Spring 5-1-2010

The Effects of Winning a Basketball National Championship on Admission Factors

Daniel Weistrop

Introduction

Collegiate sports attract a lot of attention and money. Many universities are sponsored by high powered sportswear and equipment companies including Nike and Adidas. Furthermore, CBS, Fox, and Disney participate in multimillion dollar media deals to exclusively cover a variety of sporting events featuring mainly collegiate basketball and football.

This is best demonstrated by the television coverage that respective sports receive. For example, CBS is in the midst of an 11 year, $6 billion contract that will pay the National Collegiate Athletic Association approximately $545 million per year to carry the NCAA basketball tournament.[1] The NCAA basketball tournament is held annually and decides the collegiate basketball national champion through a 68 team, single elimination tournament. The tournament is also known as March Madness and has a widespread age following. Many companies have office pools where participants fill out a bracket with their winning picks for each and every game. However, the participation in pools is not exclusive to workers. Many students in high school and college participate in pools as well. On ESPN.com alone, there were over 5 million people who filled out brackets in 2009.[2] In addition, other websites offer similar opportunities to fill out brackets including Sports Illustrated's website, CBS's website, and Yahoo.com to mention a few. Many participants also print out brackets. The participation in pools increases sustained interest in the tournament because people are invested in their brackets and wish to follow how their picks fair.

---

[1] "CBS renews NCAA b'ball," 1999
[2] "President picks UNC," 2009

Despite the widespread attention that collegiate sports receive and the apparent money derived from athletic programs, athletic programs are a losing proposition for most schools.[3] In addition, many universities use lax admission standards on athletes and shower them with full scholarships and other benefits that a normal qualified applicant would never receive. Nevertheless, athletic programs have a long standing tradition as being part of a successful university.

The immaterial monetary significance of athletic programs questions the merits of maintaining athletic programs. Some schools have even cut losing and expensive programs to refocus their efforts and capital on academic pursuits. On the other hand, many universities accept losses to maintain their athletic programs. While a financially independent and profitable athletic program may be one of the goals of maintaining a program, another prominent goal is to have a successful program.

A successful team acts as marketing for the university, especially if it is in a major sport including basketball where there is a lot of national exposure. Intuitively, a large amount of exposure would increase the interest in the university, which would encourage more students to apply. This phenomenon is known as the "Flutie effect" which refers to Boston College's Doug Flutie whose miraculous Hail Mary pass in the closing seconds of a 1984 game against the University of Miami secured the victory for Boston College. The following two years saw application increases of 16% and 12% respectively for Boston College. Long term impacts of the "Flutie effect" are not conclusively known or agreed upon.

---

[3] "Flutie effect," 2007

One of the first studies to compare collegiate athletic success and undergraduate admissions was Toma and Cross (1998). The study focused on football and men's basketball national champions between 1979 and 1992 and the effects that the championship had on applications. The study compared the university that won the championship to four or five peer institutions—schools that the universities themselves thought as their main competitors. The study found that a championship in either men's basketball or football translated into sometimes dramatic increase in the number of application received in absolute terms and when compared to peer institutions.

Other studies examine similar topics. Irvin Tucker (2004) found that a successful big-time football team contributes to academics through attracting a higher quality incoming freshman class, improved graduation rates, and alumni giving. Conversely, a later paper by Tucker and Ted Amato (2006) finds that successful basketball team does not affect average SAT scores for applicants.

Another study by Litan, Orszag, and Orszag (2003), which was commissioned by the National Collegiate Athletic Association (NCAA) found that the "Flutie effect" has no foundational empirical support. In addition, it found that expanded athletic programs do not contribute to substantial financial losses.

Litan, Orszag, and Orszag's study as well as other academic articles have found no empirical evidence of the "Flutie effect." However, there has been increased interest in collegiate sports, especially basketball. This is evident by the expanded television coverage of major collegiate conferences, extra season games, the advent of television and radio shows completely devoted to collegiate

sports. These new additions to the collegiate athletic landscape would not have been taken into account in older studies that focused on decades old data. Revisiting these studies with more recent data will alleviate that weakness and return results that more reflect the current environment of collegiate sports and admissions.

This study will examine the effects of winning a national championship, placing second, or being a Cinderella team in men's basketball on admission factors including applications, enrollment, SAT scores, and a variety of other factors. Data from 2001 through 2008 will be used to study the effects, a time range where most of the changes in the collegiate sports landscape had been put into place. This will address an important weakness in past studies.

Key Institutional Factors

Prospective college students use various factors to narrow their schools of choice in regards to applying and then enrolling. College Board, a much used resource for college bound high school juniors and seniors, looks into the most common of those factors. College Board cites the "Type of School," "Location," "Majors," "Cost & Financial Aid," "Admissions," "Sports & Activities," "Housing & Programs," and "Specialized Options" as the broad topics that generally affect a prospective student's decision on where to apply and enroll.[4]

One potential missing factor from the College Board website that could have ramifications on the rest of the college process for both prospective undergraduate students and admissions officers alike is the current situation as it pertains to the sports teams that universities field. Undoubtedly, successful sport programs are a source of pride for current students and alumni. However, societal preferences illustrate a greater interest in some sports over others.

---

[4] "Types of School" refers to whether the school is a two year or four year college, a public or private college, the size of the college (small – fewer than 2,000 students, medium – 2,000 to 15,000 students, or large – more than 15,000 students), and setting (urban, suburban, rural).
"Location" is broken down geographically into West, Midwest, South, New England, Southwest, and Mid-Atlantic. In addition, location can be further broken down into specific state.
"Majors" refers to the majors that are offered by the colleges.
"Cost & Financial Aid" allows for a prospective student to search for college by tuition and non-need and need-based methods of awarding financial aid.
"Admissions" refers to the percent of applicants accepted, high school GPA, admission test scores, and academic credit that the school accepts.
"Sports & Activities" outlines the sports that are offered at colleges including the level (Division 1, intramural, etc.) Activities refer to extracurriculars activities including yearbook, student government, dance, etc. It also discloses whether or not the college has fraternities and sororities.
"Housing & Programs" outlines housing questions including whether or not one wishes to live on campus, housing options (All-women housing, co-ed housing, special housing for international students, etc.) It also describes the academic programs including work-study, double major, honors, etc.
"Specialized Options" refers to characteristics of the college including single-sex colleges, services for students with disabilities, religious affiliation, percentage of minority students, historically black colleges, and Hispanic-serving instates.

The widespread coverage and interest amongst society establishes a high awareness of the winning programs in basketball. Applicants who have that awareness will want to share in that school pride and success. Therefore, they may be more apt to apply and eventually enroll in schools with successful basketball programs, a manifestation of the "Flutie effect." By using success in the NCAA tournament as a natural experiment and considering the outcomes as random events, I will study the effects that the athletic success has on certain factors including applications, admissions, enrollment, SAT scores, and race.

There is a significant amount of turnover on each and every college basketball team. Eligibility rules and NCAA regulations govern the actions of university teams. Successful players commonly leave college for the National Basketball Association (N.B.A.), the professional league, before their years of eligibility run out. In addition, student-athletes cannot play for more than four years for a university without an exception from the NCAA. The widespread changes amongst teams make for a varying landscape of successful college basketball teams. A team could conceivably be a national title contender one year and not even make the NCAA Tournament the next season because all of their best players could have graduated or declared themselves eligible for the N.B.A. draft, forfeiting their final years of college eligibility.

While there is an undeniable amount of fluidity amongst college basketball teams, some universities have built and maintained a reputation for successful basketball programs. Such universities include but are not limited to the University of Kentucky, the University of North Carolina, and Duke

University. These schools, because of their historical success and great coaches, give them an edge in the recruitment of the most talented high school players in the country. This helps these universities sustain a level of success and infuse doubts into the randomness of athletic success. However, the existence and possibility of injuries, team improvements, and the structure of the NCAA tournament in general (single elimination) infuses a level of randomness that makes it unlikely to be able to predict the national champion, runner-up, or "Cinderella" team before the conclusion of the tournament. While the potential to predict these teams is unlikely, the fact that is possible creates a source of bias that will be reflected in the regressions.

Model

The U.S. Department National Center for Education Statistics conducts annual surveys in which to gather data from every college, university, and technical and vocational institution that participates in the federal student financial aid programs. The questions asked of universities in the surveys have not been constant from year to year. However, in 2001, the surveys expanded and reported more specific data in seven areas: institutional characteristics, institutional prices, enrollment, student financial aid, degrees and certificates conferred, student persistence and success, and institutional human and fiscal resources. The Higher Education Act of 1965, as amended requires participation in these surveys from universities that offer federal student financial aid programs.

The most up to date data is from 2008, but some factors including those regarding race are not reported. From 2001 to present, I have identified the universities that have either won the national championship or were runner up in men's basketball. In addition, I have identified what are called "Cinderella" teams in basketball. "Cinderella" teams are generally defined as mid-major or smaller schools that have made the tournament, but receive a low seed. I have expanded that definition to include mid-majors that make the third round (sweet 16) or any team that has a 6 seed and above to make it to the fourth round (elite 8). In all, 33 universities fit the criteria.

The majority of college basketball is played during the winter and the NCAA tournament is in March. The basketball season does not fully correspond

with the college application process. College application deadlines range from January 1st to February 1st. Early admission ranges from November 1st to November 15th. Admission decisions generally are received in March and April and an offer must be accepted by May. Therefore, the college basketball season will only be complete before an intent to attend deadline for the same calendar year. The following timeline illustrates the corresponding times in the application process and men's basketball season:

Admissions and Collegiate Sports Timeline

To explore how winning and reaching a championship as well as being a "Cinderella" team affects the factors of interest, I will use the following basic equation:

$$Y_{c,t} = \beta_0 + \beta_1(\text{Winner}_{c,t}) + \beta_2(\text{Runner-Up}_{c,t}) + \beta_3(\text{Cinderella}_{c,t}) + \beta_4(\text{Everwon}_{c,t})$$

$$\beta_5(\text{Eversecond}_{c,t}) + \beta_6(\text{Evercinderella}_{c,t}) + \delta'(X_{c,t}) + \varepsilon_{c,t}$$

Due to where the basketball season falls during the year, a year of athletic success could have different effects on the outcome variables. The basketball tournament does not take place until March, well after the application deadline. This could create a situation where a change in the factors of interest lags a year behind the tournament. For example, Duke University won the national championship in 2001. Prospective applicants do not have the knowledge of Duke University's victory before the application deadline in 2001. Therefore, the expected effect of winning the national championship on applications would be realized the following year. In the equation listed above, the independent variables Winner, Runner-Up, and Cinderella represent the following year after the athletic success. In addition to running the regression with applications as the dependent variable, a regression will also be run with log of applications as a dependent variable so that the percent change of applications can be examined.

After the initial applying process comes to an end, the decision making power shifts from the prospective students to the universities in which they applied to. Universities comb through their applicant pool and weigh the credentials of each applicant against each other in order to make final admission decisions. Applicants to universities are inclined to apply to an increased number of universities in order to maximize their chances of gaining acceptance to the best possible school. Often times, students are accepted to more than one university. Consequently, an offer of admittance to a university does not guarantee one's attendance at said university. Therefore, universities try to best

model student's preferences to gain an estimate of how many students must be initially admitted to fill the incoming class. As illustrated by the Admissions and Collegiate Sport timeline, admission decisions from universities arrive in March through April. By this time in the basketball season, universities are aware of the success of their team and potentially whether or not they won or placed second depending upon the exact date that acceptance letters are mailed. Due to that awareness, universities are able to modify their admissions behavior in response to the athletic success in the year of the athletic success. In addition, the university may also have to modify its behavior with the impending lagged effect from applications. The basic equation can be adjusted to accommodate the increase in interested variables:

$$\text{Admissions}_{c,t} = \beta_0 + \beta_1(\text{Winner}_{c,t}) + \beta_2(\text{LaggedWinner}_{c,t}) + \beta_3(\text{Runner-Up}_{c,t}) + \beta_4(\text{LaggedRunner-Up}_{c,t}) + \beta_4(\text{Cinderella}_{c,t}) + \beta_4(\text{Cinderella}_{c,t}) + \beta_4(\text{Everwon}_{c,t}) \beta_5(\text{Eversecond}_{c,t}) + \beta_6(\text{Evercinderella}_{c,t}) + \delta'(X_{c,t}) + \varepsilon_{c,t}$$

After the mailing of admission letters, the decision making responsibility returns to the prospective students. The deadline for accepting an offer of admittance is in May. The NCAA tournament, having concluded in April, will already have crowned its champion and runner-up teams. Furthermore, the "Cinderella" teams that exceeded their expectations will also be known due to the attention paid to those teams during their magical runs. This gained knowledge adds another factor to students' enrollment choices for the year of athletic success

suggesting that an effect may be seen that year. Furthermore, the potential sustained interest in a school following the year of athletic success suggests that there may be an effect on enrollment the year after a successful in the NCAA tournament. Therefore, the equation utilized to model the effect on admissions is identical to the aforementioned equation for admissions with enrollment as the dependent variable.

Current societal preferences suggest that the increase would be more substantial for men rather than women. This hypothesis will be tested by using the same models for applications, enrollment, and admissions on those same variables split up by gender. An effect on enrollment, applications, or admissions does not guarantee that the students vying for acceptance to the school would have better credentials than any of the previous years as measured by the SATs.

A championship caliber sports team may attract a candidate who is more interested in the sports teams that the school fields rather than the academics that the school offers. On the other hand, the national exposure that a successful collegiate sports team garners does not discriminate between good academic candidates and poor academic candidates. Nor does being a good academic candidate preclude you from being a sports fan. However, being a good academic candidate would presumably add additional factors into application and enrollment decisions due to a desire to find a school that satisfies more than their sports' wants.

Ideally, universities would like to see an increase in applications accompany an increase in the talent pool of applicants. If sports success

contributed to an improvement in the talent pool, then the university would have the ability to become more selective in their admissions decisions. The sports success would have ramifications beyond the basketball court through the improvement of the school's academic reputation. The existence of a causal relationship between sports success and an improving academic pool would provide great justification in the continuation of financially struggling athletic programs.

Beyond the classroom, the racial composition of the school may be affected by athletic success. A difference in interest across racial lines, specifically White, Hispanic, and Black, could be the impetus for a changing of the total racial composition of the school. Using the same equation as applications, the effect of athletic success can be modeled for both racial composition and SATs.

Not all the surveys in which this data is comprised from were completed fully. Many universities did not include a total enrollment number for all the undergraduates. In addition, the sum of total female and male enrollment, which was widely available in the sample, did not equal the total enrollment for when there were statistics available. In order to get a total enrollment estimate, male and female enrollment was added and compared to the available statistics for total enrollment. By averaging the available total enrollment statistics with its corresponding average of the sum of female and male enrollment statistics, a constant was found that when multiplied to the average of the sum of male and female enrollment would return the average total enrollment. The sum of male

and female enrollment multiplied by this constant is the estimate used for total enrollment when analyzing the racial composition of the school. For example:

White Racial Composition = White Enrolled Students / (Male + Female Enrollees) * Constant

In addition to the dependent variables, the model includes independent variables for whether a university has ever won, ever placed second, or ever was a "Cinderella" team. Including these variables in the regression causes the coefficient of 'Winner' to represent the estimated effect of applications due to winning a national championship. Similarly, the coefficients of "Runner-Up" and "Cinderella" represent the estimated effect of applications after the year of athletic success. These representations are constant across the equations in addition to being the same for the lagged variables.

In addition to the changing landscape of college basketball, the landscape of admissions has also undergone significant changes. The National Association for College Admission Counseling observed an increase in high school graduates and a simultaneous increase in applications to universities.[5] The natural increase of applications across all universities is taken into account in the regression by controlling for the time trend. Year fixed effects are also utilized to offer a comparison to the time trend.

Despite the fluidity of the college basketball environment, the University of Florida successfully won the national championship two years in the years in

[5] Hawkins, 2008

which data are available. An unweighted regression would return results in which winning was correlated with being the University of Florida. Weighting the University of Florida data in order to equate the number of observations for the University of Florida with the number of observations of two universities that each won once eliminates the correlation between being the University of Florida and winning the national championship. Due to the equal weight given to each observation in the sample, school fixed effects have no effect on the results of the weighted regressions. Therefore, they are not included. Conversely, the unweighted regressions include school fixed effects as controls.

Results

In this section, findings from the study will be presented. Results will be presented in the same order in which the college process proceeds: applications, admissions, and then enrollment. Finally, descriptive results of the incoming class, SATs, and university population in general, racial composition, will be presented.

Table 1 illustrates the sample means of the variables of interest. One point of interest is the difference in size of the champion schools and runner-up schools when compared to the "Cinderella" schools in applications, enrollment, and admissions. The discrepancy in size is self identifying. "Cinderella" schools need to be in a position to exceed expectations. High expectations are inherent in large schools due to their ability to field consistently more competitive teams. Furthermore, larger schools have the luxury of having more games televised. Consequently, they have a larger following.

One school that fit most of the characteristics of a "Cinderella" school, a low seed that reached the elite eight, does not completely adhere to the common traits seen in most "Cinderella" schools. That school is Michigan State University, a member of the Big Ten conference. Michigan State University boasts a large following, a great coach, and consistent recent success. However, in 2003 the Spartans of Michigan State University qualified for the NCAA tournament as a seven seed. Teams of this ranking generally win one game in the tournament. However, the Spartans won three games, making it to the quarterfinals. This over achievement qualified the Spartans as a "Cinderella" team, but other university

characteristics make it distinctly different from the conventional “Cinderella” team. Therefore, regressions and figures will be presented with Michigan State University included. Figures of initial results, where applicable, will be presented without Michigan State University in addition to the figures with Michigan State University included.

Applications

Figure 1 includes nine line graphs of the Log of applications, three each for victorious schools, runner-up schools, and “Cinderella” schools. The schools include the University of Connecticut, the University of North Carolina, and the University of Florida who won in the years 2004, 2005, and 2006, respectively. Also included are Georgia Institute of Technology, the University of Illinois, and the University of California-Los Angeles who were runner-up in the years 2004, 2005, and 2006, respectively. Finally, Xavier University, the University of Wisconsin-Milwaukee, and Bradley University are included. They were “Cinderella” schools in 2004, 2005, and 2006, respectively. These years are significant because it illustrates the years leading up to the year of success and the years after. Therefore, a trend break suggesting an effect from the year of success would be easier to distinguish.

The line graphs also include the log of the average of the similar colleges as characterized by College Board. The inclusion of the similar colleges allows for the effect of a successful college season to be compared against schools that

are otherwise similar except for the level of success seen in the college sports season.

The line graphs of the log of applications modifies the data so that the increases or decreases year over year signify the percent change in applications. The expected effect occurs in the year after athletic success. For example, Panel A shows the log of applications for the University of Connecticut, the national champion for 2004. Due to the victorious season in 2004, the expected effect would be the difference of the 2004 and 2005 data points. The graph shows a leveling off of the increases seen in the previous years before the championship. In addition, the similar colleges show a steeper incline from 2004 to 2005. In this example, winning the national championship did not result in a sizeable increase in applications and also did not result in a higher growth of applications in comparison to the similar colleges.

The University of North Carolina, the 2005 national champion, is represented in Panel B. The line graph illustrates a decrease in applications after the national championship in absolute terms, after seeing increases in the years leading up to the year following the victory. In addition, the Average of the similar colleges sees an increase in applications. In Panel C, the University of Florida is shown. The University of Florida is unique in that it won the basketball national championship twice during the time period, 2006 and 2007. In addition, the University of Florida won the national championship in football in 2007. After winning the basketball championship in 2006, a substantial increase in applications can be seen while the Average of other schools decrease. Some of

that increase may also be attributed to the national championship in football. An increase from 2006 to 2007 is also apparent, but the increase is not as great as the increase seen in the Average schools.

Panels D through F show the same line graphs for the runner-up schools during the 2004 to 2006 time period. In Panel D, the effect Georgia Institute of Technology's runner-up finish in 2004 returns a similar increase in applications as the Average. The 2005 runner-up, the University of Illinois saw a substantial decrease of applications while the Average modestly increased over the same period as Panel E shows. Panel F shows a sharp increase in applications for the University of California-Los Angeles while the Average only increased slightly. Panels G through I demonstrate the effects of the "Cinderella" schools success on applications. All the schools showed similar increases to the Average of the similar schools. The conflicting and unclear returns from preliminary graphs on the individual level of schools begs the question of whether clearer results are available on the aggregate level.

The six panels of Figure 2 illustrate the effects of winning a basketball national championship on applications, male applications, and female applications across all the schools in the sample. Panels A through C include Michigan State University within the "Cinderella" school data points. Panels D through F do not include Michigan State University within the "Cinderella" school data points. Within each panel, the number of applications are shown on the vertical axis. The horizontal axis includes the average of the lagged successful years for the winning schools, runner-up schools, and "Cinderella" schools in addition to the average of

the years in which those schools were not successful. The unsuccessful years are labeled as "Other Years."

The University of Florida won twice in the time period of interest. The other championship schools supply one observation to the winning years average while the University of Florida provides two. Conversely, the University of Florida only supplies five observations to the "Other Years" average while other schools provide six. The five observations included in the "Other Years" average are given the same weight in averaging the "Other Years" as the six observations from the other victorious schools. In addition, the average of the other years for the University of Florida is counted twice, once for each year that the University of Florida won. Data for the University of Indiana, a runner-up team during the time period, was only available through 2007, so there are only six observations used for the other year averages. Similarly to the University of Florida, the observations for the University of Indiana are given the same amount of weight as the other schools in which seven observations are available.

Due to the constraint in years available, championship, runner-up, and "Cinderella" teams are studied for the years 2001 through 2007. While data for 2008 is available, data for 2009 is not. Data from 2009 would have to be available in order to study the lagged effect for applications and consequently, successful teams from 2008 are not included in this study.

In Panel A, a distinct increase in applications is only noticeable when winning a national championship compared to the Other Years. Runner-Up schools and "Cinderella" schools showed no noticeable change from the year of

success compared to the Other Years. Panel D shows the same graph except that Michigan State University is not included. The data points from the Winning Schools and Runner-Up schools remain the same, while on the "Cinderella" school data points change. Without Michigan State University, a moderate increase is seen during the "Cinderella" year over the Other Years.

Three sets of regressions in this study illustrate the effects of athletic success on applications. Two are identical except that in one regression, the sample is made up of the schools that were successful in basketball while in the other, the sample is made up of the similar schools. The final regression uses the sample of the successful schools, but the dependent variable is the log of applications rather than applications. Panel A, the first regression with applications as the dependent variable, shows a sizeable increase if the school won the national championship. While the effect is minimized as more controls are added both in the weighted and unweighted regressions, it is the only set of results that stay consistently and considerably positive. Both the runner-up and "Cinderella" variables fluctuate between positive and negative coefficients. Panel B, using the sample comprised of similar schools, returns negative coefficients for the similar schools of both championship and "Cinderella" schools. The effects are softened for Winning Sister Schools as more controls are added. Runner-Up and "Cinderella" Sister School coefficients fluctuate greatly. With all the controls, Runner-Up sister schools show a positive coefficients both in the weighted and unweighted regressions. Panel C indicates effect of athletic success on log applications. A noticeable effect is only seen on the "Cinderella" schools in the

weighted and unweighted regressions. Controls minimize the effects seen on the winning schools while the runner-up schools hover around zero or return negative coefficients as controls are added.

Panels B and E in Figure 2 show bar graphs of the effects on male applications. As seen in the graphs of total applications, a sizeable increase is only visible for the winning schools while negligible changes are seen for the runner-up and "Cinderella" schools despite the inclusion or exclusion of Michigan State University. The remainder of variables were only regressed once. The regression with male applications as the dependent variable returned similar results to total applications. Winning has a positive effect on male applications, but being a runner-up or "Cinderella" team resulted in a decrease or no change of male applications. Female applications represented in Panels C and F show a more positive effect than male applications across winners, runner-ups and "Cinderella" schools.

Admissions

Figure 3 includes six bar graphs of the effects on admissions from athletic success. Unlike applications, the graphs of admissions include the year of athletic success and the year following the success. Panels A through C include Michigan State University and panels D through F do not. As can be seen in Panels A and D, total admissions are lower in the year of being a national champion or runner-up. However, being a "Cinderella" school results in an increase in admissions in

the year of athletic success and a greater increase in the following year. The inclusion or exclusion of Michigan State University does not alter the trend of increasing admissions for "Cinderella" schools. The unweighted regression illustrates the decreasing admissions trends for winner and runner-up schools while also showing the sizeable increases found in "Cinderella" school admissions. Male and female admissions react similarly to total admissions which can be seen in the remaining panels. As in applications, the effect is more positive for females except for "Cinderella" schools, where the differences between them are negligible.

Enrollment

Figure 4 is comprised of six graphs representing how athletic success effects enrollment. As in admissions, both the year of athletic success and the year after will be compared to the other years. Panels A through C include Michigan State, while panels D through F do not. Winning a national championship causes a similar decrease for the year of athletic success and the following year. Runner-up teams' enrollments increased modestly for both years while a minor increase is evident in the year of athletic success for "Cinderella" schools and a significant increase for the year following athletic success. Both the weighted and unweighted regressions illustrate the same effects as seen in the graphs. Male and female enrollment react similarly to total enrollment. As is seen in admissions and

applications, female enrollment sees a more positive effect except in “Cinderella” schools where the effect is equitable.

Racial Composition and SATs

Figure 5 includes nine graphs describing the racial composition of the schools. The three races being measures are Black, Hispanic, and White. As is evident in the graphs, there is little to no change of the racial composition of the schools across all races. Similarly, race broken down by gender remains stagnant as well. The regression also shows no change in the racial composition of the schools.

Figure 6 shows bar graphs of SAT Math and Verbal scores. Verbal scores increase across each of the universities. Conversely, SAT Math scores decrease significantly across all of the schools after a year of athletic success. The SAT regressions are unweighted causing the coefficients to differ from what the graphs illustrate. The consistent trend of lower SAT Math scores is not apparent in the regressions as it is in the graphs. On the other hand, SAT Verbal increases are still seen in the regressions as they are in the graphs.

Conclusion

This study measures the effect of winning a basketball national championship on various admission factors. Applications, admissions, enrollment, SAT scores, and the racial composition are measured. The variables are also broken down along gender lines except for SAT scores where that data was not available.

One weakness of the study is the lack of statistically significant coefficients. The standard errors are large enough for the real effect to be drastically different from the estimate specified in the regressions. Nevertheless, the estimates presented in this study are the most accurate estimates that Ordinary Least Squares offers. Utilizing these estimates, sizeable positive effects of winning a national championship are seen for applications, male applications, and female applications. The positive effect is greater for female applications when compared to male applications. That countered the hypothesis of the expected effect in which male applications would see a greater increase than females.

Admissions saw steady decreases for winner and runner-up schools in the year of success and the following year. “Cinderella” teams, on the other hand, had an increase of admissions for those years. Winner and runner-up teams seemingly alter their behavior with admissions because they expect a larger percentage of students to accept their offer of admission. On the other hand, “Cinderella” teams admit more students, but the motivation behind that is unclear. They may be taking advantage of increased exposure to grow their school populations. They may also believe that less students will accept their offer of admission. The

opportunity cost of applying to a school is quite low, while the opportunity cost of enrolling in a school is much higher. Therefore, they may believe their applicant pool is not as interested in the school as it normally is when the school lacks the increased national exposure.

Enrollment followed the trends established by admissions. Less students were accepted to the winning and runner-up schools and consequently, enrollment also decreased. On the other hand, enrollment increased at "Cinderella" schools where more students were admitted. Female enrollment also increased more than male enrollment on the whole which continued to go against the hypothesis that the larger positive effect would be seen amongst men.

Finally, racial composition was not affected by athletic success even when split up by gender. SAT scores returned conflicting results. The graphs showed consistent increases for Verbal scores and consistent decreases for Math scores. The regressions, on the other hand, showed small to moderate increases for both Math and Verbal scores. The root of the discrepancy is the difference in weights for the graphs and regressions. Nevertheless, there is no significant change evident in SAT scores.

Bibliography

CBS renews NCAA b'ball. (1999, November 18). Retrieved from http://money.cnn.com/1999/11/18/news/ncaa/

Flutie effect. (2007, January 3). *The Economist*, Retrieved from http://www.economist.com/blogs/freeexchange/2007/01/flutie_effect

Hawkins, David. (2008, September 25). *Continued increase in applications characterizes college admission in 2008*. Retrieved from http://www.nacacnet.org/ABOUTNACAC/PRESSROOM/2008PRESSRELEASES/Pages/IncreaseinApplications.aspx

Litan et al., 2003 Litan, R. E., Orszag, J. M., & Orszag, P. R. (2003). *The empirical effects of collegiate athletics: An interim report.* Sebago Associates Working Paper.

President picks UNC in pool. (2009, April 7). Retrieved from http://sports.espn.go.com/ncb/ncaatourney09/news/story?id=4048328

Toma, J.D., & Cross, M.E. (1998). Intercollegiate athletics and student college choice. *Research in Higher Education*, *39*(6), 633-661.

Tucker, I.B. (2004). A Reexamination of the effect of big-time football and basketball success on graduation rates and alumni giving rates. *Economics of Education Review*, *23*(6), 655-661.

Tucker, I.B., & Amato, L.T. (2006). A Reinvestigation of the relationship between big-time basketball success and average sat scores. *Journal of Sports Economics*, *7*(4), 428-440.

Table 1: Sample Means

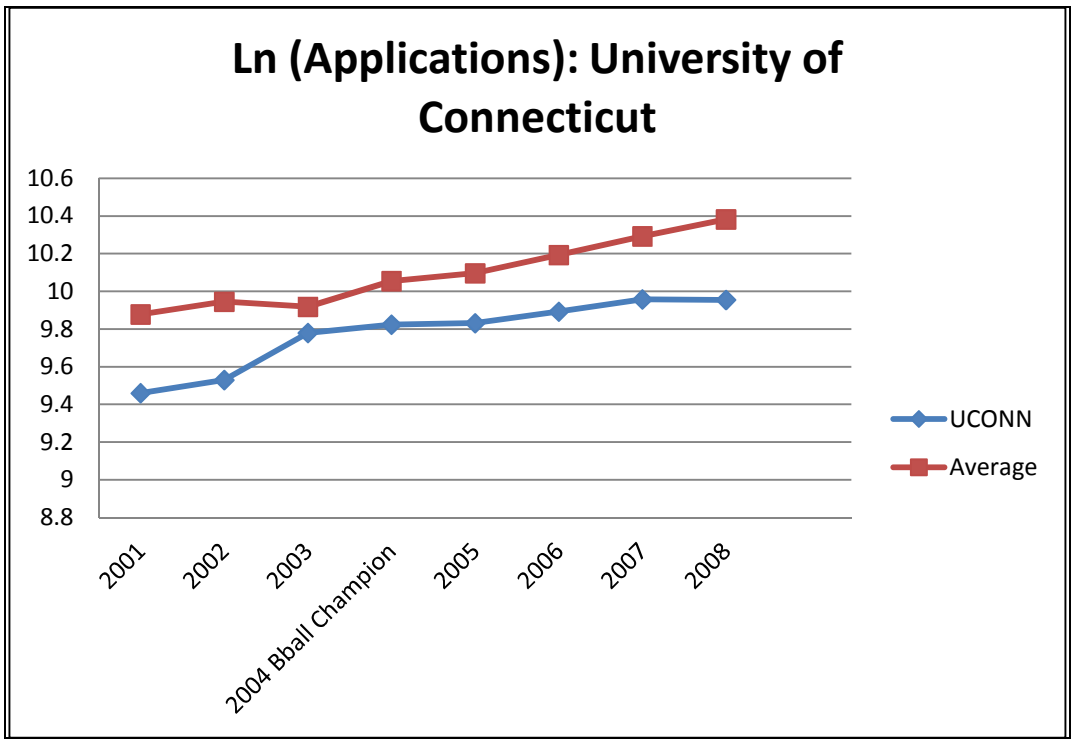
Variable	(1) Basketball Champion	(2) Similar Colleges	(3) Basketball Runner-Up	(4) Similar Colleges	(5) Basketball Cinderella	(6) Similar Colleges
Total Applications	18431	22950	21200	24308	9136	18581
	(671.1)	(605.3)	(1319.1)	(754.1)	(526.8)	(511.4)
Male Applications	8503	10226	10277	11606	4190	8654
	(284.6)	(290.)	(555.4)	(345.9)	(241.8)	(248.3)
Female Applications	10221	12739	10922	12702	5037	9920
	(338.4)	(358.5)	(778.8)	(437.1)	(286.8)	(279.6)
Total Enrollment	4188	3717	5462	4389	2927	4111
	(229.6)	(144.8)	(202.5)	(138.7)	(189.6)	(104.9)
Male Enrollment	1891	1698	2632	2091	1354	1925
	(99.06)	(71.72)	(89.44)	(72.08)	(88.02)	(55.39)
Female Enrollment	2297	2017	2831	2297	1573	2185
	(133.3)	(79.15)	(124.5)	(72.83)	104.3781	(53.28)
Total Admissions	9531	10519	12228	11200	6868	10363
	(491.5)	(414.2)	(545.3)	(353.4)	(406.)	(258.5)
Male Admissions	4282	4640	5809	5239	3059	4727
	(200.5)	(185.5)	(227.)	(177.2)	(176.4)	(131.3)
Female Admissions	5399	5862	6418	5960	3875	5629
	(279.2)	(243.1)	(336.9)	(192.3)	(232.9)	(138.1)
SAT Math 25%	583.9	588.3	571.6	596.3	510.8	565.0

	(6.013)	(4.528)	(7.682)	(3.928)	(5.932)	(3.485)
SAT Math 75%	687.5	684.8	679.4	698.7	621.5	668.5
	(5.633)	(4.264)	(6.474)	(3.564)	(5.108)	(3.134)
SAT Verbal 25%	560.0	568.9	540.0	569.2	502.0	543.6
	(6.781)	(4.293)	(5.328)	(3.698)	(5.956)	(3.123)
SAT Verbal 75%	665.1	666.2	648.8	672.5	612.0	646.6
	(5.691)	(4.31)	(4.904)	(3.446)	(5.455)	(2.843)
Total White Students	14855	12488	18864	13882	11911	14631
	(993.4)	(777.7)	(966.5)	(695.1)	(775.6)	(469.5)
White Male Students	7098	5894	9595	6874	5596	7143
	(472.1)	(398.8)	(467.4)	(364.1)	(373.8)	(252.7)
White Female Students	7757	6595	9269	7008	6315	7488
	(528.2)	(390.8)	(523.8)	(344.7)	(412.1)	(226.1)
Total Black Students	1751	1209	1562	1212	1237	1263
	(148.3)	(91.96)	(122.9)	(75.64)	(91.77)	(48.63)
Black Male Students	678.3	464.8	651.2	488.1	495.0	506.3
	(57.56)	(33.11)	(43.63)	(29.52)	(38.01)	(18.83)
Black Female Students	1072	744.7	910.6	724.2	742.3	756.5
	(92.24)	(59.45)	(80.66)	(47.14)	(55.25)	(30.86)
Total Hispanic Students	1174	1306	2093	1858	570	1098
	(159.5)	(118.7)	(218.)	(129.7)	(68.42)	(79.85)

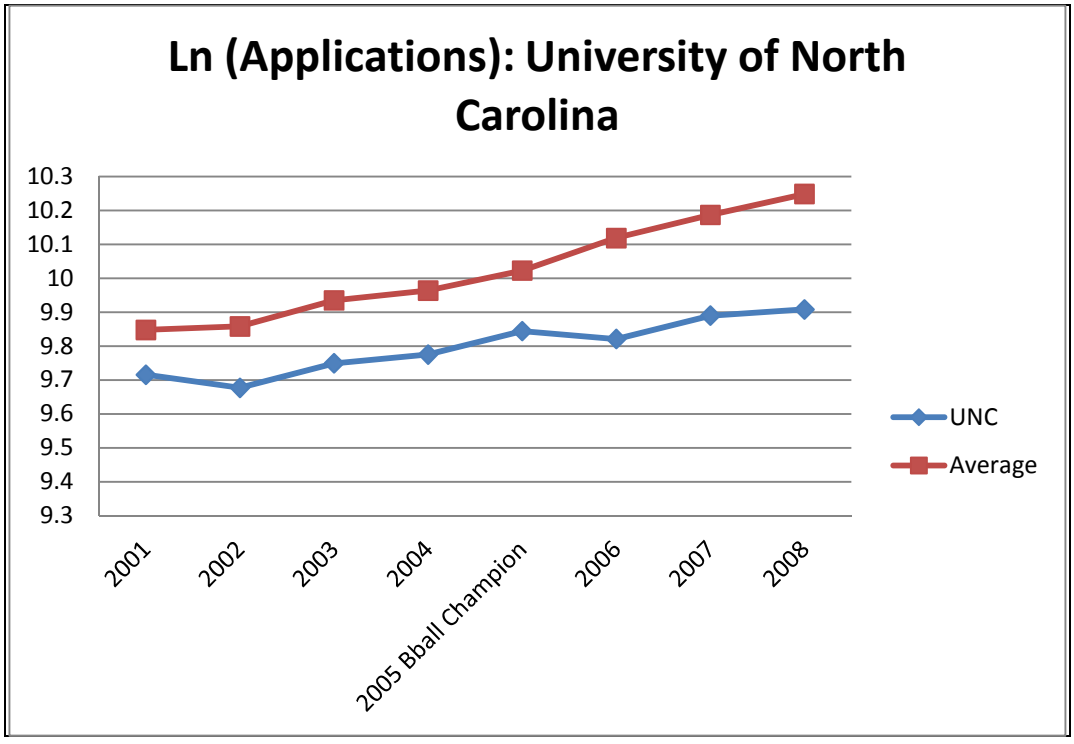
Hispanic Male Students	536.2 (73.48)	557.9 (51.69)	949.1 (90.7)	828.0 (57.68)	260.0 (29.36)	494.3 (35.91)
Hispanic Female Students	637.9 (86.1)	747.8 (67.52)	1159 (130.1)	1030 (72.78)	310.2444 (39.31)	604.7 (44.56)

Figure 1: Log of Applications Line Graphs

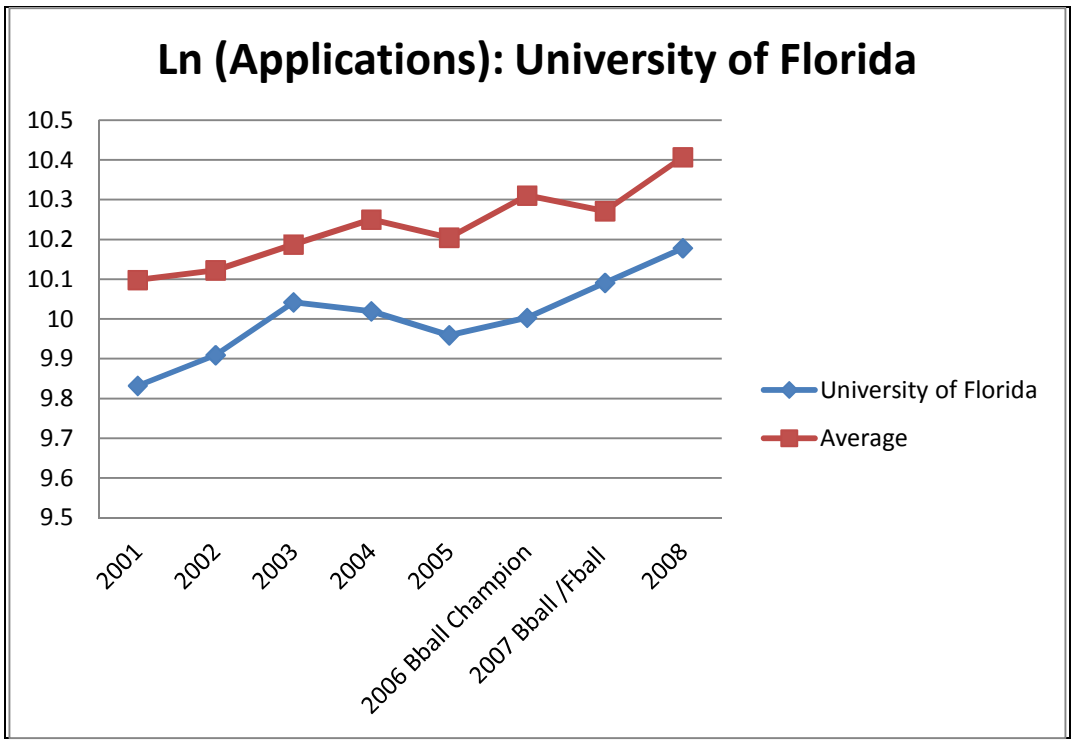
Panel A



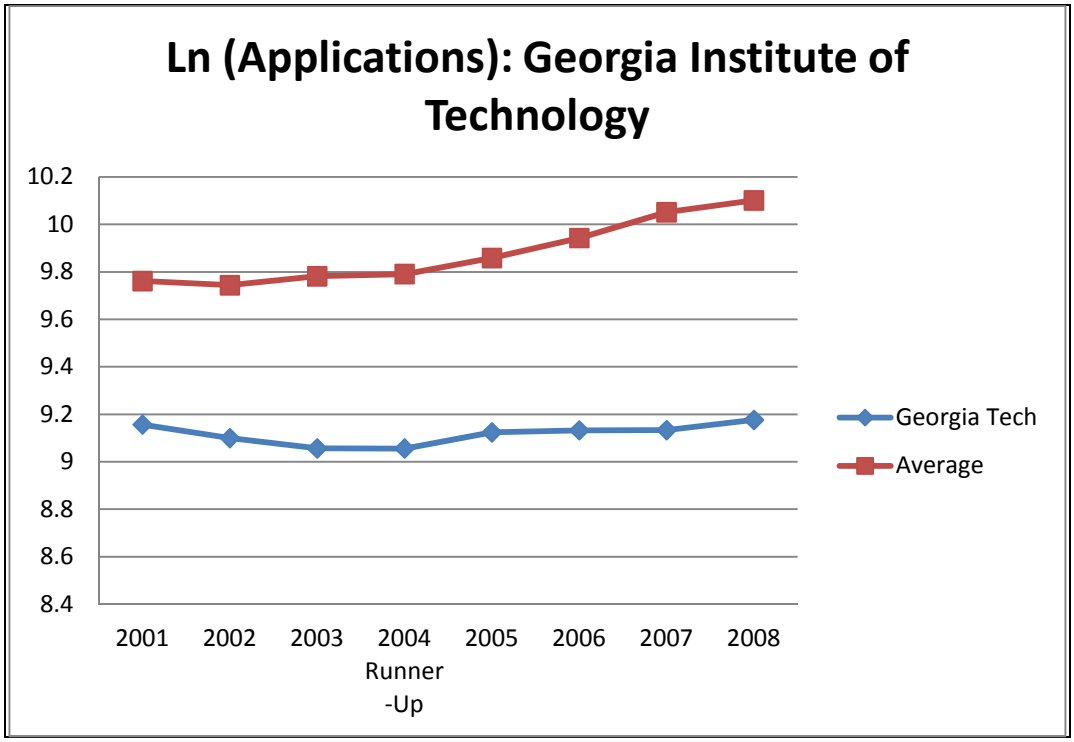
Panel B



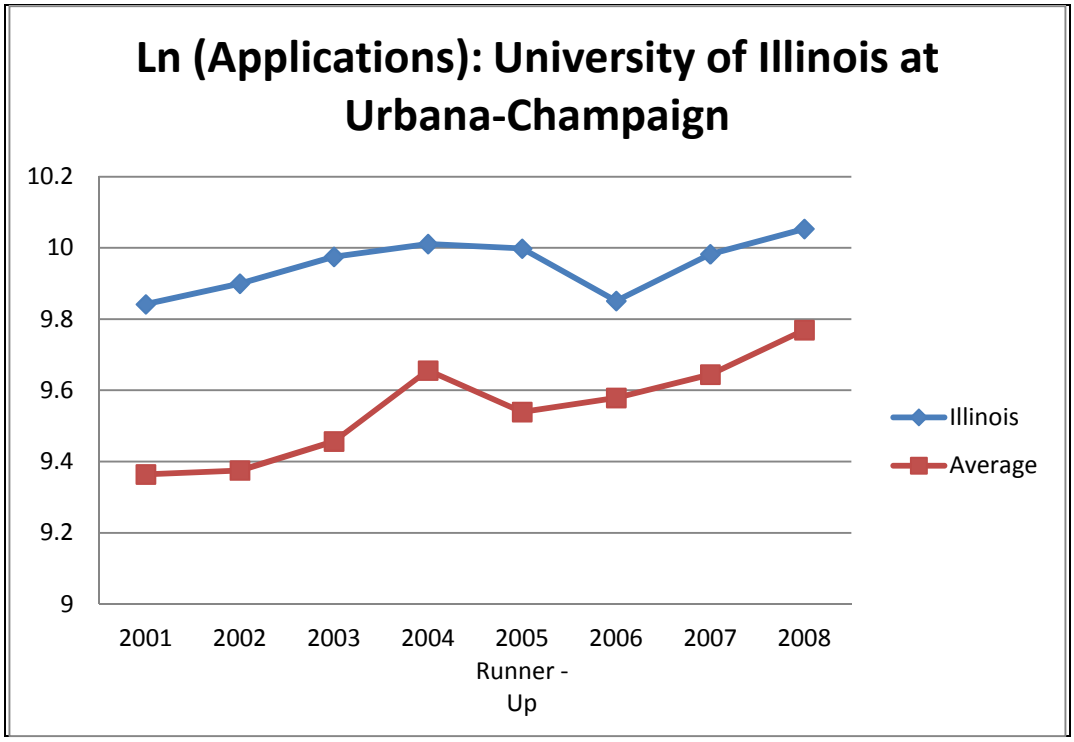
Panel C



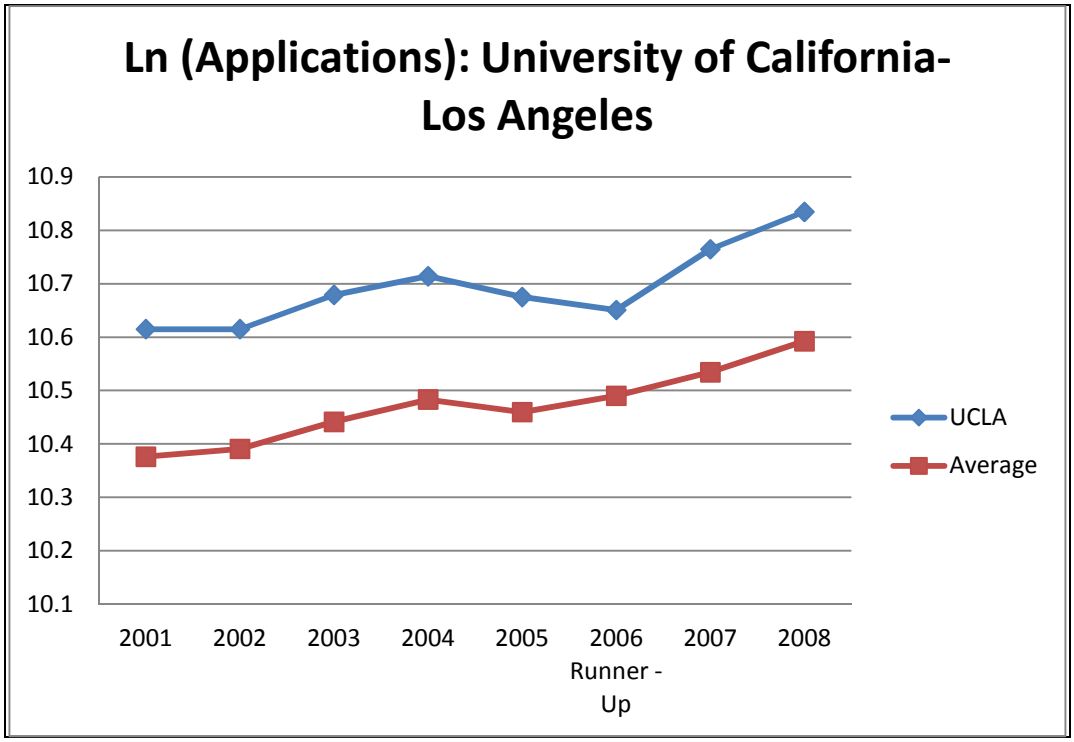
Panel D



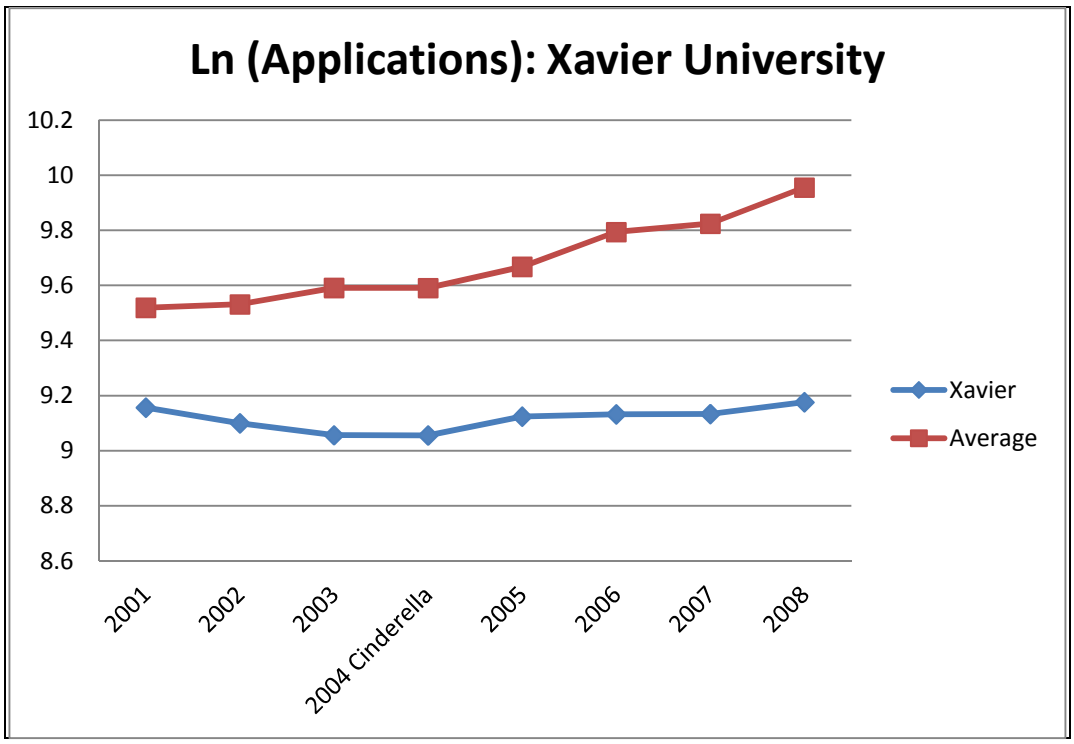
Panel E



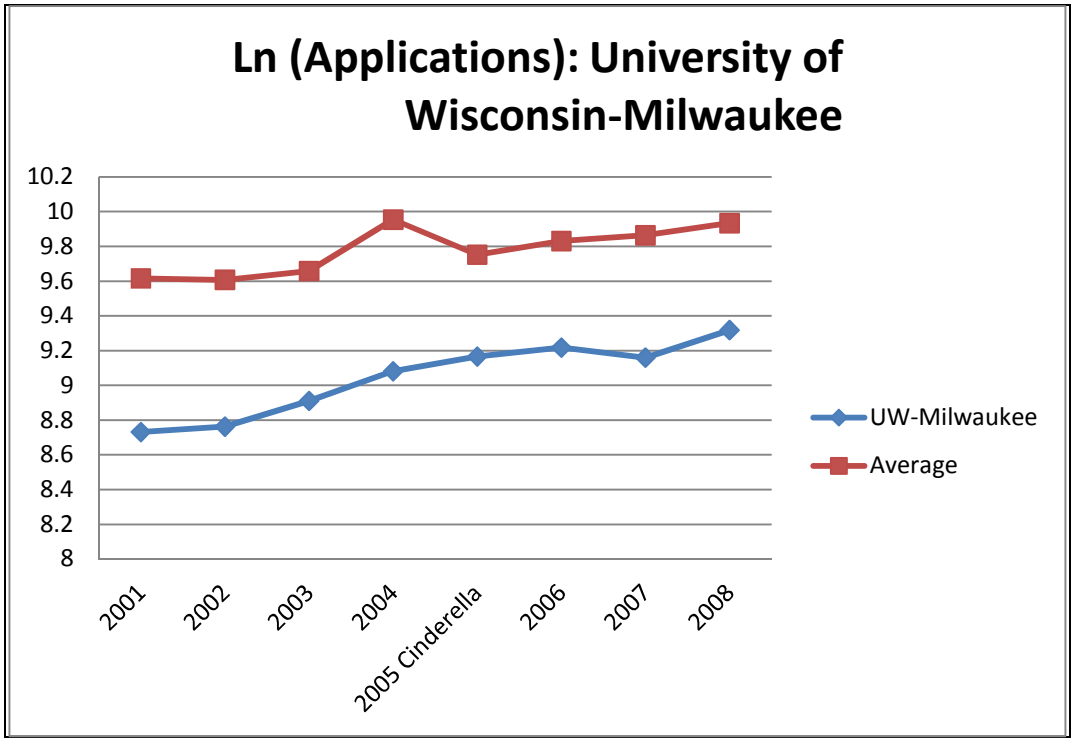
Panel F



Panel G



Panel H



Panel I

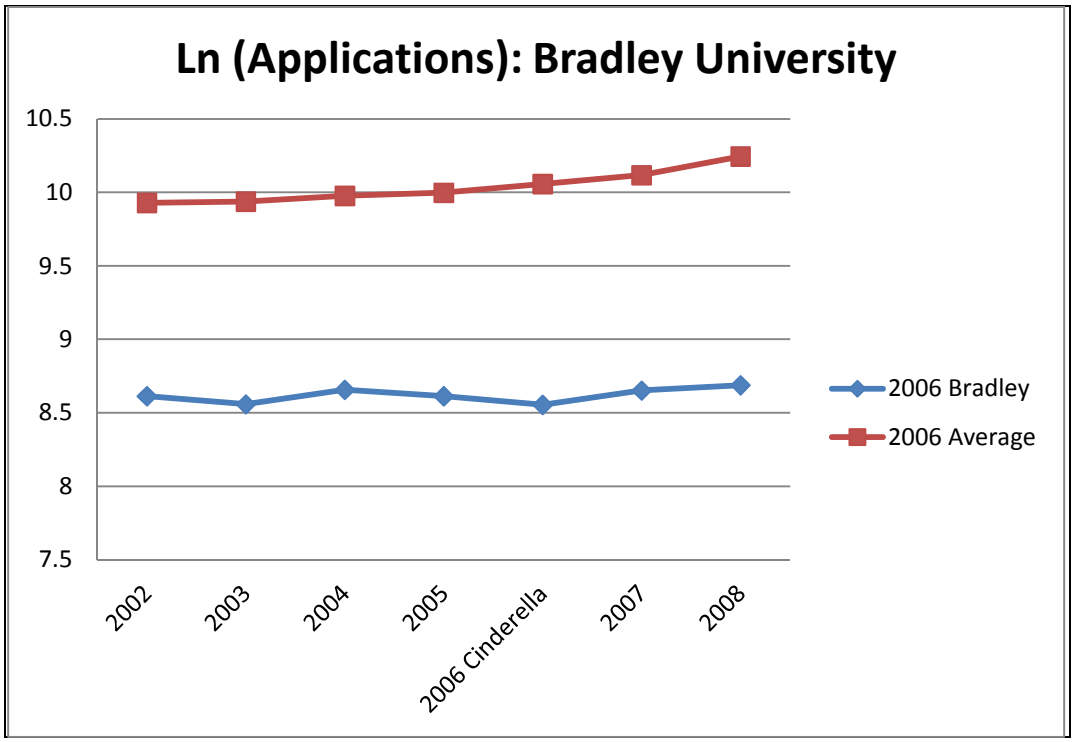
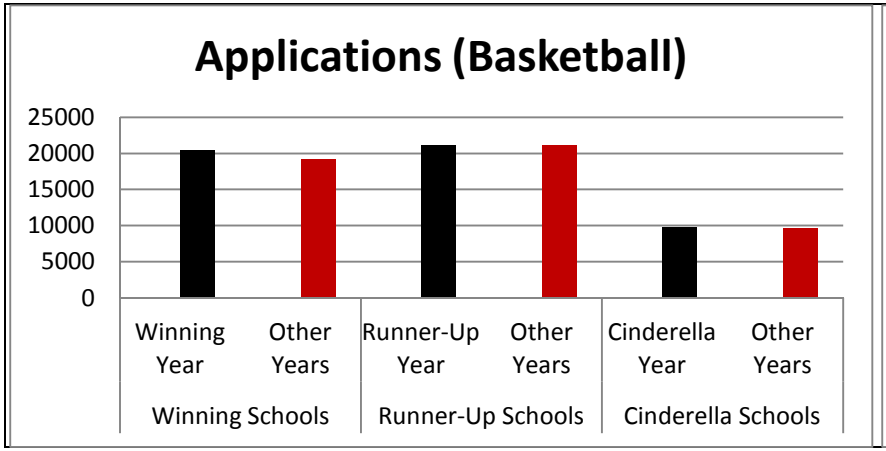
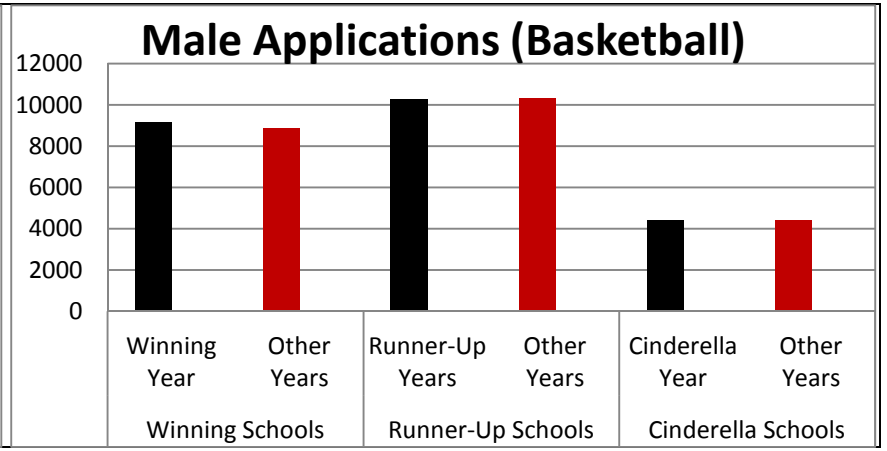

Ln (Applications): Bradley University
10.5
10
9.5
9
8.5
8
7.5
2002
2003
2004
2005
2006 Cinderella
2007
2008
2006 Bradley
2006 Average

Figure 2: Bar Graphs of Applications, Male Applications and Female Applications

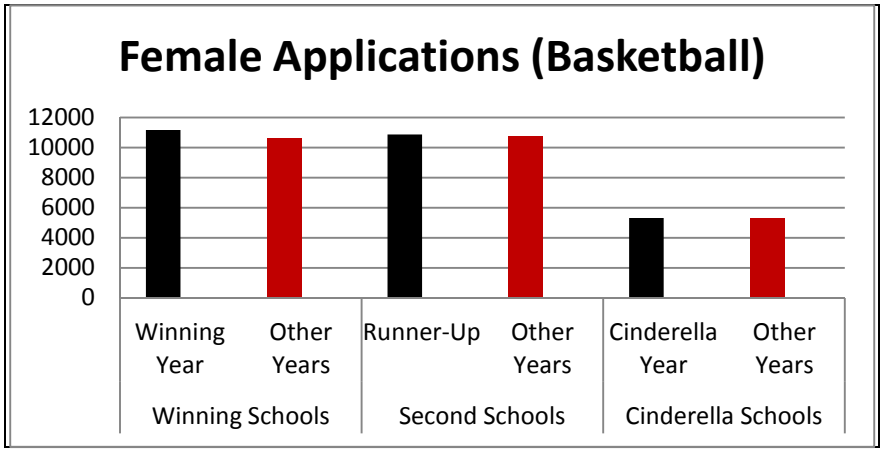
Panel A



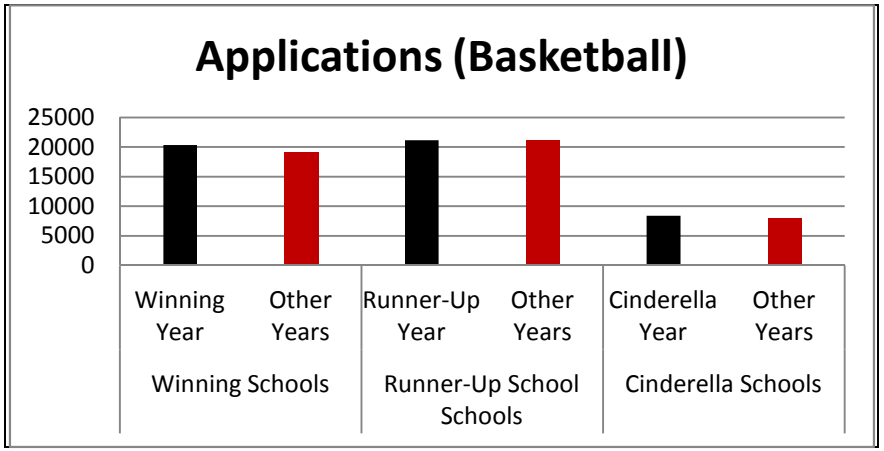
Panel B



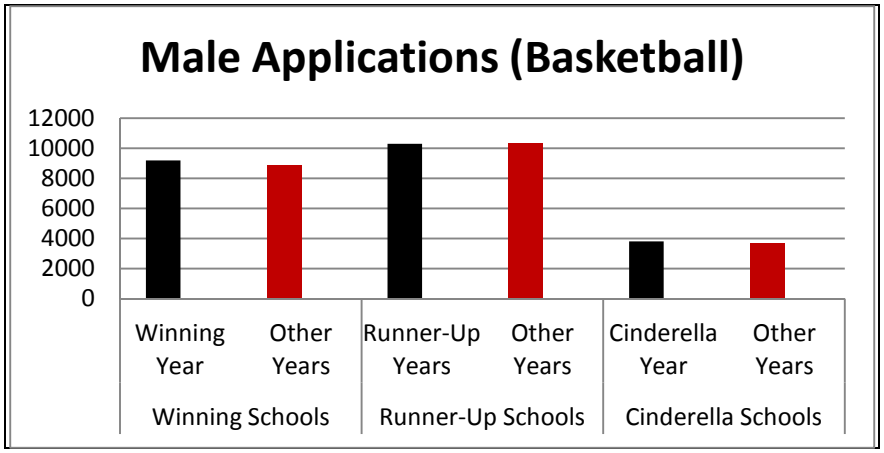
Panel C



Panel D



Panel E



Panel F

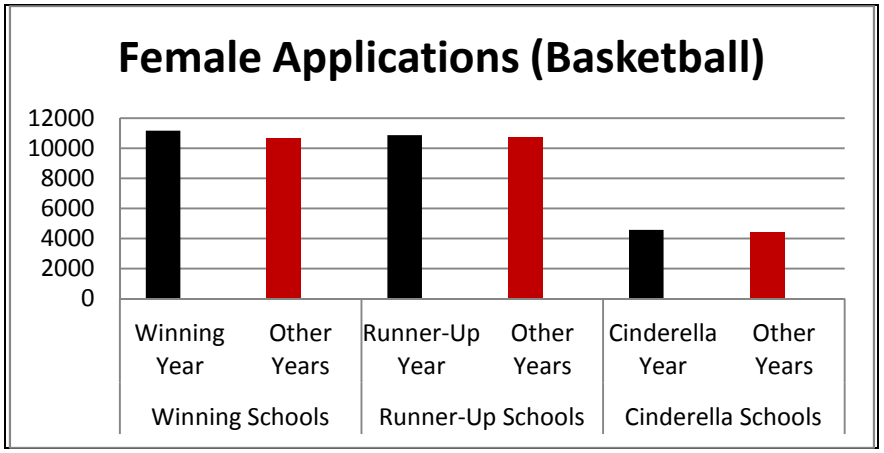
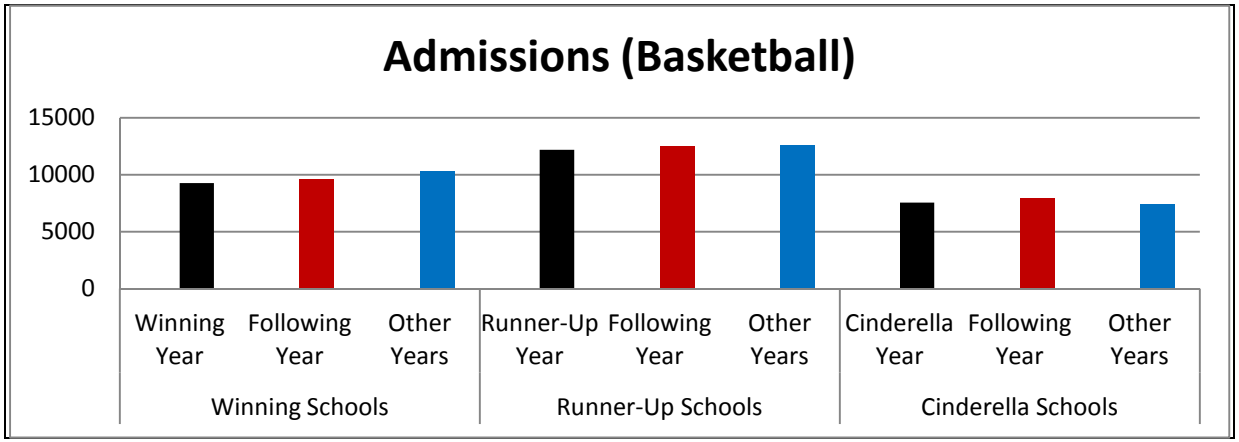
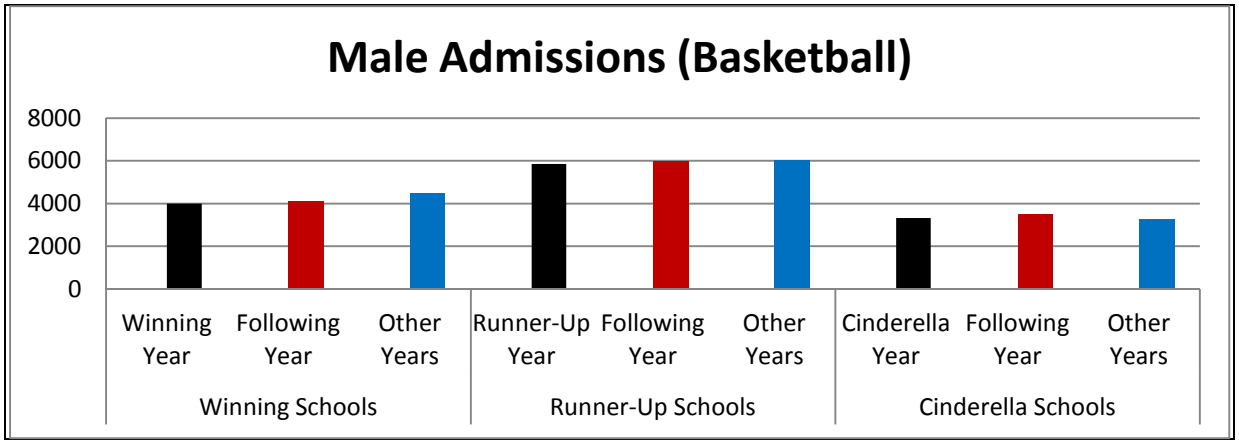


Figure 3: Bar Graphs of Admissions, Male Admissions and Female Admissions

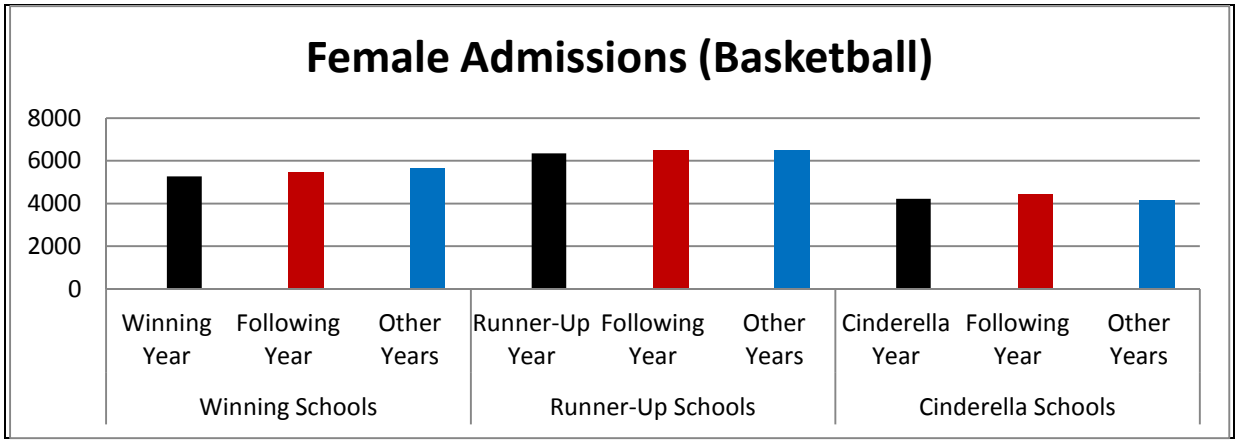
Panel A



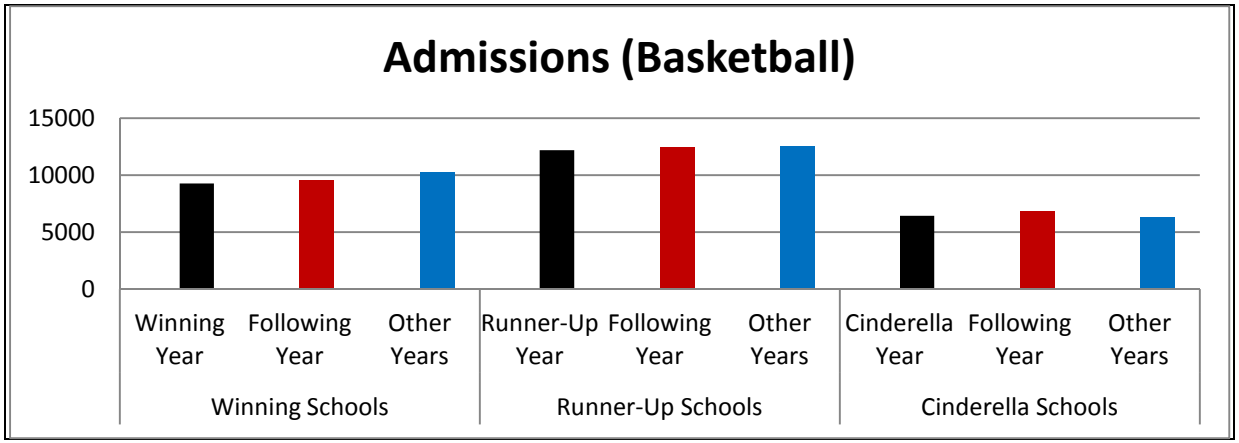
Panel B



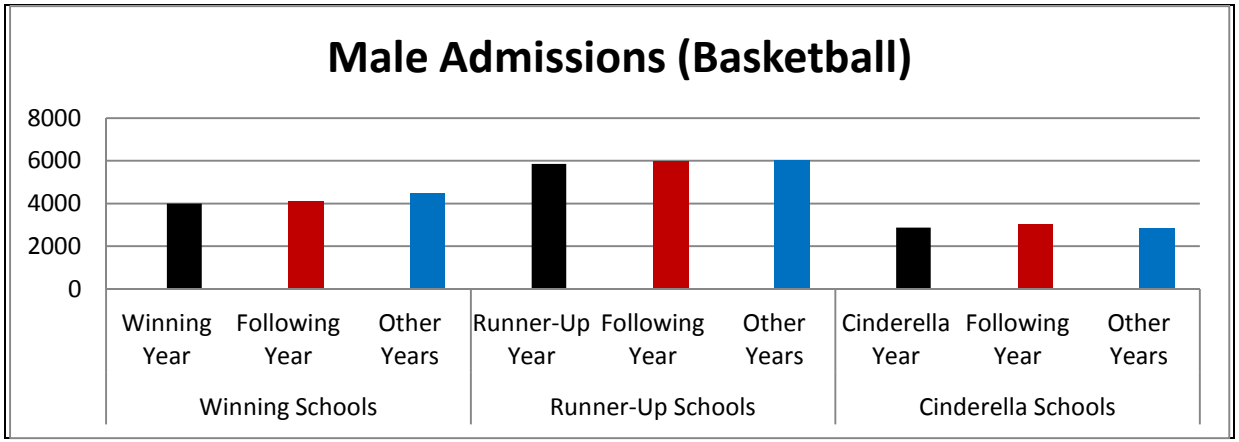
Panel C



Panel D



Panel E



Panel F

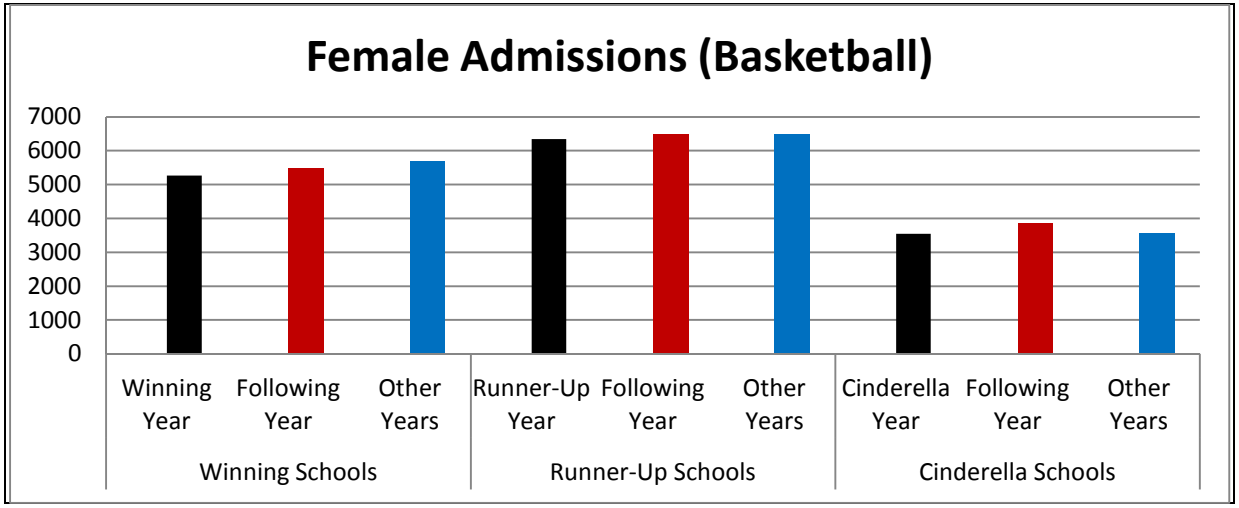
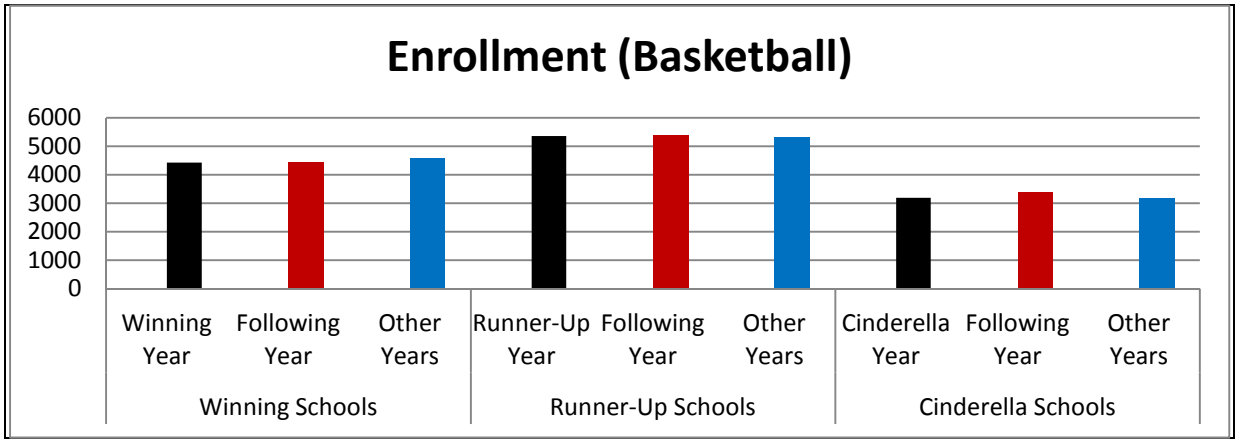
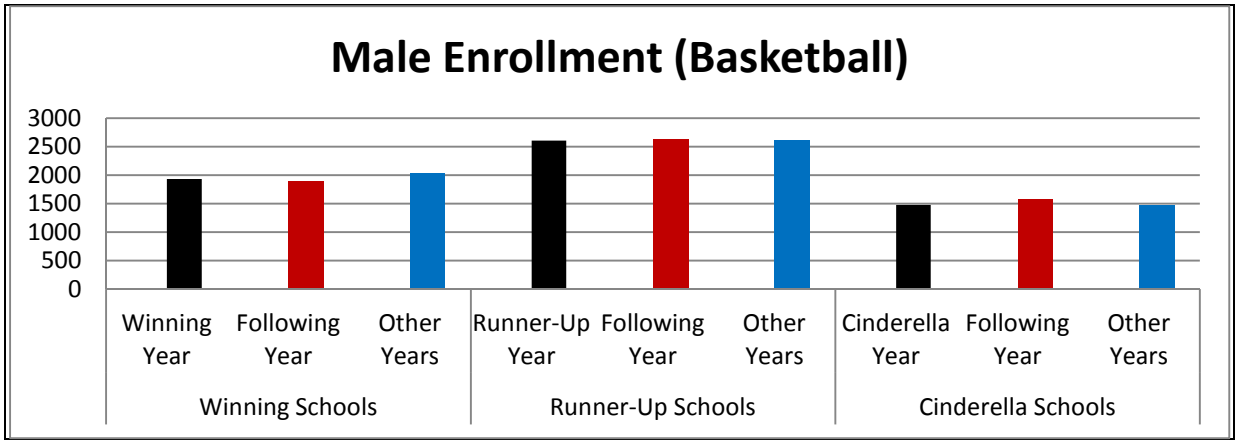

Female Admissions (Basketball)
7000
6000
5000
4000
3000
2000
1000
0
Winning Year
Following Year
Other Years
Runner-Up Year
Following Year
Other Years
Cinderella Year
Following Year
Other Years
Winning Schools
Runner-Up Schools
Cinderella Schools

Figure 4: Bar Graphs of Enrollment, Male Enrollment and Female Enrollment

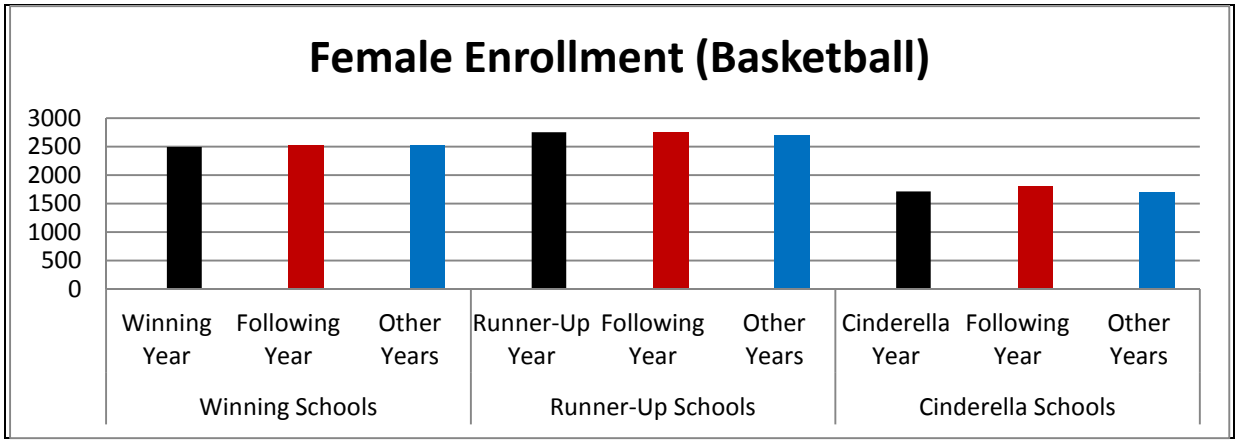
Panel A



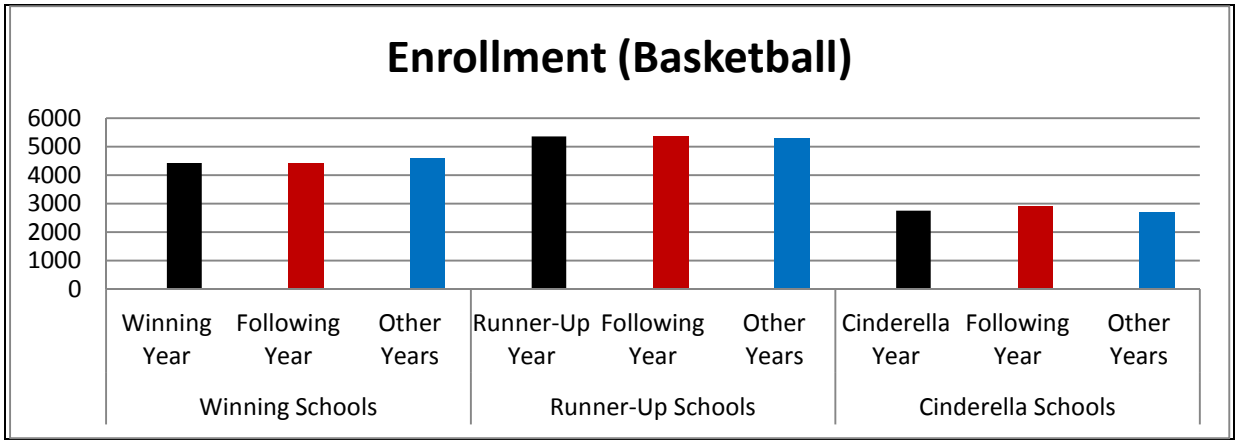
Panel B



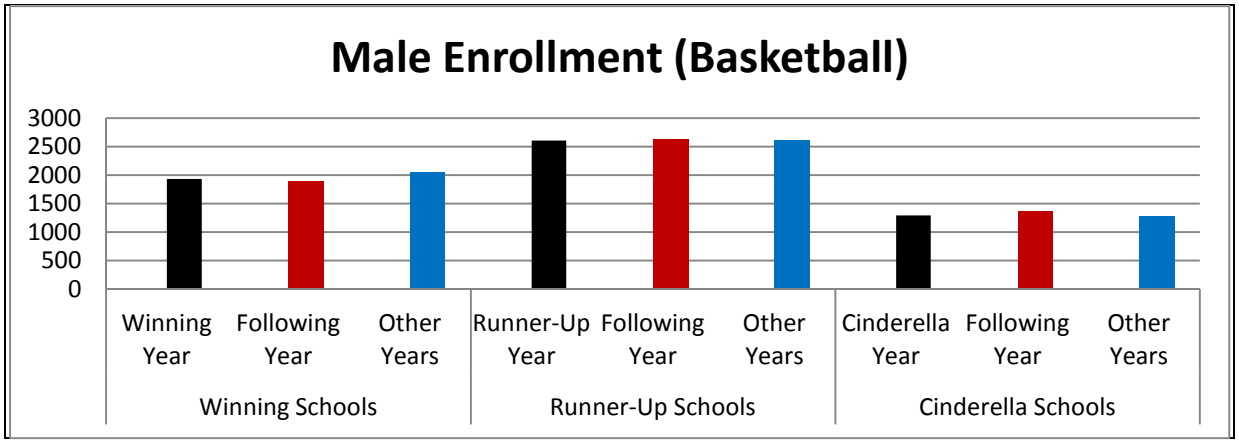
Panel C



Panel D



Panel E



Panel F

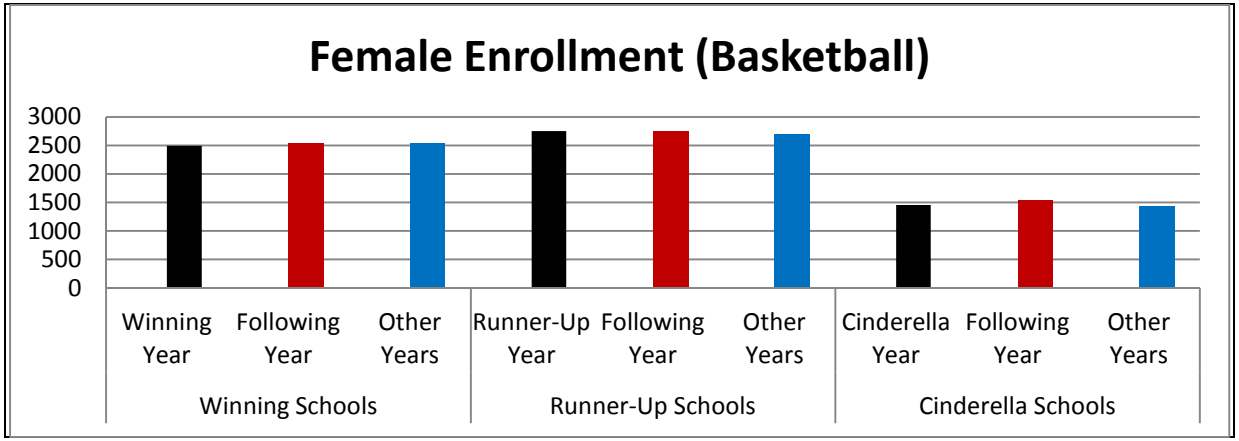
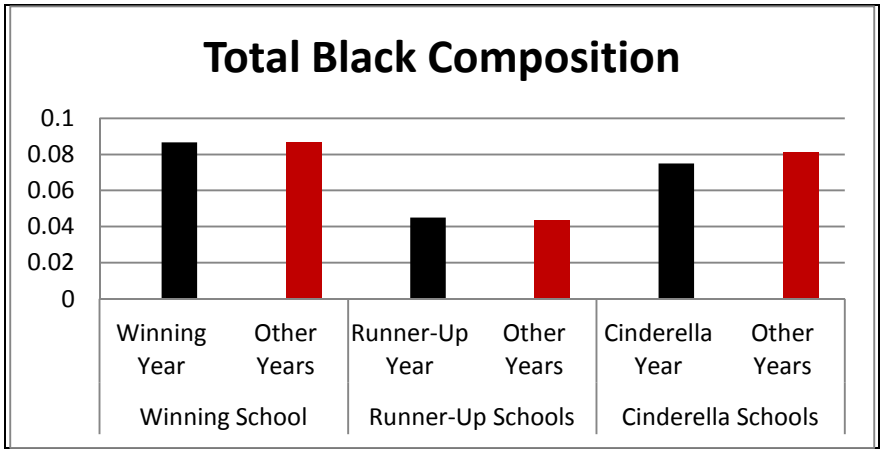
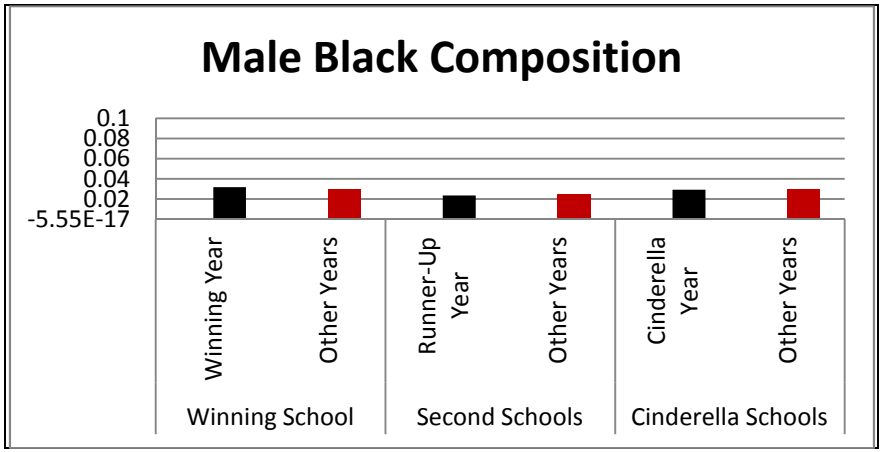

Female Enrollment (Basketball)
3000
2500
2000
1500
1000
500
0
Winning Year
Following Year
Other Years
Runner-Up Year
Following Year
Other Years
Cinderella Year
Following Year
Other Years
Winning Schools
Runner-Up Schools
Cinderella Schools

Figure 5: Bar Graphs of Black, Hispanic, and White Racial Composition

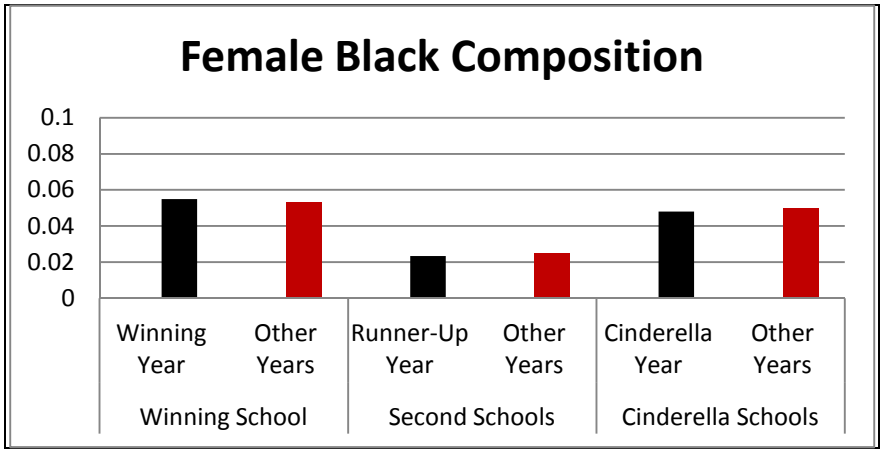
Panel A



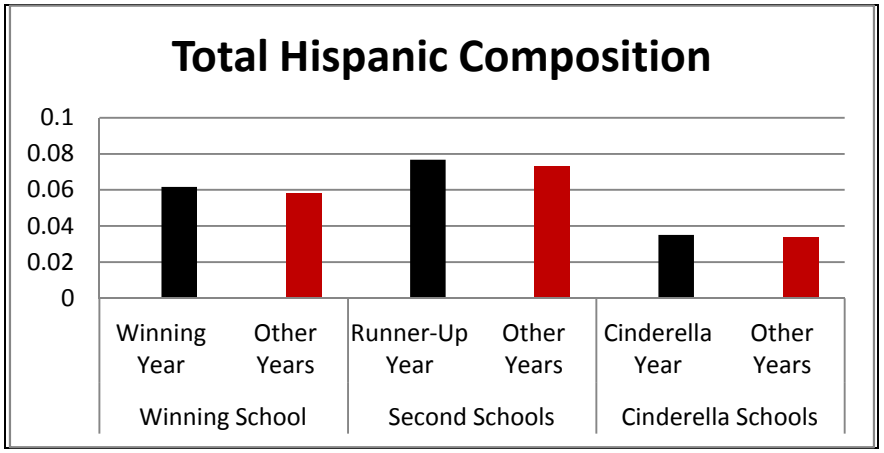
Panel B



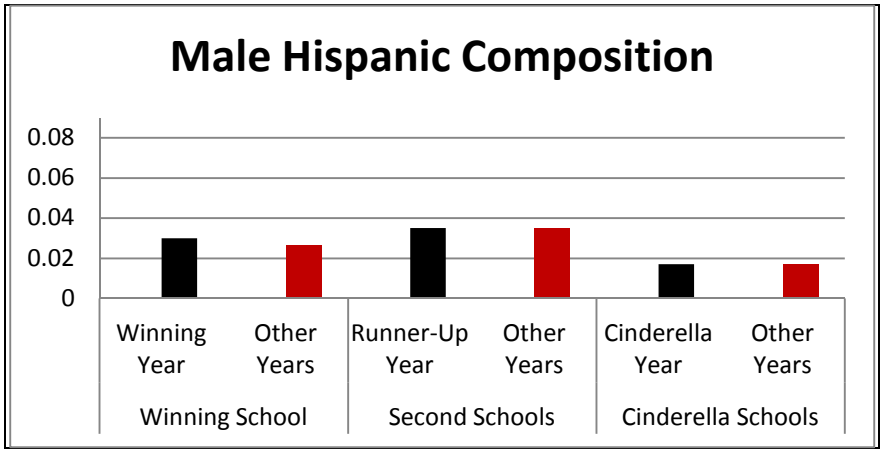
Panel C



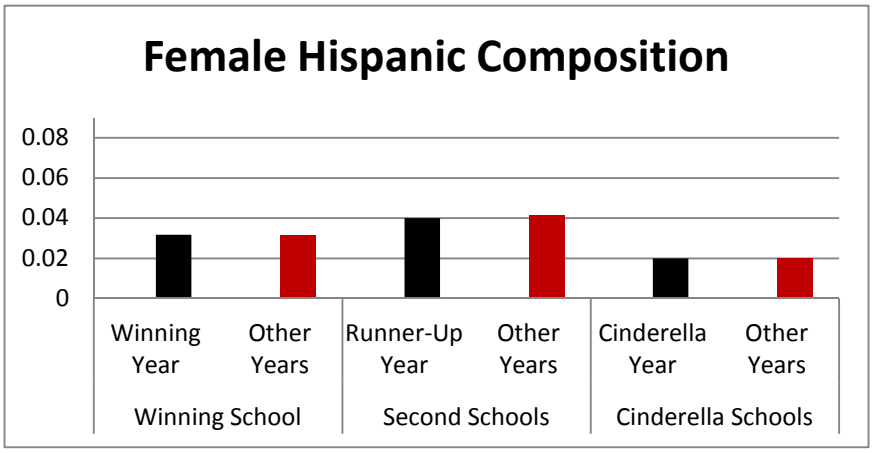
Panel D



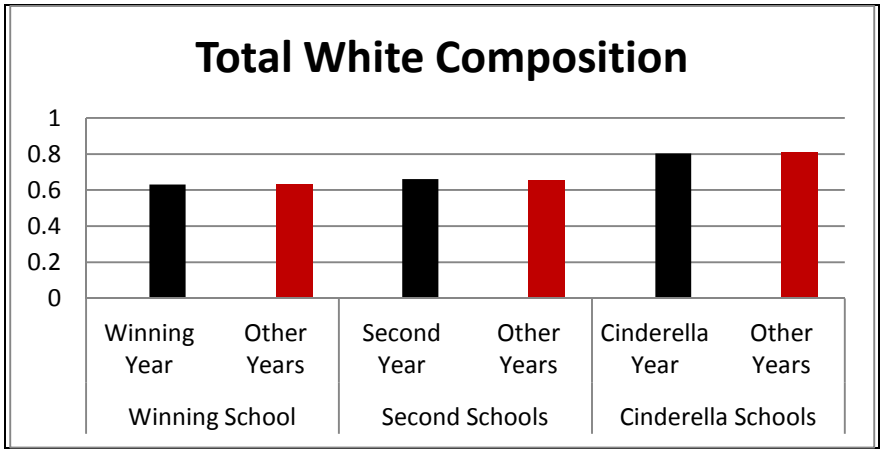
Panel E



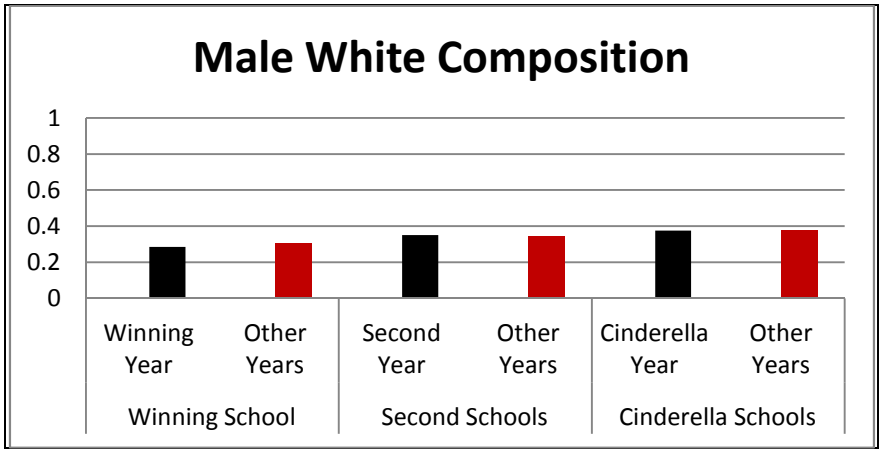
Panel F



Panel G



Panel H



Panel I

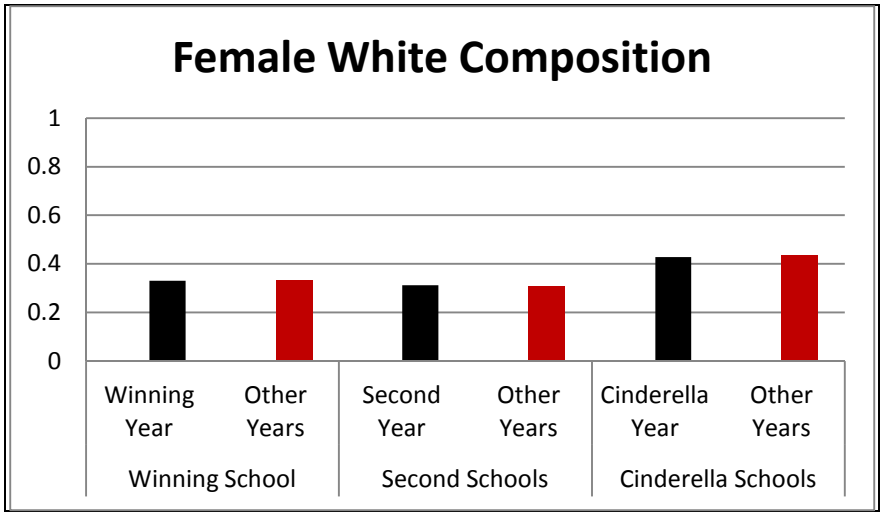
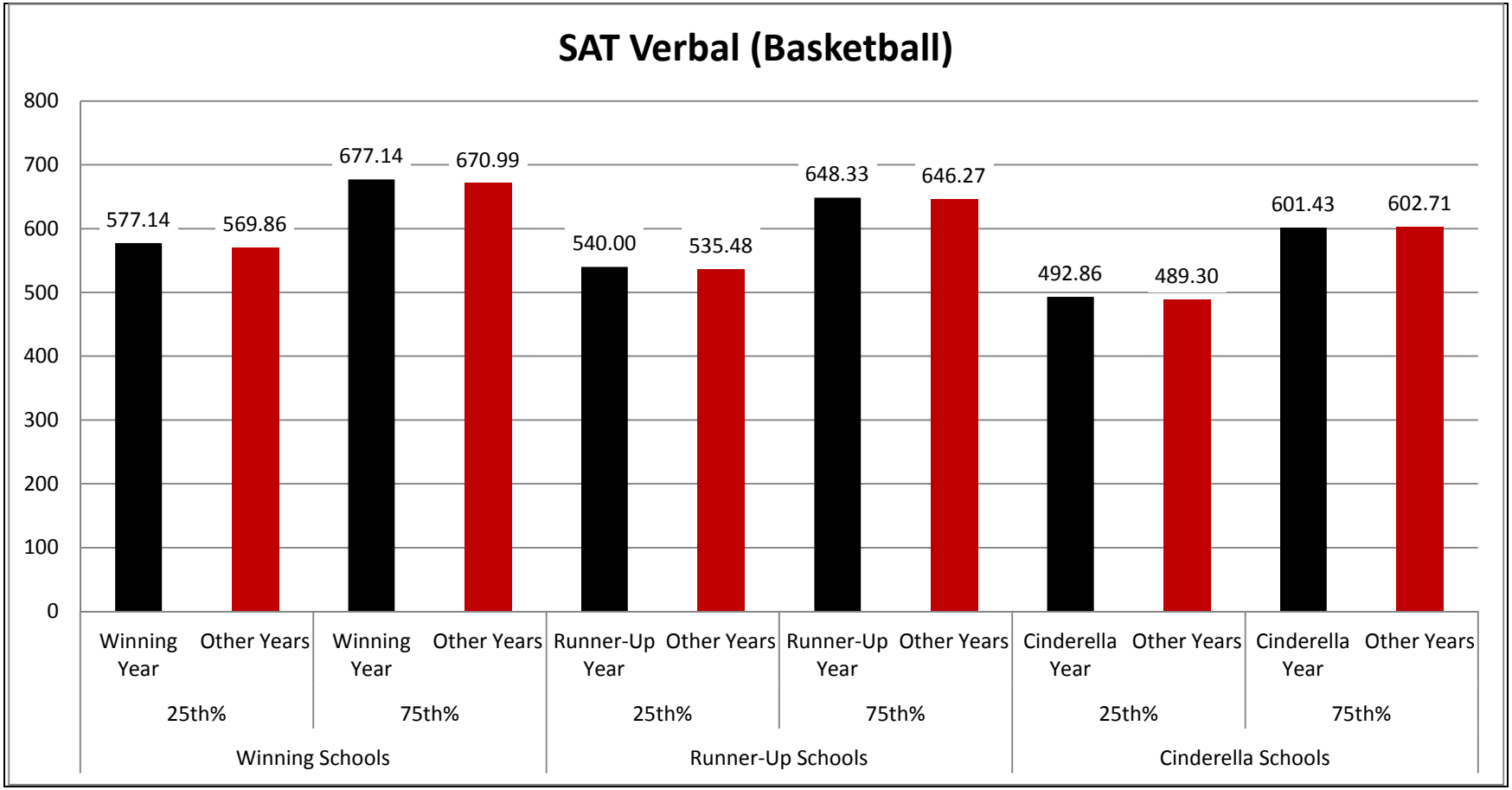

Female White Composition
1
0.8
0.6
0.4
0.2
0
Winning Year
Other Years
Second Year
Other Years
Cinderella Year
Other Years
Winning School
Second Schools
Cinderella Schools

Figure 6: Bar Graphs of Math and Verbal SAT Scores

Panel A



Panel B

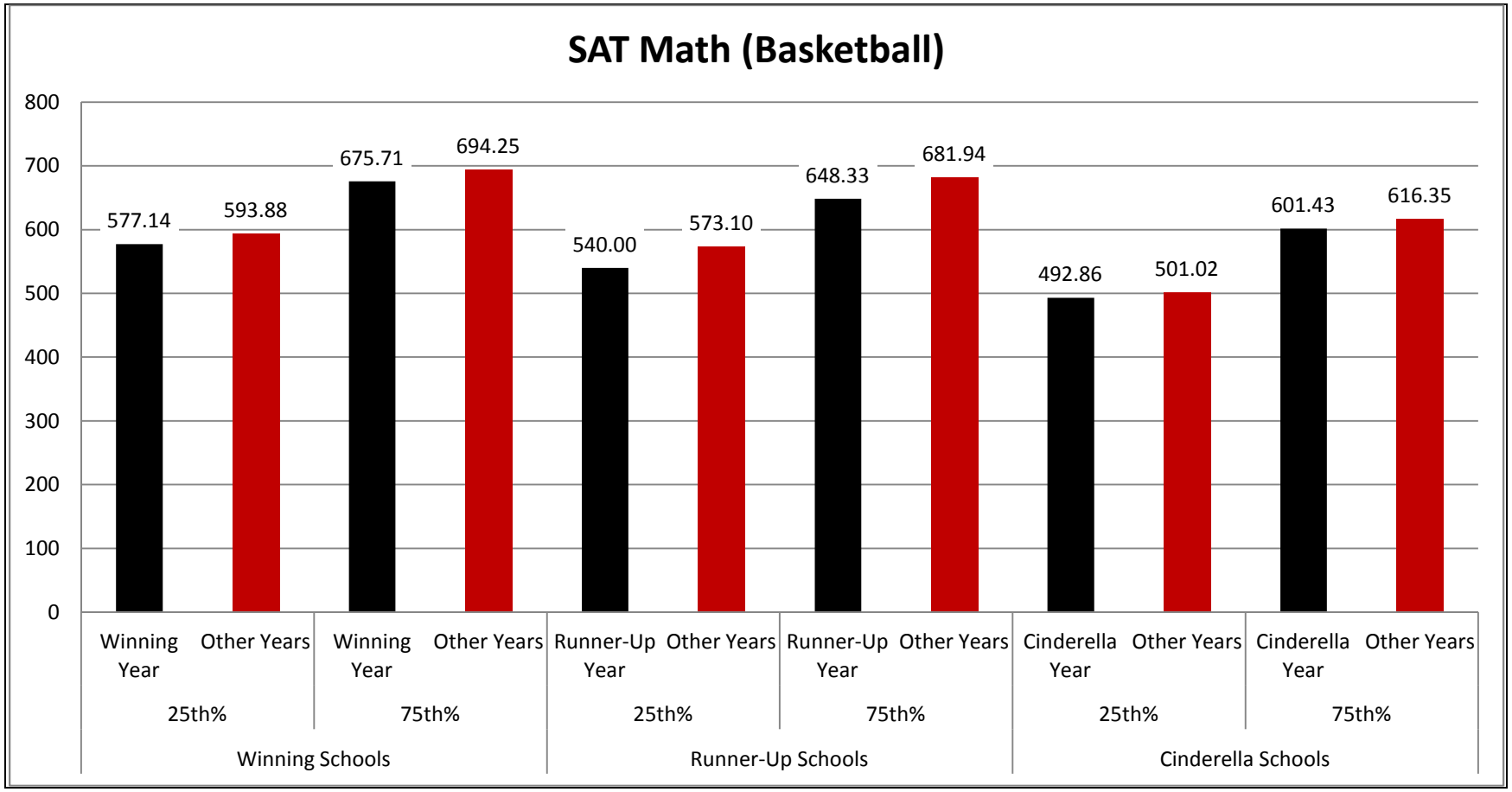

SAT Math (Basketball)
800
700
600
500
400
300
200
100
0
577.14
593.88
675.71
694.25
540.00
573.10
648.33
681.94
492.86
501.02
601.43
616.35
Winning Year
Other Years
Winning Year
Other Years
Runner-Up Year
Other Years
Runner-Up Year
Other Years
Cinderella Year
Other Years
Cinderella Year
Other Years
25th%
75th%
25th%
75th%
25th%
75th%
Winning Schools
Runner-Up Schools
Cinderella Schools

Table 2: Applications as a Function of Athletic Success

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Effects of Basketball Performance							
	Weighted			Unweighted			
Winner (Lagged)	1221	794.1	698.4	1631	1103	740.4	665.7
	(1824)	(1602)	(1554)	(1842)	(854)	(596)	(508)
Runner-Up (Lagged)	77.52	-300.1	-393.0	125.6	81.30	-317.8	-396.7
	(4786)	(4640)	(4719)	(4795)	(748)	(618)	(561)
Cinderella (Lagged)	68.33	1.900	-102.6	68.33	68.33	-1.302	-34.29
	(1663)	(1744)	(1839)	(1663)	(369)	(286)	(360)
R^2	0.839	0.844	0.845	0.829	0.985	0.991	0.992
Observations	183	183	183	183	183	183	183
Time Trend?		Yes				Yes	
Year Fixed Effects?			Yes				Yes
School Fixed Effects?					Yes	Yes	Yes

Table 3: Log of Applications as a Function of Athletic Success

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Effects of Basketball Performance							
	Weighted			Unweighted			
Winner (Lagged)	0.030	0.006	0.006	0.049	0.027	0.006	0.005
	(.09)	(.077)	(.075)	(.09)	(.048)	(.029)	(.026)
Runner-Up (Lagged)	-0.005	-0.028	-0.028	0.000	-0.004	-0.031	-0.032
	(.211)	(.205)	(.209)	(.211)	(.028)	(.031)	(.028)
Cinderella (Lagged)	0.030	0.028	0.028	0.030	0.037	0.034	0.035
	(.152)	(.157)	(.163)	(.152)	(.034)	(.024)	(.028)
R^2	0.998	0.998	0.998	0.998	1.000	1.000	1.000
Observations	181	181	181	181	181	181	181
Time Trend?		Yes				Yes	
Year Fixed Effects?			Yes				Yes
School Fixed Effects?					Yes	Yes	Yes

Table 4: Applications of Sister Schools as a Function of Athletic Success

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Effects of Basketball Performance							
	Weighted			Unweighted			
Winning Sister Schools	-1227	-731.0	-474.7	-1469	-1803	-674.3	-512.1
	(1305)	(1166)	(1173)	(1235)	(576.)**	(411.)	(401.4)
Runner-Up Sister Schools	-381.5	154.2	358.0	-358.8	-407.3	-30.279	248.7
	(1528)	(1478)	(1452)	(1630)	(490.5)	(353.6)	(317.4)
Cinderella Sister Schools	-564.5	-700.4	-232.0	-491.2	-446.6	-718.1	-248.7
	(1656)	(1621)	(1652)	(1426)	(338.4)	(263.3)**	(258.4)
R^2	0.900	0.9093	0.910	0.899	0.984	0.993	0.994
Observations	731	731	731	731	731	731	731
Time Trend?		Yes				Yes	
Year Fixed Effects?			Yes				Yes
School Fixed Effects?					Yes	Yes	Yes

Table 5: Male Applications as a Function of Athletic Success

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Effects of Basketball Performance							
	Weighted			Unweighted			
Winner	339.9	188.9	194.7	463.0	285.5	154.9	163.9
	(802.5)	(741.2)	(709.6)	(811.3)	(410.6)	(257.9)	(239.6)
Runner-Up	-39.60	-192.2	-179.9	-33.90	-37.46	-204.4	-199.3
	(2019)	(1943)	(1964)	(2023)	(372.6)	(292.5)	(262.8)
Cinderella	-18.01	-32.55	18.81	-49.49	-18.44	-33.03	26.48
	(771.4)	(801.1)	(850.9)	(771.9)	(160.1)	(131.4)	(158.3)
R^2	0.865	0.869	0.870	0.857	0.990	0.994	0.995
Observations	181	181	181	181	181	181	181
Time Trend?		Yes				Yes	
Year Fixed Effects?			Yes				Yes
School Fixed Effects?					Yes	Yes	Yes

Table 6: Female Applications as a Function of Athletic Success

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Effects of Basketball Performance							
	Weighted			Unweighted			
Winner	524.5	362.7	356.0	699.9	458.9	311.2	305.5
	(1012.7)	(899.)	(872.9)	(1012.4)	(522.)	(356.3)	(315.8)
Runner-Up	119.61	-43.8	-47.3	162.06	121.25	-67.6	-79.1
	(2814)	(2761)	(2798)	(2819)	(382.4)	(329.)	(300.8)
Cinderella	6.24	-9.33	-13.63	-23.51	6.22	-10.29	3.98
	(903.6)	(941.3)	(1000.1)	(904.7)	(194.8)	(160.1)	(208.9)
R^2	0.824	0.827	0.828	0.811	0.990	0.994	0.995
Observations	181	181	181	181	181	181	181
Time Trend?		Yes				Yes	
Year Fixed Effects?			Yes				Yes
School Fixed Effects?					Yes	Yes	Yes

Table 7: Admissions as a Function of Athletic Success

	(1)	(2)
Panel A: Effects of Basketball Performance	Admissions	
Winner	-493.75 (640.2)	-834.83 (242.8)
Winner (Follwing Year)	-130.55 (682.3)	-737.1 (253.9)
Runner-Up	-172.17 (1803.2)	-229.59 (333.8)
Runner-Up (Following Year)	106.40 (1824.)	-172.22 (294.4)
Cinderella	126.03 (1447.)	354.61 (223.8)
Cinderella (Following Year)	518.8 (1424.7)	526.2 (258.1)
R^2	0.863	0.993
Observations	175	175
Controls?		Yes

Table 8: Enrollment as a Function of Athletic Success

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Panel A: Effects of Basketball Performance						
	Weighted			Unweighted			
Winner	-81.73	-91.79	-120.7	357.9	-130.1	-130.1	-138.2
	(736.4)	(720.1)	(744.4)	(665.5)	(67.)	(58.97)**	(60.93)**
Winner (Follwing Year)	-75.73	-148.1	-156.7	363.9	-124.1	-223.1	-221.5
	(700.3)	(677.7)	(717.)	(625.8)	(76.58)	(102.5)**	(102.9)**
Runner-Up	47.30	69.07	52.53	90.91	48.84	82.17	77.06
	(673.)	(677.1)	(691.5)	(671.9)	(122.2)	(100.2)	(106.9)
Runner-Up (Following Year)	67.02	36.84	28.35	110.63	68.56	19.41	18.70
	(683.2)	(686.8)	(714.5)	(682.2)	(185.8)	(149.7)	(146.5)
Cinderella	11.51	65.19	28.74	11.52	11.52	96.75	93.93
	(655.2)	(663.3)	(695.2)	(655.2)	(69.12)	(51.77)	(55.64)
Cinderella (Following Year)	194.1	195.8	154.3	194.1	194.1	196.9	194.9
	(706.2)	(712.6)	(751.8)	(706.2)	(86.14)**	(70.59)**	(71.94)**
R^2	0.855	0.855	0.856	0.853	0.994	0.996	0.996
Observations	175	175	175	175	175	175	175
Time Trend?		Yes				Yes	
Year Fixed Effects?			Yes				Yes
School Fixed Effects?					Yes	Yes	Yes

Table 9: Male Enrollment as a Function of Athletic Success

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Panel A: Effects of Basketball Performance						
	Weighted			Unweighted			
Winner	-70.89	-77.25	-85.76	108.6	-88.13	-88.13	-89.57
	(311.5)	(303.)	(310.2)	(284.9)	(40.17)**	(33.51)**	(36.62)**
Winner (Follwing Year)	-108.5	-154.3	-156.6	70.96	-125.7	-180.2	-178.6
	(283.3)	(273.7)	(289.9)	(254.1)	(42.54)**	(64.64)**	(65.94)**
Runner-Up	-6.910	6.852	0.829	9.704	-5.310	13.03	10.81
	(302.5)	(303.9)	(310.2)	(302.3)	(55.88)	(44.78)	(48.1)
Runner-Up (Following Year)	15.52	-3.559	-3.579	32.13	17.12	-9.929	-8.129
	(325.)	(323.7)	(335.)	(324.9)	(107.9)	(90.12)	(86.03)
Cinderella	4.63	38.57	32.44	4.63	4.63	51.54	55.84
	(302.3)	(306.7)	(323.3)	(302.3)	(34.77)	(30.79)	(32.49)
Cinderella (Following Year)	101.43	102.52	92.352	101.43	101.4	102.946	105.689
	(332.)	(335.)	(352.)	(332.)	(42.77)**	(37.17)**	(38.7)**
R^2	0.863	0.864	0.864	0.860	0.993	0.995	0.995
Observations	175	175	175	175	175	175	175
Time Trend?		Yes				Yes	
Year Fixed Effects?			Yes				Yes
School Fixed Effects?					Yes	Yes	Yes

Table 10: Female Enrollment as a Function of Athletic Success

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Effects of Basketball Performance							
	Weighted			Unweighted			
Winner	-11.16	-91.79	-120.66	249.0	-42.30	-42.30	-48.96
	(513.5)	(720.1)	(744.4)	(388.8)	(44.48)	(43.54)	(46.4)**
Winner (Follwing Year)	32.4	-148.1	-156.7	292.57	1.3	-43.2	-43.2
	(432.)	(677.7)	(717.)	(384.4)	(48.87)	(50.41)	(47.18)**
Runner-Up	54.214	69.073	52.527	81.209	54.151	69.14	66.25
	(406.5)	(677.1)	(691.5)	(406.3)	(76.01)	(66.96)	(67.69)
Runner-Up (Following Year)	51.21	36.841	28.348	78.21	51.15	29.052	26.543
	(403.3)	(686.8)	(714.5)	(403.1)	(86.6)	(70.38)	(71.4)
Cinderella	6.88	65.19	28.74	6.88	6.88	45.21	38.08
	(363.8)	(663.3)	(695.2)	(364.3)	(39.14)	(28.55)	(31.49)
Cinderella (Following Year)	92.683	195.84	154.276	92.683	92.7	93.920	89.253
	(383.7)	(712.6)	(751.8)	(384.2)	(46.6)**	(37.99)**	(39.38)**
R^2	0.835	0.855	0.856	0.832	0.995	0.996	0.996
Observations	175	175	175	175	175	175	175
Time Trend?		Yes				Yes	
Year Fixed Effects?			Yes				Yes
School Fixed Effects?					Yes	Yes	Yes

Table 11: Racial Composition as a Function of Athletic Success

	(1)	(2)	(3)	(4)	(5)	(6)
	Panel A: Effects of Basketball Performance					
	White		Black		Hispanic	
Winner	-0.006	-0.001	0.001	0.001	0.003	0.002
	(.0248)	(.0069)	(.0116)	(.0025)	(.0144)**	(.0019)
Runner-Up	-0.01	0.01	-0.01	0.00	0.01	-(.0006)
	(.0763)	(.0053)	(.0074)	(.0009)	(.0236)	(.0015)
Cinderella	-0.01	0.00	0.0	0.0	0.0	0.0
	(.0308)	(.0092)	(.011)	(.0029)**	(.0128)**	(.001)
R^2	0.977	0.999	0.868	0.995	0.613	0.997
Observations	161	161	161	161	161	161
Controls?		Yes		Yes		Yes

Table 12: SATs as a Function of Athletic Success

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Panel A: Effects of Basketball Performance							
	SAT Math 25%		SAT Math 75%		SAT Verbal 25%		SAT Verbal 75%	
Winner	1.46	1.16	1.5	0.3	6.1	6.1	4.0	3.0
	(15.1)	(2.4)	(13.9)	(3.)	(15.18)	(4.1)**	(14.1)	(3.1)
Runner-Up	10.23	5.19	6.04	0.95	4.59	4.49	3.20	1.69
	(26.2)	(5.5)	(21.6)	(3.8)	(17.9)	(2.4)	(16.3)	(3.8)
Cinderella	-0.98	-0.59	4.59	4.73	1.07	3.47	-4.02	-1.47
	(13.5)	(4.6)	(12.2)	(5.1)	(15.59)	(2.72)	(12.6)	(5.3)
R^2	0.994	1.000	0.996	1.000	0.994	1.000	0.997	1.000
Observations	153	153	153	153	153	153	153	153
Controls?		Yes		Yes		Yes		Yes

Summary

This study examines the effects on certain admission factors of winning or being successful in the National Collegiate Athletic Association (N.C.A.A.) men's basketball tournament. This tournament determines the national champion in basketball. Universities get invited to the NCAA tournament by either winning their conference tournament or by having a successful enough season that the tournament committee feels worthy to offer an invite to the tournament. The tournament, in the years studied, was comprised of 65 teams. Teams played in one of four regions and were assigned a seed from 1 to 16, 1 being the best and 16 the worst.

Teams that are assigned a lower seed come into the tournament with lower expectations of success. It is not uncommon that those teams exceed expectations by winning games against favored teams with more fanfare. Their success is analyzed in a comparable fashion to David vs. Goliath and those teams are labeled as "Cinderella" schools due because their tournament appearance is likened to the story of Cinderella.

The admission factors studied include applications, admissions, enrollment, SAT scores, and racial composition. All but the SAT scores can be broken down along gender lines in order to study any effect in greater depth by pinpointing the source of the effect.

The N.C.A.A. tournament boasts an incredibly large fan base. It is the most popular sports event of the month. Casual basketball fans become highly invested in the tournament not only to follow their favorite teams, but also to

monitor the accuracy of their bracket, which holds their predictions for how the tournament is to unfold. The national exposure that these schools receive acts as a marketing tool. Their name and sports teams are showcased on the national stage. This study will look into what effect this additional exposure will have on the aforementioned admission factors.

The data was compiled from the National Center for Education Statistics who conducts annual surveys to gather information from every college, university, and technical and vocational institution that participates in the federal student financial aid programs. The specificity of the variables of interest in this study were only adequately reported for the years 2001-2008. I identified the champion, runner-up and "Cinderella" teams from that time period in addition to schools that were deemed similar to those schools by College Board.

The admission process does not correspond perfectly with the basketball season. Therefore, expected effects on a variety of the factors are found in different years. For example, the regular application deadline is in January. The N.C.A.A. tournament does not take place until March, so applicants in the same year of athletic success would have no knowledge of said success. This causes the expected effect to occur in the year following athletic success. Similar logic was used in determining the years of interest for the remainder of the variables.

The data was downloaded into Stata, a statistical software package. The data was then modified through the software specific codes so that the formatting would be appropriate to do the study. This included cleaning up the data by

finding missing variables and creating new variables so that the potential effects could be modeled with the software.

Modeling the data utilized a method of mathematical regression called Ordinary Least Squares. Ordinary Least Squares estimates the relationship between variables in a linear fashion. Basically, it returns the best fit line from a variety of data points. The regression returns coefficients to each of the variables that are included in the regression. The coefficients are the expected change in those variables. For example, the coefficient of the variable for the victorious basketball teams represents how much the dependent variable (applications, enrollment, etc.) change. In addition to regressions, I illustrated these expected effects in several bar and line graphs.

The results were surprising. As expected, a positive effect on applications was found after winning a national championship. Results were less clear for runner-up and "Cinderella" teams for applications. The effect was unexpectedly more positive for females than males, which contradicted my hypothesis at the outset of the project. Negative effects were apparent for admissions and enrollment of champion and runner-up teams. On the other hand, a positive effect was seen for both of those variables for "Cinderella" teams.

In addition to the coefficients, the regressions also return standard errors. As the sample size does not include all of the observations of the population, the estimates are only that, estimates. The standard errors represent the range in which the actual effect may fall. Because the standard errors are so large in the

regressions, the actual effect may be substantially different than the estimates presented in the study.

Nevertheless, this is an important question to study. For most universities, athletics is a losing proposition. Due to the negative return on investment for athletics, it becomes harder for schools to justify maintaining the school's athletic budget. If the applicant pool improves due to the attention given to athletics and specifically basketball, then it becomes easier to justify maintaining athletics. In addition, there has been disagreement amongst academics of whether or not there is an effect on applications because of athletic success. I hoped to settle the disagreement through my study. Furthermore, my study used more recent data which better reflects the current environment and interest in sports as earlier studies could not fully take into account the advent of the internet and the popularization of ESPN. Finally, this question is important to universities who are successful in athletics. Universities' level of admissions is based off of complex algorithms. This study provides another factor into their equations, which could help universities better estimate how many students to admit.

In the end, the study does not settle any of the outstanding questions in the discipline. However, it does raise interesting suggestions such as females being more affected by athletic success than males. It also suggests that a positive effect on applications because of athletic success does exist. The study encourages the door to stay open on this discipline and that further study is warranted to further examine the existence of these effects.