

Bryant University

HONORS THESIS



University President's Gender and Graduation Rates

BY ALEX DREZEK

ADVISOR • Dr. Laura Beaudin

EDITORIAL REVIEWER • Dr. Allison Kaminaga

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Student's Name: Alex Drezek
Faculty Advisor: Laura Beaudin
Editorial Reviewer: Allison Kaminaga
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ABSTRACT

Graduation rates have increasingly become a key metric that institutions use to measure their success. This study looks at the potential relationship between the gender of a university's president and graduation rates. A dataset was created compiling the gender and tenure of presidents and the characteristics and graduation rates of 4-year institutions in New England. Three separate regression models were created to analyze the data. The variables with the strongest positive relationship to graduation rates are: grade point average (GPA), expected future earnings of students, expenditures made by the institution, and the proportion of full-time faculty employed. The variables with the strongest negative relationship to graduation rates are: endowment and the sector of the institution. Additionally, graduation rates were higher under a female president than under a male president.

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INTRODUCTION

Graduation rates have increasingly become a key metric that colleges and universities use to measure their success. Colleges are looking for ways to stand out among the rest and a high graduation rate signifies to potential students that their decision to attend the institution would not be made in vain. For the eighth-consecutive year, however, college enrollment at these institutions has decreased according to data released by the National Student Clearinghouse Research Center. Fall enrollment was 12% higher in 2016 than it was in 2006 but this represents a 18% increase between 2006 and 2010, followed by a decrease between 2010 and 2016 of 6%. The number of full-time and part-time students increased 19% and 18% from 2006 to 2010 and then fell from 2010 to 2016 by 7% and 4%, respectively. Additionally, the number of female students increased 10% from 2006 to 2016 while the number of male students increased by 14% during the same period. Although this may look like male enrollment outpaced female enrollment during this period, around 56% of all students enrolled in 2016 were female.

A declining enrollment rate could have an impact on society. Research has found that returns to higher education for both women and men extend beyond returns in the labor market. Diprete and Buchmann (2006) found that higher education also leads to a higher probability of marriage, a higher standard of living, and insurance against poverty. For all of the outcomes that were considered in the study except for personal earnings, women's returns appear to have risen faster than those for men.

The total number of women enrolled in higher education exceeds the total number of men enrolled annually. However, at universities like Bryant University, male student enrollment is higher than female student enrollment. Davis and Geyfman (2015) found that total enrollment in Association to Advance Collegiate Schools of Business (AACSB)-accredited schools increased 8% and total bachelor's business degrees awarded increased by 9% from 2003 to 2011. However, female student representation among college business graduates declines from 46.5% in 2003 to 42.8% in 2011. Prior research suggests that economic incentives, size of institutions, parents, teachers, counselors, friends, and personal interest all have an impact on female enrollment in college (Davis and Geyfman, 2015, and Geyfman, 2015). However,

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throughout its history, Bryant University has never had a female president. Additionally, universities like: University of Pennsylvania, University of California – Berkeley, Cornell University, Brown University, Syracuse University, New York University, Purdue University, University of Miami and University of New England have all had a female president and higher rates of female enrollment. This study explores the potential relationship between the gender of presidents on college campuses and the graduation rates of female students at universities in New England.

LITERATURE REVIEW

Previous studies have explored gender equity in higher education administration. Whistle (2014) examines colleges and universities in Kentucky. This study explored three research questions: (1) Do presidents have an impact on graduation or retention rates? (2) Does length of tenure of a president impact graduation or retention rates? And (3) Does the professional background of a president have an impact on graduation or retention rates? Whistle (2014) looked at twenty private and eight public colleges and universities in Kentucky. Two separate fixed effects regressions models were then created for the dependent variables of retention rates and graduation variables. The retention rate represents the percentage of students who return to the institution from the previous year. Graduation rate represents the students who graduate in a 6-year time frame. The independent variable in these models were the president, the lagged enrollment, the type of president, the school, and the year. Lagged enrollment is a measure of the enrollment number that was lagged for the previous year. This lag occurs because the retention of each year is directly related to the previous year's enrollment. The type of president indicates whether the president is an academic president, meaning they hold a doctorate and have had an academic career (professor and researchers). The tenure of the president is also factored into this model. The type of school is measured by determining whether the institution is public or private. The year variable is used in this model to control for an event, such as the economy, changes in the education systems, or other factors, that occurred in a single year. The author found that public institutions tend to have lower retention rates. This relationship is reduced slightly, however, when the university has an academic president. Although the author found that enrollment increases from year to year,

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retention rates were found to decrease from year to year. The author suggests that this is from a decrease in admission standards. The study found that graduation rates are mainly fixed and are difficult to change. However, the author found that retention is affected by various factors, such as enrollment and public/private classification. This suggests that retention can be changed or improved with targeted efforts.

Markle (2015) conducted a survey to collect quantitative and qualitative data at the same time. This study was conducted at a public university in the southeastern United States with an undergraduate enrollment of 22,000 students. The sample for this study was specifically students who were 25 years or older or had a 5-year gap since their last enrollment in high school or college and were nontraditional students. A total of 494 nontraditional students completed the survey and two-thirds of these participants were women. The dependent variable in this study is persistence. "Those who graduated or were currently enrolled were considered to have persisted" (Markle, 2015 p.271). The independent variables used in this study include demographic characteristics, academic characteristics, and situational. For demographic characteristics, the author looked at gender, race/ethnicity, age, and household income. The author looked at academic classification, full- or part-time enrollment, and GPA for academic characteristics. For situational characteristics, the author looked at social integration, university satisfaction, confidence in graduating, consider withdrawing, and four composite variable measuring interrole conflict. Logistic regressions were then used to examine the factors influencing persistence for men and women separately. This study found that for both men and women, GPA and confidence in graduating positively effects persistence. However, social integration of the student does not influence persistence. The author found that the closer women get to completing their degree, the more likely they are to consider withdrawing. Additionally, women who experienced higher levels of work-school and school-family conflict were more likely to consider withdrawing. Women who were satisfied with the university were less likely to consider withdrawing. Part-time enrollment is related to persistence for women but not for men. For women, academic classification, university satisfaction, work-school conflict, and school-family conflict influence the consideration of withdrawing.

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Scott, Bailey, and Kienzl (2006) used a regression analysis to look at whether trends suggest that public institutions are less effective than private institutions. The dependent variable for this study was six-year graduation rates in 1997. The independent variables are institutional (tuition, instructional expenditures per student, and student to faculty ratio), academic selectivity (incoming freshmen SAT scores), non-traditional (percent part-time, percent commuter, and average student age), and demographics (foreign student populations, urbanicity, size of school, and religiosity). Two models were created to show the graduation rates for public and private schools separately. This analysis found that the gap in public vs private college graduation rates can be explained by the different characteristics of their students. Additionally, the study found that evaluation of public colleges based on raw graduation rates is inappropriate. However, public colleges are doing a relatively good job when one considers all of the constraints they face.

Crisp, Doran, and Salis Reyes (2017) analyzed the National Center for Educational Statistics' (NCES) data from their Integrated Postsecondary Education Data System (IPEDS) for the academic years 2007-2008 and 2014-2015. The authors analyzed these academic years as two separate categories (Panel 1 and Panel 2). The IPEDS maintains data related to student enrollment, programs, finances, faculty and staff on an institutional level. This study looked at 4-year Broad Access Institutions (BAIs). BAIs are defined as accredited, degree-granting, nonprofit 4-year institutions that accept an average of at least 80% of applications per year. The authors used a Bayesian model averaging (BMA) approach which was used to account for uncertainty in variable selection in creating a model of graduation rates at these 4-year BAIs. The authors used a combination of predictors by calculating a weighted average of the conditional estimates across all possible models. This model hypothesized that institutional graduation rates can be modeled as a function of student entry characteristics and organizational characteristics. The student entry characteristics included were the percentage of students who are female; the percentage of students who are Latina/o, African American or American Indian, and the representation of full-time students. Additionally, the study included the average Pell grant amount per student as a measure of the socioeconomic status of the students for Panel 1. The organizational characteristics included were institutional control (public vs private), religious affiliation, urbanicity, and finances of the institution.

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Finances were calculated as a composite of tuition and fees revenue and instructional, academic support, student support, and institutional expenditures. This result found that for both Panel 1 and Panel 2, graduation rates at 4-year BAIs may be predicted by religious affiliation, full-time enrollment, socioeconomic status of the study body, the institution's enrollment size and institutional revenue and spending. Additionally, the authors found that only institutional revenue and spending, enrollment, socioeconomic status, and full-time enrollment predict graduation rates for Latina/o and African American students. Crisp, Doran, and Salis Reyes (2017) found that students are more likely to be academically successful at larger institutions. This is due to that fact that these BAI rely heavily on enrollment-based funding formulas which result in more revenue with larger enrollments. This revenue can then be used on resources including instruction and academic services as well as class offerings and child-care services. Strong evidence was found that enrolling a higher percentage of students who are low-income, attend part-time, and/or identify as Native America, African America, or Latina/o may decrease overall institutional graduation rates at 4-year BAIs. The authors found that the relationship between graduation rates and religious affiliation is quite significant overall. However, there was not a relationship between graduation rates and religious affiliation for African American or Latina/o students. The authors suggest that this could be due to religious institutions viewing students and their development holistically and/or the differences in curriculum. Finally, the authors did not find a relationship between urbanicity and graduation rates.

Cragg (2009) used the matching model to examine graduation rates by measuring how far a student deviated from the institution's average SAT score and cost of attendance. The dependent variable for this study graduation rates which was turned into a binary to indicate whether the student graduated or not. The independent variables include both student and institution variables. The student variables include the total grants a student was awarded, total loans taken, total amount to work study received, total amount of all other aid received, and the expected family contribution. Additional student variables include SAT scores, hours worked while enrolled, a student's participation in clubs, fine arts, and intramural sports, and a student's contact with faculty outside of class. The final student variables include parent's highest level of education, dependency status, race/ethnicity and gender of the student. The

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institution variables include cost of attendance, average SAT score, enrollment size, Carnegie classification type, sector, race/ethnicity, and gender. The author then created three models, a traditional model, an interaction model, and a matching model. The traditional and interaction models look at the probability of graduating by assuming that student and institutional characteristics are independent of one another. The matching model focuses on how far the student deviates from the institution's average SAT score and cost of attendance by including two new variables, affordability match and academic match. The affordability match determines how similar or dissimilar the student's finances were to the institution by calculating the student's unmet need relative to the colleges cost of attendance. Academic match determines how similar or dissimilar the student was to the quality of the institution. This was calculated by subtracting the institution's average SAT score from the student's SAT score. The author found that the relationship between students and their institutions impacts the probability of graduating. The author found that students that were furthest away (200 points above or below the average) from the institution's average SAT score were less likely to graduate. Student that were 200 points above were less likely to graduate by 5.4% and students that were 200 points below were less likely to graduate by 6.9%. Students that were only slightly below the institution's average SAT score (below by 51 – 199 points) were more likely to graduate by 17.8%. The author suggests that this may be due to the additional programs and services that colleges provide for this group of students. Additionally, the author suggests that when institutions admit students who do not match their characteristics, the institution should direct resources to those students to increase their probability of graduating. University programs and services should provide resources to both at-risk students as well as high-achieving students. It is important for institutions to assess the needs of their unique student body and provide a range of services accordingly.

RESEARCH DESIGN

Data

This study looked at 4-year colleges and universities in New England from 2015 to 2017. This study obtained data including graduation rates, funding and faculty, college characteristics, student characteristics, admissions, and degrees granted from College Results Online

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(CRO,2020). This online search engine is provided by The Education Trust, a national nonprofit. Presidential data was obtained by visiting the institutions website. This data was consolidated to create one dataset.

Methodology

Three regression models were created in order to determine what drives graduation rates.

Model 1: $\text{GradRate} = f(\text{President, School Characteristics, Student Characteristics, Degrees Granted, State, Locale, Sector, Carnegie Class})$

Model 2: $\text{FemaleGradRate} = f(\text{President, School Characteristics, Student Characteristics, Degrees Granted, State, Locale, Sector, Carnegie Class})$

Model 3: $\text{MaleGradRate} = f(\text{President, School Characteristics, Student Characteristics, Degrees Granted, State, Locale, Sector, Carnegie Class})$

The three models have separate dependent variables, but all contain the same independent variables. Model 1 uses GradRate as the dependent variables which is the proportion of first-time, full-time, bachelor's or equivalent degree-seeking students who graduate within 4 years. Model 2 uses FemaleGradRate which is the proportion of first-time, full-time, bachelor's or equivalent degree-seeking female students who graduate within 4 years. Model 3 uses MaleGradRate as the dependent variable which is the proportion of first-time, full-time, bachelor's or equivalent degree-seeking male students who graduate within 4 years.

The independent variables of all three models include president, school characteristics, student characteristics, degrees granted, state, locale, sector, carnegie class. President represents the gender and tenure of the institution's president. School characteristics include size, endowment, expenditures, admission rate, in state tuition, full-time faculty, and student to faculty ratio. Student characteristics include GPA and SAT/ACT score of students before they enter the institution, financial outcomes of students once they leave the university & gender of the students. Degrees granted represents the degrees awarded by subject. State represents the five states in New England: Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, and Vermont. For locale, this study specifically looked at whether

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the school is located in a large city with a population of 250,000 or more people. Sector represented whether a school is public or private. Finally, Carnegie Class is the classification of institutions based on degree programs and institutional mission.

RESULTS

Summary Statistics

This study found that 32.70% of college presidents in New England were female between 2015 to 2017 as shown in Appendix A. The average tenure of the presidents is 7.68 years. The average female tenure is 8.68 years while the average is 7.2 year for male presidents. The average graduation rate of students is 47.9%. This indicates that 47.9% of students will graduate from an institution within 4-years. Under a female president, the average graduation rate is 50.7% while the average is 46.6% under a male president. The average graduation rate of female students is 51.5%. Under a female president the average is 54.6% while the average is 50.0% under a male president. The average graduation rate of male students is 42.8%. Under a female president this increases to 45.4% and under a male president it decreases to 41.6%. This shows that more female than male students are graduating from college each year.

The average admission rate of the schools in New England is 68.6%. This indicates that on average, 68.6% of students that apply to the institution are admitted. Under a female president, this decreases to 63.3% while under a male president it increases to 71.2%. On average 58.5% of students enrolled are female. This is consistent under a female and male president as the proportion is 58.9% and 58.3%, respectively. This indicates that more female students are attending college each year than male students and this proportion is not impacted by the gender of the institution's president.

The average GPA of students entering the institutions is 3.26. Schools with a female president have an average GPA of 3.32. While schools with a male president have an average GPA of 3.22. Additionally, the average SAT/ACT scores of students is 1066.3. Schools with female presidents have students that earned an average of 1102.6. Schools with male presidents have students that earned an average of 3.22. This indicates that students at schools with a female

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president came into college slightly above average. The average salary that students in New England receive once they graduate is \$47,321.86. Students that leave schools with a female president earn \$50,835.14 on average. Students that leave a school with a male president earn \$45,611.45 per year on average. This shows that students leaving a school with a female president are paid over the average salary of graduates.

The average tuition costs of schools in New England is \$41,532.21 per year. The average cost under a female president is \$44,677.22 while the average cost under a male president is \$40,001.09. The average size of the schools that this study looked at is 4,992.7 students. The average size of schools with a female president is 4,750.2 while the average size is 5,110.8 students under a male president. This shows that male presidents are more likely to be at larger schools than female presidents. The average endowment of schools is \$1.14B. The average endowment at schools with a female president is \$3.12B. Schools with a male president have an average endowment of \$175M. Additionally, the average expenditures made by an institution is \$17,161.83. Female presidents tend to spend a little more on average (\$18,560.46) and male presidents tend to spend a little below average (\$16,480.92).

On average 48.2% of faculty on campus is considered full-time. Schools with a female president experience a lower proportion as only 47.9% are full-time. However, schools with male presidents have an average of 48.4% of the faculty employed full-time. On average, the student to faculty ratio on campuses in New England is 15.87. Class sizes are smaller at institutions with a female president than a male president as the average ratio is 14.6 and 16.49, respectively. This is consistent with the fact that female presidents are typically at smaller schools than male presidents.

42.5% of the schools that this study looked at are public institutions. 32.4% of schools that have a female president are public institutions. 47.4% of schools with a male president are public. This indicates that it is more likely that a female president will be at a private school than a public school. Additionally, 18.6% of schools included in this study are located in a large city. 21% of schools with a female president are in a large city. While only 14.5% of schools with a male president are in a large city. This indicates that there is a 1 in 3 chance that a school with a female president is located in a large city.

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When looking at the total population of schools, 10.62% of schools are located in Connecticut, 69.91% are located in Massachusetts, 3.54% of schools are located in Rhode Island, 3.54% of schools are located in Vermont, 5.31% are located in New Hampshire, and 7.08% are located in Maine, as shown in Appendix B. Therefore, an overwhelming majority of schools located in New England are in Massachusetts. When looking at Carnegie Class, 7.96% of schools are classified as Baccalaureate – Arts & Science concentration, 4.42% are classified as Baccalaureate – Diverse, 6.19% are Doctoral – Moderate Research, 11.5% are Doctoral – High Research, 10.62% are Doctoral – Very High Research, 31.86% are Masters – Large Programs, 15.93% are Masters – Median Programs, and 6.19% are Masters – Small Programs. Additionally, 14.24% of degrees granted at New England schools are art and humanities, 16.28% are social sciences, 15.8% are business, 4.72% are education, 14.69% are health science degrees, 18.64% are considers other degrees, and 15.64% are STEM degrees.

A majority of schools with a female president are located in Massachusetts. 5.41% are located in Connecticut, 75.68% are located in Massachusetts, 2.7% are located in Rhode Island, 0% are located in Vermont, 8.11% are located in New Hampshire, and 8.11% are located in Maine. When looking at the Carnegie Classification of the schools with female presidents, 5.41% are classified as Baccalaureate – Arts & Science, 0% are Baccalaureate – Diverse, 8.11% are Doctoral – Moderate Research, 16.22% are Doctoral – High Research, 13.51% are Doctoral – Very High Research, 29.73% are Masters – Large Programs, 10.81% are Masters-Medium Programs, 13.51% are Masters – Small Programs. This shows that it is more likely that a female president will be at a school that is within the Carnegie classes Masters – Large Programs or Doctoral – High Research. Lastly, the degrees granted at schools with female presidents are 10.87% arts and humanities, 18.66% social sciences, 15.84% are business, 5.74% are education, 12.19% are health sciences, 16.62% are in the other category, and 20.07% are STEM degrees. This shows that schools with female presidents typically grant STEM degrees the most, closely followed by social sciences.

When specifically looking at schools with a male president, 13.16% are in Connecticut, 67.11% are in Massachusetts, 3.95% are in Rhode Island, 5.26% are in Vermont, 3.95% are in New Hampshire, and 6.58% are in Maine. 9.21% of schools with a male president are in the

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Baccalaureate – Arts and Science Carnegie Class. 6.58% are considered Baccalaureate – Diverse, 5.26% are Doctoral – Moderate Research, 9.21% are Doctoral – High Research, 9.21% are Doctoral – Very High Research, 32.89% are Masters – Large Programs, 18.42% are Masters – Medium Programs, and 2.63% are Masters – Small Programs. This shows that a majority of male presidents are at schools that are considered Masters – Large Programs. Finally, 15.88% of degrees granted from schools with a male president are art and humanities, 15.11% are social sciences, 15.79% are business, 4.22% are education, 15.91% are health sciences, 19.62% are in the other category, and 13.48% are STEM degrees.

Regression

The regression results show the relationships between the dependent and independent variables. The complete output of these models can be found in Appendix C. Out of all of the independent variables, this study found that only seven have a statistically significant relationship with the dependent variables. The regression analysis found that as the GPA of students before they enter college increase, graduation rate increases. This finding was also statistically significant for both male and female graduation rates. Additionally, as the average SAT/ACT scores of the incoming class increases, male graduation rates decrease. However, this finding was not significant for female graduation rates or overall graduation rates. The analysis found that as the future financial outcomes for students increases, graduation rates increase. This was statistically significant for female and male graduation rates as well.

As endowment of the institution increase, this study found that graduation rates decrease. This was statistically significant for both female and male graduation rates. As the expenditures made by the institution increases, graduation rates increase. This was statistically significant for female graduation rates but not for male graduation rates. This shows that female students are more likely to graduate if they attend an institution that spends more on services for the students. Additionally, as the proportion of full-time faculty on campus increases, graduation rates increase. This was statistically significant for both female and male graduation rates. Finally, if an institution is public, overall graduation rates will decrease. However, this was not statistically significant for female and male graduation rates.

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LIMITATIONS

One limitation of this study is the limited population sample. This study focused only on schools from New England. This limits the population to a specific region of the country where the schools have many similar characteristics. Additionally, the data is only taken between 2015 and 2017. By only looking at this date range, this study does not account for the impact of any prior presidents or the school's overall reputation. This study also does not account for the fact that a particular president could have been significantly successful or significantly unsuccessful in the institution's history.

Another limitation of this study is that it looked at 4-year graduation rates. If 6-year graduation rates were used as the dependent variable, then the rates would have been higher. Future studies should look at the relationship between the independent variables in this study and 6-year graduation rates.

Lastly, this study only looked at the president of the institutions. This limits the study because it assumes that the president is the only position on a college campus that has an impact upon graduation rates. For future studies, it would be important to look at total upper administration at the institutions. This would include vice presidents, provosts, deans and other cabinet members. This will provide a more comprehensive approach to understanding how the individuals in charge of an institution impact the success of the students enrolled.

CONCLUSIONS AND RECOMMENDATIONS

This study found that GPA, SAT/ACT scores, future financial outcomes, endowment, expenditures, full-time faculty ratio, and sector of the institution impact graduation rates of students on campus. This study was unable to conclude that the gender of a university's president impacts graduation rate. However, this study can conclude that schools with female presidents have students that outperform the average. This can be explained by the fact that female presidents are more likely to be at private institutions that accept better students. This creates an opportunity for future research to be conducted in order to investigate why female presidents are more likely to be in charge of better schools.

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APPENDICES

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Appendix A – Summary Statistics Part I

Variables	Total		Female President		Male President	
Female President	32.70%	(0.471)				
Tenure	7.68	(7.73)	8.68	(9.41)	7.2	(6.78)
Grad Rate	47.90%	(0.185)	50.70%	(0.183)	46.60%	(0.185)
Female Grad Rate	51.50%	(0.183)	54.60%	(0.183)	50.00%	(0.183)
Male Grad Rate	42.80%	(0.194)	45.40%	(0.194)	41.60%	(0.194)
Admission Rate	68.60%	(0.173)	63.30%	(0.221)	71.20%	(0.139)
Women Enrolled	58.50%	(0.154)	58.90%	(0.198)	58.30%	(0.128)
GPA	3.26	(0.309)	3.32	(0.34)	3.22	(0.289)
SAT/ACT	1066.3	(130.78)	1102.6	(160.67)	1048.63	(110.38)
Earnings	\$47,321.86	(12,023.21)	\$50,835.14	(13,429.26)	\$45,611.45	(10,966)
In State Tuition	\$41,532.21	(14,932.44)	\$44,677.22	(14,683.27)	\$40,001.09	(14,907.6)
Size	4992.7	(4,636.8)	4750.2	(3,259.1)	5110.8	(5,192.90)
Endowment	\$1.14B	(5.93B)	\$3.12B	(10.1B)	\$175M	(372M)
Expenditures	\$17,161.83	(7,455.28)	\$18,560.46	(10,381.71)	\$16,480.92	(5,461.88)
Full Time Faculty	48.20%	(0.188)	47.90%	(0.188)	48.40%	(0.189)
Student: Faculty Ratio	15.87	(6.031)	14.6	(6.237)	16.49	(5.869)
Sector (Public)	42.50%	(0.497)	32.40%	(0.475)	47.40%	(0.503)
Locale (City: Large)	18.60%	(0.391)	21%	(0.45)	14.50%	(0.354)

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Appendix B – Summary Statistics Part II

<i>Variables</i>	Total		Female President		Male President	
<i>Arts & Humanities</i>	14.24%	(0.168)	10.87%	(0.118)	15.88%	(0.186)
<i>Social Sciences</i>	16.28%	(0.112)	18.66%	(0.137)	15.11%	(0.097)
<i>Business</i>	15.80%	(0.095)	15.84%	(0.122)	15.79%	(0.079)
<i>Education</i>	4.72%	(0.060)	5.74%	(0.084)	4.22%	(0.043)
<i>Health Sciences</i>	14.69%	(0.179)	12.19%	(0.145)	15.91%	(0.193)
<i>Other</i>	18.64%	(0.093)	16.62%	(0.080)	19.62%	(0.097)
<i>STEM</i>	15.64%	(0.125)	20.07%	(0.142)	13.48%	(0.111)
<i>CT</i>	10.62%	(0.309)	5.41%	(0.229)	13.16%	(0.340)
<i>MA</i>	69.91%	(0.461)	75.68%	(0.435)	67.11%	(0.473)
<i>RI</i>	3.54%	(0.186)	2.70%	(0.164)	3.95%	(0.196)
<i>VT</i>	3.54%	(0.186)	0.00%	(0.00)	5.26%	(0.225)
<i>NH</i>	5.31%	(0.225)	8.11%	(0.277)	3.95%	(0.196)
<i>ME</i>	7.08%	(0.258)	8.11%	(0.277)	6.58%	(0.250)
<i>Baccalaureate – Arts & Science</i>	7.96%	(0.272)	5.41%	(0.229)	9.21%	(0.291)
<i>Baccalaureate – Diverse</i>	4.42%	(0.207)	0.00%	(0.000)	6.58%	(0.250)
<i>Doctoral – Moderate Research</i>	6.19%	(0.242)	8.11%	(0.277)	5.26%	(0.225)
<i>Doctoral – High Research</i>	11.50%	(0.320)	16.22%	(0.374)	9.21%	(0.291)
<i>Doctoral – Very High Research</i>	10.62%	(0.309)	13.51%	(0.347)	9.21%	(0.291)
<i>Masters – Large Programs</i>	31.86%	(0.468)	29.73%	(0.463)	32.89%	(0.473)
<i>Masters – Medium Programs</i>	15.93%	(0.368)	10.81%	(0.315)	18.42%	(0.390)
<i>Masters – Small Programs</i>	6.19%	(0.242)	13.51%	(0.347)	2.63%	(0.161)

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Appendix C – Regression Output

<i>Variables</i>	Grad Rate	Female Grad Rate	Male Grad Rate
<i>Female President</i>	0.008 (0.019)	0.020 (0.022)	-0.006 (0.021)
<i>Tenure</i>	-0.001 (0.001)	-0.001 (0.002)	-0.002 (0.002)
<i>Admission Rate</i>	-0.093 (0.103)	-0.055 (0.116)	-0.171 (0.119)
<i>Women Enrolled</i>	0.157 (0.111)	0.007 (0.126)	0.061 (0.202)
<i>GPA</i>	0.310*** (0.074)	0.293*** (0.084)	0.377*** (0.083)
<i>SAT/ACT</i>	-0.037 (0.027)	-0.033 (0.031)	-0.064* (0.036)
<i>Earnings</i>	0.008*** (0.002)	0.008*** (0.002)	0.009*** (0.002)
<i>In State Tuition</i>	-0.002 (0.004)	0.001 (0.004)	0.003 (0.005)
<i>Size</i>	-0.001 (0.041)	0.006 (0.046)	0.015 (0.046)
<i>Endowment</i>	-0.001*** (0.003)	-0.011*** (0.003)	-0.010*** (0.003)
<i>Expenditures</i>	0.006** (0.003)	0.006* (0.003)	0.002 (0.003)
<i>Full Time Faculty</i>	0.363*** (0.110)	0.298** (0.124)	0.423*** (0.129)
<i>Student: Faculty Ratio</i>	0.001 (0.003)	-0.001 (0.003)	-0.007 (0.354)
<i>Sector (Public)</i>	-0.171* (0.097)	-0.154 (0.110)	-0.093 (0.116)
<i>Locale (City: Large)</i>	0.034 (0.030)	0.020 (0.033)	0.035 (0.033)

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REFERENCES

- "College Results Online." *College Results Online*, 2020, www.collegeresults.org/.
- Cragg, Kristina. "Influencing the Probability for Graduation at Four-Year Institutions: A Multi-Model Analysis." *Research in Higher Education*, vol. 50, no. 4, June 2009, pp. 394–413. EBSCOhost, doi:10.1007/s11162-009-9122-2.
- Davis, Laura Marini, and Victoria Geyfman. "The Glass Door Remains Closed: Another Look at Gender Inequality in Undergraduate Business Schools." *Journal of Education for Business*, vol. 90, no. 2, Feb. 2015, pp. 81–88. EBSCOhost, doi:10.1080/08832323.2014.980715.
- Diprete, Thomas A., and Claudia Buchmann. "Gender-Specific Trends in the Value of Education and the Emerging Gender Gap in College Completion." *Demography*, vol. 43, no. 1, Feb. 2006, pp. 1–24. EBSCOhost, doi:10.1353/dem.2006.0003.
- Geyfman, Victoria, et al. "Women in Business: Influences on the Undergraduate Major Choices." *Administrative Issues Journal: Education, Practice & Research*, vol. 5, no. 2, July 2015, pp. 51–63. EBSCOhost, doi:10.5929/2015.5.2.2.
- Markle, Gail. "Factors Influencing Persistence Among Nontraditional University Students." *Adult Education Quarterly*, vol. 65, no. 3, Aug. 2015, pp. 267–285. EBSCOhost, doi:10.1177/0741713615583085.
- Scott, Marc, et al. "Relative Success? Determinants of College Graduation Rates in Public and Private Colleges in the U.S." *Research in Higher Education*, vol. 47, no. 3, May 2006, pp. 249–279. EBSCOhost, doi:10.1007/s11162-005-9388-y
- Whistle, Wesley. "Do College Presidents Matter? An Analysis of the Effects of College Presidents on Retention and Graduation Rates." UKnowledge, 2014, uknowledge.uky.edu/mpampp_etds/28/.