5-2012

Overcoming Educational Stratification: Effect of Athletic Status and Race on Odds of Graduating at Western Kentucky University

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OVERCOMING EDUCATIONAL STRATIFICATION: EFFECT OF ATHLETIC STATUS AND RACE ON ODDS OF GRADUATING AT WESTERN KENTUCKY UNIVERSITY

A Thesis
Presented to
The Faculty of the Department of Sociology
Western Kentucky University
Bowling Green, Kentucky

In Partial Fulfillment
Of the Requirements for the Degree
Master of Arts

By
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May 2012

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WESTERN KENTUCKY UNIVERSITY

Date Recommended 25 April 2012

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For Penny, who kept me motivated by long walks and focused on the good to come.

ACKNOWLEDGMENTS

I would like to thank my committee members for their help in preparing this study, especially in light of the setbacks along the way. Dr. James Kanan has had extreme patience and has been very thorough and prompt with comments on drafts, as well as helping me rework and find an appropriate theory. Dr. Jerry Daday made the statistical analysis possible, and I am especially thankful for his willingness to answer my sometimes mundane statistical questions and his willingness to help in the recoding and formatting of data process. Dr. Holli Drummond has given continued support and enthusiasm throughout the whole process and is thanked especially for the idea of using stratification as the theoretical framework for the study.

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This study examines the effect of stratification on graduation at Western Kentucky University, a master's level regional Division I Football Bowl Subdivision university in the South. The study begins by examining the historical basis of stratification in sport and higher education, and hypothesizes that becoming an intercollegiate athlete can eliminate the effect of being African American on graduation, which is generally negative and can be seen in lower graduation rates for African Americans compared to other populations. Using a data set that included 18,966 students, logistic regression was used to assess: 1) the effect of race on sport profile and 2) the effect of race and athletic status on graduation, controlling for sex, high school GPA, pre-collegiate standardized test scores, and department of academic major. Results indicate that African American students have 771 percent greater odds of participating in high profile sports compared to low profile sports, which supports the literature that sport is stratified in such a way that African Americans are more likely to bear a disproportionate load in revenue-producing sports. Even so, when interacting sport profile, athlete, and race, the penalty on graduation for being African American is eliminated, and African American athletes have the same odds of graduating as white non-athletes.

CHAPTER I: INTRODUCTION

> Education is important. As the numbers show, there are more than 400,000 NCAA student-athletes, and most of them go pro in something other than sports. (NCAA 2011)

In a stratified society, such as what is found in the United States, certain groups of people are consistently held back from or limited in certain pursuits, including employment and education. The result usually involves material inequality and beliefs that carry over to subsequent generations leading stratification to be a trait of society (Macionis 2007). In the United States, minority groups generally occupy the lower strata and bear the results of stratification.

Two of the common paths that many minorities see as a path of upward mobility include education and sports (Sage 2005). In these two arenas, however, stratification is active. By and large, whites have dominated higher education, as they accounted for 68 percent of undergraduates in 2009 compared to only 15 percent who were black; African American graduation rates have been half of white rates; and whites tend to perform better in the classroom altogether (Bowen, Chingos, and McPherson 2009; Bruno and Curry 1996; Charles, Roscigno, and Torres 2007; Fordham and Ogbu 1986; Graunke and Woosley 2005; National Center for Education Statistics 2011). Sports have an equally tenuous and stratified past dating to the pre-slavery era, when white slave owners used their slaves for boxing and for racing horses, to the modern day when African Americans disproportionately occupy positions on revenue-producing sports teams owned and managed by whites (NCAA 2011; Sage 2005). For African Americans, sports have been a "powerful reinforcer of racist ideology" yet also an instrument for mobility and opportunity for them (Sage 2005:266).

Over the past 30 years, the National Collegiate Athletic Association has taken measures to improve the readiness of future college athletes and the progress of current athletes by increasing academic eligibility requirements. Even so, there are forces at play in the academic performance of all students that the NCAA cannot directly regulate. One of the most influential forces in academic success—in terms of graduation—is the race of the individual student, although some of the academic eligibility requirements have indirectly raised graduation rates for African American students (Price 2010). The general student athlete population also regularly performs better than non-athletes in reference to graduation rates and other indicators of academic performance. In other words, there seems to be some academic benefit to being a student athlete.

This study looks at the social stratification of white and African American students, and it assesses the impact of being African American on graduation. First, what is the penalty for being African American? Second, can sport, an institution that has perpetuated racist ideology according to Sage (2005), break through the barrier to graduation set up in the general population? I will use data from a Division I Football Bowl Subdivision school to help answer these questions by looking at the odds of graduating for certain sub-groups, the persistent stratification that exists in the intersection between higher education and intercollegiate athletics, and the intervening effect of sports on graduation.

CHAPTER II: LITERATURE REVIEW

Background

The first step to becoming an athlete at the college level begins well before a letter of intent is ever signed. In high school, students begin shaping whether or not they will be able to play college sports. In order to ensure that academically qualified students were being selected to be athletes, the NCAA enacted requirements for eligibility. Proposition 48 began the academic eligibility requirements for incoming student athletes by establishing that students could play intercollegiate athletics if they had a 2.0 GPA in 11 high school core courses and scored a 700 on the SAT or 18 on the ACT. These requirements limited the eligible college-bound seniors to roughly 83 percent (National Center for Education Statistics 1995).

The guidelines of Proposition 48's successor, Proposition 16 (now NCAA Bylaw 14.3.1.1.2), are the current set of guidelines for incoming freshman (NCAA 2009), and they were much stricter than their predecessor. This proposition was "adopted to alleviate a problem (low graduation rates) that disproportionately affected African American student-athletes," and this subgroup should benefit disproportionately with an increase in graduates (Suggs 1999:A70) as well. Unlike Proposition 48, which "succeeded in increasing graduation rates" (Meyer 2005:16), however, Proposition 16 has had no real effect on the overall average graduation rates of Division I student athletes. It has increased graduation rates significantly for African American males though (Price 2010).

Proposition 16 established an Initial Eligibility Index that included a sliding scale for student GPAs and standardized test scores. The higher the student's GPA, the lower he or she could score on the ACT or SAT and vice versa. This policy was intended to force colleges to admit students who were academically prepared to attend the college at which they played under the assumption that these students would have the skills necessary to succeed academically.

In addition to the Initial Eligibility Index created by Proposition 16, incoming freshmen must also meet specific core curriculum requirements to be eligible under bylaw 14.3.1.2, as of August 2000 (NCAA 2009). These 16 core courses include: four years of English; three years of mathematics at the level of Algebra I or higher; two years of natural or physical science and one year of lab if offered by the high school; one year of additional English, mathematics or natural or physical science; two years of social science; and four years of additional courses from any of these areas above, foreign language, nondoctrinal religion or philosophy (NCAA 2008).

Overall, Proposition 16 reduced the number of incoming students qualified to play intercollegiate athletics to 64.7 percent. The number of students qualifying was also racially divisive, with 67 percent of whites and Asian college-bound high school seniors qualifying compared to 46.4 percent of black college-bound seniors (National Center for Education Statistics 1995). African American freshman student athlete enrollment decreased as a result, and "…due to higher academic standards required for eligibility, athletic departments relied less on freshmen and more on transfer students to fill scholarships" who were not required to meet the same standards (Price 2010:19). This policy has quite predictably come under fire for being discriminatory against minority

and female students for its reliance on standardized testing, which may be biased toward white males (Leonard and Jiming 1999; Suggs 1999).

It should be noted that while these requirements set by the NCAA are the minimum required to participate in intercollegiate athletics, institutions may have higher standards for students in general. In other words, these requirements may be far below what is required for a non-athlete student to be admitted to a university. Test scores for student athletes have been found to be below the norm for the university, especially among revenue-producing sports (Bowen and Levin 2003; Shulman and Bowen 2001). Shulman and Bowen (2001) also found that the SAT score differential between athletes and non-athletes has increased since the 1970s. Despite the increase in objective admissions criteria, athletes have enjoyed a distinct admission advantage compared to minorities and legacies (individuals with family members who attended the institution), both of which typically have an advantage in admissions. In fact, in a 1999 cohort, Bowen and Levin (2003) found that recruited athletes are 48 percent more likely to be admitted over non-athletes at a representative non-scholarship school, controlling for differences in SAT scores; legacies enjoyed a 25 percent greater likelihood in admission, while minorities had an 18 percent greater likelihood. This admissions advantage has increased steadily since the 1970s as well.

After athletes are admitted and matriculate, they must maintain their academic eligibility in order to play. The 40/60/80 Progress Toward Degree requirement attempts to force athletes to keep progressing towards graduation at a steady rate. After the student athlete declares a major, which is required by the beginning of the third year, he or she must complete at least 40 percent of his or her degree by the beginning of the

third year, 60 percent going into the fourth year, and 80 percent going into the fifth year. This is potentially problematic because an athlete cannot change his or her major without possibly losing credits applicable to his or her degree (NCAA 2009), especially when he or she is likely to do so. The criteria by which individuals choose majors change, even over just a short time, and as students progress, they will likely want to change their majors (Galottie 1999).

The 40/60/80 rule may unfairly penalize students who do change their mind about their major. As Meyer (2005) claims, serious student athletes are penalized because they cannot change their major and are stuck with having to choose between being academically eligible and changing to a preferred major. The National Association of Academic Advisors for Athletics (2004) has recognized this problem, and predicts that majors will be chosen based upon those that help ensure eligibility over more personally meaningful fields.

The pressure placed on student athletes to be academically eligible is not only from the internal desire to play in each game; it likely comes down from administrators and coaches as well. The Academic Progress Rate (APR) requirement is one in which teams are rewarded for positive academic progress and punished for inadequate performance.

> The APR is calculated by allocating points for eligibility and retention -- the two factors that research identifies as the best indicators of graduation. Each player on a given roster earns a maximum of two points per term, one for being academically eligible and one for staying with the institution. A team's APR is the total points of a team's roster at a given time divided by the total points possible. Since this results in a decimal number, the CAP decided to multiply it by 1,000 for ease of reference. (Brown 2005)

In other words, the APR is really the percentage score of possible points for eligibility and retention that a team has earned. In general, a score of 925 translates into a 60 percent Graduation Success Rate, which is a NCAA created metric that accounts for transfer and normal (non-transfer) student athletes unlike the federal graduation rate (NCAA 2012). Furthermore, teams are required to have an APR of 925 in order to avoid contemporaneous sanctions such as losing scholarships (NCAA 2009). Because of the APR and its formulation, universities began to focus more on graduation and retention rates.

This quite possibly leads to cluster majors. Defining a cluster major as a major in which a large team has 25 percent or more of the athletes in a given major and 33 or more percent of athletes in a given major for a small team, one study showed that 83 percent of NCAA Division I schools had student-athletes that decided to pursue the same degree as their teammates (Upton and Novak 2008). A separate study also found that 44 percent of football players at the University of Oklahoma majored in sociology or criminology compared to just 6 percent of the general student population; moreover, 21 percent of the school's baseball team were human relations majors compared to 2 percent of the general population (Simons 2009). Shulman and Bowen (2001) found 54 percent of high profile athletes at an Ivy League university majored in economics or political science, which compared to 18 percent of male students at large. In another study, male recruited athletes majored in the sciences, which are typically more rigorous at the institutions studied, at 18 percent, and this compared to 36 percent of the walk-on population and 41 percent of the students at large (Bowen and Levin 2003). To add another layer of complication, student athletes' academic majors may also have

significant impact on graduation rates, with those in the sciences being less likely to graduate than those in education majors (Autry 2010). Cluster majoring is problematic because it has the potential to continue forcing students into academic majors that are less rigorous. This means that students will potentially have severely different outcomes in their education despite earning the same level degree.

Anecdotal evidence also points to the fact that universities and athletes recognize the pressure to be eligible and adapt accordingly. At Brigham Young University (BYU), students often choose majors based upon scheduling conflicts or unwillingness to spend the time necessary for the major they want. BYU recognizes this fact, and the university offers a few different types of "open enrollment" majors, which are programs that do not have limited-enrollment and have guaranteed admission. According to information provided by BYU's Student Athlete Academic Center, 54 percent of student athletes major in these programs while these programs might be the second or third major choice for those athletes (Mortimer 2010).

Social Stratification

Evidence may ostensibly point to athletes as a whole entering with lower admissions standards and matriculating in cluster majors, and these items may be the focus of media attention, which necessarily draws the attention of administrators. What is perhaps lost in the admission requirements, APR scores, and matriculation requirements for student athletes is the black-white gap in college attendance and the disparities between students of different races in classroom performance after admission. Assuming the goal of higher education is to produce students with degrees that enable

them to succeed in the real world, the opportunity for success in graduation is rarely equal in college campuses across the United States.

Enrollment rates of white high school students in college is around 60 percent, while for African Americans it is only 50 percent, and the rate of undergraduate degree completion for African Americans has been only half of white degree completion and has been since the 1970s (Bruno and Curry 1996; Charles, Roscigno, and Torres 2007). Moreover, it seems that African American student athletes tend to perform worse academically than their white counterparts, which mimics the trend for non-athletes because they come to college less prepared than whites (Bowen, Chingos, and McPherson 2009; Fordham and Ogbu 1986; Graunke and Woosley 2005). For the 2004 cohort, African-American student athletes posted graduation success rates of only 68 percent compared to 87 percent of white student athletes (NCAA 2011). This percentage is still far greater than the 38 percent of African American nonstudent athletes who graduate though (The Institute for Diversity and Ethics in Sport 2010). The disparity between whites and African Americans becomes even more defined when one examines individual sports. Men's basketball, for example, had a graduation success rate of 84 percent of white student-athletes compared to 64 percent of the African American student-athletes (NCAA 2011). For African American athletes in revenue-producing sports, high school GPA and mother's occupation were found to be significant predictors of graduation, but this did not apply to other races or ethnicities (Sellers 1992).

The differences in white and African American educational attainment may be attributable to resources. Research has shown that whites, in general, have more

available resources than African Americans, and these resources can be used to adequately prepare youth for college or vocational fields. High socioeconomic status (SES) households can transmit social capital to the younger members of the family, including ideals about education, which may be favorable to educational attainment. Low SES households lack the ability to adequately invest in educational resources that middle and high SES households could afford (Charles, Roscigno, and Torres 2007). In 2009, the median net worth of white households was 20 times that of African American households, with whites having a median net worth of $113,149 compared to a median net worth of $5,677 for African Americans. This ratio is currently the largest that it has been in 25 years (Kochhar, Fry, and Taylor 2011). African American children are three times more likely to live in poverty than white children, and they are also more likely to attend high-poverty schools (American Psychological Association 2012). Approximately 27 percent of African American youth live in "severely distressed" neighborhoods, while only 1 percent of white youth do (APA Task Force on Socioeconomic Status 2006; O'Hare and Mather 2003).

This disparity can be seen in many aspects of American life, as illustrated above with educational attainment, net wealth, and income. It is perhaps also evident in the history of sport with regards to race. Working within the principles laid out above, it is possible to see sport as a microcosm for more abstracted levels of stratification. Sport has for African Americans, for example, reinforced racist ideology but also been an avenue for upward social mobility and opportunity (Sage 2005): sports have been able to dictate subordination of African Americans to whites and keep them segregated, but they serve as an opportunity for African Americans to break out of lower classes.

According to Sage (2005), during the period of slavery in the United States, slaves were encouraged by their masters to engage in sport as a means for leisure, and this was preferably over excessive drinking, fighting, and creating plans for insurgency. Sport was used as leisure amongst the African Americans, but white masters also used their slaves for their own leisure, as they promoted boxing matches and horse races where African Americans fought and raced against each other while the slave owners and friends watched. Throughout, whites were in control of blacks, with "social relations [being] seen as distant, with whites in control and African Americans in subordinate roles, pleasing the dominant white groups" (267).

The subordination continued even after emancipation. Some African Americans played on professional baseball teams, but even then, white players threatened to quit or intentionally tried to harm African Americans while playing. Ultimately, in 1888 white major league team owners joined in a pact not to sign any more African Americans to their teams, and this was in effect until Jackie Robinson was signed in 1945. Consequently, African Americans formed their own baseball leagues and played in them during this time period. Such exclusion from participation with whites did not exist solely in baseball. Blacks were frequently denied the opportunity to compete for the top prizes in boxing despite being major participants in the sport. Furthermore, until the 1960s, African American colleges participated in African American college sporting leagues after being barred from participating with whites due to prejudice and discrimination (Sage 2005).

More recently, after the legal rulings calling for the desegregation of blacks from whites, African Americans have slowly increased (and now even are in the majority in

some instances) their presence in more historically white sports. Intercollegiate sports followed a similar path after the 1954 Supreme Court ruling that forbade segregated educational facilities, leading historically white institutions to recruit African American students. According to Sage (2005:269), "The best athletes found it advantageous to play at predominantly white schools because of greater visibility, especially on television, which boosted their changes for signing professional contracts." At Division I schools, African American non-athletes accounted for only 6 percent of all students at those schools, but 27.5 percent of scholarship athletes at those same institutions were African American. Moreover, 60 percent of men's basketball players, 37 percent of women's basketball players, and 46 percent of football players are African American (NCAA 2011). Despite the rise in African American athletes in these areas, they are practically non-existent in more upper-class, socially elite, low spectator interest sports; Sage (2005) contends that this is due to barriers created by racism instituted by those who control those sports. Blacks have, in other words, been forced into high profile, revenue generating sports, and haven't necessarily been allowed to enjoy sport for recreational purposes. At the same time, blacks have been able to capitalize on this and hold large percentages of participation in these sports, preventing whites—in some circumstances—from entry into the upper levels of the sport. Roughly 18 percent of Major League Baseball players, 68 percent of National Football League players, and 80 percent of National Basketball Association players are African American.

Sport also allows for social mobility, although this may be viewed too favorably, as it happens rather infrequently at the professional level. The odds of an African American male athlete becoming a professional athlete are 1 in 5,000, but 51 percent of

"African American high school athletes believe that they can become professional athletes" (2005:273). Still, athletic scholarships allow individuals who may not otherwise have the financial means to attend college earn a degree.

When focusing at the intercollegiate level, the conflict between and amongst the stratified layers of society becomes apparent. In Division I schools, as previously stated, African American students are disproportionately represented in high profile (and normally revenue-generating) sports, including basketball, baseball, and football. Because of this, the yoke on the student athletes to perform well so that schools can keep lucrative contracts is also disproportionate to the student body in general. In other words, African Americans appear to contribute more—proportionately—to their schools than do whites, even though whites, who make up the majority of the population at these schools, benefit most from it. Major football conferences have lucrative deals with television channels: Southeastern Conference (SEC) has a $2.25 billion deal with ESPN and a $825 million deal with CBS for a 15 year contract through the 2023-2024 season; Big Ten has a deal with the Big Ten Network for 25 years at $2.8 billion through 2031-2032, and a 10 year $1 billion dollar deal through 2016 with ABC/ESPN (Mandel 2009). Other revenue is also generated through endorsements, ticket sales, and merchandising (Eitzen 2005).

Stratification appears to exist on multiple levels in college sports. First, there is the issue of those who control the means of production (administrators, coaches, etc.) and those who actually do the labor (players). Players are ultimately at the command of the institutions for which they play. The NCAA has rules and procedures by which institutions must comply to recruit and retain players, even though these stipulations are

at times detrimental to the players themselves. For example, student athletes cannot readily transfer institutions if it is in their best academic interest and be immediately eligible for athletics, and student athletes may not be able to switch majors without a severe penalty, which is discussed above and below. Furthermore, the institutions set additional guidelines that they follow when recruiting, often recruiting individuals who are not academically prepared for college despite meeting bare minimum eligibility requirements. It has been suggested that institutions will keep these individuals eligible through a variety of methods, and then not necessarily worry about or expect these student athletes to graduate (Eitzen 2005; Sage 2005). While this is going on, these student athletes are still expected to perform on the field or risk being cut from the team.

Second, there is the dichotomy between athletes and non-athletes. Large amounts of financial resources go to both groups, but it could be argued that at Division I schools, a greater percentage of student athletes receive larger amounts of aid, regardless of need, compared to non-athlete peers. One fact regarding academic success is that student athletes typically outperform nonstudent athletes in graduation rates. The Division I six year student athlete cohort entering in 2003 produced a 64 percent federal graduation rate compared to the 63 percent of the general Division I student body (Sander 2010). Comparing the federal graduation rate and the graduation rate calculated by the NCAA is problematic, however. The NCAA calculated a nearly 80 percent graduation rate for the same group of student athletes, much high than the calculated federal rate. However, this difference exists because of the different ways in which the statistic is computed. Federal graduation rates include data for whole student body, including part-time and transfer students, which will lower the graduation rate, but the NCAA does not penalize

institutions for transfer students (NCAA 2012). In order to be more accurate, the NCAA graduation rates need to be compared to the similar full-time general student graduation rates since athletes must be full-time students. In other words, the comparisons made by the NCAA are ultimately problematic because the populations being compared are not the same, and choosing the NCAA computational method makes the student athlete graduation rates look more favorable (Eckhard 2010). Sellers (1992) and Shulman and Bowen (2001) reported significant differences in graduation rates, with high profile athletes (basketball, football, and baseball), having lower graduation rates than low profile student athletes and those who participate in extracurricular activities, with the latter having the highest graduation rates.

Of all the sports, men's basketball, football, and baseball suffer from lowest graduation rates, even though these sports still beat the federal average graduation rate as calculated by the NCAA (Sander 2010). While no studies have been done to calculate why these graduation rates are lower than other sports yet still higher than the graduation rates of the general population, some argue it is because of the status of these programs on the national level and the time needed to compete (Gettinger 2009). For example, the University of Michigan football team allegedly broke NCAA regulations regarding the number of hours a team could practice per day and per week (Rittenberg 2009). A NCAA survey found that football players in Division I Bowl Division have claimed to spend more than 43.3 hours per week on their sport. Baseball players claimed 42.1 hours were spent on practicing in some way, while men's basketball players claimed 39.2 hours. The issue is not gender specific, as women's basketball players claimed 37.6 hours spent on their sport per week, which compared to 32 hours for all other men's

sports and 33.3 hours for all other women's sports. Division II and Division III institutions had similar patterns (NCAA 2011). When athletics are nearly a full-time job, adding classes, eating, sleeping, and school work, time quickly runs out, and sacrifice must be made somewhere. However, other studies have compared student athletes to other students participating in extracurricular activities requiring a significant amount of time and found that those in the extracurricular activities performed much better than the student athletes, and actually outperformed all other student group types. (Bowen and Levin 2003; Shulman and Bowen 2001). In the authors' words, "…whereas heavy time commitments to athletics may harm the academic performance of some athletes, the evidence does not suggest that, by itself, time spent away from the library is a generic cause of [academic] underperformance" (Bowen and Levin 2003:70).

Despite the graduation rate difference, when comparing student athletes to their non-athlete peers, student athletes tend to perform less well when it comes to their grades, and this academic performance gap has steadily widened since the 1950s (Shulman and Bowen 2001). This is especially the case for Division IA private, Ivy League, and coed liberal arts universities. The researchers could not compare Division IA public university student athletes to non-athlete peers because the number of cases of SAT scores were too low to have enough power in the comparison.

On a third level, there is also the ongoing disparity between whites and blacks. By and large, whites are overrepresented in the education and athletic administrative realm in higher education: only 5 percent of all full-time faculty members were African American in the fall of 2005; 14 percent of college presidents in the fall of 2005 were of a minority race; 6 percent of all chief academic officers in 2009 were African American;

and 84.4 percent of all conference administrators were white during the 2007-2008 academic year (American Council on Education 2008; American Council on Education 2009; Chronicle of Higher Education 2008; NCAA 2011). Furthermore, at the Division I schools where money is actually made off of sports, whites are in the majority of the student population, while African Americans represent a disproportionate load on the revenue-producing sports teams at these institutions (NCAA 2011; Sage 2005). To further complicate matters, African Americans may not even have a real choice in the sports that they play because of the barriers to entry in other sports due to ongoing segregation and discrimination created and continuously instituted by those who control access to the sport (Sage 2005). Such barriers may include economic restrictions for socially elite sports (tennis and golf, for example). It seems likely that by the time blacks attend college, they are not as athletically skilled in these other sports because they have not been given the opportunity to compete in them as much as they have in basketball, baseball, and football, in which barriers are not as high or are nonexistent.

Other Known Factors Influencing Academic Success

While the literature has identified race and athletic status as successful predictors of graduation, other variables also exist predict academic success.

Gender

As a general rule, gender is the dividing line in graduation rates in the general student population and among student athletes, even before race. Women tend to perform better academically than males, earning higher grades than men, outnumbering men at higher education institutions, and completing more college degrees than men (Buchmann and DiPrete 2006; Tamar 2006). If one just focuses on athletes and sports

teams, women's sports teams typically have higher graduation rates than men's sports, mirroring the general student population (Murray 2010; Sander 2010). In a recent report, the white female student athlete graduation success rate was 92 percent, while the male student athlete graduation rate was 83 percent; African American females had a graduation success rate of 80 percent, while African American males had 68 percent (NCAA 2011).

High School GPA and Standardized Test Scores

Several studies have examined the effects of demographic, individual pre-college, individual college, and institutional variables on college GPA. Standardized test scores (ACT and SAT) have been shown to have significant positive relationships to academic success among students (ACT, Inc. 2008; Noble and Sawyer 2002; James 2010; Snyder 2009). Even if this is the case, student athletes at academically selective schools performed worse than could be predicted after controlling SAT scores, major, and socioeconomic status. High profile athletes at Ivy League institutions performed 10.8 percentile points lower than non-athlete peers, while low profile athletes performed 6.7 percentile points lower. It is important to note, however, that findings for Division IA public institutions were not statistically significant (Bowen and Levin 2003). Another common predictor of academic performance and outcomes is high school GPA (Noble and Sawyer 2002), with some studies arguing that high school GPA is the best predictor of four year college outcomes for all academic disciplines (Geiser and Santelices 2007; Hoffman and Lowitzki 2005).

High school GPA has also been shown to have a less adverse impact than standardized tests on underrepresented and minority population predicted academic

outcomes, as standardized testing may favor certain populations (Geiser and Santelices 2007). This also holds for student athletes as well. For example, Sellers (1992) found a strong relationship between high school GPA and verbal SAT scores for football and basketball players attending predominantly white institutions. Baumann and Henschen (1986) found that high school GPA and ACT scores, when combined, were the best predictor for white, while high school GPA alone was the best predictor for non-whites. For white athletes, it has been shown that high school GPA, SAT scores, and socioeconomic status are significant factors in predicting academic performance (Sellers 1992). Johnson and Mottley (1984) studied entering football freshman and found that race was a significant predictor for GPA, along with the number of games played, semesters enrolled in a study improvement course, ACT score, and time needed to prove reading proficiency.

Time Constraints

It is also argued in athletic administration circles that the structured nature of the season allows for student athletes to focus more specifically on academics during the little time that they do have. Despite this belief, research has shown that athletes tend to perform better academically outside of the athletic season, with negative effects on academic outcomes being strongest for those sports with the greatest time demands, such as football, baseball, and softball (Scott et al. 2008). Participation in revenue generating sports which typically have high time demands has been found to be significant in predicting academic success with an inverse relationship between revenue-producing sports and GPA (James 2010). Additionally athletes at institutions who compete at a higher competition level tend to perform worse, academically, than those at

lower competition levels due to increased time demands required for higher competition levels (Lang and Rossi 1991).

Recruitment Status

Differences between types of athletes are also important when looking at academic performance. Recruited male and female athletes in both revenue and non-revenue-producing sports, Bowen and Levin (2003) found, perform significantly worse than their walk-on peers, and they also perform worse than could be predicted by standardized test scores. This cannot be attributed to time commitments that recruited athletes may face, but is most likely attributable to the types of students who are recruited to be athletes.

Relation to the Study

Two basic areas of stratification have been discussed above. First, there is stratification due to race. This can be seen in disparate wealth and resources that affect socioeconomic status, which—in turn—affect educational attainment. In other words, an individual who is African American pays a price for simply being African American due to the prolonged and consistent stratification in society that prevents upward mobility through education.

Second, there is stratification in sport based on athletic status and race. Of the former, athletes tend to have the resources available to them for sustaining themselves in the upper echelons of society. They receive free education through scholarships, educational resources to keep them eligible to play that are not open to non-athletes, and social prestige through winning and association with the team. Of the latter, African Americans have consistently carried a disproportionate amount of the load in revenue-

producing sports, from the earlier days of horse racing to the modern day college football.

This study seeks to examine the interaction of stratification at both levels. Do African Americans have lesser odds of graduating? According to the literature, there is a disparity between educational attainments of African Americans compared to whites. Can this disparity be erased by another stratified system though? Sport, stratified since antebellum times, may not be a perfect system because it ultimately helps very few blacks in the population, but it may also provide a way out of the educational stratification based on race. Possible reasons why sport may allow for increased academic performance may include increased access to resources for academic success, which are provided by schools to keep athletes eligible to participate in sports and thereby generating revenue, and by structuring the schedules of athletes, which forces them to work on coursework at specified times due to limited free time.

CHAPTER III: RESEARCH METHODS

This study used quantitative data obtained from student records at Western Kentucky University, a master's level regional university in a city with a population of approximately 60,000 residents. The institution offers associate's degrees, bachelor's degrees, undergraduate certificates, graduate certificates, master's degrees, specialist degrees, and two doctoral degrees for the time period that the data cover. Academically, the university admits approximately 93 percent of applicants and is consistently ranked among master's level institutions in the South. Athletes participate at the Division I Football Bowl Subdivision level in the Sunbelt Conference, a mid-major athletic conference that does not typically produce NCAA championship contenders.

The data for the study were obtained through the university's institutional research office, where data were culled from existing student records dating from the fall 1997 to fall 2011. Students were selected from cohorts that matriculated to the university during each fall from 1997 to 2005; this allowed six full years for completion, which is the standard rate for the federal graduation rate.

A total of 18,966 students were included in the dataset, with 58.92 percent of students being female (n=11,175) and 41.08 percent being male (n=7,791). Whites accounted for 88.86 percent (n=16,853), while there were 11.14 percent (n=2,113) African Americans (Table 1). The institution does have American Indians, Alaskan Natives, Hispanics, non-resident aliens, and unknown races, but these races accounted for a relatively small proportion of students and even smaller proportion of student athletes, leaving little statistical power to draw meaningful conclusions from the analysis. As such, students of these races were dropped from the dataset. Over the six

years given for each individual, 53.94 percent (n=10,230) graduated. This rate counts students who transfer out of the institution as "not graduated," as there was no way to identify the outcome of these students.

A total of 755 student athletes spread across 16 sports are in the dataset. Recruited athletes accounted for 42.52 percent (n=321) of the athletes, while the remainder (57.48 percent, n=434) were walk-on athletes. This variable was measured for the initial term of play only. A dummy variable was created to differentiate between high profile and low profile sports. High profile sports are sports that typically generate revenue at many institutions, and they are typically the more visible sports. In this study, high profile sports were designated as baseball, men's basketball, women's basketball, and football. Low profile sports are those sports that typically have a less visible presence on campuses, and for this institution, that included (for both genders, unless specified): cross country, golf, swimming, tennis, soccer, softball and women's volleyball. In order to accurately compare different groups of students in relation to race, student group variables were created. To do this, the sport profile variable was matched with the athlete's race to create dummy variables that examined the interaction of sport profile and race. This left six groups that could be examined: white non-athlete, African American non-athlete, white high profile athlete, African American high profile athlete, white low profile athlete, and African American low profile athlete.

In addition to gender and race, historically significant predictors of postsecondary success were used as control variables. These variables include: high school GPA, which had a mean of 3.10 for all students and 3.11 for student athletes, and converted pre-collegiate test scores (ACT and SAT, with the latter converted to the

equivalent ACT score and only including the highest score reported to the institution), which had a mean of 20.81 for all students.

[Insert Table 1 here.]

Because of the possibility of cluster majoring (having large numbers of student athletes pursuing the same major) and tendency to pursue less academically rigorous majors, academic major was also used as a control variable in the analysis. In this study the rigor of an academic major was not examined due to the inherent problems in trying to quantify rigorous versus non-rigorous majors, but it is predicted that academic major does affect graduation. To operationalize academic major, the department of the academic major was used. This was largely because any given department could have dozens of majors, and some majors with admission requirements have multiple codes available for those majors; moreover, majors within departments typically share a large number of courses and some majors may lack student athletes completely. By aggregating majors, the academic rigor of the major is still included, but units of analysis are large enough to include in both the general student population and student athlete population modeling.

Because of the way data were recorded, the academic department of major was measured in the term of graduation for those who graduated, and it was measured during the initial term of enrollment for those who did not graduate. It was not possible to obtain the academic department of major for the final term of enrollment for non-graduating students. Table 2 lists the distribution frequencies of majors for the population at large and for student athletes for the departments included in the analysis. The initially received dataset had additional departments in the dataset than were

included in the final analysis; however, five departments had low numbers of observations, caused problems with estimation and collinearity, or were perfect predictors of failure because they house only transient and non-degree seeking students who never intended to complete a degree. This led to a total of 4,303 observations being dropped from the dataset. Dropping these cases, however, is appropriate because these students were never really part of the same student type as regular full-time students (both non-athletes and athletes), so by dropping the cases, data are more representative of the population the study is trying to capture.

[Insert Table 2 here.]

Research Question and Hypotheses

The goal of this study is to assess the effect of race and athletic standing on graduation. The following research questions were used to guide the study:

1. What is the effect of race on graduation?
2. What is the effect of being an athlete on graduation?
3. How does being an athlete interact with race's effect on graduation?
4. Can the effect of race-based stratification in educational attainment be tempered by participating in athletics?

To assess these questions, the following hypotheses are tested:

H_1: Whites have greater odds of graduating than African Americans.

H_2: Student athletes have greater odds of graduating than non-athletes.

H_3: African American student athletes have greater odds of participating in high profile sports (baseball, basketball, and football) than white student athletes.

H_4: African American student athletes are more likely to graduate than African American non-athlete students.

H_5: African American athletes in high profile sports have lesser odds of graduating than low profile African American athletes.

H_6: African Americans who participate in sports have greater odds of graduating than non-athlete whites.

Statistical Procedures

Logistic regression was selected because the dependent variable for each hypothesis was dichotomous. The dependent variable used in H_1, H_2, H_3, H_5, and H_6 was graduation over a six year time span. It was a binary categorical variable that was coded with a 1 for those who graduated and a 0 for those who did not graduate. For H_3, the dependent variable was sport played, which was a binary categorical variable where high profile sports were coded as a 1 and low profile sports were coded as 0.

H_1 examines the basic relationship at the core of the study. It identifies the differences between white and black student odds of graduating. This hypothesis was used because the difference between whites and blacks needs to be established, as the study hinges on the fact that race affects the odds of graduating as expected because of the findings in the literature. Race was the core independent variable for H_1, and it was a dichotomous categorical variable, with 1 coded as black and 0 as white.

Athletic status, also shown to be important in the literature in predicting graduation, is the other main independent variable in the study, and this is explored by H_2. In order to show that athletes in this population have greater odds of graduating than non-athletes, this is necessary. Athletic status was coded as 1 for being a student athlete and 0 for being a non-athlete.

Before delving deeper into the interactions between race and sport, the relationship between race and sport type needed to be examined do to the centrality of stratification in the study. The literature suggests that blacks are more apt than whites to be involved in high profile sports. H_3 examines the relationship between being black and

sport profile, and it is meant to gauge the relative force on blacks to participate in high profile, revenue-producing sports.

After establishing that stratification in sport exists at the institution, H_4 is meant to show the basic interaction of sport and race on graduation. The independent variable used for H_4 was a race and athletic status dummy variable, with dummies created for white athlete, white non-athlete, African American athlete, and African American non-athlete. Two sets of models were created to test for this hypothesis. First, African American non-athlete is used as the reference category in the models for H_4, and this was selected because the literature has shown that the most academically disadvantaged group is the black non-athlete group and in the preliminary analysis of the H_1 and H_2. Furthermore, because of the expected disadvantage, all remaining categories that are included in the analysis would be predicted to have odds of graduating that are greater than black non-athletes, and this aids in the interpretation of the models. Second, the reference group was changed to black athlete. This was done to be able to compare black athletes to the other categories, as it is hypothesized later (H_6) that sport can counter the effect of being black on graduation.

H_5 is meant to further explore the relationship between race, sport, and graduation. The independent variables from H_5 were dummy variables that were created to look at white non-athlete, African American non-athlete, white high profile athlete, white low profile athlete, African American high profile athlete, and African American low profile athlete. This was done to be able to see the additional effect of sport profile on graduation, and allow the comparison to non-athletes. If sport profile was added as a control variable, it would have limited the number of cases to just student athletes, when

the study is really interested in students as a whole. As such, the models for H_5 look at the effect of student category type on graduation.

The final hypothesis, H_6, is the central hypothesis of the study, and is meant to look at all the models together to see how race and sport interact to affect graduation. It ultimately refers back to whether or not intercollegiate sport participation can counter the effect of being black on graduation. In other words, it examines whether or not sport can help blacks overcome the academic graduation penalty that exists for being black.

The control variables later added to each model include sex, high school GPA, standardized test scores, and department of academic major. Because department of academic major was a dummy variable, one department had to be left out. The department "Interdisciplinary Studies" was used as the reference group in all logistic regression models using the department of academic major variable because of the similarity in percentages between the athlete and non-athlete group. Additionally, the department of academic major was not included in the logistic regression tables because of the number of departments and the fact that this study was not interested in academic major, although it did need to control for it. In all regressions, however, nearly all departments of academic major were statistically significant in predicting the odds of graduating compared to the department of Interdisciplinary Studies.

Goodness of fit was tested for the final model in each table as compared to the first model that contained only the independent variables. The -2 log likelihood was used to calculate a χ^2 value, which was then checked against a χ^2 table to determine significance and thus an improvement of model fit.

CHAPTER IV: ANALYSIS

This study seeks to determine the extent to which race and athletic status affect graduation of postsecondary education students. This chapter provides a detailed description of the results of the logistic regression performed to test the six hypotheses provided above.

Independent Effects of Race and Athletic Status

The independent effects of race and athletic status on graduation, controlling for and holding constant sex, race, high school GPA, standardized test scores and department of student major were analyzed (Table 3). The first three models show the independent effects of race and athletic status. To obtain a baseline model of independent effects, independent variables were included by themselves in this table and all subsequent tables and analyses completed for this study. Model 1 indicates that African American students have 64 percent lesser odds of graduating compared to white students (s.e. = .02, CI = .33-.40). Athletes have 129 percent greater odds of graduating (s.e. = .20, CI = 1.03-2.72), compared to non-athletes (Model 2). In Model 3, the independent variables are placed in the model together. Holding each other constant, African Americans have 66 percent lesser odds of graduating (s.e. = .02, CI = .31-.38), and athletes have 166 percent greater odds of graduating (s.e. = .24, CI = 2.23-3.18). While controlling for sex, race, high school GPA, and standardized test scores (Model 4), the odds of graduating increases to 175 percent for athletes (s.e. = .27, CI = 2.28-3.33). In this model, being African American shows 22 percent lesser odds of graduating compared to whites (s.e. = .05, .70-.88), while for every one unit increase in the high school GPA there is a 264 percent greater odds of graduating (s.e. = .13, CI = 3.39-3.90)

and a one unit increase in standardized test scores results in a 5 percent greater odds of graduating (s.e. = .01, CI = 1.04-1.06). Model 5 is graduation regressed on being an athlete and the department of the academic major. In this model, some of the variance is picked up by the department of academic major, and athletes have 84 percent greater odds of graduating compared to non-athletes (s.e. = .17, CI = 1.52-2.21).

H_1 states, "Whites have greater odds of graduating than African Americans." After including the control variables identified by the literature as being important and adding race and athletics status in Model 6, African Americans have 17 percent lesser odds of graduating (s.e. = .05, CI = .73-.94) compared to whites. This supports the hypothesis being tested.

H_2 was concerned with the effect of being an athlete on graduation, "Student athletes have greater odds of graduating than non-athletes." Being an athlete is associated with a 114 percent greater odds of graduating compared to non-athletes (s.e. = .22, CI = 1.75-2.62); therefore, the hypothesis for H_2 is supported. Furthermore, the control variables exert independent effects on the odds of graduating as well. For every one unit increase in high school GPA, there is a 247 percent greater odds of graduating (s.e. = .14, CI = 3.21-3.75), and there is an 8 percent greater odds of graduating for every one unit increase in standardized test scores (s.e. = .01, CI = 1.06-1.09). Compared to the Model 3 (-2 log likelihood = -11627.34), which included the core independent variables in the study, Model 6 (-2 log likelihood = -9165.74) has a χ^2 value of 2461.60, meaning that with 42 degrees of freedom, Model 4 is a significantly better model compared to using only athletics status as a predictor of graduation ($p < .001$).

[Insert Table 3 here.]

Effect of Race on Sport Profile

The odds of African American student athletes participating in high profile sports were analyzed, and this was done to examine the amount of stratification that exists in the population being studied (Table 4). Model 1 shows 771 percent greater odds of an African American athlete playing a high profile sport relative to a low profile sport (s.e. = 1.80, CI = 5.80-13.07). Model 2 adds controls for sex and recruitment status. Being male results in a high profile sport participation odds of 1,399% (s.e. = 3.98, CI = 8.91-25.22), while being recruited has no significant effect. After controlling for these two variables, blacks—compared to whites—have 657 percent greater odds of participating in high profile sports (s.e. = .1.81, CI = 4.74-12.10). Compared to the Model 1 (-2 log likelihood = -435.05), Model 2 (-2 log likelihood = -352.52) has a χ^2 value of 82.53, meaning that with 2 degrees of freedom, Model 2 is a significantly better model compared to using participation in high profile sports as the only predictor ($p < .001$). H_3, which stated, "African American student athletes have greater odds of participating in high profile sports (baseball, basketball, and football) than white student athletes," is supported.

[Insert Table 4 here.]

Effect of Athlete's Race on Graduation

Table 5 shows the effect of race of the athlete or non-athlete on graduation, with the reference group being an African American non-athlete for the core independent variables initially examined in Model 1. In the first model white non-athletes have 189 percent greater odds of graduating (s.e. = .16, CI = 2.59-3.21) relative to African American non-athletes. Moreover, white athletes have 700 percent greater odds of

graduating (s.e. = .94, CI = 6.36-10.07); and African American athletes have 138 percent greater odds of graduating (s.e. = .42, CI = 1.69-3.37) relative to African American non-athletes. Model 2 adds sex, high school GPA, and standardized test scores to the regression. After controlling for these additional factors, the odds of graduating for white non-athlete (compared to African American non-athletes) dropped to 28 percent greater odds (s.e. = .08, CI = 1.14-1.45), white athletes dropped to 251 percent greater odds, and African American athlete increased to 179 percent greater odds (s.e. = .53, CI = 1.92-4.04). High school GPA (264 percent greater odds per unit increase, s.e. = .13, CI = 3.39-3.91) and standardized test scores were also significant (5 percent greater odds per unit increase, s.e. = .01, CI = 1.04-1.06). Model 3 controls for department of academic major, and when this is controlled for, white non-athletes have 124 percent greater odds of graduating (s.e. = .63, CI = 1.99-2.53), and white athletes have 398 percent greater odds of graduating (s.e. = .63, CI = 3.90-6.37). African American athletes have 61 percent greater odds of graduating (s.e. = .32, CI = 1.09-2.37).

H_4 stated, "Black student athletes are more likely to graduate than African American non-athlete students." The results in Model 4 include all control variables (sex, high school GPA, standardized test scores and department of academic major), and based on the results of this model, H_4 is supported. There is a 19 percent greater odds of graduating for white non-athletes (s.e. = .08, CI = 1.04-1.36). White athletes have 168 percent greater odds of graduating (s.e. = .36, CI = 2.06-3.49), and African American athletes have 84 percent greater odds of graduating (s.e. = .38, CI = 1.24-2.76). High school GPA (247 percent greater odds per unit increase, s.e. = .04, CI = 3.21-3.75) and standardized test scores were also significant (8 percent greater odds per unit increase,

s.e. = .01, CI = 1.06-1.09). Compared to the Model 1 (-2 log likelihood = -11561.42), Model 4 (-2 log likelihood = -9165.39) has a χ^2 value of 2369.03, and with 42 degrees of freedom, Model 4 is a significantly better model compared to using only race and athletic status as a predictor of graduation ($p < .001$).

[Insert Table 5 here.]

The main hypothesis to answer the core research question of this study was H_6: "African Americans who participate in sports have greater odds of graduating than non-athlete whites." Table 6 expands upon the results in Table 5 by changing the reference group, and it shows the effect of race of the athlete or non-athlete on graduation, with the reference group being an African American athlete for the core independent variables initially examined in Model 1. It is important to note that the results in Table 6 are the same as Table 5, only the reference group has been changed for ease of interpretation.

In the first model, white athletes have 236 percent greater odds of graduating (s.e. = .67, CI = 2.27-4.96); and African American non-athletes have 58 percent lesser odds of graduating (s.e. = .07, CI = .30-.59) relative to African American athletes. Model 2 adds sex, high school GPA, and standardized test scores to the regression. After controlling for these additional factors, the odds of graduating for white non-athlete (compared to African American athletes) was 54 percent lesser odds (s.e. = .08, CI = .32-.66), white athletes no longer had a significant difference, and African American non-athletes decreased to 64 percent lesser odds (s.e. = .07, CI = .25-.52). High school GPA (264 percent greater odds per unit increase, s.e. = .13, CI = 3.39-3.91) and standardized test scores were also significant (5 percent greater odds per unit increase,

s.e. = .01, CI = 1.04-1.06). Model 3 controls for department of academic major, and when this is controlled for, white non-athletes were not statistically different, and white athletes have 209 percent greater odds of graduating (s.e. = .67, CI = 2.02-4.74). African American non-athletes have 38 percent greater odds of graduating (s.e. = .12, CI = .42-.91).

The results in Model 4 include all control variables (sex, high school GPA, standardized test scores and department of academic major). There is 36 percent lesser odds of graduating for white non-athletes (s.e. = .13, CI = .44-.95). White athletes were not statistically different, and African American athletes have 46 percent lesser odds of graduating (s.e. = .11, CI = .36-.81). High school GPA (247 percent greater odds per unit increase, s.e. = .04, CI = 3.21-3.75) and standardized test scores were also significant (8 percent greater odds per unit increase, s.e. = .01, CI = 1.06-1.09). Compared to the Model 1 (-2 log likelihood = -11561.42), Model 4 (-2 log likelihood = -9165.39) has a χ^2 value of 2369.03, meaning that with 42 degrees of freedom, Model 4 is a significantly better model compared to using only race and athletic status as a predictor of graduation ($p < .001$). Based on this model, the analysis supports H_6.

[Insert Table 6 here.]

Effect of Race and Sport Profile on Graduation

Additional analyses were performed to examine the influence of race and sport profile on graduation with the reference group being African American high profile athletes (Table 7). Model 1 shows that white high profile athletes have 253 percent greater odds of graduating (s.e. = .98, CI = 2.05-6.07) and that white low profile athletes have 283 percent greater odds of graduating (s.e. = .87, CI = 2.45-5.99) compared to

African American high profile athletes. African American non-athletes have 53 percent lesser odds of graduating (s.e. = .09, CI =.32-.69). Furthermore, there is no statistically significant difference between white non-athletes and African American low profile athletes. In Model 2, the controls of sex, high school GPA, and standardized test scores are added. When this is done, white athletes have 54 percent lesser odds of graduating compared to African American high profile athletes (s.e. = .09, CI = .31-.69), and African American non-athletes have 64 percent lesser odds of graduating (s.e. = .08, CI = .24-.55). High school GPA was also significant and for every one unit increase in GPA, equals 264 percent greater odds in graduation (s.e. = .13, CI = 3.39-3.91). There is no statistically significant difference between white athletes and African American low profile athletes compared to the reference group of African American high profile athletes. Model 3 controls for department of academic major. After controlling for this factor, when compared to high profile African American athletes: white non-athletes have 54 percent greater odds of graduating (s.e. = .33, CI = 1.01-2.34); white high profile athletes have 227 percent greater odds of graduating (s.e. = .99, CI = 1.81-5.90); and white low profile athletes have 246 percent greater odds of graduating (s.e. = .86, CI = 2.12-5.64).

When controlling for sex, high school GPA, standardized test scores, and department of academic major, the only group that significantly differed from the reference category (African American high profile athletes) with regard to graduation was the African American non-athletes with 45 percent lesser odds of graduating (s.e. = .13, CI = .35-.86), and this is highlighted in Model 4. Additionally, for every one unit increase in high school GPA, there is 247 percent greater odds of graduating (s.e. = .14,

CI = 3.21-3.75). Compared to the Model 1, Model 4 has a χ^2 value of 2395.52, meaning that with 42 degrees of freedom, Model 4 is a significantly better model compared to using only race, athletic status, and sport profile as a predictor of graduation ($p < .001$). H_5 stated, "African American athletes in high profile sports have lesser odds of graduating than low profile African American athletes." Based on the results of Model 4, results do not support the hypothesis that there is a difference in the odds of graduating, as there was not a statistically significant difference between the African American low profile athletes and the African American high profile athletes. This is even more noticeable when looking at Model 1, which only included the race and sport profile dummy variables, as it was not significant even before control variables were introduced and did not gain significance even after they were introduced.

[Insert Table 7 here.]

Analysis of Control Variables

There were four main control variables used throughout the models: sex, high school GPA, standardized test scores, and department of academic major. High school GPA consistently showed that one unit increase in GPA is associated with a rather large increase in the odds of graduating. Somewhat surprising, sex was not significant in any of the final models, contrary to what has been shown in the literature. Standardized test scores, which were ACT composite converted scores, were associated with a slight increase in odds of graduating, however, it was not significant in all the models. It is also important to note that when compared to the Interdisciplinary Studies department (a department that houses interdisciplinary programs meant to help students graduate), nearly all the departments showed significant differences in odds of graduating, but the

odds were split with some being increased and other decreasing and no clear pattern emerged.

CHAPTER V: CONCLUSIONS

As a trait of society, social stratification is not only a reflection of individual differences; stratification typically carries forward through generations and is universal and variable (Macionis 2007:254-255). Keeping these tenets in mind, there is stratification in both graduation and sport in society and at the institution analyzed in this study.

African Americans have consistently enrolled in college at lower rates and graduated at lower rates compared to whites. Analysis of data from Western Kentucky University indicated a similar trend. Blacks have 64 percent lesser odds of graduating before controlling for athletic status, sex, pre-collegiate variables, and major; even after controlling for these factors, blacks still have 17 percent lesser odds of graduating compared to whites. Both of these relationships were statistically significant. At the same time, literature has shown that student athletes consistently outperform their peers in graduation, which was also born out in the data, as athletes had 114 percent greater odds of graduating compared to non-athletes.

Of these athletes, a sizeable portion is black. Of those who are black, they have 659 greater odds of participating in high profile sports compared to whites, which is a reflection of the beliefs and inequality in society perpetuated since the antebellum period and the increased appeal of these sports, which have limited access for some whites. The important sociological question that develops is how the African American athlete population fares, and can sport, which is a stratified institution itself, overcome the decreased odds of graduating for blacks, which is part of stratified high education institution?

If one steps back and looks at the larger picture, stratification benefits some and disadvantages others. Looking at college athletics from the outside and in general (not necessarily at Western Kentucky University), it seems obvious who benefits the most from the institution: white administrators and coaches at predominately white institutions. Large monetary contracts and fame are available with just one successful football or basketball season ensuring the continued tenure of the white administrators. The money-making and high profile sports, however, are usually disproportionately played by African American students who—while in the near majority, or majority in some cases, on the team—make up very little of the actual student population. Moreover, these black athletes are more likely to choose to play at predominately white institutions because of the greater visibility, which can increase the chances of signing a professional contract (Sage 2005).

Black athletes are being given a chance that they would likely not have had otherwise. It is hard to deny this benefit exists, but there is more than just "being given the opportunity" at play. In this study, African American student athletes performed significantly better than African American non-athletes after controlling for common predictors of academic success, including high school GPA, standardized test scores, and sex. Because some schools tend to have "cluster majors," which may mean that those majors are easier than others as athletes may be unintentionally forced into them to stay eligible to participate in athletics, department of academic major was also held constant. The only significant difference between the two groups was athletic status.

The benefit gained from being a student athlete is larger than one may expect. When using athletic status tied to sport profile and race as independent variables,

controlling for all other predictors and academic departments, the difference between whites and African American disappears. There is no statistical difference between African American athletes in high profile sports (who are the vast majority of African American athletes) and African American low profile athletes, white high profile athletes, white low profile athletes, and white non-athletes. Furthermore, black athletes have 36 percent greater odds of graduating compared to white non-athletes. This suggests that playing athletics at the collegiate level can counter race-based stratification that exists in higher education where blacks tend to perform significantly worse (academically) than whites. The results of this study show that a black athlete has greater odds of graduating than a white non-athlete and a black non-athlete.

A question arises from this analysis: is sport participation a meaningful tool for remediating inequality in education? The answer is complicated. It likely is not the fact that the individuals play a sport that boosts graduation odds; however, it may be the mechanisms that exist in intercollegiate sport to keep athletes eligible that raises the odds of graduating. Institutions invest vast resources to keep these students academically eligible to play sports because having the best available athletes play and win ultimately leads to large media contracts, merchandising and licensing deals, and cheap advertising and exposure. If one explanation of disparate rates and odds of graduating in the general population is access to resources, it may be the case that athletes are simply provided more resources. At this institution, it includes an athlete academic success center, fully equipped with tutors and a computer lab. Athletes may also receive book scholarships and living stipends to cover housing and food costs. In other words, it may be the

increased odds of graduating for black athletes over white non-athletes and black non-athlete is attributable to increased resources, not necessarily actual sport participation.

This study contributes to the body of literature on sport, race and stratification, by adding to an area dominated by descriptive statistics about graduation and academic success with regards to race and sport participation. These are, by and large, what are reported by the media and somewhat easier to comprehend for administrators and the public. The nuances in the data, however, can be lost in these statistics, and revisions to policy meant to effect change may be ineffective because they do not adequately address the situation as it exists. By controlling for factors such as sex, athletic status, standardized test scores, high school GPA, and academic major, comparisons across different subpopulations can be made and policies can be drafted to close the gaps that exist in academic success between and amongst those subgroups.

Limitations

This study does have several limitations of which to be aware. First, only one institution was used for data collection. As such, this study may not be representative of the national patterns because of its limited sample. Second, while the data used were census data from all existing student records for the time period examined, there are still a relatively small number of cases of African American student athletes and student athletes in general. This is probably going to be the case at any study completed by looking at a single institution because the number of open positions on any given sports team is limited. Even over a several year span, there could be fewer than twenty athletes on any given team according to the number of scholarships and positions available.

Future Research

This study lays the foundation that argues for something occurring in the student athlete experience; however, this study should not be seen as an exercise in explaining higher graduation odds for athletes but rather in addressing inequality in graduation by examining one sub-group of the population that appears to be benefitting. To build upon this research, future research should be directed at explaining what about sport participation leads to higher graduation rates. Particularly, it should look at what resources are invested and how those resources affect odds of graduating compared to students who do not have similar resources. If this is done, university departments such as Enrollment Management may be able to address the inequality in graduation by applying similar resources to non-athlete blacks (and perhaps other minority or similar groups historically in the lower stratum of educational attainment).

Whatever the source of athletes' increased academic performance, African American student athletes actually benefit disproportionately when compared to white athletes and are able to escape the predicted and historically persistent lesser odds of graduating. In other words, they are able to break out of one form of stratification through sport; sport provides a means of socioeconomic mobility out of poverty and into the middle and upper classes by earning a degree, which has been historically positively correlated with socioeconomic status.

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APPENDIX A

Table 1. Descriptive statistics.

	Total Population							Non-Athlete Population			Athlete Population		
	n	Mean	St. Dev.	Variance	50th	Min	Max	n	Mean	St. Dev.	n	Mean	St. Dev.
High School GPA	17696	3.10	.70	.49	3.2	0	4	1700	3.10	.70	696	3.14	.63
Converted ACT Score	18230	20.93	4.19	17.62	21	9	35	17485	20.94	4.21	745	21	3.94
Male	18966	.41	.49	.24	0	1	0	18211	.40	.49	755	.63	.48
Black	18966	.11	.31	.09	0	1	0	18211	.11	.31	755	.21	.41
Athlete	18966	.04	.20	.04	0	1	0	0	0	0	755	1	0
Graduation	18966	.54	.49	.25	0	1	0	18211	.53	.50	755	.73	.45
Recruitment Status	755	.43	.50	.24	0	1	0	-	-	-	755	.43	.50
Sport Profile	755	.38	.48	.23	0	1	0	-	-	-	755	.38	.48
White Non-Athlete	18966	0.86	0.35	0.12	1	0	1	18211	.89	.31	-	-	-
White High Profile Athlete	18966	0.01	0.09	0.01	0	0	1	-	-	-	755	.21	.41
White Low Profile Athlete	18966	0.02	0.15	0.02	0	0	1	-	-	-	755	.57	.49
Black Non-Athlete	18966	0.1	0.3	0.09	0	0	1	18211	.11	.31	-	-	-
Black High Profile Athlete	18966	0.01	0.08	0.01	0	0	1	-	-	-	755	.16	.37
Black Low Profile Athlete	18966	0.002	0.04	0.001	0	0	1	-	-	-	755	.05	.22

Table 2. Frequency distribution of academic departments.

	All Students		Student Athletes	
Major	N		N	
Accounting	428	2.257%	15	1.987%
Agriculture	725	3.823%	10	1.325%
Allied Health	198	1.044%	2	0.265%
Architectural Manufacturing	322	1.698%	20	2.649%
Art	367	1.935%	18	2.384%
Biology	646	3.406%	39	5.166%
Communication Disorders	193	1.018%	3	0.397%
Chemistry	273	1.439%	11	1.457%
Communication	410	2.162%	31	4.106%
Economics	240	1.265%	18	2.384%
English	405	2.135%	12	1.589%
Engineering	441	2.325%	26	3.444%
Family Consumer Science	589	3.106%	24	3.179%
Finance	247	1.302%	14	1.854%
Folk Studies	64	0.337%	0	0.000%
Geoscience	215	1.134%	8	1.060%
History	393	2.072%	13	1.722%
Health Science	546	2.879%	0	0.000%
Information Systems	241	1.271%	14	1.854%
Interdisciplinary Studies	1550	8.173%	64	8.477%
Journalism	1715	9.042%	56	7.417%
Kinesiology, Recreation, & Sport	475	2.504%	115	15.232%
Liberal Arts and Sciences	880	4.640%	4	0.530%
Marketing	575	3.032%	50	6.623%
Math	488	2.573%	22	2.914%
Management	574	3.026%	33	4.371%
Modern Languages	67	0.353%	3	0.397%
Music	304	1.603%	1	0.132%
Nursing	746	3.933%	9	1.192%
Public Health	264	1.392%	13	1.722%
Physics	71	0.374%	2	0.265%
Professional Studies	629	3.316%	4	0.530%
Political Science	295	1.555%	12	1.589%
Psychology	778	4.102%	25	3.311%
Religion and Philosophy	119	0.627%	2	0.265%
Sociology	429	2.262%	21	2.781%

School of Teacher Education	1568	8.267%	38	5.033%
Social Work	226	1.192%	2	0.265%
Theatre and Dance	230	1.213%	0	0.000%
University College	40	0.211%	1	0.132%
Total	18966		755	

Table 3. Independent effects of race athletic status on graduation, controlling for and holding constant sex, race, high school GPA, standardized test scores and department of student major.

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	O.R. / se	CI (95%)	O.R. / se	CI (95%)	O.R. / se	CI (95%)	OR / se	CI (95%)	OR / se	CI (95%)	OR / se	CI (95%)
Black	.36***	.33-.40	----	----	.34***	.31-.38	.78***	.70-.88	----	----	0.83**	0.73-0.94
	.02		----		.02		.05		----		0.05	
Athlete	----	----	2.29***	1.93-2.72	2.66***	2.23-3.18	2.75***	2.28-3.33	1.84***	1.52-2.21	2.14***	1.75-2.62
	----		.20		.24		.27		.17		0.22	
Male	----	----	----	----	----	----	.94	.88-1.01	----	----	0.94	0.86-1.02
	----		----		----		.03		----		0.04	
High School GPA	----	----	----	----	----	----	3.64***	3.39-3.90	----	----	3.47***	3.21-3.75
	----		----		----		.13		----		0.14	
Converted ACT Score	----	----	----	----	----	----	1.05***	1.04-1.06	----	----	1.08***	1.06-1.09
	----		----		----		.01		----		0.01	
Academic Department	----		----		----		----		included		included	
Pseudo R-Square	0.017		.004		.017		.0145		.126		.225	
- 2 log likelihood	-11627.34		-11782.46		-11561.69		-10112.64		-10341.66		-9165.74	
N	17252		17252		17252		17252		17252		17252	
df											42	
X^2											2461.60, p<0.001	

*p < .05 ** p < .01 ***p < .001

Table 4. Odds of black student athletes participating in high profile sports compared to white student athletes.

	Model 1		Model 2	
	O.R. / se	CI (95%)	OR / se	CI (95%)
Black	8.71***	5.80-13.07	7.57***	4.74-12.10
	1.80		1.81	
Male	----	----	14.99***	8.91-25.22
	----		3.98	
Recruitment Status	----	----	.94	.64-1.37
	----		.18	
Pseudo R-Square	.13		.30	
- 2 log likelihood	-435.05		-352.52	
N	755		755	
df			2	
X^2			82.53, p<0.001	

*p < .05 ** p < .01 ***p < .001

Table 5. Effect of race of the athlete or non-athlete on graduation with reference group of black non-athlete.

	Model 1		Model 2		Model 3		Model 4	
	O.R. / se	CI (95%)	O.R. / se	CI (95%)	O.R. / se	CI (95%)	OR / se	CI (95%)
White Non-Athlete	2.89***	2.59-3.21	1.28***	1.14-1.45	2.24***	1.99-2.53	1.19*	1.04-1.36
	.16		.08		.63		.08	
White Athlete	8.00***	6.36-10.07	3.51***	2.74-4.50	4.98***	3.90-6.37	2.68***	2.06-3.49
	.94		.44		.63		.36	
Black Athlete	2.38***	1.69-3.37	2.79***	1.92-4.04	1.61*	1.09-2.37	1.84**	1.24-2.76
	.42		.53		.32		.38	
Male	----	----	.94	.88-1.01	----	----	.94	.86-1.02
	----		.03		----		.04	
High School GPA	----	----	3.64***	3.39-3.91	----	----	3.47***	3.21-3.75
	----		.13		----		.04	
Converted ACT Score	----	----	1.05***	1.04-1.06	----	----	1.08***	1.06-1.09
	----		.01		----		.01	
Academic Department	----		----		included		included	
Pseudo R-Square	0.02		.15		.13		.23	
- 2 log likelihood	-11561.42		-10112.64		-10241.07		-9165.39	
N	17252		17252		17252		17252	
df							42	
X^2							2369.03, p<.001	

*p < .05 ** p < .01 ***p < .001

Table 6. Effect of race of the athlete or non-athlete on graduation with reference group of black athlete.

	Model 1		Model 2		Model 3		Model 4	
	O.R. / se	CI (95%)	OR / se	CI (95%)	OR / se	CI (95%)	OR / se	CI (95%)
White Non-Athlete	1.21	.87-1.69	.46***	.32-.66	1.40	.97-2.02	.64*	.44-.95
	.21		.08		.26		.13	
White Athlete	3.36***	2.27-4.96	1.26	.83-1.91	3.09***	2.02-4.74	1.45	.93-2.26
	.67		.27		.67		.33	
Black Non-Athlete	.42***	.30-.59	.36***	.25-.52	.62*	.42-.91	.54**	.36-.81
	.07		.07		.12		.11	
Male	----	----	.94	.88-1.01	----	----	.94	.86-1.02
	----		.03		----		.04	
High School GPA	----	----	3.64***	3.39-3.91	----	----	3.47***	3.21-3.75
	----		.13		----		.14	
Converted ACT Score	----	----	1.05***	1.04-1.06	----	----	1.07***	1.06-1.09
	----		.01		----		.01	
Academic Department	----		----		Included		Included	
Pseudo R-Square	.02		.15		.13		.23	
- 2 log likelihood	-11561.42		-10112.64		-10241.07		-9165.39	
N	17252		17252		17252		17252	
df							42	
X^2							2369.03, p<.001	

*p < .05 ** p < .01 ***p < .001

Table 7. Effect of race and sport profile on graduation with the reference group of black high profile athletes.

	Model 1		Model 2		Model 3		Model 4	
	O.R. / se	CI (95%)	O.R. / se	CI (95%)	O.R. / se	CI (95%)	OR / se	CI (95%)
White Non-Athlete	1.35	.93-1.98	.46***	.31-.69	1.54*	1.01-2.34	.66	.43-1.02
	.26		.09		.33		.15	
White High Profile Athlete	3.53***	2.05-6.07	1.55	.87-2.76	3.27***	1.81-5.90	1.70	.92-3.14
	.98		.46		.99		.53	
White Low Profile Athlete	3.83***	2.45-5.99	1.18	.73-1.89	3.46***	2.12-5.64	1.41	.85-2.34
	.87		.28		.86		.36	
Black Non-Athlete	.47***	.32-.69	.36***	.24-.55	.68	.44-1.06	.55**	.35-.86
	.09		.08		.15		.13	
Black Low Profile Athlete	1.64	.73-3.67	1.05	.44-2.51	1.53	.63-3.71	1.12	.44-2.87
	.67		.47		.67		.54	
Male	----	----	.94	.88-1.01	----	----	.94	.86-1.02
	----		.03		----		.04	
High School GPA	----	----	3.64***	3.39-3.91	----	----	3.47***	3.21-3.75
	----		.13		----		.14	
Converted ACT Score	----	----	1.05	1.04-1.06	----	----	1.08	1.06-1.09
	----		.01		----		.01	
Academic Department	----		----		included		included	
Pseudo R-Square	.02		.15		.13		.23	
- 2 log likelihood	-11560.63		-10112.03		-10240.6		-9165.11	
N	17252		17252		17252		17252	
df							42	
X^2							2395.52, p<0.001	

*p < .05 ** p < .01 ***p < .001