-athletes? Table 9 shows the descriptive statistics for this question and includes the number of respondents (N), mean (M), and standard deviation (SD) for the DV1 (academic competence) at 95% confidence intervals for each SES level (low, lower middle, middle, upper middle, and high) as well as for the total respondents when all groups are combined (Total).

Table 9

Descriptive Statistics: Norm, Mean, and Standard Deviation for Academic Competence and SES

Variable SES level	n	M	SD
Low SES	743	13.7402	2.57106
Low Middle SES	1,913	13.9347	2.53849
Middle SES	5,771	13.9825	2.36567
Upper Middle SES	7,719	14.2232	2.33872
High SES	5,393	14.5609	2.34798
Total	21,539	14.2010	2.38710

Levene's *F* Statistic shows a significant value of > 0.001 and, therefore, the assumption of homogeneity of variance is not met.

Table 10

Homogeneity of Variance Test Academic Competence and SES

Levene's Statistics	df1	df2	Sig
6.440	4	21,534	$p < .001$

Given this result, the robust tests of equality of means table (Table 11) instead of the ANOVA table was used to determine the group differences among the five different groups of respondents.

Table 11

Robust Tests of Equality of Means Academic Competence and SES

	Statistic[a]	df1	df2	Sig
Welch	55.316	4	4077.716	$p < .001$

a. Asymptotically F distributed

The robust tests of equality of means table (Table 11) shows there was a statistically significant difference between SES groups as determined by one-way ANOVA Welch test (4, 4077.716) = 55.316, $p < 0.01$). As depicted in Figure 26, there was an upward trend in academic competence, as SES levels increased.

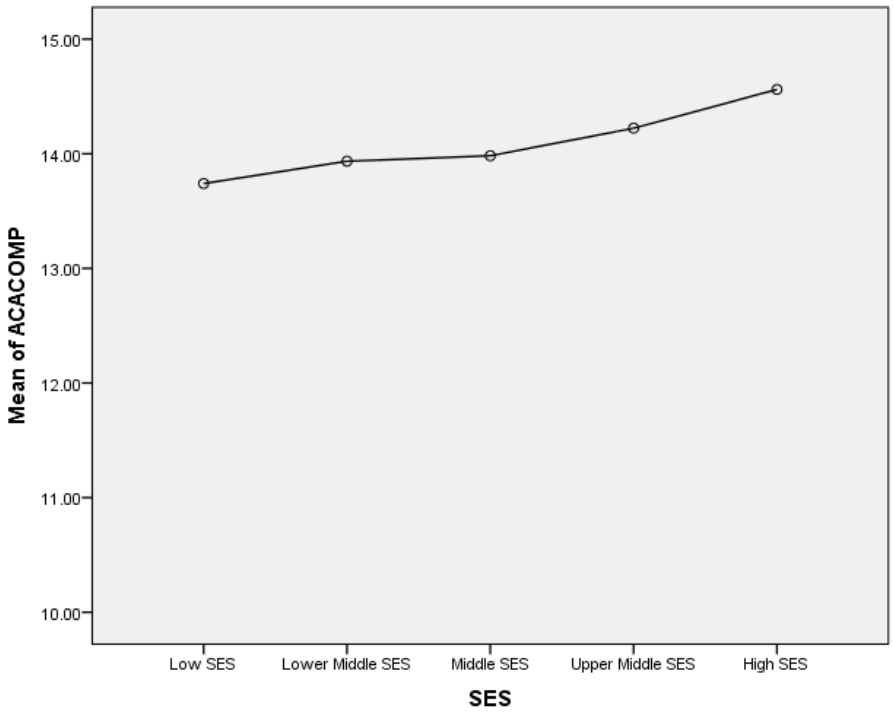


Figure 26: Relationship Between SES and Academic Competence

A Games-Howell post-hoc test was conducted, which revealed that the student-athletes from high SES backgrounds had statistically significantly higher (14.56 ± 2.347, $p < 0.01$) academic competence as compared to student-athletes from upper middle SES (14.22 ± 2.338), middle SES (13.98 ± 2.365), lower middle SES (13.93 ± 2.538), and low SES (13.74 ± 2.571). Additionally, it was also identified that student-athletes from upper middle SES backgrounds had statistically significantly higher academic competence than student-athletes from middle, lower middle, and low SES backgrounds (refer to means and standard deviations previously presented). There were no statistically significant differences in the academic competence between the bottom three SES quintiles (middle, lower middle, and low); the *P* values for each of these SES levels as compared to the others can be found in Table 12.

Table 12

P Values for Academic Competence by SES Level

SES level	*p*
Low SES	
Middle SES	.106
Lower Middle SES	.400
Lower Middle	
Middle SES	.950
Low SES	.400
Middle SES	
Lower Middle SES	.950
Low SES	.106

The second research question examined in this study asked: What is the relationship between SES and the social fluency of student-athletes? Table 13 shows the descriptive statistics for this question and includes the number of respondents (N), mean (M), and standard deviation (SD) for the DV2 (social fluency) at 95% confidence intervals for each SES level (low, lower middle, middle, upper middle, and high) as well as for the total respondents when all groups are combined (Total).

Table 13

Descriptive Statistics: Social Fluency and SES, Norm, Mean, and Standard Deviation

Variable SES level	n	M	SD
Low SES	733	19.0914	3.29656
Lowe Middle SES	1,899	19.0074	3.33831
Middle SES	5,740	19.0179	2.96871
Upper Middle SES	7,678	19.2583	2.91656
High SES	5,355	19.4510	2.90601
Total	21,405	19.2141	2.98519

Levene's *F* Statistic shows a significant value of > 0.001 and, therefore, the assumption of homogeneity of variance is not met.

Table 14

Homogeneity of Variance Test Social Fluency and SES

Levene's Statistics	df1	df2	Sig
20.842	4	21,400	p < .001

Given this result, the Robust Tests of Equality of Means Table instead of the ANOVA Table was used to determine the group differences among the five different groups of respondents.

Table 15

Robust Tests of Equality of Means Social Fluency and SES

	Statistic[a]	df1	df2	Sig
Welch	17.630	4	4013.734	$p < .001$

a. Asymptotically F distributed

The robust tests of equality of means table shows, there was a statistically significant difference between SES groups as determined by one-way ANOVA Welch test (4, 4013.734) = 17.630, $p < 0.01$). As depicted in Figure 27, the student-athletes in the highest two SES quintiles had higher social fluency than student-athletes from the three quintiles below.

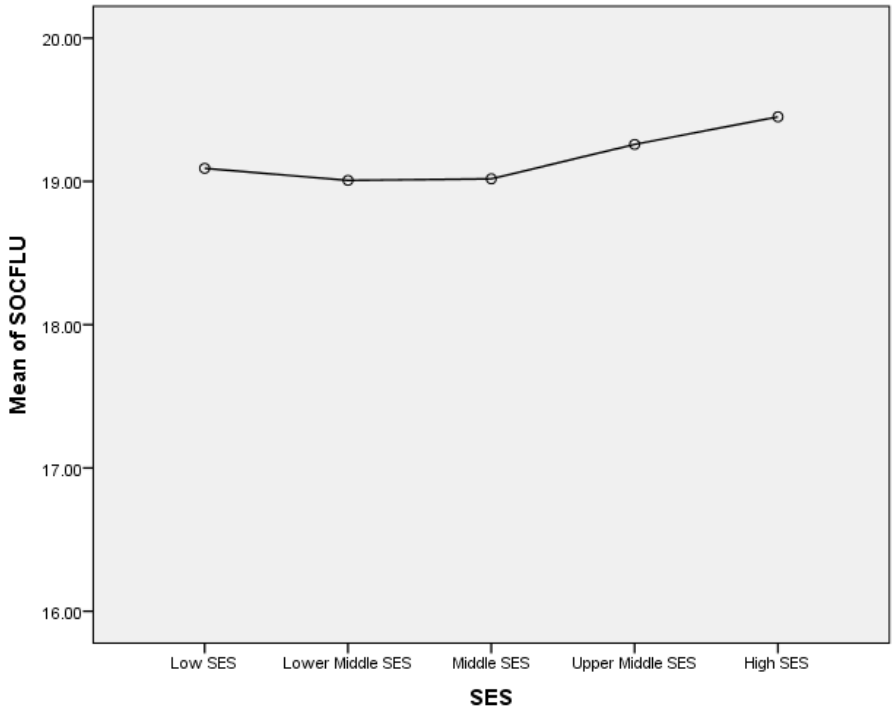


Figure 27: Relationship Between SES and Social Fluency

Games-Howell post-hoc test results are presented in Table 16 and include M, SD, and p values.

Table 16

Games-Howell Post Hoc, Social Fluency by SES Level

SES level	M	SD ±	*p*
Low SES	19.09	3.296	
Lower Middle SES	19.00	3.338	0.977
Middle SES	19.01	2.968	0.979
Upper Middle SES	19.25	2.916	0.678
High SES	19.45	2.906	0.041*
Lower Middle SES	19.00	3.338	
Low SES	19.09	3.296	0.977
Middle SES	19.01	2.968	<.999
Upper Middle SES	19.25	2.916	0.023*
High SES	19.45	2.906	>.001*
Middle SES	19.01	2.968	
Low SES	19.09	3.296	0.979
Lower Middle SES	19.00	3.338	<.999
Upper Middle SES	19.25	2.916	>.001*
High SES	19.45	2.906	>.001*

(table continues)

Table 16 (continued)

SES level	M	SD ±	*p*
Upper Middle SES	19.25	2.916	
Low SES	19.09	3.296	0.678
Lower Middle SES	19.00	3.338	0.023*
Middle SES	19.01	2.968	>.001*
High SES	19.45	2.906	0.002*
High SES	19.45	2.906	
Low SES	19.09	3.296	0.041*
Lower Middle SES	19.00	3.338	>.001*
Middle SES	19.01	2.968	>.001*
Upper Middle SES	19.25	2.916	0.002*

* The mean difference is significant at the 0.05 level.

As presented in Table 16, student-athletes from high SES backgrounds had statistically significantly higher social fluency than student-athletes from the lower four SES quintiles. Student-athletes from upper middle SES backgrounds had statistically significantly higher social fluency than student-athletes from middle and lower middle SES backgrounds. There was not a statistically significant difference between the upper middle SES group and the low SES group nor were there statistically significant differences between the lowest three SES groups.

The third research question examined in this study asked: What is the relationship between LD and the academic competence of student-athletes? Table 17 shows the descriptive statistics for this question and includes the number of respondents (N), mean (M), and standard deviation

(SD) for the DV1 (academic competence) at 95% confidence intervals for each disability category (no disability, learning disability, and other disability) as well as for the total respondents when all groups are combined (Total).

Table 17

Descriptive Statistics: Academic Competence and LD, N, M, and SD

Variable Disability	n	M	SD
No Disability	19,894	14.2046	2.37272
Learning Disability	635	13.8283	2.61526
Other Disability	1,075	14.3302	2.52211
Total	21,604	14.1998	2.38873

Levene's *F* Statistic shows a significant value of > 0.001 and, therefore, the assumption of homogeneity of variance is not met.

Table 18

Homogeneity of Variance Test Academic Competence and LD

Levene's Statistics	df1	df2	Sig
10.176	2	21,601	p < .001

Given this result, the Robust Tests of Equality of Means Table instead of the ANOVA Table was used to determine the group differences among the three different groups of respondents.

Table 19

Robust Tests of Equality of Means Academic Competence and LD

	Statistic[a]	df1	df2	Sig
Welch	7.876	2	1134.107	p < .001

a. Asymptotically F distributed

The robust tests of equality of means table shows, there was a statistically significant difference between disability groups as determined by one-way ANOVA Welch test (2, 1134.107) = 7.876, p < 0.01). As depicted in Figure 28, student-athletes with LDs had lower academic competence than students-athletes with no disabilities and student-athletes with other disabilities.

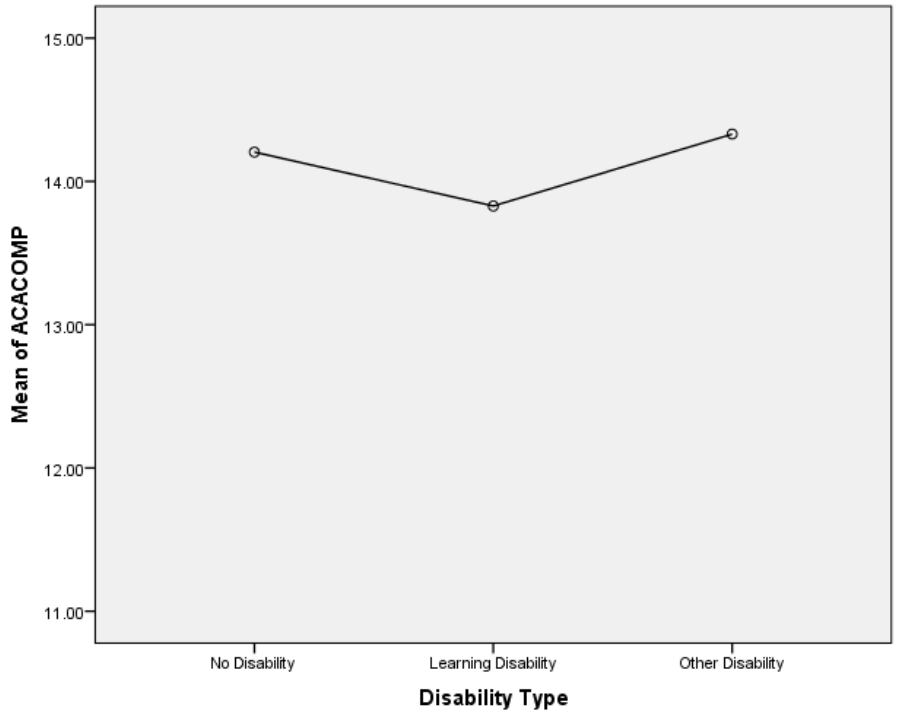


Figure 28: Relationship Between LDs and Academic Competence

A Games-Howell post-hoc test revealed that student-athletes with LDs had statistically significantly lower (13.82 ± 2.615, p <0.01) academic competence than student-athletes with no disabilities (14.20 ± 2.372) and student-athletes with other disabilities (14.33 ± 2.522). There were no statistically significant differences between student-athletes without disabilities and student-athletes with other disabilities (*P > .05*); however, as this relationship was not germane to the central focus of this study, no further discussion will be dedicated to this particular finding.

The final research question examined in this study asked: What is the relationship between LD and the social fluency of student-athletes? Table 20 shows the descriptive statistics for this question and includes the number of respondents (N), mean (M), and standard deviation (SD) for the DV2 (social fluency) at 95% confidence intervals for each disability category (no disability, learning disability, and other disability) as well as for the total respondents when all groups are combined (Total)

Table 20

Descriptive Statistics Social Fluency and LD, N, M, and SD

Variable Disability	n	M	SD
No Disability	19,779	19.2319	2.96746
Learning Disability	626	18.5543	3.32040
Other Disability	1,065	19.2338	3.11689
Total	21,470	19.2122	2.98792

Levene's *F* Statistic shows a significant value of > 0.001 and, therefore, the assumption of homogeneity of variance is not met.

Table 21

Homogeneity of Variance Test Social Fluency and LD

Levene's Statistics	df1	df2	Sig
11.713	2	21,467	$p < .001$

Given this result, the Robust Tests of Equality of Means table instead of the ANOVA table was used to determine the group differences among the three different groups of respondents.

Table 22

Robust Tests of Equality of Means Social Fluency and LD

	Statistic[a]	df1	df2	Sig
Welch	12.724	2	1119.417	$p < .001$

a. Asymptotically F distributed

The robust tests of equality of means table shows there was a statistically significant difference between disability groups as determined by one-way ANOVA Welch test (2, 1119.417) = 12.724, $p < 0.01$). As depicted in Figure 29, student-athletes with LDs had lower social fluency than students-athletes with no disabilities and student-athletes with other disabilities.

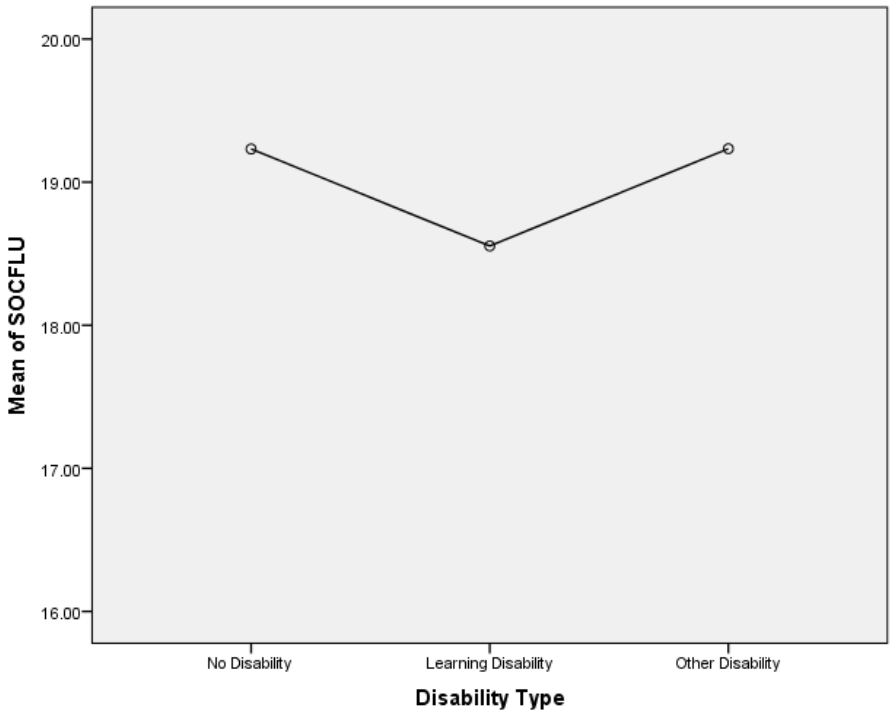


Figure 29: Relationship Between LDs and Social Fluency

A Games-Howell post-hoc test revealed that student-athletes with LDs had statistically significantly lower (18.55 ± 3.320, $p < 0.01$) social fluency than student-athletes with no disabilities (19.23 ± 2.967) and student-athletes with other disabilities (19.23 ± 3.116). There was not a statistically significant difference between student-athletes with no disabilities and student-athletes with other disabilities ($P > .05$); however, as this relationship was not germane to the central focus of this study, no further discussion will be dedicated to this particular finding.

CHAPTER 5. INTRODUCTION, SUMMARY, CONCLUSIONS, IMPLICATIONS, RECOMMENDATIONS

Introduction

The purpose of this study was to examine Socioeconomic Status (SES) and Learning Disabilities (LDs) and their relationship to academic competence and social fluency for freshman Division I (D-I) student-athletes. Student-athlete characteristics were analyzed pertaining to The Freshman Survey from National Collegiate Athletic Association (NCAA) institutions in 36 states. This research builds upon what is currently known about student-athletes and serves as a resource to those with a vested interest in college athletics and the development of student-athletes. This research will serve to influence the evolution of recruiting or even stimulate the emergence of a new recruiting paradigm in which SES and learning characteristics of incoming student-athletes, viewed in relation to outcome oriented skills, become more centralized components of the overall recruiting process.

This research built upon a well-founded notion, which indicated that there was a positive correlation between academic and social engagement or integration, and college outcomes (Astin, 1984, 1993b; Gayles & Hu, 2009; Kuh, Hu, & Versper, 2000; Kuh, Schuh, Whitt, & Associates, 1991; Pascarella & Terenzini, 1991, 2005; Tinto, 1975, 1993). As previously identified, and empirically grounded (Reason, Terenzini, & Domingo, 2006), academic competence and social fluency, as examined in this research, are the enabling skillsets, which allow student-athletes to successfully integrate academically and socially; therefore, this research

serves to influence the evolution of recruiting in college athletics, and perhaps to stimulate the emergence of a new recruiting paradigm in which SES and learning characteristics are considered in relation to outcome oriented or graduation predictive skillsets.

The prior four chapters of this study identified the purpose and significance of this research, reviewed the literature related to the subject of inquiry, identified the methods used here within, and presented the related findings. This, the fifth and final chapter, will provide the research questions examined, present a summary of the findings, state the conclusions, identify the implications of what was found, and make suggestions for future research.

Research Questions

The following research questions were examined:

1. What is the relationship between SES and the academic competence of student-athletes?
2. What is the relationship between SES and the social fluency of student-athletes?
3. What is the relationship between LD and the academic competence of student-athletes?
4. What is the relationship between LD and the social fluency of student-athletes?

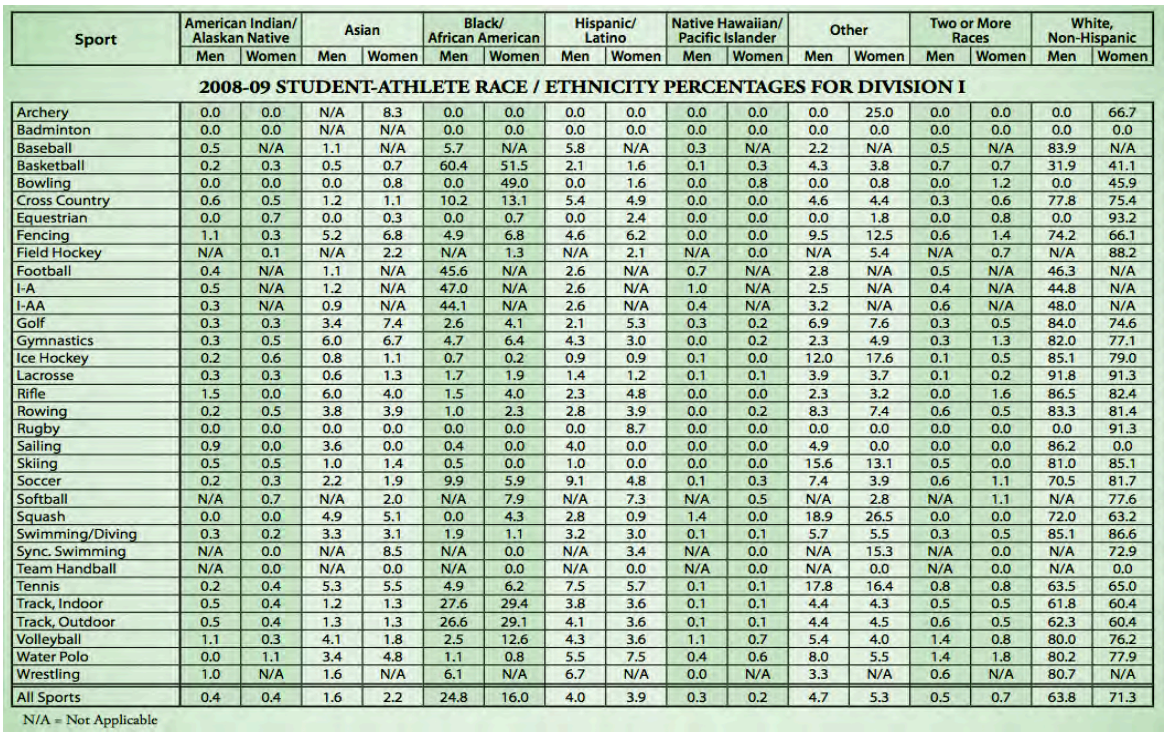
The population sampled was randomly drawn and included 21,916 FTFT freshman student-athletes from D-I NCAA institutions. Respondents included both men and women, and various ethnicity groups including Whites, Blacks, Hispanics, Asians, and Others. This was a national sample, and the participating institutions, 98 in total, were all four-year colleges and universities. These schools included both public and private institutions, ranged from large to small, spanned across 36 states and the District of Columbia, and were located in urban, suburban, and rural areas.

Summary of Findings

A factor analysis was conducted to determine the factors, which comprised academic competence and social fluency. Four total factors were identified, which cumulatively accounted for more than 73% of the total variance. Academic competence was made up of analytical reasoning and creative expression, and social fluency was comprised of social confidence and social compatibility. This study also looked at the relationship between SES, LDs, academic competence, and social fluency using Welch tests (one-way ANOVAs) at 95% confidence intervals. The Welch tests conducted revealed that all of the relationships examined were statistically significant. There was a statistically significant relationship between SES and academic competence, SES and social fluency, LDs and academic competence, and LDs and social fluency.

Conclusions – Analysis of Descriptive Statistics

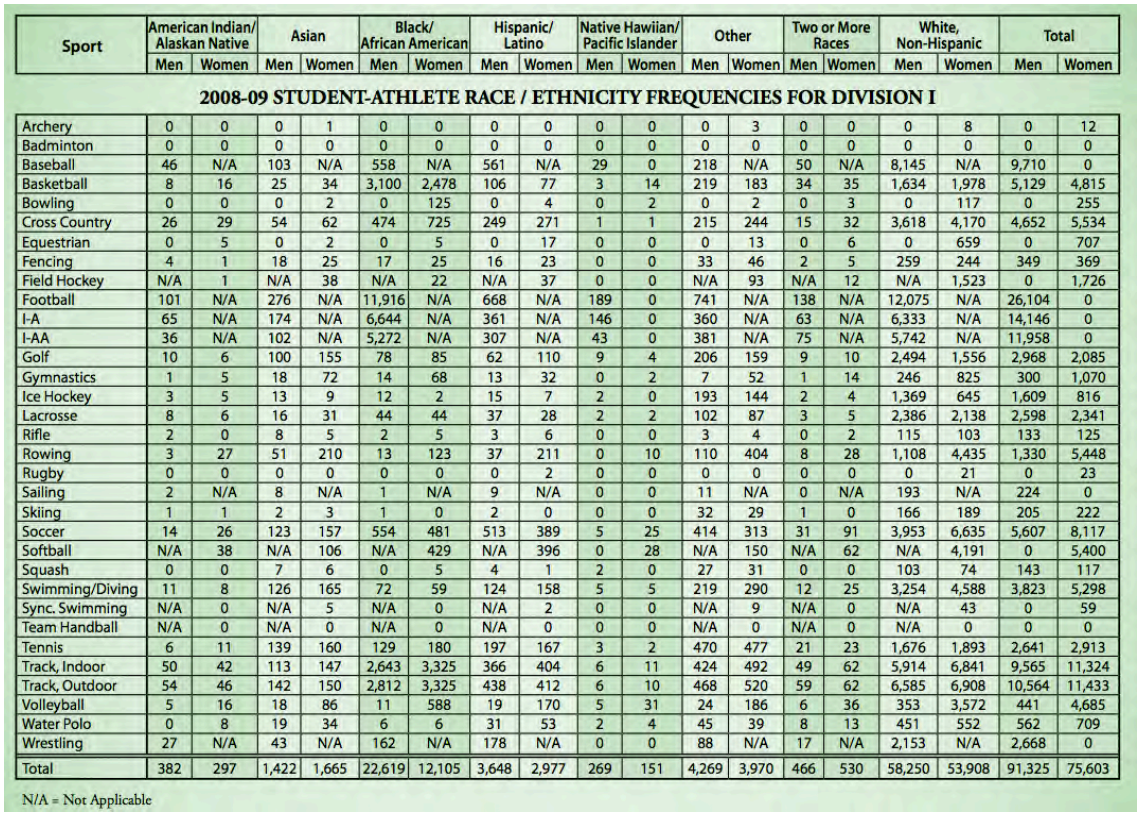
In the previous chapter, the demographic descriptive statistical profile of the participants in this study was reviewed. As stated, it was identified that 65.8% of the participants in this study were White, 13.6% were African American, 7.1% were Asians, 7.4% were Hispanic, and 3.7% were identified as Other (2.4% of ethnicity data were missing). Additionally, the gender profile identified that 55.4% of the participants were male and 44% were female (0.6% of gender data were mission). Keeping in mind that the data gathered in this study were collected from participants in 2008, a brief review of 2008 ethnicity data, as provided in the NCAA Student-Athlete Ethnicity Report (NCAA, 2011), were provided for comparison (see Figures 30 and 31). Furthermore, Table 23 provides a side-by-side comparison of the ethnicity and gender demographics for the participants used in this study and 2008 NCAA data.



Sport	American Indian/ Alaskan Native		Asian		Black/ African American		Hispanic/ Latino		Native Hawaiian/ Pacific Islander		Other		Two or More Races		White, Non-Hispanic	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
2008-09 STUDENT-ATHLETE RACE / ETHNICITY PERCENTAGES FOR DIVISION I																
Archery	0.0	0.0	N/A	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	66.7
Badminton	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Baseball	0.5	N/A	1.1	N/A	5.7	N/A	5.8	N/A	0.3	N/A	2.2	N/A	0.5	N/A	83.9	N/A
Basketball	0.2	0.3	0.5	0.7	60.4	51.5	2.1	1.6	0.1	0.3	4.3	3.8	0.7	0.7	31.9	41.1
Bowling	0.0	0.0	0.0	0.8	0.0	49.0	0.0	1.6	0.0	0.8	0.0	0.8	0.0	1.2	0.0	45.9
Cross Country	0.6	0.5	1.2	1.1	10.2	13.1	5.4	4.9	0.0	0.0	4.6	4.4	0.3	0.6	77.8	75.4
Equestrian	0.0	0.7	0.0	0.3	0.0	0.7	0.0	2.4	0.0	0.0	0.0	1.8	0.0	0.8	0.0	93.2
Fencing	1.1	0.3	5.2	6.8	4.9	6.8	4.6	6.2	0.0	0.0	9.5	12.5	0.6	1.4	74.2	66.1
Field Hockey	N/A	0.1	N/A	2.2	N/A	1.3	N/A	2.1	N/A	0.0	N/A	5.4	N/A	0.7	N/A	88.2
Football	0.4	N/A	1.1	N/A	45.6	N/A	2.6	N/A	0.7	N/A	2.8	N/A	0.5	N/A	46.3	N/A
I-A	0.5	N/A	1.2	N/A	47.0	N/A	2.6	N/A	1.0	N/A	2.5	N/A	0.4	N/A	44.8	N/A
I-AA	0.3	N/A	0.9	N/A	44.1	N/A	2.6	N/A	0.4	N/A	3.2	N/A	0.6	N/A	48.0	N/A
Golf	0.3	0.3	3.4	7.4	2.6	4.1	2.1	5.3	0.3	0.2	6.9	7.6	0.3	0.5	84.0	74.6
Gymnastics	0.3	0.5	6.0	6.7	4.7	6.4	4.3	3.0	0.0	0.2	2.3	4.9	0.3	1.3	82.0	77.1
Ice Hockey	0.2	0.6	0.8	1.1	0.7	0.2	0.9	0.9	0.1	0.0	12.0	17.6	0.1	0.5	85.1	79.0
Lacrosse	0.3	0.3	0.6	1.3	1.7	1.9	1.4	1.2	0.1	0.1	3.9	3.7	0.1	0.2	91.8	91.3
Rifle	1.5	0.0	6.0	4.0	1.5	4.0	2.3	4.8	0.0	0.0	2.3	3.2	0.0	1.6	86.5	82.4
Rowing	0.2	0.5	3.8	3.9	1.0	2.3	2.8	3.9	0.0	0.2	8.3	7.4	0.6	0.5	83.3	81.4
Rugby	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	91.3
Sailing	0.9	0.0	3.6	0.0	0.4	0.0	4.0	0.0	0.0	0.0	4.9	0.0	0.0	0.0	86.2	0.0
Skiing	0.5	0.5	1.0	1.4	0.5	0.0	1.0	0.0	0.0	0.0	15.6	13.1	0.5	0.0	81.0	85.1
Soccer	0.2	0.3	2.2	1.9	9.9	5.9	9.1	4.8	0.1	0.3	7.4	3.9	0.6	1.1	70.5	81.7
Softball	N/A	0.7	N/A	2.0	N/A	7.9	N/A	7.3	N/A	0.5	N/A	2.8	N/A	1.1	N/A	77.6
Squash	0.0	0.0	4.9	5.1	0.0	4.3	2.8	0.9	1.4	0.0	18.9	26.5	0.0	0.0	72.0	63.2
Swimming/Diving	0.3	0.2	3.3	3.1	1.9	1.1	3.2	3.0	0.1	0.1	5.7	5.5	0.3	0.5	85.1	86.6
Sync. Swimming	N/A	0.0	N/A	8.5	N/A	0.0	N/A	3.4	N/A	0.0	N/A	15.3	N/A	0.0	N/A	72.9
Team Handball	N/A	0.0	N/A	0.0	N/A	0.0	N/A	0.0	N/A	0.0	N/A	0.0	N/A	0.0	N/A	0.0
Tennis	0.2	0.4	5.3	5.5	4.9	6.2	7.5	5.7	0.1	0.1	17.8	16.4	0.8	0.8	63.5	65.0
Track, Indoor	0.5	0.4	1.2	1.3	27.6	29.4	3.8	3.6	0.1	0.1	4.4	4.3	0.5	0.5	61.8	60.4
Track, Outdoor	0.5	0.4	1.3	1.3	26.6	29.1	4.1	3.6	0.1	0.1	4.4	4.5	0.6	0.5	62.3	60.4
Volleyball	1.1	0.3	4.1	1.8	2.5	12.6	4.3	3.6	1.1	0.7	5.4	4.0	1.4	0.8	80.0	76.2
Water Polo	0.0	1.1	3.4	4.8	1.1	0.8	5.5	7.5	0.4	0.6	8.0	5.5	1.4	1.8	80.2	77.9
Wrestling	1.0	N/A	1.6	N/A	6.1	N/A	6.7	N/A	0.0	N/A	3.3	N/A	0.6	N/A	80.7	N/A
All Sports	0.4	0.4	1.6	2.2	24.8	16.0	4.0	3.9	0.3	0.2	4.7	5.3	0.5	0.7	63.8	71.3

N/A = Not Applicable

Figure 30: Student-Athlete Ethnicity Percentages for D-I (NCAA, 2011, p. 51)



Sport	American Indian/ Alaskan Native		Asian		Black/ African American		Hispanic/ Latino		Native Hawiian/ Pacific Islander		Other		Two or More Races		White, Non-Hispanic		Total	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
2008-09 STUDENT-ATHLETE RACE / ETHNICITY FREQUENCIES FOR DIVISION I																		
Archery	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	8	0	12
Badminton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Baseball	46	N/A	103	N/A	558	N/A	561	N/A	29	0	218	N/A	50	N/A	8,145	N/A	9,710	0
Basketball	8	16	25	34	3,100	2,478	106	77	3	14	219	183	34	35	1,634	1,978	5,129	4,815
Bowling	0	0	0	2	0	125	0	4	0	2	0	2	0	3	0	117	0	255
Cross Country	26	29	54	62	474	725	249	271	1	1	215	244	15	32	3,618	4,170	4,652	5,534
Equestrian	0	5	0	2	0	5	0	17	0	0	0	13	0	6	0	659	0	707
Fencing	4	1	18	25	17	25	16	23	0	0	33	46	2	5	259	244	349	369
Field Hockey	N/A	1	N/A	38	N/A	22	N/A	37	0	0	N/A	93	N/A	12	N/A	1,523	0	1,726
Football	101	N/A	276	N/A	11,916	N/A	668	N/A	189	0	741	N/A	138	N/A	12,075	N/A	26,104	0
I-A	65	N/A	174	N/A	6,644	N/A	361	N/A	146	0	360	N/A	63	N/A	6,333	N/A	14,146	0
I-AA	36	N/A	102	N/A	5,272	N/A	307	N/A	43	0	381	N/A	75	N/A	5,742	N/A	11,958	0
Golf	10	6	100	155	78	85	62	110	9	4	206	159	9	10	2,494	1,556	2,968	2,085
Gymnastics	1	5	18	72	14	68	13	32	0	2	7	52	1	14	246	825	300	1,070
Ice Hockey	3	5	13	9	12	2	15	7	2	0	193	144	2	4	1,369	645	1,609	816
Lacrosse	8	6	16	31	44	44	37	28	2	2	102	87	3	5	2,386	2,138	2,598	2,341
Rifle	2	0	8	5	2	5	3	6	0	0	3	4	0	2	115	103	133	125
Rowing	3	27	51	210	13	123	37	211	0	10	110	404	8	28	1,108	4,435	1,330	5,448
Rugby	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	21	0	23
Sailing	2	N/A	8	N/A	1	N/A	9	N/A	0	0	11	N/A	0	N/A	193	N/A	224	0
Skiing	1	1	2	3	1	0	2	0	0	0	32	29	1	0	166	189	205	222
Soccer	14	26	123	157	554	481	513	389	5	25	414	313	31	91	3,953	6,635	5,607	8,117
Softball	N/A	38	N/A	106	N/A	429	N/A	396	0	28	N/A	150	N/A	62	N/A	4,191	0	5,400
Squash	0	0	7	6	0	5	4	1	2	0	27	31	0	0	103	74	143	117
Swimming/Diving	11	8	126	165	72	59	124	158	5	5	219	290	12	25	3,254	4,588	3,823	5,298
Sync. Swimming	N/A	0	N/A	5	N/A	0	N/A	2	0	0	N/A	9	N/A	0	N/A	43	0	59
Team Handball	N/A	0	N/A	0	N/A	0	N/A	0	0	0	N/A	0	N/A	0	N/A	0	0	0
Tennis	6	11	139	160	129	180	197	167	3	2	470	477	21	23	1,676	1,893	2,641	2,913
Track, Indoor	50	42	113	147	2,643	3,325	366	404	6	11	424	492	49	62	5,914	6,841	9,565	11,324
Track, Outdoor	54	46	142	150	2,812	3,325	438	412	6	10	468	520	59	62	6,585	6,908	10,564	11,433
Volleyball	5	16	18	86	11	588	19	170	5	31	24	186	6	36	353	3,572	441	4,685
Water Polo	0	8	19	34	6	6	31	53	2	4	45	39	8	13	451	552	562	709
Wrestling	27	N/A	43	N/A	162	N/A	178	N/A	0	0	88	N/A	17	N/A	2,153	N/A	2,668	0
Total	382	297	1,422	1,665	22,619	12,105	3,648	2,977	269	151	4,269	3,970	466	530	58,250	53,908	91,325	75,603

N/A = Not Applicable

Figure 31: Student-Athlete Ethnicity Frequencies for D-I (NCAA, 2011, p. 100)

Table 23

Ethnicity and Gender Percentage Comparison, Study Participants vs. 2008 NCAA Data

	Study Participants	NCAA Data
Ethnicity		
White	65.8%	67.2%
African American	13.6%	20.8%
Asian	7.1%	2.1%
Hispanic	7.4%	4.0%
Other	3.7%	5.9%
Gender		
Male	55.40%	54.71%
Female	44.00%	45.29%

Note. 2.4% of ethnicity data and 0.6% of gender data were missing for study participants. Additionally, as previously noted, Hawaiians and Pacific Islanders were included in the Asian category. Lastly, there may be some differences in how the ethnicity groups were defined.

Given the high level of congruence found between these data, the conclusion was made that the participant sample used in this study was an adequate and representative sample of D-I NCAA student-athletes. This notation will be important to keep in mind as other demographic and descriptive statistics are presented.

Like ethnicity and gender, descriptive statistics for disabilities were also examined for student-athletes. The results (see Table 3) show that 92% of student-athletes had no disability,

3% had a LD, and 5% had other disabilities. This revealed that slightly fewer than 10% of student athletes have some type of disability. This finding was deemed to be extremely important based on a recent correspondence with the NCAA regarding student-athletes with disabilities. The following is an excerpt from a personal email correspondence between the author of this study and an NCAA correspondent:

> Researcher: I am a doctoral student at Auburn University, and I am doing research on student athletes. I have looked at the NCAA's data bank on graduation rates. I was wondering, do you know if there are data pertaining specifically to the graduation rates of student-athletes with disabilities (i.e. learning disabilities)? Also, is there any data kept on the number of student athletes with disabilities by sport or in general? (January 17, 2012)
>
> NCAA Correspondent: We currently do not have data on graduation-rates of student-athletes with learning disabilities. We also not have any participation data currently. (January 19, 2012)

Provided this communication, it was determined that the participation percentages for student-athletes with disabilities, provided here in this research, are meaningful to both research, practice, and policy for college athletics and higher education.

Table 4 (see Chapter 4) presented the ethnic make up for student-athletes from each of the SES levels and revealed that a higher percentage of African Americans make up the lowest SES quintiles. It also showed that as the SES levels increased, the percentage of Black student-athletes decreased; Blacks represented 41% of student-athletes from low SES backgrounds and just 6% from high SES backgrounds. In stark contrast just the opposite was found of White student-athletes. Whites represented 16% of student-athletes from low SES backgrounds and

78% from high SES backgrounds. These findings support previous literature, discussed in Chapter 2, which found that Whites make up the vast majority of the upper class while African Americans are grossly overrepresented in the lower class (Anyon, 2005; Bowen, Kurzweil, & Tobin, 2005; Coleman et al., 1966; Easton-Brooks & Davis, 2007; Griffin, Jayakumar, Jones, & Allen, 2010; Howard, 2010; Rothstein, 2004; Wilson, 2009).

Tables 5 and 6, presented in Appendixes F and G, respectively, revealed findings that were somewhat inconsistent with the literature. Table 5 revealed that the percentage of student-athletes disabilities remained consistent at each SES level (roughly 92% with no disability, 3% with a LD, and 5% with other disabilities). As discussed in Chapter 2, Bowen, Kurzweil, Tobin (2005) as well as a Howard (2010) concluded that Blacks are referred to special education more than any other ethnic group. Congruently, Warner, Dede, Garvan, and Conway (2002) argued that Blacks are overrepresented in the low achieving special education category. If then, there are more African Americans identified with disabilities and there are also more African Americans identified in the low SES group, it would be reasonable to presume that there would be a larger percentage of disabilities found in the lower SES groupings; however, this was not the case — the percentage of disability was between 7–9% for all SES groups (see Table 5).

This finding should also be considered in relation to Table 6, which provided the disability percentages for student-athletes from each of the various ethnicity groups. As shown in Table 6, it was found that 8% of Whites were identified as having a disability, while 7% of Blacks were identified as disabled. This is again inconsistent with the aforementioned literature, which found that a greater percentage of African Americans are referred to special education. Both of these findings (disability per SES grouping and disability per ethnicity) were found to be inconsistent with the literature, however, the percentage discrepancies in both cases were small.

These data reflect descriptive statistics and perhaps, inferential analysis (i.e. ANOVA) would better illuminate these differences; however, such analyses for these particular variable combinations were beyond the scope of this research. Instead, a simple conclusion was made, which neither refutes nor concurs with previous literature. While Bowen et al. (2005), Howard (2010), and Warner et al. (2002) observed that there were more African Americans in special education, this research concluded that a lower percentage of African American student with disabilities as compared to White student with disabilities go on to become student-athletes and participate in college athletics. This is due in part to the fact that previous research efforts considered the disability characteristics of primary, secondary, and postsecondary students, and this research looked exclusively at student-athletes in higher education.

Conclusion – Analysis of Inferential Statistics

A factor analysis was conducted to inspect the factors, which made up each of the DVs (academic competence and social fluency). The results of this factor analysis revealed that there were four factors, which accounted for more than 73% of the total variance (see Table 7). These factors included analytical reasoning and creative expression, which made up the academic competence DV, and social confidence and social compatibility, which made up the social fluency DV. Prior research was examined in Chapter 2, which revealed that there are some discrepancies in how academic competence was defined and which indicators were used to determine academic competence; however, the collective sentiment of some researchers (DiPerna, 1997; DiPerna, & Elliott, 1999; Elliot & DiPerna, 2002; Reason, Terenzini, and Domingo, 2006) suggested that academic competence was a comprehensive scholastic skillset, which enables students to engage and integrate into the academic systems of colleges and universities. The present study and related finding were highly congruent with that suggestion.

More importantly, the statistical approach used in this study may have provided greater insight into the constructs of academic competence. Academic competence was comprised of two factors which consisted of four total indicators; namely, mathematical ability, academic ability, artistic ability, and creativity, all of which had high loading values (0.877, 0.826, 0.899, and 0.794 respectively). This also revealed (see Table 8) that academic competence was dichotomous, and included both analytical reasoning and creative expression. Analytical reasoning was comprised of two traits, mathematical ability and academic ability. These were more logic based and enabled students to reason, think critically, and analyze material in the academic setting. Additionally, these traits confirm previous findings, which suggested that analytical reasoning is a component of academic competence (DiPerna, 1997; DiPerna, & Elliott, 1999; Elliot & DiPerna, 2002; Reason, Terenzini, & Domingo, 2006).

The second part of academic competence was creative expression. Creative expression was comprised of artistic ability and creativity. Creative expression, much the opposite of analytical reasoning, was a student's ability to create, develop and relate to artistic abstraction, as well as a student's sense of artistry and ingenuity in the academic environment. Together, the creative and logical constructs of a student's make up account for their academic competence.

Social fluency was similar to academic competence in that it was made up of two factors; the first was comprised of three indicators and the second was comprised of two, and all had high loading values ranging from 0.744 to 0.844 (see Table 8). The first factor included in social fluency was social confidence. This was made up of self-confidence (social), self-confidence (intellectual), and public speaking ability. Collectively, these traits were critical in relation to self-esteem, personal and social confidence, and were determined to be valuable to students' ability to interact fluently with their peers and faculty members. The second factor included in

social fluency was social compatibility and was made up of cooperativeness and understanding of others. This factor dealt with a student's ability to get along with others and work with them collectively as well as understand how to relate to people while interpreting social cues.

Social fluency, similar to academic competence had some variation in its definition; however, the literature conceded that social fluency was a compilation of social skills, attributes, practices, knowledge, and behaviors that promoted student interaction, engagement, and the development relationships in the college environment (Astin, 1975, 1993b; Hu, 2010; Tinto, 1975, 1993). Provided what is known about social fluency, this study confirmed the findings of previous research (Astin, 1975, 1993b; Hu, 2010; Tinto, 1975, 1993), in that it determined social confidence and social compatibility are the primary components of social fluency.

After constructing the DVs using a factor analysis, their relationship with academic competence and social fluency were examined using Welch tests (one-way ANOVAs) at 95% confidence levels. The first question examined in his research asked: What is the relationship between SES and the academic competence of student-athletes? The results of this ANOVA test determined that there was a statistically significant difference between SES groups ($4, 4077.716) = 55.316, $p < 0.01$). A Games-Howell post hoc test revealed that students-athletes from the highest SES levels had statistically higher academic competence than student-athletes from lower SES backgrounds. It was also determined that there was not a statistically significant difference between student-athletes from the bottom three categories (for specific post hoc values, see Chapter 4).

These findings reflect that SES played a significant role in the analytical reasoning and creative expression of student-athletes (academic competence). Student-athletes from higher SES backgrounds are better equipped and prepared to navigate the college curriculum, integrate

academically, and avoid what Tinto (1975, 1993) described as voluntary student departure. Going as far back as the 1966 Equality of Educational Opportunity Study (The Coleman Report — Coleman et al.), many authors (Anyon, 2005; Bowen, Kurzweil, & Tobin, 2005; Easton-Brooks & Davis, 2007; Gordon, Gordon, & Nembhard, 1994; Griffin, Jayakumar, Jones, & Allen, 2010; Howard, 2010; Holzman, 2006; Howard, 2010; Mortimore & Blackstone, 1982; O'Connor, 1999; Roderick, 2003; Rothstein, 2004; Wilson, 2009), including Coleman et al., have insisted that SES played a significant and profound role in the educational equality, opportunities, development, achievement, advancement, and outcomes of students. This study stands in affirmation of these previous research efforts.

Perhaps noteworthy, this study builds on what was known of SES and academic competence, and for the first time, applies this relationship to D-I student-athletes. Additionally, provided the proportion of African American student-athletes to White student-athletes in the lower and higher SES groups respectively (as addressed previously in the chapter), it goes beyond reason to consider the existence of ethnic disparities or advantages in intercollegiate athletics. These data along with the graduation rates of White and Black student-athletes as previously examined in Chapter 2, also lend some credibility to the notion of an achievement gap as voluminously documented in the literature (Anyon, 2005; Bowen, Kurzweil, & Tobin, 2005; Coleman et al., 1966; Easton-Brooks & Davis, 2007; Griffin, Jayakumar, Jones, & Allen, 2010; Howard, 2010; Rothstein, 2004; Wilson, 2009) and are perhaps relevant to exploitation theories related to Black athletes as previously discussed (Eitzen & Purdy, 1986; Farrell, 1990; Leonard II, 1986; The Select Committee—Schaefer, 1983).

Despite the ramifications of these broader relationships, what must not be lost is the significance identified in the relationship between SES and academic competence. In all,

student-athletes from disadvantaged or lower SES backgrounds had lower academic competence than those from higher SES backgrounds, thus making these student-athletes more susceptible to poor academic integration, and presumably voluntary student departure. Of course, this presumption comes with the understanding that voluntary student departure as posed by Tinto (1975, 1993) was not based solely on academic integration but also on social integration.

It was by this understanding that the second research question posed in this study was developed and examined in relation to SES. A Welch test (one-way ANOVA) at a 95% confidence level was again used to answer the research question: What is the relationship between SES and the social fluency of student-athletes? The results of this ANOVA revealed that there was a statistically significant difference between SES groups (4, 4013.734) = 17.630, $p < 0.01$). A Games-Howell post hoc was conducted and it was determined that student-athletes from the highest SES backgrounds had statistically significantly higher social fluency than students-athletes from lower SES backgrounds. Here again, there were not statistically significant differences found between student-athletes from the bottom three SES groups (for specific post hoc results refer to Chapter 4).

Provided the findings presented as related to social fluency, student-athletes from lower SES backgrounds were again at a disadvantage as compared to their peers. Previous researchers have indicated that students from low economic backgrounds tend to move around more, preventing them from developing meaningful long-term relationship, thus not building or developing social fluency (Howard, 2010). Others still, have identified that low SES students live in poor and violent neighborhoods, which were detrimental to their social skills (Bowen, Kurzweil, & Tobin, 2005; Howard, 2010). Moynihan (1965) authored, The Negro Family: The Case For National Action, a troubling portrayal of the disintegration of the African American

family and illustration of conditions which grew the disparity between students from low SES backgrounds and those from more privileged upbringings; needless to say, he illuminated the social deficits for students raised in single parent households.

The present research again supports the findings of the noted authors. This study concluded that student-athletes from lower SES backgrounds have lower social fluency. These findings in combination with those previously noted related to academic competence are meaningful to college athletics and higher education. In examining the relationship between SES, academic competence and social fluency, it was concluded that students-athletes from lower SES backgrounds have statistically significantly lower abilities in both areas than their more affluent peers. This combination is particularly troubling, when considering Tinto's (1975, 1993) theory of voluntary student departure in which he suggests that students who are not academically and socially integrated are more likely to depart from the university setting prior to completion; and, Reason et al.'s (2006) findings, which identified academic competence and social fluency as the skills necessary to successfully integrate.

A second IV was examined in relation to academic competence and social fluency of student-athletes. This IV, LD, was examined using Welch tests (one-way ANOVAs) at the 95% confidence levels. The third and fourth research questions asked: What is the relationship between LD and the academic competence of student-athletes and what is the relationship between LD and the social fluency of student-athletes? The results of these ANOVAs uncovered that there was a statistically significant difference between disability groups for academic competence ($2, 1134.107) = 7.876, $p < 0.01$), and there was a statistically significant difference between disability groups for social fluency ($2, 1119.417) = 12.724, $p < 0.01$). A Games-Howell post hoc test revealed that student-athletes with LDs had statistically significantly lower (13.82 ±

2.615, $p < 0.01$) academic competence than student-athletes with no disabilities (14.20 ± 2.372) and student-athletes with other disabilities (14.33 ± 2.522). Additionally, a Games-Howell post hoc test also revealed that student-athletes with LDs had statistically significantly lower (18.55 ± 3.320, $p < 0.01$) social fluency than student-athletes with no disabilities (19.23 ± 2.967) and student-athletes with other disabilities (19.23 ± 3.116).

In both instances, this research found that student-athletes with LDs have statistically significantly lower academic competence and social fluency than student-athletes without LDs. These findings supports a host of other research efforts, which have posited that LDs have a significantly negative affect on academic and social outcomes for students (Clark & Parette, 2002; DaDeppo, 2009; Dalke & Schmitt, 1987; Gerber, 1998; Hoy et al., 1997; National Adult Literacy and Learning Disabilities Center, 1995; National Joint Committee on Learning Disabilities, 1998; Reiff, 1995; Skinner & Lindstrom, 2003; Smith, English, & Vasek, 2002; Spekman, Godlberg, & Herman, 1992). As prior researchers have identified, students with LDs have an inability to attend to details of college assignments, difficulty organizing and meeting deadlines, poor time management skills, and an inability to focus on academic tasks (DaDeppo, 2009; Skinner & Lindstrom, 2003; Smith, English, & Vasek, 2002). Other researchers (Clark & Parette, 2002) have suggested, the "Primary characteristics of student-athletes with learning disabilities include problems in academic areas, such as math, reading, writing, and other language-based domains" (n.p.). As this research examined the analytical reasoning and creative expression, collectively, as constructs of academic competence of student-athletes, it confirms previous literature, which indicated LDs have a significantly negative effect on academic competence; however, this conclusion was made with some limitations. This is because there was limited knowledge or literature, which related specifically to the creative expression of

students with LDs, the vast majority of literature was more closely aligned with academic reasoning for this population.

The findings related to social fluency (social confidence and social compatibility) also support previous research. As previously discussed, LDs have been found to have many socially debilitating effects (Clark & Parette, 2002; DaDeppo, 2009; Hoy et al., 1997; Reiff, 1995; Spekman, Godlberg, & Herman, 1992). DaDeppo (2009) and others (Hoy et al., 1997; Reiff, 1995; Spekman, Godlberg, & Herman, 1992) have noted, individuals with LDs tend to demonstrate poor interpersonal skills, lower self-esteem, and higher levels of anxiety, and as a result tend to struggle with social interaction and self-advocacy. Clark and Parette (2002) as well as Barton and Fuhrmann (1994) also found students with learning disabilities experience overall feelings of lack of self-worth, low self-esteem, and poor self-concept. This research supported these findings in general and concluded that student-athletes with learning disabilities were a more vulnerable population.

This distinction was made, because much like SES, LDs were found to have a statistically significant relationship to both academic competence and social fluency. Specifically, these student-athletes were at a disadvantage as compared to their teammates without LDs. This relationship as previously discussed is important as it relates to academic and social integration as identified by Tinto (1975, 1993). Furthermore, it is noteworthy to understand that whereas SES may be considered an environmental condition or what some social scientist refer to as the nurture effect, LDs represent natural or innate ability, which is commonly referred to as the nature effect. This is perhaps a meaningful difference because it is plausible that student-athletes from low SES backgrounds, with high intellectual ability may be able to overcome their environmental differences and persist in college. In contrast, students-athletes with LDs will

always contend with overcoming learning deficits while navigating the rigor of the college curriculum.

Implications

In reflecting upon the literature reviewed and the present study as conducted, various implications have been identified and suggestions have been made. Furthermore, the author of this study drew from personal experience in order to bring about meaning and usefulness, as this research is applicable to practice and policy. To that end, it should be clarified that the author of this work is a former student-athlete at a D-I institution, has served as an assistant to the coaching staff and athletic department at a D-I institution, and previously earned a Bachelors and Masters degree in Special Education; therefore, much of the subsequent discussion is relative to personal and professional experience related to college athletics, special education, and higher education. It should also be understood that this section digressed away from previous formatting in which discussion followed the research questions in a serial manner. Instead it was determined that the implications and suggestions would be discussed in relation to recruiting, coaching and athletic competition, policy, practice, and education.

As it stands, college athletes are recruited primarily on the basis of athletic prowess, and it stands to reason that athletic ability should remain the primary interest of athletic programs; however, the implications of this study posit that SES and LDs are both substantial to the composite or recruiting profile of the student-athlete and should be treated as such. In regards to SES, coaching staffs and athletic departments must critically examine how a student-athlete will integrate academically and socially into the recruiting institution. Additionally, these athletic departments must consider how well their departments are built to support student-athletes from disadvantaged backgrounds, and proactively identify potential pitfalls for these students.

Similarly, universities must assess student-athletes with LDs and understand their challenges and deficits. In a personal correspondence with a leader in the field of special education (September, 2012), a caveat was posed:

> Understand the implications of your findings. If you reveal to college coaches that you have found potential disadvantages to recruiting student-athletes with learning disabilities, then you must also present plausible solutions, or there could be unintended consequences, which are detrimental to the recruitment of student-athletes with learning disabilities.

It is suggested that athletic departments work to bolster the support system for student-athletes with disabilities. Coaches, athletic directors, and other athletics personnel must work collectively and implement policies, which raise awareness and knowledge about learning and other types of disabilities.

In the researcher's observations, athletic departments rely heavily on the knowledge of the special education specialists. Although these efforts are meaningful and well intentioned, these specialists must be called upon to train larger segments of the athletic department. Furthermore, collegiate institutions typically have a wealth of resources, and athletic departments must seek more actively engaged partnerships with university special education services and special education departments.

Although it goes beyond discussion of reasonable length in the present study, an important issue should be discussed in part. This is the notion that student-athletes with learning disabilities do not cease to have learning difficulties in the sporting environment. To often, coaches dismiss or are unaware of learning disabilities, and regard players as unable to learn. Through personal observations, the present structure of higher education presents numerous

support structures for student-athletes in the academic arena (classroom accommodations and modifications); however, there is little known about accommodations, modifications, and other learning taxonomies specifically related to sports, therefore, student-athletes' LDs go unsupported in the playing environment. Specifically, football playbooks tend to be quite voluminous (i.e. greater than 500 pages), and as it stands, collegiate athletic programs do not have any measure in place by which to support student-athletes with LDs or students from low SES backgrounds with lower academic competence as they work to learn the plays.

This identification is relative to coaching as well as competition for student-athletes. In order for coaches to better support the learning needs of student-athletes with LDs and students from low SES backgrounds, teaching sport strategy and technique must be carried into the scholarly realms of higher education or scholars of special education and adult education must enter the sports arena. As an individual with advanced knowledge of sports strategies, playbooks, and coaching, as well as special education, higher education, and teaching, it is evident that coaches do not fully understand the methods and best practices related to teaching student-athletes with moderate to severe learning deficits (including students with LDs and low SES students). This is to say that student-athletes are called to watch film, learn plays, take notes, and make critical decisions during competition at a rapid speeds while under pressure, and coaches sometimes determine learning disabled student-athletes or student-athletes from low SES with learning difficulties to be incapable of learning. This however, is not the case — learning deficits are addressed and supported in the academic systems of the college environment everyday. Therefore, it is possible to achieve support for these student-athletes in the sporting environment. As previously indicated, such discourse would be lengthy; therefore, the

suggestion here again calls for a greater connectedness between university athletics and the university (i.e. partner with the adult and special education departments).

In suggesting a greater level of collaboration between the athletic department and the university at large, it should be further noted that the seclusion of athletic departments at D-I intuitions is counterintuitive to the idea of academic and social integration, and is cited here as a detriment to student-athletes ability to fully integrating into the academic and social systems of college. This seclusion creates a naturally isolating environment, and given the previously identified relationship between SES, LDs and social fluency, student-athletes with lower SES levels and LDs would benefit from a more integrated environment. Despite this argument, it is uncertain at this time, how such a longstanding pseudo-structure in higher education would be restructured, but the segregated nature of major athletic programs from campus in general is apparent.

In addition integrating athletics, universities must also work to develop a social skills support system for student-athletes from low SES backgrounds and student-athletes with LDs. The social skills of these student-athletes are often times not adequately addressed, and unfortunately at times these deficiencies become evident during nationally televised sports interviews. In other instances these students lack the social skills to successfully integrate into the college environment; therefore, they are less likely to have successful outcomes (Tinto, 1975).

Concerning governance of college athletics, there are some questions relative to NCAA's policies and practices. First, it is suggested that the NCAA and individual institutions begin maintaining data related to student-athletes with disabilities, especially LDs, to ensure this population is not disproportionately represented amongst non-completers. Also, as discussed in

Chapter 2 of this study, contradictory discourse from both the former NCAA president and Wolverton (2008) revealed that the NCAA has determined student-athletes should not participate in athletics more than 40 hours per week, while student-athletes themselves reported spending more than 44 hours per week on sport. This incongruence was found to be troubling because, while some student-athletes may be able to handle great quantities of time spent dedicated to sport participation, the results of this study imply that too much time devoted to sport is detrimental to student-athletes from lower SES backgrounds and students with LDs. Therefore, the question is raised — is enough being done to deter college coaches from violating the time restriction on sport?

This is an important question if the outcomes of student-athletes are considered in conjunction. That is, if coaches abuse the time restrictions placed on sport to gain an edge in competition, and the residual effect decreases graduation rates for student-athletes from low SES backgrounds and student-athletes with LDs, then it is likely greater consideration would be given to increasing the penalty for such an infraction. As it stands, it is understood that scenario postulated is somewhat speculative; however, the findings of this research, much like those of The Select Committee—Schaefer, 1983, indicate that an exorbitant commitment to sport is harmful to academically and socially vulnerable student-athletes (i.e. low SES and students with LDs). For this reason it is suggested that proactive measures be taken (i.e. harsher penalties) to deter coaches and athletic departments from such abuses.

Two final suggestions are made in the present study both of which relate to educating student-athletes. Ultimately, as young adults, student-athletes are responsible for their own achievement and outcomes. Therefore, these students need to understand what is known about them as a subculture or subgroup amongst the greater student body. In a personal dialoged with

a former D-I student-athlete, T. Williams (August, 2012), the idea was mutually proposed that the NCAA and collegiate athletic departments should develop a student-athlete integration education program, specifically, a freshman symposium. This notion was adopted from the National Football League's (NFL) annual rookie symposium, which is intended to educate players integrating into the NFL of the challenges and potential pitfalls they will face as well as make them aware of the resources available to them upon entering the league. Therefore, the notion of a freshman symposium is supported and suggested by this research.

By making student-athletes aware of the known relationship between SES, LDs, academic competence, and social fluency, as well as illuminating the resources and supports available, students-athletes, especially those with LDs and those from low SES backgrounds the will be better prepared to address potential challenges or hardships. It is also suggested that a student-athlete magazine or e-magazine (electronic magazine) be developed (i.e. Student-Athletes Illustrated). This is intended to be a tool by which to engage and educate student-athletes throughout their collegiate careers. While there is a wealth of empirical knowledge related to student-athletes, existing presentations of such information (i.e. this study) are of little interest to student-athletes and therefore, presentations of pertinent and relavant information in another format may prove more useful.

Recommendations for Future Research

The present study examined the relationship between SES, LDs, academic competence, and social fluency. In reviewing the literature and in reflecting upon the present study there are some facets of the proposed inquiry, which remain absent in the greater body of knowledge on student-athletes. Those, which were most closely related to this particular research effort and were determined to advance or build upon this and related works were identified. This study

examined the relationship of SES and LD to academic competence and social fluency; however, as the research questions were posed, each IV was examined independently, and it was beyond the scope of this study to examine SES and LD in combination. Therefore, it is suggested that further research be conducted to determine the relationship between SES and LD, and then perhaps their combined relationship to academic competence.

It was also determined in reviewing the literature that single parent households present a staggering academic and social deficit to students, however, there are no known studies which examine the relationship between single parent upbringings and outcomes for student-athletes at D-I institutions. Additionally, this research undertook the study of all D-I student-athletes, but as was discussed in Chapter 2, much of the public scrutiny is rooted in the poor outcomes of some student-athletes in revenue generating sports (RGS); therefore, it is proposed that a study, similar to the present research, be conducted in which the population be further restricted to student-athletes in RGS. Lastly, the effect of participation in college athletics was discussed in Chapter 2, and further discussion was taken up considering the academic outcomes of student-athletes in RGS. It is proposed that a longitudinal (collegiate athletic career) qualitative study be conducted examining the effect of sport participation on the social development for extremely high profile athletes in RGS.

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APPENDIX A

CIRP The Freshman Survey (TFS)

22. How much of your first year's educational expenses (room, board, tuition, and fees) do you expect to cover from each of the sources listed below?
(Mark one answer for each possible source)

	None	Less than $1,000	$1,000 to 2,999	$3,000 to 5,999	$6,000 to 9,999	$10,000+
Family resources (parents, relatives, spouse, etc.)	○	○	○	○	○	○
My own resources (savings from work, work-study, other income)	○	○	○	○	○	○
Aid which need not be repaid (grants, scholarships, military funding, etc.)	○	○	○	○	○	○
Aid which must be repaid (loans, etc.)	○	○	○	○	○	○
Other than above	○	○	○	○	○	○

23. What is your best estimate of your parents' total income last year? Consider income from all sources before taxes. (Mark one)

○ Less than $10,000	○ $50,000-59,999
○ $10,000-14,999	○ $60,000-74,999
○ $15,000-19,999	○ $75,000-99,999
○ $20,000-24,999	○ $100,000-149,999
○ $25,000-29,999	○ $150,000-199,999
○ $30,000-39,999	○ $200,000-249,999
○ $40,000-49,999	○ $250,000 or more

24. Do you have any concern about your ability to finance your college education? (Mark one)

- ○ None (I am confident that I will have sufficient funds)
- ○ Some (but I probably will have enough funds)
- ○ Major (not sure I will have enough funds to complete college)

25. Current religious preference:
(Mark one in each column)

	Yours	Father's	Mother's
Baptist	Ⓨ	Ⓕ	Ⓜ
Buddhist	Ⓨ	Ⓕ	Ⓜ
Church of Christ	Ⓨ	Ⓕ	Ⓜ
Eastern Orthodox	Ⓨ	Ⓕ	Ⓜ
Episcopalian	Ⓨ	Ⓕ	Ⓜ
Hindu	Ⓨ	Ⓕ	Ⓜ
Jewish	Ⓨ	Ⓕ	Ⓜ
LDS (Mormon)	Ⓨ	Ⓕ	Ⓜ
Lutheran	Ⓨ	Ⓕ	Ⓜ
Methodist	Ⓨ	Ⓕ	Ⓜ
Muslim	Ⓨ	Ⓕ	Ⓜ
Presbyterian	Ⓨ	Ⓕ	Ⓜ
Quaker	Ⓨ	Ⓕ	Ⓜ
Roman Catholic	Ⓨ	Ⓕ	Ⓜ
Seventh Day Adventist	Ⓨ	Ⓕ	Ⓜ
United Church of Christ/Congregational	Ⓨ	Ⓕ	Ⓜ
Other Christian	Ⓨ	Ⓕ	Ⓜ
Other Religion	Ⓨ	Ⓕ	Ⓜ
None	Ⓨ	Ⓕ	Ⓜ

26. For the activities below, indicate which ones you did during the past year. If you engaged in an activity frequently, mark Ⓕ. If you engaged in an activity one or more times, but not frequently, mark Ⓞ (Occasionally). Mark Ⓝ (Not at all) if you have not performed the activity during the past year.
(Mark one for each item)

	Frequently	Occasionally	Not at All
Attended a religious service	Ⓕ	Ⓞ	Ⓝ
Was bored in class	Ⓕ	Ⓞ	Ⓝ
Participated in political demonstrations	Ⓕ	Ⓞ	Ⓝ
Tutored another student	Ⓕ	Ⓞ	Ⓝ
Studied with other students	Ⓕ	Ⓞ	Ⓝ
Was a guest in a teacher's home	Ⓕ	Ⓞ	Ⓝ
Smoked cigarettes	Ⓕ	Ⓞ	Ⓝ
Drank beer	Ⓕ	Ⓞ	Ⓝ
Drank wine or liquor	Ⓕ	Ⓞ	Ⓝ
Felt overwhelmed by all I had to do	Ⓕ	Ⓞ	Ⓝ
Felt depressed	Ⓕ	Ⓞ	Ⓝ
Performed volunteer work	Ⓕ	Ⓞ	Ⓝ
Played a musical instrument	Ⓕ	Ⓞ	Ⓝ
Asked a teacher for advice after class	Ⓕ	Ⓞ	Ⓝ
Voted in a student election	Ⓕ	Ⓞ	Ⓝ
Socialized with someone of another racial/ethnic group	Ⓕ	Ⓞ	Ⓝ
Came late to class	Ⓕ	Ⓞ	Ⓝ
Used the Internet:			
For research or homework	Ⓕ	Ⓞ	Ⓝ
To read news sites	Ⓕ	Ⓞ	Ⓝ
To read blogs	Ⓕ	Ⓞ	Ⓝ
To blog	Ⓕ	Ⓞ	Ⓝ
Performed community service as a part of a class	Ⓕ	Ⓞ	Ⓝ
Discussed religion	Ⓕ	Ⓞ	Ⓝ
Discussed politics	Ⓕ	Ⓞ	Ⓝ
Worked on a local, state, or national political campaign	Ⓕ	Ⓞ	Ⓝ

27. Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself.
(Mark one in each row)

	Highest 10%	Above Average	Average	Below Average	Lowest 10%
Academic ability	○	○	○	○	○
Artistic ability	○	○	○	○	○
Computer skills	○	○	○	○	○
Cooperativeness	○	○	○	○	○
Creativity	○	○	○	○	○
Drive to achieve	○	○	○	○	○
Emotional health	○	○	○	○	○
Leadership ability	○	○	○	○	○
Mathematical ability	○	○	○	○	○
Physical health	○	○	○	○	○
Popularity	○	○	○	○	○
Public speaking ability	○	○	○	○	○
Self-confidence (intellectual)	○	○	○	○	○
Self-confidence (social)	○	○	○	○	○
Self-understanding	○	○	○	○	○
Spirituality	○	○	○	○	○
Understanding of others	○	○	○	○	○
Writing ability	○	○	○	○	○

28. Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself.
(Mark one for each item)

	Highest 10%	Above Average	Average	Below Average	Lowest 10%
Ability to see the world from someone else's perspective	○	○	○	○	○
Tolerance of others with different beliefs	○	○	○	○	○
Openness to having my own views challenged	○	○	○	○	○
Ability to discuss and negotiate controversial issues	○	○	○	○	○
Ability to work cooperatively with diverse people	○	○	○	○	○

29. What is the highest level of formal education obtained by your parents?
(Mark one in each column)

	Father	Mother
Grammar school or less	○	○
Some high school	○	○
High school graduate	○	○
Postsecondary school other than college	○	○
Some college	○	○
College degree	○	○
Some graduate school	○	○
Graduate degree	○	○

30. How often in the past year did you?
(Mark one for each item)

	Frequently	Occasionally	Not at All
Ask questions in class	Ⓕ	Ⓞ	Ⓝ
Support your opinions with a logical argument	Ⓕ	Ⓞ	Ⓝ
Seek solutions to problems and explain them to others	Ⓕ	Ⓞ	Ⓝ
Revise your papers to improve your writing	Ⓕ	Ⓞ	Ⓝ
Evaluate the quality or reliability of information you received	Ⓕ	Ⓞ	Ⓝ
Take a risk because you feel you have more to gain	Ⓕ	Ⓞ	Ⓝ
Seek alternative solutions to a problem	Ⓕ	Ⓞ	Ⓝ
Look up scientific research articles and resources	Ⓕ	Ⓞ	Ⓝ
Explore topics on your own, even though it was not required for a class	Ⓕ	Ⓞ	Ⓝ
Accept mistakes as part of the learning process	Ⓕ	Ⓞ	Ⓝ
Seek feedback on your academic work	Ⓕ	Ⓞ	Ⓝ
Take notes during class	Ⓕ	Ⓞ	Ⓝ

31. Mark only three responses, one in each column.

	(M) Your mother's occupation	(F) Your father's occupation	(Y) Your probable career occupation
Accountant or actuary	M	F	Y
Actor or entertainer	M	F	Y
Architect or urban planner	M	F	Y
Artist	M	F	Y
Business (clerical)	M	F	Y
Business executive (management, administrator)	M	F	Y
Business owner or proprietor	M	F	Y
Business salesperson or buyer	M	F	Y
Clergy (minister, priest)	M	F	Y
Clergy (other religious)	M	F	Y
Clinical psychologist	M	F	Y
College administrator/staff	M	F	Y
College teacher	M	F	Y
Computer programmer or analyst	M	F	Y
Conservationist or forester	M	F	Y
Dentist (including orthodontist)	M	F	Y
Dietitian or nutritionist	M	F	Y
Engineer	M	F	Y
Farmer or rancher	M	F	Y
Foreign service worker (including diplomat)	M	F	Y
Homemaker (full-time)	M	F	Y
Interior decorator (including designer)	M	F	Y
Lab technician or hygienist	M	F	Y
Law enforcement officer	M	F	Y
Lawyer (attorney) or judge	M	F	Y
Military service (career)	M	F	Y
Musician (performer, composer)	M	F	Y
Nurse	M	F	Y
Optometrist	M	F	Y
Pharmacist	M	F	Y
Physician	M	F	Y
Policymaker/Government	M	F	Y
School counselor	M	F	Y
School principal or superintendent	M	F	Y
Scientific researcher	M	F	Y
Social, welfare, or recreation worker	M	F	Y
Therapist (physical, occupational, speech)	M	F	Y
Teacher or administrator (elementary)	M	F	Y
Teacher or administrator (secondary)	M	F	Y
Veterinarian	M	F	Y
Writer or journalist	M	F	Y
Skilled trades	M	F	Y
Laborer (unskilled)	M	F	Y
Semi-skilled worker	M	F	Y
Unemployed	M	F	Y
Other	M	F	Y
Undecided			Y

32. How would you characterize your political views? (Mark one)

- ○ Far left
- ○ Liberal
- ○ Middle-of-the-road
- ○ Conservative
- ○ Far right

33. Mark one in each row:

	(1) Disagree Strongly	(2) Disagree Somewhat	(3) Agree Somewhat	(4) Agree Strongly
There is too much concern in the courts for the rights of criminals	1	2	3	4
Abortion should be legal	1	2	3	4
The death penalty should be abolished	1	2	3	4
Marijuana should be legalized	1	2	3	4
It is important to have laws prohibiting homosexual relationships	1	2	3	4
Racial discrimination is no longer a major problem in America	1	2	3	4
Realistically, an individual can do little to bring about changes in our society	1	2	3	4
Wealthy people should pay a larger share of taxes than they do now	1	2	3	4
Same-sex couples should have the right to legal marital status	1	2	3	4
Affirmative action in college admissions should be abolished	1	2	3	4
Federal military spending should be increased	1	2	3	4
The federal government should do more to control the sale of handguns	1	2	3	4
Only volunteers should serve in the armed forces	1	2	3	4
The federal government is not doing enough to control environmental pollution	1	2	3	4
A national health care plan is needed to cover everybody's medical costs	1	2	3	4
Undocumented immigrants should be denied access to public education	1	2	3	4
Through hard work, everybody can succeed in American society	1	2	3	4
Dissent is a critical component of the political process	1	2	3	4
Colleges have the right to ban extreme speakers from campus	1	2	3	4
Students from disadvantaged social backgrounds should be given preferential treatment in college admissions	1	2	3	4
The federal government should raise taxes to reduce the deficit	1	2	3	4
Addressing global warming should be a federal priority	1	2	3	4

34. During your last year in high school, how much time did you spend during a typical week doing the following activities?

Hours per week:	None	Less than 1 hour	1-2	3-5	6-10	11-15	16-20	Over 20
Studying/homework	○	○	○	○	○	○	○	○
Socializing with friends	○	○	○	○	○	○	○	○
Talking with teachers outside of class	○	○	○	○	○	○	○	○
Exercise or sports	○	○	○	○	○	○	○	○
Partying	○	○	○	○	○	○	○	○
Working (for pay)	○	○	○	○	○	○	○	○
Volunteer work	○	○	○	○	○	○	○	○
Student clubs/groups	○	○	○	○	○	○	○	○
Watching TV	○	○	○	○	○	○	○	○
Household/childcare duties	○	○	○	○	○	○	○	○
Reading for pleasure	○	○	○	○	○	○	○	○
Playing video/computer games	○	○	○	○	○	○	○	○
Online social networks (MySpace, Facebook, etc.)	○	○	○	○	○	○	○	○

35. Are you: (Mark all that apply)

- ○ White/Caucasian
- ○ African American/Black
- ○ American Indian/Alaska Native
- ○ Asian American/Asian
- ○ Native Hawaiian/Pacific Islander
- ○ Mexican American/Chicano
- ○ Puerto Rican
- ○ Other Latino
- ○ Other

36. Below are some reasons that might have influenced your decision to attend this particular college. How important was each reason in your decision to come here? (Mark one answer for each possible reason)

	Very Important	Somewhat Important	Not Important
My parents wanted me to come here	V	S	N
My relatives wanted me to come here	V	S	N
My teacher advised me	V	S	N
This college has a very good academic reputation	V	S	N
This college has a good reputation for its social activities	V	S	N
I was offered financial assistance	V	S	N
The cost of attending this college	V	S	N
High school counselor advised me	V	S	N
Private college counselor advised me	V	S	N
I wanted to live near home	V	S	N
Not offered aid by first choice	V	S	N
Could not afford first choice	V	S	N
This college's graduates gain admission to top graduate/professional schools	V	S	N
This college's graduates get good jobs	V	S	N
I was attracted by the religious affiliation/orientation of the college	V	S	N
I wanted to go to a school about the size of this college	V	S	N
Rankings in national magazines	V	S	N
Information from a website	V	S	N
I was admitted through an Early Action or Early Decision program	V	S	N
The athletic department recruited me	V	S	N
A visit to the campus	V	S	N

37. Below is a list of different undergraduate major fields grouped into general categories. Mark only one oval to indicate your probable field of study.

ARTS AND HUMANITIES
- Art, fine and applied (1)
- English (language and literature) (2)
- History (3)
- Journalism (4)
- Language and Literature (except English) (5)
- Music (6)
- Philosophy (7)
- Speech (8)
- Theater or Drama (9)
- Theology or Religion (10)
- Other Arts and Humanities (11)

BIOLOGICAL SCIENCE
- Biology (general) (12)
- Biochemistry or Biophysics (13)
- Botany (14)
- Environmental Science (15)
- Marine (Life) Science (16)
- Microbiology or Bacteriology (17)
- Zoology (18)
- Other Biological Science (19)

BUSINESS
- Accounting (20)
- Business Admin. (general) (21)
- Finance (22)
- International Business (23)
- Marketing (24)
- Management (25)
- Secretarial Studies (26)
- Other Business (27)

EDUCATION
- Business Education (28)
- Elementary Education (29)
- Music or Art Education (30)
- Physical Education or Recreation (31)
- Secondary Education (32)
- Special Education (33)
- Other Education (34)

ENGINEERING
- Aeronautical or Astronautical Eng (35)
- Civil Engineering (36)
- Chemical Engineering (37)
- Computer Engineering (38)
- Electrical or Electronic Engineering (39)
- Industrial Engineering (40)
- Mechanical Engineering (41)
- Other Engineering (42)

PHYSICAL SCIENCE
- Astronomy (43)
- Atmospheric Science (incl. Meteorology) (44)
- Chemistry (45)
- Earth Science (46)
- Marine Science (incl. Oceanography) (47)
- Mathematics (48)
- Physics (49)
- Other Physical Science (50)

PROFESSIONAL
- Architecture or Urban Planning (51)
- Family & Consumer Sciences (52)
- Health Technology (medical, dental, laboratory) (53)
- Library or Archival Science (54)
- Medicine, Dentistry, Veterinary Medicine (55)
- Nursing (56)
- Pharmacy (57)
- Therapy (occupational, physical, speech) (58)
- Other Professional (59)

SOCIAL SCIENCE
- Anthropology (60)
- Economics (61)
- Ethnic Studies (62)
- Geography (63)
- Political Science (gov't., international relations) (64)
- Psychology (65)
- Public Policy (66)
- Social Work (67)
- Sociology (68)
- Women's Studies (69)
- Other Social Science (70)

TECHNICAL
- Building Trades (71)
- Data Processing or Computer Programming (72)
- Drafting or Design (73)
- Electronics (74)
- Mechanics (75)
- Other Technical (76)

OTHER FIELDS
- Agriculture (77)
- Communications (78)
- Computer Science (79)
- Forestry (80)
- Kinesiology (81)
- Law Enforcement (82)
- Military Science (83)
- Other Field (84)
- Undecided (85)

38. Please indicate the importance to you personally of each of the following: (Mark one for each item)

(N) Not Important (S) Somewhat Important (V) Very Important (E) Essential

- Becoming accomplished in one of the performing arts (acting, dancing, etc.) (E) (V) (S) (N)
- Becoming an authority in my field (E) (V) (S) (N)
- Obtaining recognition from my colleagues for contributions to my special field (E) (V) (S) (N)
- Influencing the political structure (E) (V) (S) (N)
- Influencing social values (E) (V) (S) (N)
- Raising a family (E) (V) (S) (N)
- Being very well off financially (E) (V) (S) (N)
- Helping others who are in difficulty (E) (V) (S) (N)
- Making a theoretical contribution to science (E) (V) (S) (N)
- Writing original works (poems, novels, short stories, etc.) (E) (V) (S) (N)
- Creating artistic works (painting, sculpture, decorating, etc.) (E) (V) (S) (N)
- Becoming successful in a business of my own (E) (V) (S) (N)
- Becoming involved in programs to clean up the environment (E) (V) (S) (N)
- Developing a meaningful philosophy of life (E) (V) (S) (N)
- Participating in a community action program (E) (V) (S) (N)
- Helping to promote racial understanding (E) (V) (S) (N)
- Keeping up to date with political affairs (E) (V) (S) (N)
- Becoming a community leader (E) (V) (S) (N)
- Improving my understanding of other countries and cultures (E) (V) (S) (N)
- Adopting "green" practices to protect the environment (E) (V) (S) (N)

39. What is your best guess as to the chances that you will: (Mark one for each item)

(N) No Chance (L) Very Little Chance (S) Some Chance (V) Very Good Chance

- Change major field? (V) (S) (L) (N)
- Change career choice? (V) (S) (L) (N)
- Participate in student government? (V) (S) (L) (N)
- Get a job to help pay for college expenses? (V) (S) (L) (N)
- Work full-time while attending college? (V) (S) (L) (N)
- Join a social fraternity or sorority? (V) (S) (L) (N)
- Play varsity/intercollegiate athletics? (V) (S) (L) (N)
- Make at least a "B" average? (V) (S) (L) (N)
- Need extra time to complete your degree requirements? (V) (S) (L) (N)
- Participate in student protests or demonstrations? (V) (S) (L) (N)
- Transfer to another college before graduating? (V) (S) (L) (N)
- Be satisfied with your college? (V) (S) (L) (N)
- Participate in volunteer or community service work? (V) (S) (L) (N)
- Seek personal counseling? (V) (S) (L) (N)
- Communicate regularly with your professors? (V) (S) (L) (N)
- Socialize with someone of another racial/ethnic group? (V) (S) (L) (N)
- Participate in student clubs/groups? (V) (S) (L) (N)
- Participate in a study abroad program? (V) (S) (L) (N)
- Have a roommate of a different race/ethnicity? (V) (S) (L) (N)
- Discuss course content with students outside of class? (V) (S) (L) (N)
- Work on a professor's research project? (V) (S) (L) (N)
- Get tutoring help in specific courses? (V) (S) (L) (N)

40. Do you give the Higher Education Research Institute (HERI) permission to include your ID number should your college request the data for additional research analyses? HERI maintains strict standards of confidentiality and would require your college to sign a pledge of confidentiality.

○ Yes ○ No

The remaining ovals are provided for questions specifically designed by your college rather than the Higher Education Research Institute. If your college has chosen to use the ovals, please observe carefully the supplemental directions given to you.

41. (A) (B) (C) (D) (E)
42. (A) (B) (C) (D) (E)
43. (A) (B) (C) (D) (E)
44. (A) (B) (C) (D) (E)
45. (A) (B) (C) (D) (E)
46. (A) (B) (C) (D) (E)
47. (A) (B) (C) (D) (E)
48. (A) (B) (C) (D) (E)
49. (A) (B) (C) (D) (E)
50. (A) (B) (C) (D) (E)
51. (A) (B) (C) (D) (E)
52. (A) (B) (C) (D) (E)
53. (A) (B) (C) (D) (E)
54. (A) (B) (C) (D) (E)
55. (A) (B) (C) (D) (E)
56. (A) (B) (C) (D) (E)
57. (A) (B) (C) (D) (E)
58. (A) (B) (C) (D) (E)
59. (A) (B) (C) (D) (E)
60. (A) (B) (C) (D) (E)

THANK YOU!

APPENDIX B

PARTICIPATING INSTITUTIONS

	Institution Name	State
1	Arkansas State University-Main Campus	AR
2	Central Connecticut State University	CT
3	Central Michigan University	MI
4	Charleston Southern University	SC
5	Colorado State University-Fort Collins	CO
6	Columbia University in the City of New York	NY
7	Davidson College	NC
8	DePaul University	IL
9	Duke University	NC
10	Eastern Kentucky University	KY
11	Eastern Michigan University	MI
12	Elon University	NC
13	Fairfield University	CT
14	Florida State University	FL
15	George Washington University	DC
16	Georgia Institute of Technology-Main Campus	GA
17	Howard University	DC
18	Longwood University	VA
19	Loyola Marymount University	CA
20	Morgan State University	MD
21	North Carolina Central University	NC
22	North Dakota State University-Main Campus	ND
23	Oklahoma State University-Main Campus	OK
24	Pepperdine University	CA
25	Princeton University	NJ
26	Radford University	VA
27	San Jose State University	CA
28	South Dakota State University	SD
29	Southern Methodist University	TX
30	Texas Christian University	TX
31	Texas Tech University	TX
32	The University of Alabama	AL

	Institution Name	State
33	The University of Texas at Austin	TX
34	Troy University	AL
35	University of Arkansas at Little Rock	AR
36	University of Arkansas at Pine Bluff	AR
37	University of Georgia	GA
38	University of North Carolina at Chapel Hill	NC
39	University of North Carolina-Wilmington	NC
40	University of Pennsylvania	PA
41	Alabama A & M University	AL
42	American University	DC
43	Baylor University	TX
44	Belmont University	TN
45	Bethune-Cookman University	FL
46	Boston College	MA
47	Brown University	RI
48	Bryant University	RI
49	Bucknell University	PA
50	California State University-Northridge	CA
51	Citadel Military College of South Carolina	SC
52	Cornell University	NY
53	Creighton University	NE
54	Dartmouth College	NH
55	Drexel University	PA
56	Gonzaga University	WA
57	Iowa State University	IA
58	Kennesaw State University	GA
59	Lafayette College	PA
60	Loyola University-Chicago	IL
61	Mount St Mary's University	MD
62	Northeastern University	MA
63	Northern Arizona University	AZ
64	Northern Illinois University	IL
65	Presbyterian College	SC
66	Providence College	RI
67	Purdue University-Main Campus	IN
68	Rice University	TX
69	Saint Francis University	PA
70	Saint Marys College of California	CA
71	Seattle University	WA
72	Southeast Missouri State University	MO

	Institution Name	State
73	Southern Utah University	UT
74	St John's University-New York	NY
75	Tulane University of Louisiana	LA
76	United States Air Force Academy	CO
77	United States Naval Academy	MD
78	University of California-Los Angeles	CA
79	University of California-Santa Barbara	CA
80	University of Florida	FL
81	University of Idaho	ID
82	University of Massachusetts Amherst	MA
83	University of Miami	FL
84	University of Michigan-Ann Arbor	MI
85	University of North Carolina at Greensboro	NC
86	University of North Texas	TX
87	University of Northern Colorado	CO
88	University of Notre Dame	IN
89	University of Pittsburgh-Pittsburgh Campus	PA
90	University of Portland	OR
92	University of South Carolina-Columbia	SC
93	University of Southern California	CA
94	University of Vermont	VT
95	Utah State University	UT
96	Vanderbilt University	TN
97	Virginia Polytechnic Institute and State University	VA
98	Xavier University of Louisiana	LA

APPENDIX C

SES INDEX

Table 12

Family Income Levels by Income Range and Estimated Percentage of Population

Level	Income Range	Est. % of US Pop
1	under $9,999	15
2	$10,000–24,999	28
3	$25,000–49,999	33
4	$50,000–99,999	20
5	over $100,000	4

Note. From James & Abney, 1992, *Exploring Socioeconomic Status* (p. 41).

Table 13

Education Levels by Educational Attainment and Estimated Percentage of Population

Table 13

Level	Educational Attainment	Est. % of US Pop
1	Less than High School	24
2	High/Vocational School	38
3	2 years College	19
4	College Graduate/Graduate School up to Doctorate	5
5	Doctoral/Professional Degree	4

Note. From James & Abney, 1992, *Exploring Socioeconomic Status* (p. 41).

Table 14

Occupational Levels by Category, Score Range, and Estimated Percentage of Population

Level	Occupational Category	Score Range	Est. % of US Pop
1	Unskilled Laborers/Private Household Workers	1–9	16
2	Operators/Fabricator	10–65	39
3	Sales/Craftsman/Precision Workers	66–87	20
4	Managers/Administrators/Professionals	88–98	20
5	Executives/Elite Professionals	99–100	5

Note. From James & Abney, (1992), *Exploring Socioeconomic Status* (p. 42).

Table 15

Comparison of Variables by Stratification Levels

Variable	Elite	Upper Middle	Lower Middle	Working	Disenfranchised
% of Population	5	20	25	35	15
Income	Over $100,000	$50,000-99,999	$25,000-49,999	$10,000-24,999	Under $10,000
Source of Income	Investment	Fees and salaries	Salary	Wages and Tips	Governmental Aid
Wealth	Great wealth inherited money	Property from savings/investment	Few assets, some savings	Few to no assets, no savings	None
Education	Prestige schools/ professional	College/Graduate school	Some College	High School	Less than High School
Occupation	Professionals, CEO's [*sic*], High ranking governmental	Professionals Managers, Administrators	Small business Sales, craft, precision workers	Operators, fabricators, clerical, service workers	Unskilled laborers
Occupational Status	Very High	High	Medium	Low	Very Low

Note. From James & Abney, (1992), *Exploring Socioeconomic Status* (p. 20).

APPENDIX D

WITTE SES QUINTILE INDEX

SES Quintiles Recoding Key

	Occupation	Education	Income
High (5)	(1) Accountant	Graduate Degree (8)	$250,000 (14)
	(2) Actor/Entertainer		$200,000 (13)
	(3) Architect		$150,000 (12)
	(6) Business Executive		$100,000 (11)
	(16) Dentist		
	(18) Engineer		
	(25) Lawyer		
	(29) Optometrist		
	(30) Pharmacist		
	(31) Physician		
	(32) Policy Maker/Govt		
	(40) Veterinarian		
Upper Middle (4)	(7) Business Owner	Some Graduate School (7)	$75,000 (10)
	(11) Clinical Psychologist		$60,000 (9)
	(12) College Administration		$50,000 (8)
	(13) College teacher		
	(20) Foreign Service/diplomat		
	(34) Principal/Superintendent		
	(35) Scientific Researcher		
Middle (3)	(4) Artist	College Degree (6)	$40,000 (7)
	(8) Business Sales person	Some College (5)	$30,000 (6)
	(9) Clergy		$25,000 (5)

(table continues)

Table continued

SES Quintiles Recoding Key

	Occupation	Education	Income
	(10) Clergy (Minister)		
	(14) Computer Programmer		
	(17) Dietitian/Nutritionist		
	(22) Interior decorator		
	(15) Conservationist/Forester		
	(24) Law Enforcement Officer		
	(26) Military Service (career)		
	(28) Nurse		
	(33) School Counselor		
	(36) Social, Welfare, Rec Worker		
	(37) Therapist (physical, speech)		
	(38) Teacher/Admin (Elem)		
	(39) Teacher/Admin (Second)		
	(41) Writer/Journalist		
Lower Middle (2)	(5) Business Clerical	Postsecondary school other than College (4)	$20,000 (4)
	(21) Home Maker	High School Graduate (3)	$15,000 (3)
	(19) Farmer or Rancher		$10,000 (2)
	(23) Lab Technician		
	(42) Skilled Trades		
	Occupation	Education	Income
Low (1)	(43) Laborer Unskilled	Some High School (2)	Less than $10,000 (1)
	(44) Semi-skilled worker	Grammar School (1)	
	(45) Unemployed		
	Occupation		
Assigned	(46) Other		

Note. For income, SES levels were double the values shown (i.e. high 10, upper middle 8, middle 6, lower middle 4, and low 2). This will be explained in later discussion. Also the original codes for occupation, education, and income are adjacent to the given item. Finally, the occupation category other (46) was assigned SES level as described later.

APPENDIX E

CIPR Freshman Survey Codebook

Col	Variable Name	Variable Description
1-4	ACE	College I.D.
5-10	SUBJID	Subject I.D.
11-23	STUID	Student School I.D. (only if permitted)
24-25	GRPA	Group A
26-27	GRPB	Group B
28	SEX	Your sex: 1 = Male 2 = Female
29-30	AGE	How old will you be on December 31 of this year? 1 = 16 or younger 2 = 17 3 = 18 4 = 19 5 = 20 6 = 21 to 24 7 = 25 to 29 8 = 30 to 39 9 = 40 to 54 10 = 55 or older
31	NATENGSP	Is English your native language? 1 = No 2 = Yes
32	YRGRADHS	In what year did you graduate from high school? 1 = 2008 2 = 2007 3 = 2006 4 = 2005 or earlier 5 = Did not graduate but passed GED test 6 = Never completed high school
33	FULLSTAT	Are you enrolled (or enrolling) as a: 1 = Part-time student 2 = Full-time student
34	DISTHOME	How many miles is this college from your permanent home? 1 = 5 or less 2 = 6 to 10 3 = 11 to 50 4 = 51 to 100 5 = 101 to 500 6 = Over 500
35	HSGPA	What was your average grade in high school? 1 = D 2 = C 3 = C+ 4 = B- 5 = B 6 = B+ 7 = A- 8 = A or A+
36-38	SATV	SAT Verbal
39-41	SATM	SAT Math
42-44	SATW	SAT Writing
45-46	ACTCOMP	ACT Composite
47	HSTYPE	From what kind of high school did you graduate? 1=Public school (not charter or magnet) 2=Public charter school 3=Public magnet school 4=Private religious/parochial school 5=Private independent college-prep school 6=Home school
48	PREVCRED	Prior to this term, have you ever taken courses for credit at this institution? 1=No 2=Yes
49	OTHRCOLL	Since leaving high school, have you ever taken courses, whether for credit or not for credit, at any other institution (university, 4- or 2 1=No 2=Yes

Col	Variable Name	Variable Description
50	PLANLIVE	Where do you plan to live during the fall term? 1=With my family or other relatives 2=Other private home, apartment, or room 3=College residence hall 4=Fraternity or sorority house 5=Other campus student housing 6=Other
51	NUMAPPLY	To how many colleges other than this one did you apply for admission this year? 1 = None 2 = 1 3 = 2 4 = 3 5 = 4 6 = 5 7 = 6 8 = 7-10 9 = 11 or more
52	ACCPT1ST	Were you accepted by your first choice college? 1=No 2=Yes
53	CHOICE	Choice: Is this college your: 1=Less than third choice 2=Third choice 3=Second choice 4=First choice
54	CITIZEN	Citizenship status: 1=Neither 2=Permanent resident (green card) 3=U.S. citizen
55	PARSTAT	Are your parents alive? divorced? 1=One or both deceased 2=Both alive, divorced or living apart 3=Both alive and living with each other
		During high school, how many years did you study each of the following subjects? 1 = None 2 = 1/2 3 = 1 4 = 2 5 = 3 6 = 4 7 = 5 or more
56	YRSTUDY1	Years Study: English
57	YRSTUDY2	Years Study: Mathematics
58	YRSTUDY3	Years Study: Foreign Language
59	YRSTUDY4	Years Study: Physical Science
60	YRSTUDY5	Years Study: Biological Science
61	YRSTUDY6	Years Study: History/Am Govt
62	YRSTUDY7	Years Study: Computer Science
63	YRSTUDY8	Years Study: Art and/or Music
64-65	DEGASP	Highest academic degree planned
66-67	HIDEGREE	Highest academic degree planned at this college 1=None 2=Vocational certificate 3=Associate (A.A. or equivalent) 4=Bachelor's degree (B.A., B.S., etc.) 5=Master's degree (M.A., M.S., etc.) 6=Ph.D. or Ed.D. 7=M.D., D.O., D.D.S., D.V.M. 8=J.D. (Law) 9=B.D. or M.DIV. (Divinity) 10=Other
68	RACEHS	How would you describe the racial composition of the high school you last attended?
69	RACENEIB	How would you describe the racial composition of the neighborhood where you grew up? 1=Completely non-White 2=Mostly non-White 3=Roughly half non-White 4=Mostly White 5=Completely White

Col	Variable Name	Variable Description
		Do you have a disability? (Mark all that apply) 1 = Not marked 2 = Marked
70	DISAB1	Disability: None
71	DISAB2	Disability: Hearing
72	DISAB3	Disability: Speech
73	DISAB4	Disability: Orthopedic
74	DISAB5	Disability: Learning disability
75	DISAB6	Disability: Partially sighted or blind
76	DISAB7	Disability: Health-related
77	DISAB8	Disability: Other
		How much of your first year's educational expenses (room, board, tuition, and fees) do you expect to cover from: 1=None 2=Less than $1,000 3=$1,000 - 2,999 4=$3,000 - 5,999 5=$6,000 - 9,999 6=$10,000 +
78	AID1	Aid: Family resources (parents, relatives, spouse, etc.)
79	AID2	Aid: My own resources (savings from work, work-study, other income)
80	AID3	Aid: Aid which need not be repaid (grants, scholarships, military funding, etc.)
81	AID4	Aid: Aid which must be repaid (loans, etc.)
82	AID5	Aid: Other than above
83-84	INCOME	What is your best estimate of your parents' total income last year? 1=Less than $10,000 2=$10,000 to 14,999 3=$15,000 to 19,999 4=$20,000 to 24,999 5=$25,000 to 29,999 6=$30,000 to 39,999 7=$40,000 to 49,999 8=$50,000 to 59,999 9=$60,000 to 74,999 10=$75,000 to 99,999 11=$100,000 to 149,999 12=$150,000 to 199,999 13=$200,000 to 249,999 14=$250,000 or more
85	FINCON	Do you have any concern about your ability to finance your college education? 1=None (I am confident that I will have sufficient funds) 2=Some (but I probably will have enough funds) 3=Major (not sure I will have enough funds to complete college)
86-87	SRELIGION	Student's religion
88-89	FRELIGION	Father's religion
90-91	MRELIGION	Mother's religion 1=Baptist 2=Buddhist 3=Church of Christ 4=Eastern Orthodox 5=Episcopalian 6=Hindu 7=Jewish 8=LDS (Mormon) 9=Lutheran 10=Methodist 11=Muslim 12=Presbyterian 13=Quaker 14=Roman Catholic 15=Seventh Day Adventist 16=United Church of Christ/Congregational 17=Other Christian 18=Other Religion 19=None

Col	Variable Name	Variable Description
		Indicate which activities you did during the past year 1=Not at all 2=Occasionally 3=Frequently
92	ACT01	Act in Past Year: Attended a religious service
93	ACT02	Act in Past Year: Was bored in class
94	ACT03	Act in Past Year: Participated in political demonstrations
95	ACT04	Act in Past Year: Tutored another student
96	ACT05	Act in Past Year: Studied with other students
97	ACT06	Act in Past Year: Was a guest in a teacher's home
98	ACT07	Act in Past Year: Smoked cigarettes
99	ACT08	Act in Past Year: Drank beer
100	ACT09	Act in Past Year: Drank wine or liquor
101	ACT10	Act in Past Year: Felt overwhelmed by all I had to do
102	ACT11	Act in Past Year: Felt depressed
103	ACT12	Act in Past Year: Performed volunteer work
104	ACT13	Act in Past Year: Played a musical instrument
105	ACT14	Act in Past Year: Asked a teacher for advice after class
106	ACT15	Act in Past Year: Voted in a student election
107	ACT16	Act in Past Year: Socialized with someone of another racial/ethnic group
108	ACT17	Act in Past Year: Came late to class
109	ACT18	Act in Past Year: Used the internet: for research or homework
110	ACT19	Act in Past Year: Used the internet: to read news sites
111	ACT20	Act in Past Year: Used the internet: to read blogs
112	ACT21	Act in Past Year: Used the internet: to blog
113	ACT22	Act in Past Year: Performed community service as part of a class
114	ACT23	Act in Past Year: Discussed religion
115	ACT24	Act in Past Year: Discussed politics
116	ACT25	Act in Past Year: Worked on a local, state or national political campaign
		Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. 1=Lowest 10% 2=Below average 3=Average 4=Above average 5=Highest 10%
117	RATE01	Self Rating: Academic ability
118	RATE02	Self Rating: Artistic ability
119	RATE03	Self Rating: Computer skills
120	RATE04	Self Rating: Cooperativeness
121	RATE05	Self Rating: Creativity
122	RATE06	Self Rating: Drive to achieve
123	RATE07	Self Rating: Emotional health
124	RATE08	Self Rating: Leadership ability
125	RATE09	Self Rating: Mathematical ability
126	RATE10	Self Rating: Physical health
127	RATE11	Self Rating: Popularity
128	RATE12	Self Rating: Public speaking ability
129	RATE13	Self Rating: Self-confidence (intellectual)
130	RATE14	Self Rating: Self-confidence (social)
131	RATE15	Self Rating: Self-understanding
132	RATE16	Self Rating: Spirituality
133	RATE17	Self Rating: Understanding of others
134	RATE18	Self Rating: Writing ability
135	DIVRATE1	Diversity Rating: Ability to see the world from someone else's perspective
136	DIVRATE2	Diversity Rating: Tolerance of others with different beliefs
137	DIVRATE3	Diversity Rating: Openness to having my own views challenged
138	DIVRATE4	Diversity Rating: Ability to discuss and negotiate controversial issues
139	DIVRATE5	Diversity Rating: Ability to work cooperatively with diverse people
140	FATHEDUC	Father's education
141	MOTHEDUC	Mother's education 1=Grammar school or less 2=Some high school 3=High school graduate 4=Postsecondary school other than college 5=Some college 6=College degree 7=Some graduate school

Col	Variable Name	Variable Description
		8=Graduate degree

Col	Variable Name	Variable Description
		How often in the past year did you? 1=Not at all 2=Occasionally 3=Frequently
142	MNDHAB01	Habits of Mind: Ask questions in class
143	MNDHAB02	Habits of Mind: Support your opinions with a logical argument
144	MNDHAB03	Habits of Mind: Seek solutions to problems and explain them to others
145	MNDHAB04	Habits of Mind: Revise your papers to improve your writing
146	MNDHAB05	Habits of Mind: Evaluate the quality or reliability of information you received
147	MNDHAB06	Habits of Mind: Take a risk because you feel you have more to gain
148	MNDHAB07	Habits of Mind: Seek alternative solutions to a problem
149	MNDHAB08	Habits of Mind: Look up scientific research articles and resources
150	MNDHAB09	Habits of Mind: Explore topics on your own, even though it was not required for a class
151	MNDHAB10	Habits of Mind: Accept mistakes as part of the learning process
152	MNDHAB11	Habits of Mind: Seek feedback on your academic work
153	MNDHAB12	Habits of Mind: Take notes during class
154-155	SCAREER	Student's probable career
156-157	FCAREER	Father's career
158-159	MCAREER	Mother's career 1=Accountant or actuary 2=Actor or entertainer 3=Architect or urban planner 4=Artist 5=Business (clerical) 6=Business executive (management, administrator) 7=Business owner or proprietor 8=Business salesperson or buyer 9=Clergy (minister, priest) 10=Clergy (other religious) 11=Clinical psychologist 12=College administrator/staff 13=College teacher 14=Computer programmer or analyst 15=Conservationist or forester 16=Dentist (including orthodontist) 17=Dietitian or nutritionist 18=Engineer 19=Farmer or rancher 20=Foreign service worker (including diplomat) 21=Homemaker (full-time) 22=Interior decorator (including designer) 23=Lab technician or hygienist 24=Law enforcement officer 25=Lawyer (attorney) or judge 26=Military service (career) 27=Musician (performer, composer) 28=Nurse 29=Optometrist 30=Pharmacist 31=Physician 32=Policymaker/Government 33=School counselor 34=School principal or superintendent 35=Scientific researcher 36=Social, welfare, or recreation worker 37=Therapist (physical, occupational, speech) 38=Teacher or administrator (elementary) 39=Teacher or administrator (secondary) 40=Veterinarian 41=Writer or journalist 42=Skilled trades 43=Laborer (unskilled) 44=Semi-skilled worker 45=Unemployed 46=Other 47=Undecided [student only]

Col	Variable Name	Variable Description
160	POLIVIEW	How would you characterize your political views? 1=Far right 2=Conservative 3=Middle-of-the-road 4=Liberal 5=Far left
		Mark one in each row: 1=Disagree strongly 2=Disagree somewhat 3=Agree somewhat 4=Agree strongly
161	VIEW01	View: There is too much concern in the courts for the rights of criminals
162	VIEW02	View: Abortion should be legal
163	VIEW03	View: The death penalty should be abolished
164	VIEW04	View: Marijuana should be legalized
165	VIEW05	View: It is important to have laws prohibiting homosexual relationships
166	VIEW06	View: Racial discrimination is no longer a major problem in America
167	VIEW07	View: Realistically, an individual can do little to bring about changes in our society
168	VIEW08	View: Wealthy people should pay a larger share of taxes than they do now
169	VIEW09	View: Same-sex couples should have the right to legal marital status
170	VIEW10	View: Affirmative action in college admissions should be abolished
171	VIEW11	View: Federal military spending should be increased
172	VIEW12	View: The federal government should do more to control the sale of handguns
173	VIEW13	View: Only volunteers should serve in the armed forces
174	VIEW14	View: The federal government is not doing enough to control environmental pollution
175	VIEW15	View: A national health care plan is needed to cover everybody's medical costs
176	VIEW16	View: Undocumented immigrants should be denied access to public education
177	VIEW17	View: Through hard work, everybody can succeed in American society
178	VIEW18	View: Dissent is a critical component of the political process
179	VIEW19	View: Colleges have the right to ban extreme speakers from campus
180	VIEW20	View: Students from disadvantaged social backgrounds should be given preferential treatment in college admissions
181	VIEW21	View: The federal government should raise taxes to reduce the deficit
182	VIEW22	View: Addressing global warming should be a federal priority
		During your last year in high school, how much time did you spend during a typical doing the following activities: 1=None 2=Less than one hour 3=1 to 2 hours 4=3 to 5 hours 5=6 to 10 hours 6=11 to 15 hours 7=16 to 20 hours 8=Over 20 hours
183	HPW01	Hours per Week: Studying/homework
184	HPW02	Hours per Week: Socializing with friends
185	HPW03	Hours per Week: Talking with teachers outside of class
186	HPW04	Hours per Week: Exercise or sports
187	HPW05	Hours per Week: Partying
188	HPW06	Hours per Week: Working (for pay)
189	HPW07	Hours per Week: Volunteer work
190	HPW08	Hours per Week: Student clubs/groups
191	HPW09	Hours per Week: Watching TV
192	HPW10	Hours per Week: Household/childcare duties
193	HPW11	Hours per Week: Reading for pleasure
194	HPW12	Hours per Week: Playing video/computer games
195	HPW13	Hours per Week: Online social networks (MySpace, Facebook, etc.)
		Are you: (Mark all that apply) 1 = Not marked 2 = Marked
196	RACE1	White
197	RACE2	Black
198	RACE3	American Indian
199	RACE4	Asian
200	RACE5	Native Hawaiian/Pacific Islander
201	RACE6	Mexican/Chicano
202	RACE7	Puerto Rican
203	RACE8	Other Latino
204	RACE9	Other race/ethnicity

Col	Variable Name	Variable Description
		How important was each reason in your decision to come here? 1=Not important 2=Somewhat important 3=Very important
205	CHOOSE01	Choose to Attend: My parents wanted me to come here
206	CHOOSE02	Choose to Attend: My relatives wanted me to come here
207	CHOOSE03	Choose to Attend: My teacher advised me
208	CHOOSE04	Choose to Attend: This college has a very good academic reputation
209	CHOOSE05	Choose to Attend: This college has a good reputation for its social activities
210	CHOOSE06	Choose to Attend: I was offered financial assistance
211	CHOOSE07	Choose to Attend: The cost of attending this college
212	CHOOSE08	Choose to Attend: High school counselor advised me
213	CHOOSE09	Choose to Attend: Private college counselor advised me
214	CHOOSE10	Choose to Attend: I wanted to live near home
215	CHOOSE11	Choose to Attend: Not offered aid by first choice
216	CHOOSE12	Choose to Attend: Could not afford first choice
217	CHOOSE13	Choose to Attend: This college's graduates gain admission to top graduate/professional schools
218	CHOOSE14	Choose to Attend: This college's graduates get good jobs
219	CHOOSE15	Choose to Attend: I was attracted by the religious affiliation/orientation of the college
220	CHOOSE16	Choose to Attend: I wanted to go to a school about the size of this college
221	CHOOSE17	Choose to Attend: Rankings in national magazines
222	CHOOSE18	Choose to Attend: Information from a website
223	CHOOSE19	Choose to Attend: I was admitted through an early action or early decision program
224	CHOOSE20	Choose to Attend: The athletic department recruited me
225	CHOOSE21	Choose to Attend: A visit to campus
226-227	MAJOR	Student's probable field of study/major 1=Art, fine and applied 2=English (language & literature) 3=History 4=Journalism 5=Language and Literature (except English) 6=Music 7=Philosophy 8=Speech 9=Theater or Drama 10=Theology or Religion 11=Other Arts and Humanities 12=Biology (general) 13=Biochemistry or Biophysics 14=Botany 15=Environmental Science 16=Marine (Life) Science 17=Microbiology or Bacteriology 18=Zoology 19=Other Biological Science 20=Accounting 21=Business Admin. (general) 22=Finance 23=International Business 24=Marketing 25=Management 26=Secretarial Studies 27=Other Business 28=Business Education 29=Elementary Education 30=Music or Art Education 31=Physical Education or Recreation 32=Secondary Education 33=Special Education 34=Other Education 35=Aeronautical or Astronautical Engineering 36=Civil Engineering 37=Chemical Engineering 38=Computer Engineering 39=Electrical or Electronic Engineering 40=Industrial Engineering

Col	Variable Name	Variable Description
		41=Mechanical Engineering 42=Other Engineering 43=Astronomy 44=Atmospheric Science (incl. Meteorology) 45=Chemistry 46=Earth Science 47=Marine Science (incl. Oceanography) 48=Mathematics 49=Physics 50=Other Physical Science 51=Architecture or Urban Planning 52=Family & Consumer Sciences 53=Health Technology (medical, dental, laboratory) 54=Library or Archival Science 55=Medicine, Dentistry, Veterinary Medicine 56=Nursing 57=Pharmacy 58=Therapy (occupational, physical, speech) 59=Other Professional 60=Anthropology 61=Economics 62=Ethnic Studies 63=Geography 64=Political Science (govt., international relations) 65=Psychology 66=Public Policy 67=Social Work 68=Sociology 69=Women's Studies 70=Other Social Science 71=Building Trades 72=Data Processing or Computer Programming 73=Drafting or Design 74=Electronics 75=Mechanics 76=Other Technical 77=Agriculture 78=Communications 79=Computer Science 80=Forestry 81=Kinesiology 82=Law Enforcement 83=Military Science 84=Other Field 85=Undecided

Col	Variable Name	Variable Description
		Indicate the importance to you personally of: 1=Not important 2=Somewhat important 3=Very important 4=Essential
228	GOAL01	Goal: Becoming accomplished in one of the performing arts (acting, dancing, etc.)
229	GOAL02	Goal: Becoming an authority in my field
230	GOAL03	Goal: Obtaining recognition from my colleagues for contributions to my special field
231	GOAL04	Goal: Influencing the political structure
232	GOAL05	Goal: Influencing social values
233	GOAL06	Goal: Raising a family
234	GOAL07	Goal: Being very well off financially
235	GOAL08	Goal: Helping others who are in difficulty
236	GOAL09	Goal: Making a theoretical contribution to science
237	GOAL10	Goal: Writing original works (poems, novels, short stories, etc.)
238	GOAL11	Goal: Creating artistic work (painting, sculpture, decorating, etc.)
239	GOAL12	Goal: Becoming successful in a business of my own
240	GOAL13	Goal: Becoming involved in programs to clean up the environment
241	GOAL14	Goal: Developing a meaningful philosophy of life
242	GOAL15	Goal: Participating in a community action program
243	GOAL16	Goal: Helping to promote racial understanding
244	GOAL17	Goal: Keeping up to date with political affairs
245	GOAL18	Goal: Becoming a community leader
246	GOAL19	Goal: Improving my understanding of other countries and cultures
247	GOAL20	Goal: Adopting 'green' practices to protect the environment
		What is your best guess as to the chances that you will 1=No chance 2=Very little chance 3=Some chance 4=Very good chance
248	FUTACT01	Future Act: Change major field
249	FUTACT02	Future Act: Change career choice
250	FUTACT03	Future Act: Participate in student government
251	FUTACT04	Future Act: Get a job to help pay for college expenses
252	FUTACT05	Future Act: Work full-time while attending college
253	FUTACT06	Future Act: Join a social fraternity or sorority
254	FUTACT07	Future Act: Play varsity/intercollegiate athletics
255	FUTACT08	Future Act: Make at least a 'B' average
256	FUTACT09	Future Act: Need extra time to complete your degree requirements
257	FUTACT10	Future Act: Participate in student protests or demonstrations
258	FUTACT11	Future Act: Transfer to another college before graduating
259	FUTACT12	Future Act: Be satisfied with your college
260	FUTACT13	Future Act: Participate in volunteer or community service work
261	FUTACT14	Future Act: Seek personal counseling
262	FUTACT15	Future Act: Communicate regularly with your professors
263	FUTACT16	Future Act: Socialize with someone of another racial/ethnic group
264	FUTACT17	Future Act: Participate in student clubs/groups
265	FUTACT18	Future Act: Participate in a study abroad program
266	FUTACT19	Future Act: Have a roommate of different race/ethnicity
267	FUTACT20	Future Act: Discuss course content with students outside of class
268	FUTACT21	Future Act: Work on a professor's research project
269	FUTACT22	Future Act: Get tutoring help in specific courses
270	PERMIT	Do you give the Higher Education Research Institute (HERI) permission to include your ID number should your college re quest the data for additional research analyses? 1=No 2=Yes

Col	Variable Name	Variable Description
		Optional Questions 1=A 2=B 3=C 4=D 5=E
271	OPTQ01	Optional Question 1
272	OPTQ02	Optional Question 2
273	OPTQ03	Optional Question 3
274	OPTQ04	Optional Question 4
275	OPTQ05	Optional Question 5
276	OPTQ06	Optional Question 6
277	OPTQ07	Optional Question 7
278	OPTQ08	Optional Question 8
279	OPTQ09	Optional Question 9
280	OPTQ10	Optional Question 10
281	OPTQ11	Optional Question 11
282	OPTQ12	Optional Question 12
283	OPTQ13	Optional Question 13
284	OPTQ14	Optional Question 14
285	OPTQ15	Optional Question 15
286	OPTQ16	Optional Question 16
287	OPTQ17	Optional Question 17
288	OPTQ18	Optional Question 18
289	OPTQ19	Optional Question 19
290	OPTQ20	Optional Question 20
291	SURVTYPE	Survey Type 1 = Paper 2 = Web
292-293	DOBMM	DOB Month
294-295	DOBYY	DOB Year
296	RRACE	Responded to race 1 = No 2 = Yes
297-298	RACEGROUP	Race/Ethnicity Group 1 = American Indian 2 = Asian 3 = Black 4 = Hispanic 5 = White 6 = Other 7 = Two or more race/ethnicity
299	FIRSTGEN	First generation status based on parent(s) with less than 'some college' 1 = No 2 = Yes
300-301	MAJORA	Student's major aggregated 1 = Agriculture 2 = Biological Sciences 3 = Business 4 = Education 5 = Engineering 6 = English 7 = Health Professional 8 = History or Political Science 9 = Humanities 10 = Fine Arts 11 = Mathematics or Statistics 12 = Physical Sciences 13 = Social Sciences 14 = Other Technical 15 = Other Non-technical 16 = Undecided

Col	Variable Name	Variable Description
302-303	SCAREERA	Student's probable career aggregated
304-305	FCAREERA	Father's career aggregated
305-307	MCAREERA	Mother's career aggregated 1 = Artist 2 = Business 3 = Business (clerical) 4 = Clergy 5 = College teacher 6 = Doctor (MD or DDS) 7 = Education (secondary) 8 = Education (elementary) 9 = Engineer 10 = Farmer or forester 11 = Health professional 12 = Homemaker (full-time) 13 = Lawyer 14 = Military (career) 15 = Nurse 16 = Research scientist 17 = Social/welfare/rec worker 18 = Skilled worker 19 = Semi-skilled worker 20 = Unskilled worker 21 = Unemployed 22 = Other 23 = Undecided
308-309	HOMESTATE	Student's home state
310-314	HOMEZIP	Student's home zip
315	STUDSTAT	Student status 1 = Full-time first-time freshman 2 = Part-time freshman 3 = Other
316	NORMSTAT	Norms status 1 = In norms 2 = Not in norms
317-321	STUDWGT	Student weight

Col	Variable Name	Variable Description
322-323	STRAT	CIRP Stratification Cell 1 = Public Universities - low 2 = Public Universities - medium 3 = Public Universities - high 4 = Private Universities - medium 5 = Private Universities - high 6 = Private Universities - very high 7 = Public 4yr Colleges - low 8 = Public 4yr Colleges - medium 9 = Public 4yr Colleges - high 10 = Public 4yr Colleges - unknown 11 = Private/Nonsectarian 4yr Colleges - low 12 = Private/Nonsectarian 4yr Colleges - medium 13 = Private/Nonsectarian 4yr Colleges - high 14 = Private/Nonsectarian 4yr Colleges - very high 15 = Private/Nonsectarian 4yr Colleges - unknown 16 = Catholic 4yr Colleges - low 17 = Catholic 4yr Colleges - medium 18 = Catholic 4yr Colleges - high 19 = Catholic 4yr Colleges - unknown 20 = Other Religious 4yr Colleges - very low 21 = Other Religious 4yr Colleges - low 22 = Other Religious 4yr Colleges - medium 23 = Other Religious 4yr Colleges - high 24 = Other Religious 4yr Colleges - unknown 25 = Public 2yr Colleges - very low 26 = Public 2yr Colleges - low 27 = Public 2yr Colleges - medium 28 = Public 2yr Colleges - high 29 = Public 2yr Colleges - very high 30 = Private 2yr Colleges - very low 31 = Private 2yr Colleges - low 32 = Private 2yr Colleges - medium 33 = Private 2yr Colleges - high 34 = HBCU Public 4yr Colleges 35 = HBCU Private 4yr Colleges 36 = HBCU Public 2yr Colleges 37 = HBCU Private 2yr Colleges 38 = HBCU Other Religious 4yr Colleges 39 = HBCU Catholic 4yr Colleges 40 = HBCU Public Universities 41 = HBCU Private Universities 99 = Other
324-325	STATE	Institution's state
326	HERIREG	HERI Region 1 = East 2 = Midwest 3 = South 4 = West
327	OBEREG	OBE Region 1 = New England - CT ME MA NH RI VT 2 = Mid East - DE DC MD NJ NY PA 3 = Great Lakes - IL IN MI OH WI 4 = Plains - IA KS MN MO NE ND SD 5 = Southeast - AL AR FL GA KY LA MS NC SC TN VA WV 6 = Southwest - AZ NM OK TX 7 = Rocky Mountains - CO ID MT UT WY 8 = Far West - AK CA HI NV OR WA 9 = Other
328	HBCU	Historically Black Colleges and University 1 = Not HBCU 2 = Public HBCU 3 = Private HBCU
329	INSTSEX	Institution's Sex 1 = Male only 2 = Female only 3 = Co-ed 4 = Coordinate

Col	Variable Name	Variable Description
339-340	SELECTIVITY	Institutional Selectivity
341	INSTTYPE	Institution Type 1 = University 2 = 4-year 3 = 2-year
342	INSTCONT	Institution Control 1 = Public 2 = Private
343-344	COMPGROUP1	Comparison Group 1 1 = Public Universities - low 2 = Public Universities - medium 3 = Public Universities - high 4 = Private Universities - medium 5 = Private Universities - high 6 = Private Universities - very high 7 = Public 4yr Colleges - low 8 = Public 4yr Colleges - medium 9 = Public 4yr Colleges - high 10 = Private/Nonsectarian 4yr Colleges - low 11 = Private/Nonsectarian 4yr Colleges - medium 12 = Private/Nonsectarian 4yr Colleges - high 13 = Private/Nonsectarian 4yr Colleges - very high 14 = Catholic 4yr Colleges - low 15 = Catholic 4yr Colleges - medium 16 = Catholic 4yr Colleges - high 17 = Other Religious 4yr Colleges - very low 18 = Other Religious 4yr Colleges - low 19 = Other Religious 4yr Colleges - medium 20 = Other Religious 4yr Colleges - high 21 = Public 2yr Colleges 22 = Private 2yr Colleges
345	COMPGROUP2	Comparison Group 2 1 = Public Universities 2 = Private Universities 3 = Public 4yr Colleges 4 = Private/Nonsectarian 4yr Colleges 5 = Catholic 4yr Colleges 6 = Other Religious 4yr Colleges 7 = Public 2yr Colleges 8 = Private 2yr Colleges
346	COMPGROUP3	Comparison Group 3 1 = All Baccalaureate Institutions 2 = All Two-Year Colleges
		TFS Constructs - Scores
347-351	HABITS_OF_MIND	TFS Habits of Mind Score
352-356	ACADEMIC_SELFCONCEPT	TFS Academic Self-Concept Score
357-361	SOCIAL_SELFCONCEPT	TFS Social Self-Concept Score
362-366	PLURALISTIC_ORIENTATION	TFS Pluralistic Orientation Score
367-371	SOCIAL_AGENCY	TFS Social Agency Score
372-376	COLLEGE_REPUTATION	TFS College Reputation Orientation Score
377-381	COLLEGE_INVOLVEMENT	TFS Likelihood of College Involvement Score
		TFS Constructs - Groups
382	HABITS_OF_MIND_GRP	TFS Habits of Mind Group
383	ACADEMIC_SELFCONCEPT_GRP	TFS Academic Self-Concept Group
384	SOCIAL_SELFCONCEPT_GRP	TFS Social Self-Concept Group
385	PLURALISTIC_ORIENTATION_GRP	TFS Pluralistic Orientation Group
386	SOCIAL_AGENCY_GRP	TFS Social Agency Group
387	COLLEGE_REPUTATION_GRP	TFS College Reputation Orientation Group
388	COLLEGE_INVOLVEMENT_GRP	TFS Likelihood of College Involvement Group 1=Low score 2=Average Score 3=High score

APPENDIX F

TABLE 5 – DEMOGRAPHIC CHARACTERISTICS DISABILITY BY SES LEVEL

Characteristics		n	%
Low SES			
No Disability		679	91%
Learning Disability		17	2%
Other Disability		47	6%
	Total	743	100%
Lower Middle SES			
No Disability		1760	92%
Learning Disability		38	2%
Other Disability		115	6%
	Total	1913	100%
Middle SES			
No Disability		5354	93%
Learning Disability		129	2%
Other Disability		288	5%
	Total	5771	100%

(table continues)

Table 5 (continued)

Characteristics		n	%
Upper Middle SES			
No Disability		7130	92%
Learning Disability		231	3%
Other Disability		358	5%
	Total	7719	100%
High SES			
No Disability		4915	91%
Learning Disability		217	4%
Other Disability		261	5%
	Total	5393	100%

APPENDIX G

TABLE 6 – DEMOGRAPHIC CHARACTERISTICS DISABILITY BY ETHNIC GROUPING

(N = 21,916)

Characteristics		N	%
White			
No Disability		13106	92%
Learning Disability		492	3%
Other Disability		661	5%
	Total	14259	100%
African American			
No Disability		2731	93%
Learning Disability		41	1%
Other Disability		163	6%
	Total	2935	100%
Asian			
No Disability		1450	94%
Learning Disability		20	1%
Other Disability		80	5%
	Total	1550	100%

(table continues)

Table 6 (continued)

Characteristics	N	%
Hispanic		
No Disability	1481	93%
Learning Disability	25	2%
Other Disability	93	6%
Total	1599	100%
Other		
No Disability	698	89%
Learning Disability	29	4%
Other Disability	60	8%
Total	787	100%