

Distribution Agreement

In presenting this thesis as a partial fulfillment of the requirements for a degree from Emory University, I hereby grant to Emory University and its agents the non-exclusive license to archive, make accessible, and display my thesis in whole or in part in all forms of media, now or hereafter known, including display on the World Wide Web. I understand that I may select some access restrictions as part of the online submission of this thesis. I retain all ownership rights to the copyright of the thesis. I also retain the right to use in future works (such as articles or books) all or part of this thesis.

Jennifer Feinberg

April 12, 2011

A Study of the Academic All-American Award:
Colleges' Influences on Student-Athletes' Combined Academic and Athletic Success

by

Jennifer Feinberg

Dr. David Frisvold
Adviser

Department of Economics

Dr. David Frisvold
Adviser

Dr. Victoria Powers
Committee Member

Dr. Kristen Frenzel
Committee Member

April 12, 2011

A Study of the Academic All-American Award:
Colleges' Influences on Student-Athletes' Combined Academic and Athletic Success

By

Jennifer Feinberg

Dr. David Frisvold

Adviser

An abstract of
a thesis submitted to the Faculty of Emory College of Arts and Sciences
of Emory University in partial fulfillment
of the requirements of the degree of
Bachelor of Arts with Honors

Department of Economics

2011

Abstract

A Study of the Academic All-American Award:
Colleges' Influences on Student-Athletes' Combined Academic and Athletic Success
By Jennifer Feinberg

Abstract. The College Sports Directors of America created the Academic All-American award to recognize outstanding student-athletes who go above and beyond both in the classroom and on the playing field. The objective of the thesis is to study the number of Academic All-American awards each college in the U.S. has received in the past five years, and attempt to learn how colleges can influence their student-athletes' combined athletic and academic success. Major findings include a possible bias among Academic All-American voting members towards schools participating in the NCAA over the NAIA, the continued pressures of Title IX, and some very feasible improvements schools can make right away to improve the success of their student-athletes.

A Study of the Academic All-American Award:
Colleges' Influences on Student-Athletes' Combined Academic and Athletic Success

By

Jennifer Feinberg

Dr. David Frisvold

Adviser

A thesis submitted to the Faculty of Emory College of Arts and Sciences
of Emory University in partial fulfillment
of the requirements of the degree of
Bachelor of Arts with Honors
Department of Economics

2011

Table of Contents

Chapter	Page
I. Introduction.....	1
II. Data.....	3
III. Empirical Methods.....	6
IV. Total Number of Academic All-American Results.....	8
V. Further Research and Possible Explanations for Total Number of Academic All-American Results.....	9
VI. Specific Sport Results.....	14
A. Track and Cross-Country Results.....	14
B. Soccer Results.....	15
C. Football Results.....	16
D. Softball Results.....	17
E. Baseball Results.....	18
F. Basketball Results.....	19
G. Swimming Results.....	20
H. Tennis Results.....	21
I. Women’s Volleyball Results.....	22
J. Golf Results.....	23
K. Lacrosse Results.....	24
L. Gymnastics Results.....	25
M. Ice Hockey Results.....	26
N. Men’s Wrestling Results.....	27
O. Women’s Field Hockey Results.....	28
VII. Discussion of Trends in Sports Results.....	29
VIII. Conclusion.....	32
IX. References.....	33
X. Regression Results Tables.....	35

List of Tables

Figure	Page
1) Table 1.....	4
2) Table 2.....	5
3) Table 3.....	7
4) Figure 1.....	7
5) Table 4.....	35
6) Table 5.....	36
7) Table 6.....	37
8) Table 7.....	39

9)	Table 8.....	40
10)	Table 9.....	41

I. Introduction

“I’m proud to have won an Academic All-American award. I’ve dedicated a lot of time towards studying and playing soccer in college for the last four years. It’s nice to see an award that appreciates both sides of the student-athlete.”

--Adam Waxman, Emory University Class of 2011

One of the main ambitions of collegiate student-athletes is to excel both in their studies and in their sport. For four years student-athletes embark on a time consuming and difficult balancing act. Sometimes the student-athlete will succeed in one area but not the other, and some may even fail to meet their goals in both. The College Sports Directors of America (CoSIDA) created the AAA award to recognize outstanding student-athletes, who go above and beyond both in the classroom and on the playing field.

The AAA program began in 1952 and currently gives out about 816 awards each year to colleges across the United States and Canada.¹ In order to be considered for the AAA award, a student-athlete must first be nominated by a CoSIDA dues paying member at his or her college. Annual dues range from \$25 to \$80 depending on the member’s position at the college. Minimum requirements for a nomination include having a grade point average greater than or equal to a 3.30 on a 4.0 scale, attendance of at least one full calendar year at the nominating academic institution, and participation in at least fifty percent of the team’s games at the position listed on the nomination form. Depending on the student-athlete’s position in a sport there may be additional requirements. For example, if the student is a baseball or softball pitcher, the student must have pitched at least ten innings. Schools are able to nominate an unlimited amount of students in soccer, men’s football, women’s volleyball, basketball, men’s baseball, women’s

¹ This thesis focuses only on United States colleges. Necessary data on Canadian colleges was unavailable in a proper time frame to complete the thesis.

softball, and track/cross-country². However, colleges may only nominate up to 6 students, three men and three women, from women's bowling, women's crew, fencing, women's field hockey, golf, gymnastics, ice hockey, lacrosse, rifle, skiing, and men's wrestling.³

Since the AAA program began in 1952, 951 United States colleges have had student-athletes win at least one award.⁴ As only 816 AAA awards are given annually, meeting the nomination criteria does not ensure that the nominated student-athlete will be presented with an AAA award. After all nominations are submitted, the AAA Committee and CoSIDA Board of Directors conduct the competitive selection process.⁵ Besides the minimum requirements for nominations, the selection committee considers additional information about the candidates. Other positive factors that are considered include past awards won by the candidate including the AAA award, if the student overcame a significant injury or event that affected the student's athletic and academic career, and if the student's team won any conference, regional, or national championships.

The specific meaning of the award makes it a good indicator of how well a school's student-athletes are able to excel both academically and athletically. Schools with the most AAA awards must be doing something to positively influence their student-athletes that schools with less AAA awards are not. This thesis sets out to determine factors that colleges have the ability to alter, and which positively influence collegiate student-athletes to perform and study at their fullest potential. In addition, this thesis discusses factors that influence student-athletes in specific sports.

² CoSIDA combines track and cross country as one sport.

³ If the gender of a sport is not specified, it should be assumed that it includes both.

⁴ There were originally 973 U.S. colleges listed on CoSIDA's records. However, 19 were either repeated typos or schools that no longer exist due to bankruptcy, etc. Additionally, 30 schools did not have necessary data available to the public and were omitted from the manually created data set.

⁵ A list of the 24 AAA Committee and CoSIDA Board of Directors and the schools that each member either attended or worked for can be viewed in Table 9 on page 42.

It is in the best interest of colleges to be aware of and do what they can to help student-athletes succeed both academically and athletically. Applications to colleges have been shown to significantly increase following athletic program improvements (McCormick and Tinsley, page 1103). For example, the University of South Carolina “reported a 23 percent increase in its applications in 1985 following the best year in its football history” (McCormick and Tinsley, page 1103). Likewise, both Boston College and North Carolina State University reported having received a 30 and 40 percent increase in applications following Heisman Trophy and basketball championship victories in 1985 and 1983 respectively. A similar study to this thesis, also searching for a link between academics and athletics at colleges, found that a school’s improved athletic success has a “positive and marginally significant relationship [to changes in SAT scores of a school’s applicants]” (McCormick and Tinsley, page 1107). The study therefore provides evidence that increasing a school’s athletic success will bring about a higher average SAT score of its incoming freshman students. This evidence likely supports the conclusion that improving a school’s athletic programs will increase the number and quality of its applicants.

A second motivation for schools to care about the combined athletic and academic performance of their student-athletes, is that college students, varsity athletes or not, do not want to attend an academic institutions with peers who cannot keep up in the classroom. Athletes should be able to excel as much in the classroom as their non-varsity peers. No upstanding academic institution wants a reputation for admitting the classically stereotyped “dumb jocks” that do not fit the academic caliber of the school.

II. Data

The data set was manually created using many online resources.⁶ The total number of AAA awards at each of the 921 United States colleges and the total number of AAA awards from each sport at each school in the past five years were first entered into excel.⁷ A list of explanatory variables was created based on the author's student-athlete experience and readily available information. For example, information on variables such as athletic coaching style would be unrealistic to collect due to available resources and time constraints. Occasionally there was difficulty finding necessary information on some of the colleges. When information for a few of the schools was unavailable on the Internet, data was collected via telephone and email communication with respective schools. The final assembled data set contains 41 explanatory variables including 18 dummy variables, and 23 dependent variables on 921 United States colleges. A list of the dependent variables and their descriptive statistics can be viewed in Table 1. Explanatory variables and their meanings can be viewed in Table 2.

Table 1.

Variable	Mean	Variance
total awards⁸	4.095548	32.65825327
soccer	0.558089	1.614284597
men's football	0.4136808	1.36455106
women's volleyball	0.1541802	0.337072207
basketball	0.3257329	0.587261056
men's baseball	0.34962	0.612415648
women's softball	0.3669924	0.843431008
track and cross-country	0.9587405	3.922209929
women's bowling	0.0010858	0.001085775
women's crew	0.0173724	0.036654404
fencing	0.0130293	0.019395269
women's field hockey	0.0466884	0.090209101
golf	0.1085776	0.194719831

⁶ A list of online resources can be found in the Reference section on page 33.

⁷ CoSIDA has a published archive of Academic All-American awards on their website which they update annually. The archive includes an alphabetized list of colleges dating back to 1952 that has ever had an athlete win an AAA award. Next to each school, they list the student-athlete, the sport he or she is being recognized for, and the year the award was won.

⁸ For clarification, total awards refers to the total number of AAA awards the school has received in the past five years, subsequent listing of sports refers to the total number of AAA awards coming from student-athletes in the specific sport.

gymnastics	0.0651466	0.169664329
ice hockey	0.0618893	0.121165534
lacrosse	0.072747	0.182745563
rifle	0.0054289	0.009753103
skiing	0.0249729	0.054810442
swimming	0.2660152	0.947637221
tennis	0.2019544	0.383083134
men's volleyball	0.0119435	0.020509362
waterpolo	0.0162866	0.022560551
men's wrestling	0.0553746	0.106712962

Table 2.

Dummy Variables

Variable	Definition
Affiliated	= 1 if at least one AAA Committee member or CoSIDA Board of Director attended or worked for the school, = 0 otherwise
DI	= 1 if college participates in NCAA Division 1, = 0 otherwise
DII	= 1 if college participates in NCAA Division 2, = 0 otherwise
DIII	= 1 if college participates in NCAA Division 3, = 0 otherwise
NAIA	= 1 if college participates in NAIA, = 0 otherwise (bench)
University	= 1 if college is a part of a university with graduate programs, = 0 otherwise
Public	= 1 if college is categorized as public, = 0 if private
Prot	= 1 if college is of a Protestant denomination, = 0 otherwise (bench)
noRel	= 1 if college is not affiliated with a religion, = 0 otherwise
Cath	= 1 if college is of a Catholic denomination, = 0 otherwise
NE	= 1 if college is in MD, PA, NY, DE, NJ, MA, VT, RI, NH, ME, = 0 otherwise
SE	= 1 if college is in AR, LA, MS, AL, GA, FL, SC, NC, VA, WV, KY, TN, = 0 otherwise
W	= 1 if college is in MT, WY, CO, UT, NV, ID, CA, OR, WA, HI, AK, = 0 otherwise
MW	= 1 if college is in MN, WI, MI, IN, OH, IL, IA, MO, KS, NE, SD, ND, = 0 otherwise
SW	= 1 if college is in TX, AZ, NM, OK, = 0 otherwise (bench)
City	= 1 if college is in a city, = 0 otherwise
IndivTeam	= 1 if majority of AAA awards at the college, from 2006-2010, come from sports with individual and team components, = 0 otherwise ⁹

⁹ For clarification, indivteams = 1, if more total AAA awards come from track and cross-country, fencing, golf, gymnastics, rifle, skiing, swimming, tennis, and men's wrestling, and = 0, if more total AAA awards come from soccer, basketball, ice hockey, lacrosse, water polo, men's football, men's baseball, women's volleyball, men's volleyball, women's softball, women's bowling, women's crew, and women's field hockey.

MaleDom =1 if majority of AAA awards at the college, from 2006-2010, come from male student-athletes, =0 otherwise

Continuous Independent Variables¹⁰

Variable	Definition
Accep_Rate	college's acceptance rate of admission
Endow	college's endowment
Founded	year college was founded
NumCoach	number of athletic coaches at the college
AvgMSalary	average salary of male head coaches at the college
AvgFSalary	average salary of female head coaches at the college
MSA_Aid	financial aid to male student-athletes at the college
FSA_Aid	financial aid to female student-athletes at the college
undergrad	number of undergraduate students at the college
PMGreek	college's percent of fraternity membership
PWGreek	college's percent of sorority membership
PMVarsity	college's percent of male varsity athletes
PWVarsity	college's percent of female varsity athletes
Pcauc	college's percent of Caucasian students
Pafam	college's percent of African American students
PHispanic	college's percent of Hispanic students
Pintern	college's percent of International students
Pasian	college's percent of Asian American students
POther	college's percent of Other students
Female	college's percent of female students
Male	college's percent of male students
Temp	average annual temperature at the school's location
Psports	college's percent of sports that are eligible for the AAA award

III. Empirical Methods

The negative binomial model is used to test the dependent variables, the total number of AAA awards at each of the 921 US schools and the total number of AAA awards coming from each specific sport from 2006-2010. Since the dependent variable is always a non-negative integer, or a counting number, it is fitting to use a count model. At first the data was regressed using the

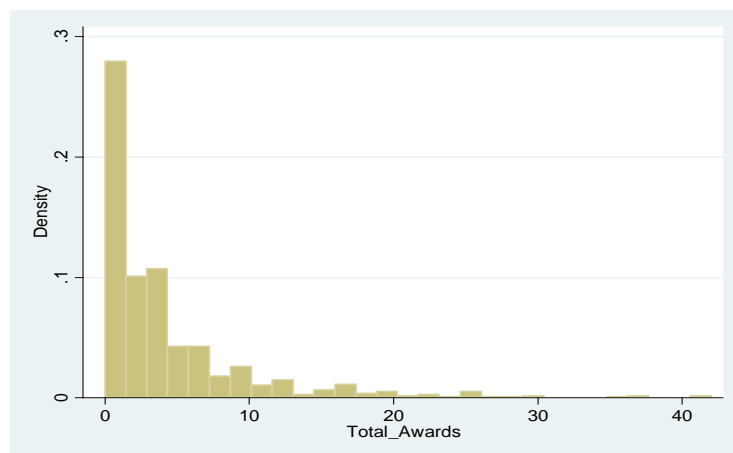
¹⁰ All variables refer to averages over the past 5 years from 2006-2010.

Poisson; however, it showed to be a poor fit. The Poisson model assumes that the variance of the count variable is almost equivalent to its mean. The mean and variances of the dependent variables can be seen in Table 1. For example, the mean of the total AAA awards at each school in the past five years is about 4 awards, but the variance is almost 33 awards. The variance is more than eight times the size of the mean and so the appropriate alternative count model is the negative binomial. The negative binomial model allows the count variable's variance to be much greater than the mean. Additionally, it can also be used as a complete replacement for the Poisson; as the count variable's variance gets smaller, the negative binomial model's expected counts become more and more similar to the Poisson model's expected counts. Table 3 and Figure 1 shows the distribution of the total number of AAA awards at each of the 921 U.S. schools in the data from 2006-2010. Column Frequency of Table 3 shows the number of schools that have the number of awards in column Total Awards. Figure 1 is a histogram illustrating Table 3.

Table 3.¹¹

Total Awards	Frequency
0	238
1	135
2	135
3	86
4	57
5	57
6	36
7	21
8	24
9	19
10	16
11	14

Figure 1.¹²



¹¹ "Total Awards" column refers to the Total Number of AAA awards from 2006-2010.

¹² X-axis "Total_Awards" refers to the Total Number of AAA awards from 2006-2010.

12	10
13	10
14	4
15	9
16	6
17	9
18	5
19	3
20	4
21	2
22	2
23	2
24	1
25	5
26	2
27	1
28	1
29	2
36	1
37	2
41	1
42	1

IV. Total Number of Academic All-American Awards Results¹³

All results refer to the expected number of AAA awards at each of the 921 U.S. colleges in a 5-year time frame based on documented data from 2006 through spring of 2010. Results assume that all other variables in the model would remain constant.

Findings from the negative binomial regression showed 9 variables to be significant at the 99% confidence level. Schools that participate in NCAA Division II and III Athletics compared to NAIA Athletics are expected to have 2.17 and 1.94 more awards respectively. Colleges that are a part of universities compared to liberal arts colleges without graduate programs are

¹³ Total Number of AAA awards Results were calculated using the negative binomial regression. Their coefficients and standard errors can be seen in Table 4 on page 35.

expected to have 1.5 more awards. Schools located in the Northeast and West compared to the Southwest are forecasted to have .54 and .67 fewer awards. Colleges that increase their average women's team head coaching salary by one thousand dollars or either increase their fraternity membership or percentage of Caucasian students by one percent are expected to gain one award. In contrast, if a school increases its percentage of female students by one percent, it can expect to have one less award.

Four variables were found to be significant at the 95% confidence level. Division I participating schools compared to NAIA schools are forecasted to have 1.64 more awards. Colleges that increase their endowment by one million dollars are anticipated to gain one award. In contrast, colleges are forecasted to have one less award if the average annual temperature of a school increases by one degree Fahrenheit or if the school's sorority membership increases by one percent.

Six variables were found to be significant at the 90% confidence level. Colleges are anticipated to have one more award if they hire an additional athletic coach or if they had been founded one year later. Public schools are expected to have .8 fewer awards than private schools. Colleges with no religious affiliation are forecasted to have .8 fewer awards than Protestant denomination colleges. Finally, colleges that receive the majority of their AAA awards from sports with individual and team components compared to schools that receive the majority of their AAA awards from sports with only team components are expected to have 1.16 more awards.

V. Further Research and Possible Explanations for Total Number of Academic All-American Awards Results

The Total Number of Academic All American Awards regression in the negative binomial model includes awards from all 22 sports recognized by CoSIDA. This section will discuss and attempt to offer explanations for some of the major factors influencing the total number of AAA awards from all sports as a whole at each of the 921 schools from 2006 to spring of 2010.

As indicated in section IV, entitled Total Number of AAA Awards Results, the athletic division of a school had a significant influence on the Number of AAA awards each of the 921 United States colleges and universities received from 2006 through spring of 2010. The data showed 334 schools participated in Division I of the NCAA (National Collegiate Athletic Association), 208 schools in NCAA Division II, 208 schools in NCAA Division III, and 71 schools participated in the NAIA (National Association of Intercollegiate Athletics). After benchmarking NAIA, it was found that participating in DI, DII, and DIII should have comparatively more awards in a five year time period than the NAIA; about 1.64, 2.17, and 1.94 respectively. The results show that all three divisions of the NCAA are expected to have about one to two more awards compared to the NAIA in a five-year period. Therefore, student-athletes are more likely to have combined athletic and academic success attending a school with an athletic program that is a member of the NCAA as compared to the NAIA.

In attempt to offer a possible explanation for the results, further research was done on some of the major differences between the NCAA divisions and the NAIA. The three NCAA divisions diverge in the amount of financial aid given to their student-athletes and the size of the academic institution among others. DI offers more athletic scholarships than DII schools. DIII does not offer athletic scholarships. In addition, DI schools are generally much larger than DII and DIII. NAIA schools are often compared to DII. However, NAIA schools offer half of the amount of financial aid that DII offers, and they tend to be slightly smaller than DII schools,

which average about 4500 students. A third difference between the NAIA and the NCAA is that the NCAA covers 23 sports and about 1200 schools, while the NAIA covers 13 sports and about 300 schools. However, all three of these major differences among the three NCAA Divisions and between the NCAA and the NAIA, financial aid to student-athletes and undergraduate population and percentage of sports voted on by CoSIDA, were tested in the regression under variable names “MSA_AID,” “FSA_AID,” “Undergrad,” and “PSports.” None of the variables were found to be statistically significant, showing that there may be bias towards giving AAA awards to NCAA schools over NAIA schools among CoSIDA board members. It should therefore be noted that although the results find student-athletes to have more combined athletic and academic success at schools with athletic programs that are members of the NCAA compared to the NAIA, the results might be influenced by CoSIDA bias.

Two other factors with significant influence on the total number of AAA awards are the size of a school’s endowment and its percentage of fraternity membership. Results showed that increasing a school’s endowment by one million dollars or increasing its fraternity membership by one percent would result in an expected gain of one award in a five-year period. The equal positive influence on the number of AAA awards between fraternity membership and endowment confirms a past study published in *American Journal of Economics and Sociology*, which showed that schools with higher participation in fraternities have higher giving from alumni (Harrison, page 213). Furthermore, schools with larger endowments were found to attract smarter students, according to a study published in *The University of Chicago Press*. The study concluded that the larger a school’s endowment, the higher the average SAT scores of its entering freshmen (McCormick and Tinsley, page 1106). It follows that attracting smarter

students will include smarter athletes. Subsequently, having smarter athletes will lead to more academic success for a school's athletic program.

Another factor with significant influence on the total number of AAA awards is whether or not a school is categorized as a liberal arts college or a national university. Results show that national universities are expected to have 1.5 more awards in a five-year period than liberal arts colleges. When creating the data set, each school was categorized as either a national university or a liberal arts college based on U.S. News World Report rankings of U.S. liberal arts colleges and national universities. 670 of the 921 schools in the data set were categorized as national universities. The definition of a national university, according to U.S. News World Report, is "a school that offers a full range of undergraduate majors, master's, and doctoral degrees." The definition for a liberal arts college is a "school that emphasizes undergraduate education and awards at least half of [its] degrees in the liberal arts fields of study." One possible explanation for why a national university would have more AAA awards and therefore athletic programs with more athletic and academic success compared to liberal arts colleges, could be that national universities have overall more alumni to give back and therefore have larger endowments which attract smarter students. The data in fact shows that the average endowment of the 640 national universities studied is 380 million dollars, whereas the average endowment of the 281 liberal arts colleges is 129 million dollars. A second explanation is that alumni with a greater income from having a higher degree will donate more money to a school's endowment. A study published in the *Economics of Education Review* found that "graduates with an MBA or a law degree had higher average donations than those without an advanced degree (Monks, 126).

Two other significant factors influencing total number of AAA awards are average head coaching salary of women's varsity teams and percentage of a school's female students. Results

showed that increasing the average head coaching salary of women's varsity teams by one thousand dollars would result in an expected increase of about one additional award in five years. However, increasing a school's percentage of female students by one percent would result in an expected decrease of one award in five years. Intuitively, it follows logically that as the average salary of women's teams' head coaching increases, the athletic program should have more athletic success. Higher salaries attract better coaches who generate more athletic success. By the same logic, a larger pool of female students from which to try out for women's varsity athletics should mean a greater chance of having more successful athletes. A possible explanation for these conflicting results is the implementation of Title IX in 1972.

Title IX was created to ensure a level playing field for women's athletics. The law requires that "the female share of athletes is 'substantially proportionate' to the female share of undergraduates (Anderson and Cheslock, page 307). A study published in the *The American Economic Review* concluded that although many teams intend to add more sports for female athletes, sometimes a lack of money or even interest among the female student body would force a school to cut some of their men's teams (Anderson and Cheslock, page 310). Schools with sports such as football, which can have over 100 players, may need to cut many of their other men's teams in order to proportionally match its male percentage of the student body. Every percent increase in the female student body means a subsequent decrease in the male student body, and more adjusting and possible cuts in a school's athletic programs. A second possible explanation goes back to the influence of a school's endowment size and the question of which gender donates more money to its alma mater. A graduate school study in the *American Journal of Economics and Sociology* found that "male alumni donated substantially more than female alumni (Okunade, page 222).

A possible fix to the negative results of Title IX would be to increase the average head coaching salaries of women's teams. The data shows that the average head coaching salaries of men's team, roughly 89 thousand dollars, is more than twice the amount of the average head coaching salary of women's team, about 44 thousand dollars. Since better coaches generally make for better athletes, improving the female student-athletes coaches seems like a good place to start. Perhaps then, an increase in the percentage of female students could be matched with an increase in the number of AAA awards instead of the current decrease.

VI. Specific Sports Results¹⁴

Specific Sports Results continue through to page 29. They are arranged in descending order of total number of AAA awards, beginning with Track and Cross-Country earning 883 AAA awards in the past five years and ending with Women's Field Hockey earning 43 AAA awards in the past five years. A discussion of trends among the specific sport results can be seen on page 29.

A. Track and Cross-Country Results

All results refer to the expected number of AAA awards from Track and Cross-Country Athletes in a 5-year time frame based on documented data from the past five years. Results assume that all other variables in the model would remain constant.

Findings from the negative binomial regression showed seven variables to be significant at the 99% confidence level. A school is anticipated to gain one award if it increases its women's teams' average head coaching salary by one thousand dollars, hires one additional coach, or

¹⁴ All sports results were calculated using the negative binomial regressions and can be viewed in Tables 5-8 on pages 36-41.

increases its fraternity membership by one percent. In contrast, colleges are forecasted to lose one award if they increase their percentage of female students by one percent. Universities compared to colleges are expected to have 1.68 more awards. Northeast schools are expected to have .54 fewer awards than Southwest schools. Colleges that receive the majority of their AAA awards from sports with individual and team components compared to solely team components are expected to have 3.79 more awards.

Four variables were shown to be significant at the 95% confidence level. If a school increases the men's teams' average head coaching salary by one thousand dollars or if the average annual temperature of the school's location increases by one degree Fahrenheit, it can expect to have one less award. In opposition, increasing the percentage of Caucasian students by one percent would result in an expected gain of one award. Schools with no religious affiliation compared to those affiliated with a Protestant denomination are expected to have .75 fewer awards.

One variable was found to be significant at the 90% confidence level. Schools located in the Southeast compared to the Southwest are expected to have .7 fewer awards.

B. Soccer Results

All results refer to the expected number of AAA awards from soccer players in a 5-year time frame based on documented data from the past five years. Results assume that all other variables in the model would remain constant.

Findings from the negative binomial regression showed six variables to be significant at the 99% confidence level. Colleges that hire an additional coach or increase the amount of financial aid given to female student-athletes by ten thousand dollars are expected to have one more

award. In comparison, colleges that increase the percentage of African American students or female students by one percent are expected to have one less award. Schools located in the Northeast compared to the Southwest are expected to have .59 fewer awards. Schools that receive the majority of their AAA awards from sports with individual and team components compared to schools that receive the majority of their AAA awards from sports with only team components are expected to have .33 fewer awards.

Nine variables were found to be significant at the 95% confidence level. A college is expected to gain one award if it was either founded one year later, increases the women's teams' average head coaching salary by one thousand dollars, or either increases its fraternity membership or percentage of female student-athletes by one percent. In contrast, a school is expected to have one less award if it increases the amount of financial aid given to male student-athletes by ten thousand dollars. Schools participating in Division III Athletics compared to Division NAIA Athletics are expected to receive 1.72 more awards. Universities compared to colleges are expected to have 1.61 more awards. Schools located in the West compared to the Southwest are forecasted to have .56 fewer awards. Schools located in a city compared to those not located in a city are expected to have 1.33 more awards.

Three variables were shown to be significant at the 90% confidence level. Division II colleges compared to NAIA participating colleges are expected to receive 1.42 more awards. Lastly, colleges that increase their men's teams' average head coaching salaries by one thousand dollars or increase their percentage of Hispanic students by one percent are expected to have one less award.

C. Men's Football Results

All results refer to the expected number of AAA awards from football players in a 5-year time frame based on documented data from the past five years. Results assume that all other variables in the model would remain constant.

Findings from the negative binomial regression showed ten variables to be significant at the 99% confidence level. NCAA Division I and II schools are shown to have 8.19 and 11.26 more expected awards respectively than NAIA schools. Colleges are expected to gain one award if they hire an additional coach, increase the women's teams' head coaching salaries by one thousand dollars, or increase the fraternity membership by one percent. A college is expected to have one less award if it increases the financial aid to female student-athletes by ten thousand dollars or increases its percentage of female students by one percent. Midwest schools compared to Southwest schools are expected to have 2.76 more awards. Colleges receiving the majority of their AAA awards from sports with individual and team components compared to solely team components are expected to have .54 fewer awards. Colleges receiving the majority of their AAA awards from male student-athletes compared to female student-athletes are expected to have 2.04 more awards.

Three variables were found to be significant at the 95% confidence level. Division III Athletic Schools are expected to have 7.16 more awards than NAIA. Lastly, schools will have one less award if they increase the percentage of female student-athletes or African American students by one percent.

D. Women's Softball Results

All results refer to the expected number of AAA awards from softball players in a 5-year time frame based on documented data from the past five years. Results assume that all other variables in the model would remain constant.

Findings from the negative binomial regression showed six variables to be significant at the 99% confidence level. Schools are expected to gain one award if they hire one additional coach or increase the women's teams' average head coaching salary by one thousand dollars. Universities compared to colleges are expected to have 1.8 more awards. Northeast schools are expected to have .5 fewer awards compared to Southwest schools. Colleges are expected to have .61 fewer awards if they have no religious affiliation compared to a Protestant denomination. Schools that receive the majority of their AAA awards from sports with individual and team components compared to only team components are expected to have .52 fewer awards.

Four variables were found to be significant at the 95% confidence level. Colleges are forecasted to gain one award by increasing their fraternity membership or percentage of Caucasian Students by one percent. In contrast, colleges are forecasted to lose one award by increasing their sorority membership by one percent. Schools located in the West compared to the Southwest are expected to have .48 fewer awards.

E. Men's Baseball Results

All results refer to the expected number of AAA awards from baseball players in a 5-year time frame based on documented data from the past five years. Results assume that all other variables in the model would remain constant.

Findings from the negative binomial regression showed seven variables to be significant at the 99% confidence level. Colleges are anticipated to gain one award if they hire one additional

coach, increase the women's teams' average head coaching salaries by one thousand dollars, or increase their percentage of Caucasian students by one percent. Northeast and West schools are expected to have .5 fewer awards compared to Southwest schools. Schools that receive the majority of their AAA awards from sports with individual and team components compared to schools only team components are expected to have .43 fewer awards. Schools that receive the majority of their AAA awards from male student athletes compared to female student athletes are expected to have 2.87 more awards.

Six variables were shown to be significant at the 95% confidence level. Colleges are anticipated to gain one award if their fraternity membership increases by one percent or if their locations' average annual temperature were to increase by one degree Fahrenheit. Schools are expected to have one less award by increasing its percentage of female students by one percent of increasing its financial aid to male student-athletes by ten thousand dollars. Universities compared to colleges are expected to have 1.51 more awards. Schools associated with a Catholic denomination compared to a Protestant denomination are expected to have 1.67 more awards.

F. Basketball Results

All results refer to the expected number of AAA awards from basketball players in a 5-year time frame based on documented data from the past five years. Results assume that all other variables in the model would remain constant.

Findings from the negative binomial regression showed eleven variables to be significant at the 99% confidence level. A school is anticipated to gain one award by either increasing its endowment by one million dollars, hiring one additional coach, increasing the women's teams' average head coaching salaries by one thousand dollars, or increasing its percentage of

Caucasian students by one percent. Colleges are forecasted to lose one award if they increase the amount of financial aid given to female student-athletes by ten thousand dollars, increase their percentage of male student-athletes by one percent, or if their locations' average annual temperature increases by one degree Fahrenheit. Division I schools compared to NAIA schools are expected to have 1.73 more awards. Public schools compared to private schools are expected to have .47 fewer awards. Schools located in the Northeast compared to the Southwest are expected to have .54 fewer awards. Schools that receive the majority of their AAA awards from sports with individual and team components compared to only team components are expected to have .3 fewer awards.

One variable was found to be significant at the 95% confidence level. If a school were to increase its fraternity membership by one percent, it would be expected to have 1.02 more awards.

Two variables were shown to be significant at the 90% confidence level. If a school were founded one year later it would be expected to have 1 more award. If a school were to increase its percentage of female students by one percent, it would be expected to have .99 fewer awards.

G. Swimming Results

All results refer to the expected number of AAA awards from Swimmers in a 5-year time frame based on documented data from the past five years. Results assume that all other variables in the model would remain constant.

Findings from the negative binomial regression showed nine variables to be significant at the 99% confidence level. Division II and III schools compared to Division NAIA Athletics are expected to have 3.16 and 3.27 more awards respectively. Universities compared to colleges are

expected to have 3.05 more awards. Schools can expect to gain one award by either increasing their women's teams' average head coaching salaries by one thousand dollars, implementing one additional sport of the 22 recognized by CoSIDA, or either increasing their fraternity membership or percentage of Asian American students by one percent. Schools located in the Midwest compared to the Southwest are expected to have 2.79 more awards. Colleges that receive the majority of their AAA awards from sports with individual and team components compared to only team components are forecasted to have 2.95 more awards.

Five variables were found to be significant at the 95% confidence level. A school can expect to gain one award by either increasing its undergraduate population by one thousand students, or by either increasing its percentage of Caucasian or African American or international students by one percent. A school can expect to lose one award by increasing its percentage of female students by one percent.

Three variables were shown to be significant at the 90% confidence level. Schools not affiliated with a religion compared to schools affiliated with a Protestant denomination are expected to have .58 fewer awards. If a school were to increase the percentage of varsity women athletes by one percent, it would be expected to have 1.04 more awards. Schools that receive the majority of their AAA awards from male student athletes compared to female student athletes are expected to have .64 fewer awards.

H. Tennis Results

All results refer to the expected number of AAA awards from tennis players in a 5-year time frame based on documented data from the past five years. Results assume that all other variables in the model would remain constant.

Findings from the negative binomial regression showed eight variables to be significant at the 99% confidence level. Schools can anticipate gaining one award by either hiring one additional coach, increasing their women's teams' average head coaching salaries by one thousand dollars, or if their locations' average annual temperature increases by one degree Fahrenheit. Schools participating in Division III Athletics compared to Division NAIA Athletics are expected to have 3.89 more awards. Colleges can expect to have one less award if its undergraduate population increases by one thousand students, or if its percentage of female students increases by one percent. Schools located in the Northeast compared to the Southwest are expected to have .38 fewer awards. Colleges that receive the majority of their AAA awards from sports with individual and team components compared to solely team components are expected to have 3.01 more awards.

Three variables were found to be significant at the 95% confidence level. Division I and II colleges are expected to have 2.86 and 3.31 more awards than NAIA colleges respectively. Schools located in the West compared to the Southwest are expected to have .47 fewer awards.

I. Women's Volleyball Results

All results refer to the expected number of AAA awards from women's volleyball players in a 5-year time frame based on documented data from the past five years. Results assume that all other variables in the model would remain constant.

Findings from the negative binomial regression showed nine variables to be significant at the 99% confidence level. Schools can anticipate gaining one award by hiring one additional coach or by increasing the average head coaching salary of women's teams by one thousand dollars. Schools affiliated with a Catholic denomination compared to a Protestant denomination

are expected to have .19 fewer awards. Colleges located in the Northeast and West compared to the Southwest are expected to have .48 and .36 fewer awards respectively. Schools can forecast that they will lose an award if it increases its percentage of female student-athletes or African American students by one percent. Schools that receive the majority of their AAA awards from sports with individual and team components compared to solely team components are expected to have .45 fewer awards. Colleges that receive the majority of their AAA awards from male student-athletes compared to female student athletes are expected to have .33 fewer awards.

One variable was found to be significant at the 95% confidence level. Public schools compared to private schools are expected to have .53 fewer awards.

J. Golf Results

All results refer to the expected number of AAA awards from golfers in a 5-year time frame based on documented data from the past five years. Results assume that all other variables in the model would remain constant.

Findings from the negative binomial regression showed six variables to be significant at the 99% confidence level. Northeast and West schools can expect to have .08 and .17 fewer awards than Southwest schools. Colleges can anticipate gaining one award by increasing their undergraduate population by one thousand students or increasing their fraternity membership by one percent. Schools that receive the majority of their AAA awards from sports with individual and team components compared to solely team components are expected to have 2.05 more awards. Colleges that receive the majority of their AAA awards from male student athletes compared to female student athletes are expected to have 1.48 more awards.

Five variables were shown to be significant at the 95% confidence level. Southeast and Midwest schools can both expect to have .4 fewer awards than Southwest schools. Colleges can anticipate gaining one award by increasing their percentage of Caucasian or international students by one percent. If a school were to increase its percentage of female students by one percent, it would be expected to have .96 fewer awards.

One variable was found to be significant at the 90% confidence level. Schools located in a city compared to schools not located in a city are expected to have .61 fewer awards.

K. Lacrosse Results

All results refer to the expected number of AAA awards from Lacrosse Players in a five-year time frame based on documented data from the past five years. Results assume that all other variables in the model would remain constant.

Findings from the negative binomial regression showed five variables to be significant at the 99% confidence level. No AAA awards from Lacrosse came from schools participating in the NAIA division. Schools that participate in Division III Athletics compared to Division II Athletics are expected to have 4.88 more awards. If a school were to offer ten thousand more dollars of financial aid to female student-athletes, it would be expected to have 1.01 more awards. Public schools compared to private schools and schools located in a city as to not can both expect to have .2 fewer awards. Schools that receive the majority of their AAA awards from sports with individual and team components compared to solely team components are expected to have .11 fewer awards.

Six variables were found to be significant at the 95% confidence level. A school that increases its acceptance rate of admissions by one percent can expect to lose one award.

Universities compared to colleges are expected to have 2.47 more awards. If a school were to add an additional athletic coach, it would be expected to have 1.02 more awards. Colleges can forecast losing .9 awards if they increase their percentage of Hispanic or international students by one percent, or if their locations' average annual temperature increases by one degree Fahrenheit.

Three variables were found to be significant at the 90% confidence level. Schools that are affiliated with one or more CoSIDA Board of Directors compared to schools unaffiliated would be expected to have 3.78 more awards. No AAA awards from Lacrosse came from schools located in the Southwest or West. Schools located in the Southeast compared to the Midwest are expected to receive 3.01 more awards. If a school were to increase its percentage of Caucasian students by one percent, it would be expected to have .98 fewer awards.

L. Gymnastics Results

All results refer to the expected number of AAA awards from gymnastics athletes in a 5-year time frame based on documented data from the past five years. Results assume that all other variables in the model would remain constant.

Findings from the negative binomial regression showed six variables to be significant at the 99% confidence level. Colleges that either hire one additional coach, increase the men's teams' average head coaching salaries by one thousand dollars, increase their percentage of Caucasian students by one percent, or implement an additional sport recognized by CoSIDA can expect to gain one award. Public schools compared to private schools are expected to have 9.02 more awards. Schools that receive the majority of their AAA awards from male student-athletes compared to female student athletes are expected to have .18 fewer awards.

Two variables were shown to be significant at the 95% confidence level. If a school increases its percentage of male student-athletes by one percent, it can expect to gain 1.12 more awards. If a school were increases its percentage of female student-athletes by one percent, it can expect to have .84 fewer awards.

Four variables were shown to be significant at the 90% confidence level. Southeast schools compared to those in the Southwest are expected to have .35 fewer awards. Colleges can expect to gain one award by increasing their fraternity membership or percentage of African Americans by one percent. Schools that receive the majority of their AAA awards from sports with individual and team components compared to solely team components are expected to have 2.2 more awards.

M. Ice Hockey Results

All results refer to the expected number of AAA awards from Ice Hockey Players in a 5-year time frame based on documented data from the past five years. Results assume that all other variables in the model would remain constant.

Findings from the negative binomial regression showed six variables to be significant at the 99% confidence level. Schools that either hire one additional coach or increase the amount of financial aid given to female student-athletes can expect to gain one award. Schools that are either founded one year later or increase their percentage of female students by one percent can expect to have 1 less award. Colleges located in the Northeast compared to the Southwest are expected to have .3 fewer awards. If the average annual temperature of a school's location were to increase by one degree Fahrenheit, the school would be expected to have .8 fewer awards.

Four variables were shown to be significant at the 95% confidence level. Division II and III colleges can anticipate having 5.25 and 3.1 more awards respectively than NAIA colleges. Schools that either increase the men's teams' average head coaching salaries by one thousand dollars or increase their sorority membership by one percent can expect to have one less award.

One variable was shown to be significant at the 90% confidence level. Schools that receive the majority of their AAA awards from male student athletes compared to female student athletes are expected to have 1.57 more awards.

N. Men's Wrestling Results

All results refer to the expected number of AAA awards from male wrestlers in a 5-year time frame based on documented data from the past five years. Results assume that all other variables in the model would remain constant.

Findings from the negative binomial regression showed seven variables to be significant at the 99% confidence level. Colleges that either increase their endowment by one million dollars, increase their women's teams' average head coaching salaries by one thousand dollars, increase their percentage of Asian American students, or implement one additional sport of the 22 recognized by CoSIDA can anticipate gaining one award. If the average annual temperature of a school's location were to increase by one degree Fahrenheit, the school would be expected to have .9 fewer awards. Colleges that receive the majority of their AAA awards from sports with individual and team components compared to solely team components are expected to have 11.63 more awards. Schools that receive the majority of their AAA awards from male student athletes compared to female student athletes are expected to have 1.89 more awards.

Six variables were shown to be significant at the 95% confidence level. Schools located in the Southeast compared to the Southwest are expected to have .13 fewer awards. Colleges that increase their percentage of male student-athletes or Caucasian students by one percent can expect to gain 1.1 awards. If a school increases its percentage of female student-athletes or Hispanic students by one percent, it can expect to have .8 fewer awards. If a school increases its percentage of female students by one percent, it can expect to have one less award.

Two variables were shown to be significant at the 90% confidence level. Colleges can anticipate gaining one award by hiring one additional coach or increasing their percentage of African American students by one percent.

O. Women's Field Hockey Results

All results refer to the expected number of AAA awards from women's field hockey players in a five-year time frame based on documented data from the past five years. Results assume that all other variables in the model would remain constant.

Findings from the negative binomial regression showed eleven variables to be significant at the 99% confidence level. No AAA awards from Women's Field Hockey came from schools located in the Southwest, West, or Midwest. Schools located in the Northeast compared to the Southeast are expected to receive 5.11 more awards. Universities compared to colleges are expected to have 11.46 more awards. Colleges can expect to lose one award by increasing their endowments by one million dollars or offering ten thousand more dollars of financial aid to male student-athletes. In contrast, colleges can anticipate gaining one award by increasing their women's teams' average head coaching salaries by one thousand dollars, increasing their fraternity membership by one percent, or implementing one additional sport of the 22 recognized

by CoSIDA. Schools not affiliated with a religion and schools affiliated with a Catholic denomination can expect to have .25 and .12 fewer awards than Protestant denomination colleges. If a school were to increase its percentage of Hispanic students by one percent, it would be expected to have .79 fewer awards. Schools that receive the majority of their AAA awards from male student-athletes compared to female student-athletes are expected to have .23 fewer awards.

One variable was shown to be significant at the 95% confidence level. If a school increases its percentage of female students by one percent, it can expect to have .95 fewer awards.

Four variables were shown to be significant at the 90% confidence level. Colleges can expect to gain one award if they offer ten thousand more dollars of financial aid to female student-athletes or if they were founded one year later. If a school increases its undergraduate population by one thousand students, it can forecast having .93 fewer awards. Schools that receive the majority of their AAA awards from sports with individual and team components compared only team components are expected to have .32 fewer awards.

VII. Discussion of Trends in Sports Regressions

The number of Academic All American awards won from student-athletes participating in skiing, women's crew, water polo, fencing, men's volleyball, rifle, and women's bowling were 23, 16, 15, 12, 11, 5, and 1 respectively. Unfortunately, the sample sizes were too small to derive any statistically significant results. The following discussion of trends for the independent and binary variables will only refer to AAA awards from track and cross-country, soccer, football, softball, baseball, basketball, swimming, tennis, women's volleyball, golf, lacrosse, gymnastics, ice hockey, men's wrestling, and women's field hockey.

Binary variable “affiliated” and explanatory variable “accep_rate” affected only one sport, Lacrosse. Results showed that schools affiliated with one or more board members of CoSIDA would expect an increase of about 4 AAA awards from lacrosse players in a five-year period. These results show that there may be bias from the CoSIDA board members when directing AAA awards to lacrosse players from schools they attended or worked for. In addition, if a school were to increase its acceptance rate of admissions by one percent, it would be expected to have about 1 less AAA award from lacrosse players in a five-year period. One possibility for this result could be that talented lacrosse student-athletes want to attend schools with lower admissions rates more so than student-athletes from other sports. The data shows the average acceptance rate of admissions at schools who have won at least one AAA award from lacrosse in the past five years is 53.05%, the lowest of any sport.

By contrast, binary variable “indivteam” affected every sport except ice hockey. Variable “indivteam” was studied to see if student-athletes participating in sports with both individual and team components, such as swimming, would have more combined athletic and academic success than student-athletes participating in sports with solely team aspects, such as football. The total Academic All American regression results also found “indivteam” to be statistically significant. Schools that receive most of their AAA awards from “indivteam” sports, sports with both individual and team components, are expected to have about 1 more award than schools that receive most of their AAA awards from teams with solely team aspects. It therefore follows that generally, student-athletes have more success on “indivteams.” On a more sport specific level, results show that athletes will stand out more or less depending on their sport when the majority of combined athletic and academic success comes from athletes on “indivteam” sports. For example, the highest positive correlation came from men’s wrestling.

Schools that receive the majority of their AAA awards from sports with individual and team components compared to sports with solely team components are expected to have about 12 more AAA awards from men's wrestling in a five-year period. Although all "indivteam" sports show a positive affect when the majority of combined athletic and academic success comes from "indivteam" sports, golf for example will only expect to have 2 more AAA awards. What this shows is that wrestlers are more positively affected than golfers at schools where the majority of success comes from athletes achieving at their "indivteam" sports. Softball was the most negatively affected by the "indivteam" factor, resulting in about one less softball award at schools that receive most AAA awards from "indivteams". The trend unsurprisingly shows that athletes in sports with individual and team aspects are positively influenced by the "indivteam" factor, and athletes in sports with solely team aspects are negatively influenced. Results also showed that sports with solely team aspects are not negatively affected as much as "indivteam" sports are positively affected.

The number of coaches a school has also affected many sports. The only three sports unaffected by the hiring of one additional coach are women's field hockey, swimming, and golf. All other sports are expected to have a positive response of one additional AAA award in a five-year period.

Three variables had similar findings to that of the Total Number of AAA Awards in the past five years regression results. Student-athletes in all but four sports would be positively affected by an increase in the average salaries of women's head coaches. Each sport except golf, lacrosse, gymnastics, and ice hockey would expect to gain one award in a five-year period if the average salaries of a school's women's teams head coaches increased by one thousand dollars. Student-athletes in all but five sports would be negatively affected by an increase in the

percentage of female students. Each sport except softball, women's volleyball, lacrosse, golf, and gymnastics would expect to lose one AAA award in a five-year period if a school were to increase its percentage of female students by one percent. In addition, student-athletes in all but five sports would be positively affected by an increase in the percentage of a school's fraternity membership. Each sport except tennis, women's volleyball, lacrosse, ice hockey, and men's wrestling would expect to gain one AAA award in a five-year period if a school were to increase its fraternity membership by one percent.

VIII. Conclusion

From other supporting research, it is concluded that it is to a college's advantage to be aware of and act on factors that influence student-athletes' combined athletic and academic success. Having successful student-athletes will ultimately attract more prospective students, raise the quality of a school's students, and increase classroom learning for all students both varsity athletes and not.

Major findings include a possible bias among Academic All-American voting members towards schools participating in the NCAA over the NAIA, the continued pressures of Title IX, and some very feasible improvements schools can make right away to improve the success of its student-athletes.

If a school were to increase its women's teams' average head coaching salary by one thousand dollars, it would be expected to see positive results among its student-athletes in the next five years. The data shows that the average men's team head coaching salary is almost 89 thousand dollars, while the average women's team head coaching salary is only 44 thousand dollars.

Interestingly, findings show that Title IX is still affecting student-athletes' success negatively. Results showed that a one percent increase in the percentage of female students at a school would cause an expected loss of one AAA award. It follows that student-athlete success would be negatively affected by having a higher proportion of women in the student body. Perhaps if women's teams' coaching salaries increased, since they are half as much as men's teams', female student-athletes would have more athletic success.

Another way a school can improve its student-athletes' success right away is to hire more coaches. Hiring one additional coach, will lead to an expected increase in one AAA award, indicating more student-athlete combined athletic and academic success.

Lastly, although there is no evidence that CoSIDA board members show favoritism to schools they either worked for or attended, there is a hint of favoritism towards colleges participating in the NCAA over the NAIA. Results showed all three divisions of the NCAA to have student-athletes with more success compared to students in the NAIA. The three major differences between the NCAA and the NAIA are the amount of financial aid given to its student-athletes, the general size of participating colleges, and the number of sports offered. All three differences were tested in the negative binomial model and none were found to be significant. Therefore, it is likely that either there is bias from voting members towards NCAA schools, or there is a missing influential page to the story.

IX. References

1. Anderson, Deborah J and Cheslock, John J. "Institutional Strategies to Achieve Gender Equity in Intercollegiate Athletics: Does Title IX Harm Male Athletes?" *The American*

Economic Review 94, no. 2 (2004): 307-311. <http://www.jstor.org/stable/3592900>. (accessed Mar 22, 2011).

2. "College Prowler." Luke Skurman. <http://collegeprowler.com/> (accessed Dec 1, 2010).

3. Harrison, William B. "Alumni Donations and Colleges' Development Expenditures: Does Spending Matter?" *American Journal of Economics and Sociology, Inc.* 54, no. 4 (1995): 397-412. <http://www.jstor.org/stable/3486961> (accessed Mar 21, 2011).

4. Lovaglia, Michael J. "High-Visibility Athletic Programs and the Prestige of Public Universities." *The Sport Journal* (2005): <http://www.thesportjournal.org/article/high-visibility-athletic-programs-and-prestige-public-universities> (accessed Mar 20, 2011).

5. "MatchCollege.com." <http://www.matchcollege.com> (accessed Dec 1, 2010).

6. McCormick, Robert E and Tinsley, Maurice. "Athletics versus Academics? Evidence from SAT Scores." *The University of Chicago Press* 95, no. 5 (1987): 1103-1116. <http://www.jstor.org/stable/1833132> (accessed Mar 10, 2011).

7. Monks, James. "Patterns of giving to one's alma mater among young graduates from selective institutions." *Economics Education Review* 22, no. 2 (2003): 121-130.

8. "State Weather." IDCide. <http://www.idcide.com/weather/index.htm> (accessed Dec 9, 2010).

9. "Strategic Communicators for College Athletics." College Sports Information Directors of America. <http://www.cosida.com/> (accessed Dec 1, 2010).

10. "The Princeton Review." The Princeton Review. <http://www.princetonreview.com> (accessed Dec 1, 2010).

11. "U.S. News Education." U.S. News. <http://colleges.usnews.rankingsandreviews.com/best-colleges> (accessed Dec 1, 2010).

X. Regression Results Tables

Table 4.¹⁵

Total AAA Awards Results

Variable	Coefficient
Endow	1.00004 (0.00002)**
DI	1.64019 (0.33532)**
DII	2.17258 (0.44739)***
DIII	1.94243 (0.39064)***
University	1.50186 (0.15734)***
Founded	1.00193 (0.00100)*
NumCoach	1.01501 (0.00239)***
AvgFSalary	1.01028 (0.00127)***
Public	-0.82451 (0.09125)*
noRel	-0.83975 (0.08836)*
NE	-0.53836 (0.04843)***
SE	-0.80992 (0.08783)*
W	-0.66977 (0.08411)***
PMGreek	1.03777 (0.01034)***
PWGreek	-0.97797 (0.00958)**
Pcauc	1.01085 (0.00265)***
Female	-0.97834 (0.00400)***

¹⁵ Robust standard errors are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%

Temp	-0.98381 (0.00770)**
IndivTeam	1.15565 (0.08956)*
Alpha¹⁶	0.7180433 (.0571391)***
Total Awards	3772

Table 5

Comparing Sports with over 330 AAA Awards in the past 5 years

Variable	track_xc	soccer	football	softball
DI			8.19222 (6.38266)***	
DII		1.42364 (0.30387)*	11.26097 (8.74162)***	
DIII		1.72046 (0.37242)**	7.15668 (5.54051)**	
University	1.6809 (0.25379)***	1.60948 (0.33989)**		1.80324 (0.38925)***
Founded		1.0037 (0.00177)**		
NumCoach	1.01719 (0.00292)***	1.01203 (0.00356)***	1.02396 (0.00412)***	1.01461 (0.00452)***
AvgMSalary	-0.99828 (0.00078)**	-0.99836 (0.00097)*		
AvgFSalary	1.0156 (0.00315)***	1.01144 (0.00464)**	1.01465 (0.00291)***	1.00925 (0.00175)***
MSA_Aid		-0.99951 (0.00022)**		
FSA_Aid		1.00283 (0.00069)***	-0.99782 (0.00074)***	
noRel	-0.74695 (0.10310)**			-0.61108 (0.10143)***
Cath				
NE	-0.53503 (0.07644)***	-0.58783 (0.10074)***		-0.50377 (0.10806)***
SE	-0.69603 (0.12946)*			

¹⁶ Alpha is a measure of the goodness of fit of the negative binomial model to the data. When Alpha is close to zero and significant at the 1% level, it is an extremely good indicator that the negative binomial fits the data.

W		-0.56086 (0.14906)**		-0.48023 (0.13775)**
MW			2.76189 (0.45473)***	
Undergrad				
PMGreek	1.02164 (0.00574)***	1.01261 (0.00587)**	1.02089 (0.00664)***	1.05068 (0.02019)**
PWGreek				-0.96113 (0.01739)**
PWVarsity		1.0318 (0.01301)**	-0.97245 (0.01105)**	
Pcauc	1.0122 (0.00547)**			1.00961 (0.00411)**
Pafam		-0.97283 (0.00846)***	-0.94681 (0.02012)**	
PHispanic		-0.98064 (0.01075)*		
Female	-0.97599 (0.00568)***	-0.98248 (0.00595)***	-0.96769 (0.00860)***	
Temp	-0.96991 (0.01408)**			
City		1.32567 (0.17734)**		
Psports				
IndivTeam	3.79424 (0.45822)***	-0.32871 (0.05333)***	-0.53723 (0.10218)***	-0.52433 (0.09814)***
MaleDom			2.04044 (0.44693)***	
Alpha	1.117917 (.1608691)***	1.727413 (.2490182)***	1.70859 (.3034376)***	1.724547 (.3082055)***
Total Awards	883	514	381	338

Table 6

Comparing sports with between 180 and 330 AAA awards in the past five years

Variable	baseball	basket	swimming	tennis
Endow		1.00009 (0.00003)***		
DI		1.72912 (0.36568)***		2.86454 (1.43047)**
DII			3.15958 (1.26177)***	3.30944 (1.66935)**
DIII			3.27359 (1.12704)***	3.88982 (1.84915)***
University	1.50925		3.05311	

Founded	(0.31681)**		(1.30470)***	
		1.00311		
		(0.00182)*		
NumCoach	1.01068	1.00979		1.01738
	(0.00337)***	(0.00314)***		(0.00375)***
AvgMSalary				
AvgFSalary	1.00946	1.01079	1.01469	1.00906
	(0.00253)***	(0.00207)***	(0.00261)***	(0.00243)***
MSA_Aid	-0.99864			
	(0.00060)**			
FSA_Aid		-0.99772		
		(0.00075)***		
Public		-0.46535		
		(0.08503)***		
noRel			-0.58323	
			(0.17795)*	
Cath	1.67206			
	(0.34719)**			
NE	-0.51752	-0.50491		-0.37887
	(0.10055)***	(0.09344)***		(0.10327)***
SE				
W	-0.50338			-0.47445
	(0.12379)***			(0.16094)**
MW			2.79047	
			(0.74565)***	
Undergrad			1.03456	-0.93938
			(0.01682)**	(0.01709)***
PMGreek	1.01427	1.01615	1.02411	
	(0.00612)**	(0.00724)**	(0.00897)***	
PMVarsity		-0.96802		
		(0.00977)***		
PWVarsity			1.0392	
			(0.02280)*	
Pcauc	1.0133	1.02103	1.03456	
	(0.00464)***	(0.00480)***	(0.01660)**	
Pafam			1.03999	
			(0.01825)**	
Pintern			1.09548	
			(0.03936)**	
Pasain			1.08124	
			(0.03277)***	
Female	-0.98479	-0.98691	-0.97528	-0.96906
	(0.00681)**	(0.00703)*	(0.01143)**	(0.01017)***
Temp	1.02741	-0.95103		1.0403
	(0.01121)**	(0.01169)***		(0.01481)***
Psports			1.04291	
			(0.01199)***	

IndivTeam	-0.43318 (0.07883)***	-0.2994 (0.05706)***	2.95172 (0.66340)***	3.00905 (0.59440)***
MaleDom	2.86588 (0.65617)***		-0.64456 (0.15217)*	
Alpha	1.125085 (.2732427)***	1.039367 (.234675)***	2.863388 (0.6146086)***	2.367922 (0.4987032)***
Total Awards	322	300	245	186

Table 7

Comparing Sports with between 60 and 150 AAA awards in the past 5 years

Variable	wvolley	golf	lacrosse	gym
Affiliated			3.78329 (2.86575)*	
Accep_Rate			-0.97392 (0.01016)**	
DIII			4.88167 (2.31283)***	
University			2.47038 (1.04933)**	
Founded				
NumCoach	1.02352 (0.00427)***		1.02154 (0.00883)**	1.03856 (0.00803)***
AvgMSalary				1.00233 (0.00080)***
AvgFSalary	1.00848 (0.00238)***			
FSA_Aid			1.00538 (0.00148)***	
Public	-0.5269 (0.15907)**		-0.20152 (0.08951)***	9.02322 (5.76593)***
noRel				
Cath	-0.19324 (0.09704)***			
NE	-0.47712 (0.13464)***	-0.0816 (0.04495)***		
SE		-0.41022 (0.15290)**	3.0117 (1.75473)*	-0.34944 (0.21438)*
W	-0.35504 (0.12967)***	-0.1724 (0.08937)***		
MW		-0.4435 (0.16277)**		
Undergrad		1.06482 (0.01252)***		

PMGreek		1.02632 (0.00919)***		1.03675 (0.01944)*
PMVarsity				1.11603 (0.05425)**
PWVarsity	-0.93419 (0.02357)***			-0.83713 (0.07110)**
Pcauc		1.01826 (0.00783)**	-0.98272 (0.00980)*	1.04719 (0.01758)***
Pafam	-0.97205 (0.01011)***			1.03859 (0.02098)*
PHispanic			-0.88768 (0.05228)**	
Pintern		1.06575 (0.03211)**	-0.87687 (0.05401)**	
Temp			-0.89524 (0.03853)**	
City		-0.61102 (0.16435)*	-0.24596 (0.09553)***	
Psports				1.08023 (0.03164)***
IndivTeam	-0.45288 (0.11893)***	2.05204 (0.51486)***	-0.10673 (0.06053)***	2.20247 (1.01737)*
MaleDom	-0.33021 (0.07415)***	1.48138 (0.28989)**		-0.18214 (0.07621)***
Alpha	2.302024 (.5927772)***	2.781759 (0.8577266)***	5.330902 (1.699048)***	4.714247 (1.806913)***
Total Awards	142	100	67	60

Table 8

Comparing Sports with between 40 and 60 AAA awards in the past 5 years

Variable	icehock	mwrestle	wfieldhock
Endow		1.00014 (0.00005)***	-0.99966 (0.00015)**
DII	5.24664 (3.86012)**		
DIII	3.09847 (1.63185)**		
University			11.45937 (9.13145)***
Founded	-0.98686 (0.00307)***		1.01222 (0.00671)*
NumCoach	1.02987 (0.00673)***	1.02015 (0.01080)*	
AvgMSalary	-0.99587 (0.00203)**		

AvgFSalary		1.01204 (0.00412)***	1.03044 (0.01023)***
MSA_Aid			-0.99144 (0.00320)***
FSA_Aid	1.00681 (0.00193)***		1.00662 (0.00345)*
noRel			-0.24706 (0.12969)***
Cath			-0.11969 (0.09859)***
NE	-0.30079 (0.11939)***		5.11151 (2.35304)***
SE		-0.12783 (0.11488)**	
Undergrad			-0.92618 (0.03990)*
PMGreek			1.07593 (0.01743)***
PWGreek	-0.96135 (0.01672)**		
PMVarsity		1.13418 (0.06303)**	
PWVarsity		-0.79167 (0.09037)**	
Pcauc		1.07296 (0.03094)**	
Pafam		1.06668 (0.03650)*	
PHispanic		-0.84023 (0.06101)**	-0.79455 (0.05762)***
Pasain		1.11252 (0.04548)***	
Female	-0.94759 (0.01588)***	-0.96434 (0.01751)**	-0.94662 (0.02347)**
Temp	-0.80393 (0.04389)***	-0.90188 (0.03588)***	
Psports		1.05308 (0.02100)***	1.16954 (0.02946)***
IndivTeam		11.63198 (5.29406)***	-0.32145 (0.20491)*
MaleDom	1.56834 (0.38054)*	1.89323 (0.41037)***	-0.22622 (0.10286)***
Alpha	3.579673 (1.55659)**	2.396454 (0.971127)**	4.321091 (1.787681)**
Total Awards	57	51	43

Table 9

List of CoSIDA Board of Directors who vote on AAA

Name	Affiliated School
Dick Lipe	Bentley University
Dave Wrath	Augustana College
John Humenik	Princeton University University of Michigan University of Florida Clarion University
Larry Dougherty	Temple University Saint Joseph's University
Tom Di Camillo	Central Arizona College West Chester University of Pennsylvania
Joe Hornstein	University of Central Florida University of Miami University of South Florida
Shelly Poe	Ohio State University West Virginia University
Justin Doherty	University of Wisconsin University of North Dakota Northern Michigan Michigan State University
Nick Joos	Baylor University University of Nebraska Iowa State University
Dave Alhueter	Cornell University Bucknell University Ithaca College
Jeff Hodges	University of North Alabama
Anne Abicht	St. Cloud State University University of Minnesota Duluth North Dakota State University North Central Conference
Geoff Hassard	SUNY College at Oneonta Worcester Polytechnic Institute Bridgewater State College
John Paquette	Big East Conference Seton Hall University Marquette University
Joe Browning	University of North Carolina Wilmington Shepherd College

	Virginia Commonwealth University Shippensburg University
Rob Knox	Kutztown University Lincoln University of Pennsylvania
Ed Hill	Howard University University of the District of Columbia
Kent Brown	University of Illinois Kansas State University
Bob Lowe	Greensboro College Santa Anna College San Diego State University
Chris Day	Adams State College Mesa State College
Barb Kowal	University of Texas University of Connecticut Smith College University of Massachusetts