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Yield Rates and Enrollment Decisions at Trinity College in the 1990s and 2000s

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Yield Rates and Enrollment Decisions at
Trinity College in the 1990s and 2000s

By

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A Thesis Submitted to the Department of Economics
of Trinity College in Partial Fulfillment of the
Requirements for the Bachelor of Science Degree

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Abstract

The yield rate of a college, which is the percentage of admitted students who enroll, is an important statistic because it ultimately impacts the selectivity of the college and the uncertainty in a school's financial aid budget. This thesis uses admitted student surveys from 1993-2011 to investigate how Trinity's yield is affected by a variety of different student factors and preference for the student body as a whole and for subgroups of the student population. The study uses regression analysis to examine how an admitted student's decision to attend is affected by socioeconomic background, sex, race, the receipt of financial aid awards, and the importance the student places on housing quality, extracurricular activities, and course variety. The results suggest ways that a selective liberal arts institution such as Trinity can target its recruiting and admissions strategies in order to increase its yield rate.

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I. Introduction

The yield rate of a school is defined as the percentage of admitted students that choose to enroll. It is important to note that this ratio differs from the school's acceptance rate, which is the percentage of applicants that are admitted into a school. Ideally a selective school would like a low acceptance rate and a high yield. While these two ratios are often connected, a low acceptance rate is not always coupled with a high yield. The yield rate is an important statistic for any institution and is one of the most important factors in revealing the selectivity and desirability of a school. From the student's perspective a school that has a high percentage of admitted students enrolling causes the school to be viewed as highly desirable. This results in more students applying, and in turn decreases the school's acceptance rate. A higher yield increases the school's confidence that a large percentage of students who are accepted will choose to enroll, therefore the school is less likely to go over their financial aid budget. Thus it is important for any college or institution to determine which aspects of a college are most influential in students' decisions; a better understanding of the student enrollment decision will allow the school to better comment on ways to improve their school's yield. College demand has been increasing in recent years, which has resulted in more competition amongst colleges for the most qualified students. This increased competition furthers the necessity to understand student matriculation decisions.

A student's decision to enroll into one of the schools they have been admitted into is an important step in the college process; however the factors that are most influential in the enrollment decision can be difficult to determine. Clearly the school's academic reputation is one of the most important factors considered; however other aspects of the school are taken into consideration before a final decision is made. If a student is accepted into multiple schools that

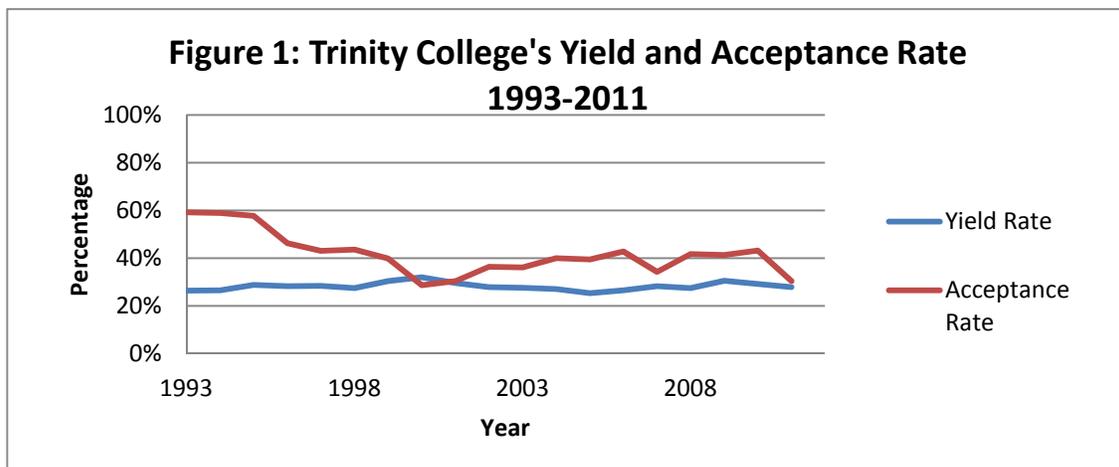
are all considered to be highly selective, in which of the schools will the student enroll? Which factors influenced this decision? If a student is acting rationally the school they decide to enroll in will not be randomly chosen but rather based upon the values the student places on certain college characteristics.

The focus of this project is on enrollment decisions made exclusively at Trinity College from the years 1993-2011. Thus, this project attempts to determine the most important factors in determining whether or not an admitted student enrolls at Trinity College. While many studies have been conducted that have examined the factors most influential in a student's decision to enroll, my project differs from other studies for I am testing a variety of different factors. Other studies on this subject have broken their variables up into one of three categories and few study all three together. Factors examined in previous studies have included (1) the students' basic demographics, (2) school's academic reputation and, (3) financial aid. This project explores all three of these aspects in addition to other aspects of the college. These other aspects include how student perceptions and values for certain college characteristics influence their matriculation decision. These factors include student preferences for academic facilities, recreational facilities, or personal attention given to students.

In addition to looking at the sample as a whole, my project also explores how different subgroups of students make enrollment decisions. These subgroups include the student's race, gender, academic success, and socioeconomic background. While it is important to understand how the population as a whole makes their enrollment decisions it is vital to an institution to investigate whether people of different subgroups make their enrollment decisions in a way that is similar to the population as a whole. By doing so, the college will be able to fully optimize

their marketing strategies and financial aid policies and in turn increase the likelihood of an admitted student enrolling at their school.

Figure 1 displays how Trinity's acceptance and yield rates have changed over the past nineteen years¹.



From this graph it is evident that while Trinity's acceptance rate has fluctuated over time, the yield rate has remained relatively constant. In the year 2000 Trinity experienced its lowest acceptance rate, 28.71%, and also the school's highest yield, 32%. The average acceptance rate for these years is 41.76%, and the average yield rate is 28.2%. The most recent drop in the acceptance rate is due to Trinity's new admissions policy. The new admissions policy no longer requires students to complete a supplement to the Common Application, which has resulted in more student applications. This policy was enacted because Trinity was beginning to receive fewer applications from students who did not require financial aid. Therefore in order to increase the number of non-financial aid applicants the supplemental part of the common application was removed. The lack of growth in Trinity's yield throughout the past nineteen years furthers the need to explore the factors most influential in a student's enrollment decision at Trinity College.

¹ Hughes, James. *Trinity College Institutional Data. Raw data. Office of Institutional Research, Trinity College.*

From this study it is evident that a student does not randomly enroll at a school. The attributes most influential in a student's decision include the student's race, student's income, the financial aid awarded to the student, the school's surroundings, the personal attention given to students, and the college's communication with the admitted student. Minority and low-income students care more about the prestige of a school and the amount and type financial aid awarded to them when compared to the sample.

The rest of this paper is organized as follows. The next section reviews related literature on the college enrollment process. Section III describes the data and empirical methods used for this project, Section IV describes and discusses the results, and Section V concludes.

II. Literature Review

There is much related literature on the college enrollment process and many studies have been conducted that have examined a student's enrollment decision. The factors considered in these studies can normally be placed into one of four groups. These groups include (1) the net cost of attending the college for the student, (2) the basic demographics of the student, (3) a student's preferences and opinion of the school, and (4) the student's academic ability. All of these factors have been seen to have a significant impact on a student's decision to enroll.

The college process can be broken up into three stages (Davis-Van 1986; DesJardins 2006; Hossler 1989; Paulsen 1990). The most well-known model is the model developed by Hossler, Braxton, and Coppersmith (1989). According to this model, the first stage of the college process begins when a student decides that they would like to apply to any type of higher education institution. Typically, this stage begins when the student is in primary or secondary school. Students begin taking college preparatory classes and begin to network with different colleges in order to form an idea of whether attending college is the right decision for them. The second stage occurs when a student begins applying to colleges. Throughout this stage students begin discussing colleges with their peers, teachers, and college admission officers. This stage also includes when the student takes the SAT or the ACT. This stage ends when a student applies to one or more institutions. The third stage is known as the choice stage. Throughout this stage, the institutions to which the student has applied decide whether to admit the student. If the student is accepted, the student then must decide whether to accept or reject the offer. Throughout this stage the student must also decide whether to apply for financial aid. The focus of my paper involves the second part of the third stage; whether the student decides to accept or

reject a college's acceptance. If a student is acting rationally, the college they choose to enroll in should be the college that has the highest expected net benefit.

Due to the increase in college tuition, financial aid and the cost of attending a college is an extremely important aspect of the college decision and much research has been done on this subject (Avery 2004; Bruggink 1996; Buss 2003; DesJardins 2006; Ehrenberg 1984; Heller 1997; Leslie and Brinkman 1987; Linsenmeir 2002; McPherson 1991; Moore 1991; Parker 1993; St. John 1990). These studies conclude that a student's decision to enroll at a particular college is sensitive to the school's tuition in addition to the amount of aid granted, though the size of this effect may vary. Most of these studies agree that a higher net cost negatively impacts the likelihood of a student enrolling regardless of the student's financial need, race, or gender. However, this affect is greater for students of lower incomes.

While there are many studies that have been conducted to determine college matriculation decisions, most studies have used data from a national or regional sample of individuals. Due to the fact that optimal financial aid policies differ for each school, some studies have been conducted that examine financial aid for just one school in order to better comment on the school's aid policies. For example, Ehrenberg and Sherman (1984) exclusively studied financial aid applicants at Cornell University to determine the optimal amount of financial aid to be offered to the admitted students and continued to comment on how cost affects the enrollment yield. In the study they concluded the higher the net cost of attending a college the less likely the financial aid students were to enroll, financial aid applicants had a tuition elasticity of -1.09. However of these financial aid applicants, whites and high income families were more sensitive to increased tuition costs. Ehrenberg speculates that this is most likely a result of the fact that

these students were less likely receive financial aid and therefore more likely to pay the full tuition cost.

Moore, Stundenmud and Slobko (1991) expanded Ehrenberg and Sherman's study and examined how the net cost of attending college affected both non-need students and financial aid students at Occidental College. Their results were very similar to the previous study for financial aid applicants. Moore determined that financial aid applicants had a tuition elasticity of -1.09. Also consistent to Ehrenberg's results, tuition elasticity was greater for financial aid applicants with a larger family income and for white financial aid applicants. This study also examined non-financial aid applicants and determined that tuition costs played much less of a role in their enrollment decisions. Non-financial aid applicants were found to have a tuition elasticity of -0.35. Therefore while cost did play a role in non-need applicants' enrollment decisions, cost affected financial aid applicants more.

Ehrenberg and Sherman (1984) also commented that financial aid packages should be different for students the school considers to be more desirable. Their results suggest that high achieving students should receive financial aid that is above the average value in order to increase the probability of them enrolling. Their results also suggest that minority students should be given financial aid that is higher than the average. However their results are ambiguous for the optimal amount of aid given to alumni and low-income families.

Other colleges have used a more general approach and have studied enrollment decisions across many different colleges. Parker and Summers (1993) studied enrollment decisions across selective liberal arts schools and used data from the Higher Education Data Survey Consortium, which is a cross-section covering 87 liberal arts colleges for the years 1988-1990. The variables considered included the tuition, non-tuition costs, and the quality of the college. The quality of

the college was determined by characteristics such as average SAT score and the school's rank on the U.S. News and World Report. Parker and Summers divided their students into aid students and non-aid students. Different from previous studies, aid students were only students who were offered aid; this differs from other studies where aid students were students who had applied for aid. Consistent to earlier studies a non-aid student's decision to enroll was sensitive to tuition increases, with a tuition elasticity of -0.36. While financial aid students were more sensitive to tuition increases, with a tuition elasticity of -0.48.

Buss (2003) expanded the study conducted by Parker and Summers. Buss uses data from the Higher Education Data Sharing data base and studied enrollment decisions of 102 selective, private liberal arts colleges for the years 1988 to 1998. In addition to the cost factors considered by Parker and Summers, Buss attempted to study how the cost of competing colleges affected enrollment decisions. Bus concluded that non-financial aid recipients had a negative tuition elasticity of -0.600. For non-aid recipients, the cost of competing liberal arts colleges was not significant. According to this study, aid students had a tuition elasticity of -1.2. For aid students, the cost of a competing liberal arts college was negative and significant.

Avery (2004) uses data from the College Admissions Project, which was a survey that was given out to high school seniors who were planning on attending college in the 1999-2000 academic year. The survey was only given to highly meritorious high school seniors, these students were from a broad variety of income levels. Due to their high academic achievements these students are more likely to be admitted into many colleges. Avery (2004) concluded that an extra thousand dollars in tuition lowers a student's probability of matriculating by 2 percent and an extra thousand dollars in room and board lowers student's probability of matriculating by 10 percent of their prior probability.

Leslie and Brinkman (1988) conducted a study in the 1980s that examined matriculation decisions at public, private, 2-year, and 4-year colleges and concluded that a one hundred dollar increase in 1982-1983 dollars would result in reduced enrollment between 0.5 to 2.4 percent.

Some studies have also looked at how the type of aid awarded to students affects the student choice (Avery 2004; Bruggink 1996; Buss 2003; Chapman 1987; DesJardins 2002; Doyle 2006; Ehrenberg 1981; Heller 1997; Kane 1994; Linsenmeier 2002; McPherson 1991, Miller 1981; Moore 1991; Parker 1993; Savova 1991; St, John 1990). A typical financial aid package is made up of grants, loans, and work-study jobs. All three of these components are aimed at decreasing the net cost for needy students. These studies mostly agree that loans and grants are not substitutes. Avery (2004) concluded that increases in grants and loans both increased the probability of a student matriculating; however grants had a greater affect. According to this study an extra thousand dollars in grants increased the probability of a student matriculating by 11 percent, while an additional thousand dollars in loans or student jobs raised the student's probability of enrolling by 7 percent of their prior probability. Consistent to Avery, Linsenmeier (2002) and St John (1990) both concluded that increases in grants and loans positively affected the likelihood of an admitted student enrolling. Buss (2003) concluded that the makeup of the financial aid package did not matter for enrollment yield, and that loans and grants had the same affect. Buss speculates this may be a result of the fact that students are short-sighted or that students assume that they will be easily able to repay the loans in the future.

Miller (1981) and Savoca (1991) studied enrollment decisions at Stanford University and concluded that when loans replace grants the probability a student would enroll decreased slightly. Miller also concluded that the effects of offering a work study job were the same as the effects of offering loans. Ehrenberg (1981) and Moore (1991) find that increases in grants

increased the probability of an admitted student enrolling, but that increases in loans and student jobs had relatively little effect on the school a student decides to attend. Parker (1993) concluded that offering grants in lieu of loans or student jobs increased the chances of an admitted student enrolling at their institution; the effect was greater for minority low-income students than it was for non-minority low-income students. Kane (1994) finds the enrollment decision to be sensitive to the level of Pell grants offered. McPherson (1989) and Chapman (1987) conclude that less prestigious colleges offering merit aid instead of need-based aid have seen positive effects on their enrollment behaviors. Moore (1991) comments that because most studies conclude that loans do not play a key role in enrollment decisions we should be seeing an increase in the amount of merit scholarships that are offered by private colleges.

Recently the presence of merit aid has been increasing in colleges' financial aid policies, in doing so the college hopes to be able to attract more academically qualified students. The biggest increases in merit-based programs can be seen in state universities. In 1980, 12% of all state aid went to merit-based programs (Doyle 2006). By 2002 this number had increased to 26% (\$1.2 billion). Increasing merit aid in state universities has been seen to keep high quality students in their state, and some states have needed this increase in need-based aid in order to increase college enrollment in their state.

Linsenmeier (2002) studied a selective, private Northeastern university that recently eliminated the entire loan portion of their financial aid packages and replaced it with grants. In this study they concluded that this program increased the likelihood of a low-income student enrolling by around 3 percentage points, however this was not statistically significant. However for a low-income minority student this program increased the likelihood of the student enrolling by around 8 to 10 percentage points, and this result was statistically significant.

It makes conceptual sense that students with different family incomes respond differently to aid and tuition increases. Some research comments on how the cost of attending a college is different for people of different races, socioeconomic backgrounds, and academic success (Avery 2004; Ehrenberg 1981; Linsenmeir 2002; Moore 1991; Parker 1993). These studies conclude that cost affects different groups of people in different ways. For instance, minority students, low-income students, and students with higher SAT scores and GPAs are the most sensitive to college costs. Ehrenberg and Sherman (1991), which only studied financial aid students, concluded that minority students were the most sensitive to tuition increases and consequently less likely to enroll at a given institution. Additionally, Ehrenberg and Sherman concluded financial aid affected male and female applicants in the same way. Moore (1991) also studied these factors for non-need students. It was determined that non-need minority students and high academically achieving students were less likely to enroll. However non-need legacy students were more likely to enroll. Moore concluded that students with high family incomes were less likely to enroll, which is most likely a result of the lack of aid awarded to them. Avery (2004) notes that increases in tuition have the greatest effect on medium to high income families because medium to high income families are more likely to be able to afford the full tuition but paying the full tuition would have a detrimental impact on their family's income. Avery continues to discuss that low-income families appear to be unaffected by tuition increases because of their tendency to rely on financial aid and the small likelihood of them paying the full cost.

In addition to the cost of attending a school, there are many other factors that play an important role in a student's college choice and many studies have considered these attributes (Bruggink 1996; Chang 2006; Curs 2002; DesJardins 2002; Dynarski 2000; Ehrenberg 1984;

Heller 1997; Linsenmeir 2002; Moore 1991; Parker 1993; Tobias 2002). Some of these studies specifically look at selective liberal arts colleges (Chang; Ehrenberg; Bruggink; Parker). The attributes considered in these studies include the student's GPA, high school rank, parent's educational backgrounds, if they attended private or public school, SAT/ACT scores, gender, if the student was a legacy, ethnicity, age, and their location relative to the school. From these studies it can be concluded that students do not randomly enroll into a college and that there are patterns that can be found based on these factors.

For high achieving high school students the decision to enroll is a difficult one (Avery 2004; Bruggink 1993; DesJardins 2002; Ehrenberg and Sherman 1984; Moore 1991; Parker and Summers 1993; Slobko 1991). For most of these studies the factors that are used to determine a high achieving student include the student's SAT/ACT scores, high school GPA, and class rank. Most studies conclude that the more academically successful the student is the less likely they are to enroll. According to Bruggink (1993) and DesJardins (2002) high achieving students are more likely to be admitted into more colleges, and are therefore less likely to enroll at a given institution. However, Moore (1991) concluded that a student's academic ability was not significant in their study at Occidental College.

Bruggink (1993) used data from one selective liberal arts college for the graduating classes of 1991 to 1994. Though the college's name was not given, Bruggink comments that the school's acceptance rate was less than 50% for every year included in the study. Bruggink concludes students who attend private high schools were less likely to enroll. In this study, students from out of area and minority students were less likely to enroll. However, recruited athletes and legacy students were more likely to enroll.

Trusheim (1990) conducted a similar experiment and concluded that the quality of academics, quality of programs in the applicant's major, the school's proximity to their home, and the college's reputation were the most important factors in deciding where an admitted student decides to enroll. Consistent with other findings, as SAT scores increased the odds of the student enrolling in their school decreased. A lot of the factors that were positively related to a student being accepted into a school were found to be negatively related to why a student declined an acceptance. DesJardins (2002) estimates in-state students are 2-2.8 times more likely to enroll.

Ehrenberg (1991) found that minority students were less likely to enroll and that students with alumni relations were more likely. Moore (1991) attempted to replicate this study by looking at admitted students for Occidental College, and while the signs of these coefficients remained consistent with Ehrenberg's study both of these variables were found to be insignificant.

Avery (2004) concluded that many non-financial aid factors were important in a student's enrollment decision. For public school students being in-state increased the probability of enrollment by 30 percent, while being in-state for private school had very little effect. For Avery's study he concluded that there were no significant differences in the choices made by people of different genders and races. However their survey possessed few nonwhites, so it was difficult for them to draw conclusions on race.

Also an important factor in studying the enrollment yield of a college, is examining how the prospective student and their parents view the prestige and quality of the school that the student has been accepted. Parker (1993) measured the quality of the school as a function of student/faculty ratios, graduation rates, percentage of the faculty having a doctoral degree, the

college's ranking of the U.S. News and World Report (USNWR), the average SAT score of the entering class, and the size of the school. One of the most influential pieces of information is how the college ranks on the U.S. News & World Report College rankings (Buss 2003; Monks 1999; Parker 1993). According to Monks (1999) having a 1 rank increase in the U.S. News and World Report caused a 0.4% reduction in the acceptance rate, 0.2% increase in yield, a 3 point gain in the average SAT score in the accepted students the following year, and a 0.3% increase in the net tuition.

Buss and Parker (2003) and Parker and Summers (1993) concluded that the quality of a school plays a significant role in a student's matriculation decision. Parker comments that the higher the school's average SAT score is the more likely an accepted student will enroll. Parker (1993) also commented that aid students were more likely to enroll at colleges with a lower average SAT score, this effect was opposite for non-aid students. Buss concluded that for non-financial aid applicants if a college appeared in the top 25 liberal arts college in the US News and World Report this would increase the probability of enrollment by about 46% when compared to schools not in this category. The average enrollment yield for a non-aid student was 25%, revealing that student enrollment yield for a school in the top 25 is 12 percentage points higher than for a school not included on this list. A school in the second tier has a significant effect of 25%, which translates to an increase of 6 percentage points for non-aid students. The results were insignificant for schools in the third and fourth categories. These effects were very similar for aid students; however they had a slightly smaller effect.

Avery (2004) comments that the other colleges a student is accepted into can affect their matriculation decision. If the school's mean SAT score is below their own the student may consider the school to be a safety school and is therefore less likely to enroll. However if the

school's average SAT scores were above their own, the result was insignificant. Avery finds private school students are more likely than public school students to be affected by the level of prestige of the school.

My study differs from other studies done on this subject. My study focuses on matriculation decisions exclusively at Trinity College. While many studies have been conducted that have examined the factors most influential in a student's decision to enroll in a particular college, my project differs from most other studies for I am testing a variety of different variables. Other studies have focused on how financial aid, student's perceptions, or student's basic demographics affect student matriculation decisions. However, very few have explored the effects of all three of these categories. I also include how certain characteristics (ex. academic and recreational facilities) of the college influence student decisions.

III. Data, Empirical Methods, and Descriptive Statistics

3.1 Data

The data for this study comes from the Admitted Student Questionnaire Plus (ASQ Plus). The ASQ Plus is an annual survey administered by Trinity College to each admitted student at Trinity. The questionnaire asks admitted students a variety of different questions that may be relevant in their college decision. The survey was distributed between the years 1993 and 2011, however due to budget constraints the survey was not given for the years 2004, 2006, 2008, 2009, and 2010. Between the years 1993 and 2003 the survey was given out as a paper survey. In 2005 the survey switched to a web survey, this switch resulted in less students taking the survey.

The response rate, the percentage of admitted students who take the survey, is another important component of the data and differs for each year. When the survey became a web survey in 2005 the percentage of students taking the survey dramatically decreased. In 2003 the response rate was 47.22% and in 2005 the response rate dropped to 18.37%. The total response rate for all of the years is 43%. The student response rate for students who choose to enroll and for students who are not enrolling also differs for each year. On average 70% of students who enroll take the survey while 32% of students not enrolling take the survey. Thus the data as a whole many over-represent students who choose to enroll. The total number of observations in my study is 11,254; 6,076 are not enrolling and 5,178 choose to enroll.

The ASQ Plus is broken up into six sections; each section asks students different types of questions that may be pertinent to the student's college choice. The first thirteen questions ask students to rank how important certain college characteristics are to them. The student ranks these attributes on a scale from one (not important) to three (very important). These

characteristics include attributes like the school's academic reputation and the quality of the school's social life. In my study all of these variables are represented as dummy variables. These variables take the value of one if the student considers the attribute very important and zero if otherwise. Of the thirteen questions that are asked in this section I have included ten in my model, I believe the other questions asked in this section have been addressed in other questions that are included in my model.

The next four questions ask students information about their college process. In this section the student answers questions like how many schools they have applied to and how many they have been admitted into. For my model I do not use any of the questions asked in this section. Originally I had included a variable that included how many schools the student had been admitted into, however this variable was too highly correlated with the dependent variable and was therefore not included in my final model.

The third section asks admitted students to compare Trinity to other colleges. The student ranks how well certain characteristics of Trinity compare to other colleges on a scale from 1 (poor/fair) to 4 (excellent). The first 13 questions ask students to compare the college characteristics questions that were asked in the first section. From this section I chose the same variables that were chosen from section one. The next 14 questions ask students how well Trinity compares to other colleges in communicating information about Trinity. These questions include the college website and contact with faculty from the college. I was unable to use a lot of the questions asked in this part of survey because many of the questions were not asked in the first few years that the survey was administered. Of the 14 questions regarding communication of information, only five were used in my final model. For my study all of these variables are

dummy variables and take the value of one if the student circled 3 (very good) or 4 (excellent) and takes the value of zero if otherwise.

The fourth section asks students about their perceptions of Trinity. In this section, the student circles adjectives they believe accurately describe Trinity. There are a total of 14 adjectives listed in this part of the questionnaire; including words like isolated, prestigious, fun, or party. There is no limit to the number of adjectives the student is allowed to circle. Many of these words are very similar and therefore address the same types of characteristics. For example *prestigious* and *selective* are very similar in meaning, and therefore I only included prestigious in my model. In total, I chose three words from this section to be in my final model. These variables are represented as dummy variables in my study; they take the value of one if the student circled the word and zero if the student did not circle the word

The fifth section asks the student about financial aid, and how the cost of attending Trinity impacted their enrollment decision. This section asks students a variety of yes or no questions that all pertain to college costs. These questions include whether cost was a significant factor in their enrollment decision, whether the student applied for need-based aid, and whether a student was offered need-based aid. All of the variables in this section are dummy variables and take the value of one if the answer is yes and take the value of zero if the answer is no.

The final section asks questions about the student's background. These questions include if the student went to a public or private high school, their gender, and race. I have four race variables that are included in this model; Asian, Hispanic, black, and other races. In my model all of these races are compared to whites. The variable Asian includes students who would describe themselves as Asian, Asian American, or Pacific Islander. The variable Hispanic includes people who would describe themselves as Mexican American, Puerto Rican, Latin American, South

American, Central American, or other Hispanic. The variable other race includes people who circled other, American Indian, or Alaskan Native. The variable public includes all students who attended a public high school and is compared to students who attended a private high school. Private high schools include schools that were independent and religiously affiliated and independent schools that were not religiously affiliated. Family income is separated into three different variables. One includes a family whose income is less than \$60,000. The second variable includes families whose income was between \$60,000 and \$99,999. The third variable includes families whose income is between \$100,000 and \$199,999. All of these variables are compared to a family who makes more than \$200,000 a year. Students' high school grades were made into a dummy variable and take the value of one if the student had an average high school grade between 90 and 100 (A). SAT scores are always out of 1600 even for the years after 2007 when the SAT added the writing component to the test. For the years after 2007 I only included the students SAT math and SAT verbal scores; therefore the maximum score a student can receive on their SATs is 1600, for every year. The gender variable takes the value of one if the student is male and zero if the student is female.

3.2 Empirical Methods

My model for student enrollment decisions at Trinity College uses a logistic regression and can be represented by Equation 1:

$$P[E_i = 1] = \frac{e^{a+bX_i}}{1 + e^{a+bX_i}}$$

Where P is the probability of a student enrolling, e is the base of the natural logarithm, a and b are parameters of the model, and X_i represents attributes related to student enrollment decisions. If X is zero, the value of a determines the probability of enrollment. If X does not equal zero, the value of b determines the rate of change for P as X changes. Contrary to an OLSQ model the relationship between the independent variables and the dependent variable is not linear because this model had a binary dependent variable. If a linear regression is used, the predicted values will be greater than one and less than zero, which is impossible for a regression that has binary dependent variable. I estimate this equation for the full sample of individuals who took the Admitted Student Questionnaire, minority students, male students, high academically achieving students, low-income students, middle-income students, and upper-income students.

The dependent variable for this model is the probability of a student enrolling at Trinity and takes the value of one if the student decides to enroll and zero if the student does not enroll. This format remains consistent to previous research done on student enrollment decisions; however my model uses a logistic regression while many other studies have used a linear regression to estimate student enrollment decisions.

There are a total of seven logistic regressions that are run for this project. The first regression is the sample regression, and uses data for every student who took the questionnaire. The other six regressions include separate subgroups of individuals; these subgroups include minority students, male students, high academically achieving students, low-income students, middle-income students, and upper-income students. Minorities in this project include blacks, Hispanics, and students from the other race category. Asians were not included in the minority regression. Male students simply include students who are male. High academically achieving students include students who had an average high school grade between 90 and 100 (A), and are

often referred to as A students in this project. Low-income students include students from families making less than \$60,000. Middle-income students include students from families making between \$60,000 and \$99,999. Upper-income students include students from families making between \$100,000 and \$199,999.

The explanatory variables in my model can be placed into one of the five categories. (1) the basic demographics of the students; (2) student preferences; (3) how Trinity compares to other colleges; (4) students' perceptions; (5) the net cost to the applicant. A full list and a description of these variables can be seen in Appendix Table 1. My model contains mostly dummy variables with the exception of two continuous variables. These continuous variables include the student's SAT score and the year. Most other literature discussing students' enrollment decisions only estimates this decision as a function of the student's basic demographics or the net cost for the student.

3.3 Descriptive Statistics

Descriptive statistics for the variables used in my model are shown in Table 2. Different means are provided for males, minorities, high academically achieving students, low-income students, middle-income students, and upper-income students. The numbers in the first column reveal the percentage of students enrolling at Trinity College. For the sample this is equal to 46%, minorities it equals 41.3%, males it equals 41.5%, A students it equals 33.9%, low income students it equals 52.7%, middle-income it equals 47.6%, and upper-income it equals 44.1%. 56% respondents are male, 7.3% are Asians, 5.2% are Hispanic, and 5% are blacks. The average SAT score is 1276. Highly meritorious students have the highest average SAT score, which is equal to 1306. While minorities and low-income students have the lowest average SAT score. The

average SAT score for minorities is 1194 and the average SAT score for low-income students is 1232. Around 50% of students had an average grade of an A in high school; this percentage remains constant for all the subgroups tested.

41.04% of respondents are from families making more than \$200,000. 16.8% are from low-income families, 16% are from middle-income families, and 26.1% are from upper-income families. More minority students are from low-income families. 45.8% of minority students are from low-income families, 18.2% are from middle-income families, 18.6% are from upper-income families, and 17.4% are from families making over \$200,000.

For financial aid, 35.4% of the sample considers aid to be a significant factor in their enrollment decision. For the sample, 45% of students were offered grants in their financial aid package, 43.8% were offered loans, and 38.4% were offered jobs. However minority and low-income students' have a greater percentage of students receiving aid. 66.2% of minorities and 84.1% of low-income families consider aid a significant factor in their enrollment decision. Minority and low-income students were much more likely to receive every type of aid. 70.7% of minorities received grants, 56.1% received loans, and 56.2% received student jobs. 88.9% of low-income students received grants, 66.9% received loans, and 63.3% received jobs. Aid is still a significant factor for non-low-income students. 64.6% of middle-income and 31.7% of upper-income students consider aid to be a significant factor. As income increases, the probability of students receiving any type of aid decreases.

The percentage of admitted students considering certain attributes important to them and the percentage of students considering college attributes to be very good or excellent is stated and studied in the regression analysis.

Table 2: Descriptive Statistics

	All		Minority		Male		"A" Student		Low Income		Middle Income		Upper Income	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Enrolling at Trinity	0.46	0.498	0.413	0.492	0.415	0.493	0.339	0.474	0.527	0.4999	0.476	0.499	0.441	0.497
Year	1999.2	4.551	1999.3	4.386	1998.9	4.2545	1999.469	4.330	1999.3	4.405	1999.2	3.962	1999.3	4.128
Instate	0.170	0.376	0.212	0.409	0.159	0.366	0.181	0.385	0.212	0.409	0.224	0.417	0.170	0.375
Low-Income Student: Family Income Under 59,999	0.168	0.374	0.458	0.498	0.183	0.387	0.180	0.384	1	0	0	0	0	0
Middle-Income Student: Family Income Between 60,000-99,999	0.160	0.366	0.182	0.386	0.161	0.367	0.190	0.392	0	0	1	0	0	0
Upper-Income Student: Family Income Between 100,000-199,999	0.261	0.439	0.186	0.389	0.257	0.437	0.281	0.450	0	0	0	0	1	0
Male	0.562	0.496	0.596	0.491	1.000	0.000	0.637	0.481	0.597	0.491	0.551	0.498	0.541	0.498
Asian	0.073	0.260	0	0	0	0.270	0.076	0.265	0.150	0.357	0.070	0.256	0.075	0.263
Hispanic	0.052	0.222	1	0	0	0.225	0.047	0.212	0.167	0.373	0.052	0.225	0.038	0.190
Black	0.050	0.218	1	0	0	0.231	0.029	0.168	0.177	0.382	0.074	0.262	0.034	0.181
Other race	0.041	0.198	1	0	0	0.201	0.039	0.194	0.067	0.249	0.046	0.209	0.035	0.185
Public	0.470	0.499	0.395	0.489	0.492	0.500	0.603	0.489	0.563	0.496	0.572	0.495	0.558	0.497
Sats	1276.387	131.339	1194.885	151.619	1268.921	128.462	1306.089	123.073	1232.238	152.341	1278.852	131.623	1291.708	126.160
High School GPA	0.515	0.500	0.417	0.493	0.583	0.493	1	0	0.563	0.496	0.620	0.486	0.567	0.496
College's Academic Reputation	0.828	0.378	0.806	0.396	0.821	0.383	0.845	0.362	0.836	0.370	0.832	0.374	0.831	0.375
Availability of Majors	0.675	0.468	0.760	0.427	0.701	0.458	0.717	0.451	0.764	0.425	0.712	0.453	0.674	0.469
Personal Attention	0.758	0.429	0.778	0.416	0.793	0.405	0.772	0.419	0.778	0.416	0.763	0.425	0.742	0.438
Academic Facilities	0.662	0.473	0.716	0.451	0.655	0.475	0.670	0.470	0.702	0.458	0.676	0.468	0.652	0.477
Recreational Facilities	0.463	0.499	0.452	0.498	0.436	0.496	0.426	0.495	0.440	0.496	0.406	0.491	0.462	0.499
On-campus Housing	0.466	0.499	0.540	0.499	0.481	0.500	0.456	0.498	0.519	0.500	0.455	0.498	0.461	0.499
Surrounding	0.404	0.491	0.465	0.499	0.451	0.498	0.439	0.496	0.401	0.490	0.353	0.478	0.394	0.489
Campus Attractiveness	0.510	0.500	0.449	0.498	0.524	0.499	0.492	0.500	0.453	0.498	0.490	0.500	0.515	0.500
Off-Campus Recreational Opportunities	0.357	0.479	0.442	0.497	0.396	0.489	0.359	0.480	0.380	0.485	0.349	0.477	0.346	0.476
Extracurricular Activities	0.611	0.488	0.564	0.496	0.627	0.484	0.605	0.489	0.552	0.497	0.590	0.492	0.602	0.490
College's Academic Reputation	0.872	0.355	0.858	0.349	0.863	0.344	0.855	0.352	0.893	0.309	0.886	0.318	0.873	0.333
Availability of Majors	0.803	0.398	0.791	0.407	0.800	0.400	0.809	0.393	0.807	0.395	0.817	0.387	0.807	0.394
Personal Attention	0.869	0.358	0.849	0.359	0.864	0.343	0.856	0.351	0.865	0.341	0.865	0.342	0.870	0.337
Academic Facilities	0.790	0.407	0.743	0.437	0.779	0.415	0.770	0.421	0.771	0.421	0.801	0.400	0.809	0.393
Recreational Facilities	0.734	0.442	0.697	0.460	0.728	0.445	0.709	0.454	0.694	0.461	0.740	0.439	0.753	0.431
On-campus Housing	0.603	0.489	0.565	0.496	0.589	0.492	0.577	0.494	0.595	0.491	0.623	0.485	0.618	0.486
Surrounding	0.273	0.445	0.378	0.485	0.269	0.444	0.276	0.447	0.377	0.485	0.295	0.456	0.270	0.444
Campus Attractiveness	0.844	0.363	0.802	0.398	0.836	0.371	0.827	0.378	0.839	0.368	0.855	0.352	0.854	0.353
Off-Campus Recreational Opportunities	0.649	0.477	0.613	0.487	0.661	0.474	0.641	0.480	0.665	0.472	0.663	0.473	0.659	0.474
Extracurricular Activities	0.825	0.380	0.777	0.417	0.824	0.381	0.812	0.391	0.806	0.396	0.834	0.372	0.830	0.376
Visit to High School	0.203	0.402	0.254	0.435	0.199	0.399	0.146	0.353	0.206	0.404	0.185	0.388	0.160	0.366
Campus Visit	0.704	0.456	0.616	0.487	0.688	0.463	0.665	0.472	0.632	0.482	0.716	0.451	0.722	0.448
On-Campus Interview	0.404	0.491	0.359	0.480	0.402	0.490	0.342	0.474	0.322	0.467	0.393	0.489	0.397	0.489
Contact After Admitted	0.672	0.469	0.668	0.471	0.676	0.468	0.658	0.475	0.700	0.458	0.673	0.469	0.647	0.478
Contact with Faculty	0.311	0.463	0.305	0.461	0.310	0.463	0.327	0.469	0.357	0.479	0.316	0.465	0.329	0.470
Prestigious	0.452	0.498	0.455	0.498	0.443	0.497	0.435	0.496	0.556	0.497	0.507	0.500	0.477	0.500
Backup	0.193	0.395	0.200	0.400	0.209	0.407	0.228	0.419	0.160	0.366	0.168	0.374	0.193	0.394
Fun	0.529	0.499	0.453	0.498	0.538	0.499	0.481	0.500	0.450	0.498	0.499	0.500	0.512	0.500
If Aid is Significant Factor	0.354	0.478	0.662	0.473	0.359	0.480	0.407	0.491	0.841	0.366	0.646	0.478	0.371	0.483
Applied Need-Based Aid	0.496	0.500	0.781	0.414	0.503	0.500	0.561	0.496	0.947	0.224	0.842	0.365	0.595	0.491
Offered Need-Based Aid	0.405	0.491	0.682	0.466	0.398	0.490	0.435	0.496	0.887	0.316	0.735	0.442	0.423	0.494
Offered Non-Need Aid	0.092	0.289	0.144	0.351	0.094	0.292	0.125	0.331	0.203	0.402	0.152	0.359	0.097	0.297
Offered Grants	0.450	0.498	0.707	0.455	0.447	0.497	0.478	0.500	0.889	0.314	0.748	0.434	0.447	0.497
Offered Loans	0.438	0.496	0.561	0.496	0.425	0.494	0.451	0.498	0.699	0.459	0.524	0.500	0.524	0.499
Offered Jobs	0.384	0.486	0.562	0.496	0.374	0.484	0.384	0.486	0.633	0.482	0.420	0.494	0.419	0.494

IV. Results

Table 3 shows the logistic estimates for the probability of student enrollment for the entire sample, minority students, male students, A students, low-income students, middle-income students, and upper-income students. This sample is representative of all of the years that the Admitted Student Questionnaire was taken.

	All		Minority		Male		"A" Student		Low Income		Middle Income		Upper Income	
	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error
Year	0.093	0.010	0.083	0.026	0.100	0.014	0.090	0.014	0.061	0.022	0.102	0.026	0.137	0.024
Instate	-0.087	0.100	0.061	0.245	0.013	0.137	0.117	0.131	-0.305	0.211	0.303	0.236	0.163	0.214
Low-Income Student: Family Income Under 59,999	-0.009	0.154	-1.278	0.460	-0.338	0.209	0.099	0.209	---	---	---	---	---	---
Middle-Income Student: Family Income Between 60,000-99,999	-0.291	0.140	-1.394	0.479	-0.617	0.193	-0.238	0.189	---	---	---	---	---	---
Upper-Income Student: Family Income Between 100,000-199,999	-0.266	0.113	-0.891	0.422	-0.404	0.159	-0.343	0.160	---	---	---	---	---	---
Male	-0.469	0.080	-0.357	0.216	---	---	-0.504	0.110	-0.634	0.178	-0.721	0.195	-0.412	0.169
Asian	-0.338	0.148	---	---	-0.397	0.203	-0.347	0.207	-0.516	0.265	-0.832	0.386	-0.407	0.324
Hispanic	-1.058	0.180	---	---	-0.854	0.239	-1.397	0.272	-1.489	0.294	-1.559	0.451	-0.750	0.442
Black	-1.604	0.195	---	---	-1.513	0.261	-1.541	0.357	-1.740	0.314	-2.078	0.436	-1.422	0.501
Other race	-0.768	0.209	---	---	-0.622	0.284	-0.508	0.284	-1.437	0.409	-0.269	0.507	-1.087	0.454
Public	0.231	0.084	0.104	0.224	0.385	0.116	0.141	0.114	0.193	0.185	0.278	0.206	-0.020	0.179
Sats	-0.005	0.000	-0.004	0.001	-0.004	0.001	-0.005	0.001	-0.004	0.001	-0.005	0.001	-0.005	0.001
High School GPA	-1.083	0.087	-1.026	0.227	-1.178	0.122	---	---	-1.057	0.195	-1.013	0.221	-1.202	0.187
College's Academic Reputation	-0.119	0.104	-0.501	0.260	0.099	0.144	-0.009	0.150	-0.059	0.220	-0.181	0.258	-0.345	0.226
Availability of Majors	-0.448	0.088	-0.402	0.257	-0.536	0.124	-0.550	0.121	-0.204	0.212	-0.711	0.217	-0.226	0.183
Personal Attention	0.304	0.094	0.031	0.272	0.380	0.138	0.232	0.131	0.417	0.208	0.051	0.224	0.554	0.203
Academic Facilities	-0.187	0.090	-0.134	0.252	-0.096	0.125	-0.227	0.123	-0.308	0.204	0.027	0.214	-0.412	0.194
Recreational Facilities	-0.149	0.089	-0.029	0.234	-0.135	0.122	-0.184	0.121	-0.207	0.196	-0.320	0.222	-0.182	0.187
On-campus Housing	0.109	0.085	0.220	0.224	-0.063	0.115	0.056	0.116	0.226	0.191	-0.036	0.213	0.058	0.176
Surrounding	-1.185	0.086	-1.178	0.228	-1.221	0.114	-1.061	0.116	-1.052	0.187	-1.470	0.214	-1.223	0.184
Campus Attractiveness	0.221	0.083	-0.329	0.224	0.340	0.112	0.230	0.114	-0.126	0.183	0.365	0.203	0.300	0.176
Off-Campus Recreational Opportunities	0.167	0.086	0.112	0.225	0.069	0.114	0.152	0.117	0.183	0.189	0.452	0.213	-0.124	0.181
Extracurricular Activities	0.035	0.085	0.122	0.227	0.114	0.117	0.078	0.116	0.150	0.184	-0.163	0.207	0.155	0.178
College's Academic Reputation	0.815	0.173	0.615	0.391	1.097	0.253	1.076	0.268	0.787	0.355	0.276	0.415	1.422	0.405
Availability of Majors	0.154	0.110	0.381	0.292	0.300	0.152	0.197	0.157	0.372	0.240	0.159	0.270	-0.104	0.236
Personal Attention	0.112	0.138	0.032	0.346	0.208	0.200	0.207	0.195	0.518	0.275	0.094	0.325	-0.554	0.296
Academic Facilities	-0.020	0.123	-0.286	0.313	-0.141	0.168	-0.039	0.171	-0.444	0.264	0.089	0.314	0.284	0.271
Recreational Facilities	0.319	0.110	0.140	0.290	0.363	0.157	0.473	0.155	0.268	0.234	0.803	0.278	0.294	0.239
On-campus Housing	-0.235	0.091	-0.091	0.253	-0.168	0.122	-0.079	0.121	-0.104	0.199	-0.196	0.226	-0.003	0.196
Surrounding	0.506	0.088	0.188	0.228	0.548	0.120	0.541	0.117	0.444	0.186	0.687	0.212	0.506	0.189
Campus Attractiveness	0.937	0.146	0.524	0.347	0.942	0.207	0.685	0.208	0.603	0.290	0.898	0.392	0.625	0.317
Off-Campus Recreational Opportunities	0.296	0.091	0.134	0.249	0.308	0.128	0.357	0.127	0.056	0.195	0.130	0.226	0.253	0.203
Extracurricular Activities	-0.238	0.124	0.187	0.319	-0.330	0.172	-0.134	0.173	-0.060	0.252	-0.521	0.320	-0.027	0.277
Visit to High School	-0.458	0.100	-0.495	0.240	-0.324	0.137	-0.614	0.153	-0.495	0.213	-0.561	0.254	-0.534	0.234
Campus Visit	0.947	0.105	0.998	0.261	0.917	0.142	0.845	0.146	0.716	0.213	1.161	0.258	0.943	0.251
On-Campus Interview	0.223	0.083	-0.227	0.235	0.152	0.113	0.186	0.112	0.085	0.195	0.032	0.203	0.439	0.172
Contact After Admitted	0.295	0.089	0.679	0.245	0.059	0.123	0.343	0.122	0.261	0.203	0.535	0.215	0.360	0.185
Contact with Faculty	0.514	0.084	0.271	0.221	0.644	0.113	0.706	0.110	0.377	0.185	0.483	0.205	0.786	0.179
Prestigious	0.598	0.081	0.974	0.222	0.655	0.110	0.609	0.109	0.754	0.181	0.495	0.201	0.576	0.171
Backup	-0.843	0.115	-1.548	0.340	-0.674	0.157	-0.829	0.163	-1.330	0.281	-0.714	0.281	-0.968	0.256
Fun	0.428	0.079	0.171	0.215	0.419	0.109	0.388	0.107	0.139	0.178	0.152	0.193	0.678	0.164
If Aid is Significant Factor	-0.367	0.108	-0.109	0.289	-0.563	0.147	-0.458	0.140	0.166	0.240	-0.286	0.229	-0.745	0.203
Applied Need-Based Aid	-0.007	0.145	-0.755	0.458	0.001	0.194	-0.002	0.194	-0.247	0.522	-0.418	0.441	0.003	0.261
Offered Need-Based Aid	0.437	0.180	-0.194	0.521	0.765	0.247	0.967	0.240	1.016	0.524	1.225	0.461	-0.306	0.316
Offered Non-Need Aid	-0.372	0.131	-0.198	0.289	-0.354	0.178	-0.451	0.158	-0.187	0.218	-0.299	0.259	-1.122	0.287
Offered Grants	1.361	0.173	2.992	0.573	1.379	0.236	1.057	0.224	1.599	0.443	1.428	0.407	1.938	0.314
Offered Loans	-0.691	0.138	-0.607	0.266	-0.909	0.182	-0.807	0.176	-0.602	0.238	-1.401	0.325	-0.200	0.295
Offered Jobs	-0.026	0.140	-0.610	0.281	0.092	0.188	-0.052	0.178	-0.719	0.250	0.447	0.306	0.065	0.289
Constant	-181.93	20.71	-162.03	51.27	-198.279	28.517	-178.179	28.007	-120.084	43.974	-198.817	52.069	-270.273	47.859
N	4907		777		2671		2762		990		942		1322	
R-Squared	0.367		0.3824		0.3602		0.351		0.3368		0.4075		0.44	

Variables bolded are statistically significant at the .05 level

The table below shows the marginal effects and standard errors for the sample, minority students, male students, A students, low-income students, middle-income students, and upper-income students.

Table 4: Marginal Effects

Variable	Sample		Minority		Male		"A" Student		Low-Income		Middle Income		Upper Income	
	Marginal Effect	Std. Err.												
Year	0.0225	0.00254	0.017	0.005	0.022	0.003	0.018	0.003	0.015	0.006	0.025	0.007	0.032	0.006
Instate	-0.0211	0.02401	0.013	0.052	0.003	0.030	0.023	0.026	-0.076	0.052	0.075	0.059	0.038	0.051
Low-Income Student: Family Income Under 59,999	-0.0021	0.03723	-0.261	0.089	-0.071	0.042	0.020	0.042	---	---	---	---	---	---
Middle-Income Student: Family Income Between 60,000-99,999	-0.0694	0.03267	-0.238	0.063	-0.125	0.036	-0.045	0.034	---	---	---	---	---	---
Upper-Income Student: Family Income Between 100,000-199,999	-0.0638	0.02676	-0.164	0.066	-0.085	0.032	-0.064	0.029	---	---	---	---	---	---
Male	-0.1137	0.01936	-0.076	0.047	---	---	-0.101	0.022	-0.157	0.043	-0.176	0.047	-0.095	0.039
Asian	-0.0797	0.03367	---	---	-0.081	0.039	-0.063	0.035	-0.127	0.064	-0.188	0.077	-0.088	0.066
Hispanic	-0.2226	0.03061	---	---	-0.159	0.036	-0.192	0.024	-0.338	0.055	-0.307	0.062	-0.151	0.075
Black	-0.3017	0.02468	---	---	-0.240	0.027	-0.199	0.027	-0.380	0.053	-0.371	0.047	-0.244	0.057
Other race	-0.1691	0.0399	---	---	-0.120	0.047	-0.088	0.043	-0.315	0.069	-0.065	0.119	-0.203	0.064
Public	0.0559	0.02026	0.022	0.047	0.083	0.025	0.027	0.022	0.048	0.046	0.068	0.050	-0.005	0.041
Sats	-0.0011	0.00009	-0.001	0.000	-0.001	0.000	-0.001	0.000	-0.001	0.000	-0.001	0.000	-0.001	0.000
High School GPA	-0.2597	0.02011	-0.208	0.044	-0.266	0.027	---	---	-0.258	0.045	-0.247	0.052	-0.277	0.042
College's Academic Reputation	-0.0290	0.0256	-0.111	0.060	0.021	0.031	-0.002	0.029	-0.015	0.055	-0.045	0.064	-0.081	0.055
Availability of Majors	-0.1097	0.02153	-0.088	0.058	-0.121	0.029	-0.113	0.026	-0.051	0.053	-0.175	0.053	-0.052	0.043
Personal Attention	0.0725	0.02202	0.006	0.057	0.080	0.028	0.044	0.024	0.103	0.051	0.013	0.055	0.121	0.042
Academic Facilities	-0.0456	0.0221	-0.028	0.054	-0.021	0.028	-0.045	0.025	-0.077	0.051	0.007	0.053	-0.096	0.046
Recreational Facilities	-0.0360	0.02148	-0.006	0.049	-0.029	0.026	-0.036	0.023	-0.052	0.049	-0.078	0.054	-0.042	0.043
On-campus Housing	0.0265	0.02059	0.046	0.047	-0.014	0.025	0.011	0.023	0.057	0.048	-0.009	0.052	0.013	0.041
Surrounding	-0.2737	0.0184	-0.237	0.044	-0.255	0.022	-0.196	0.020	-0.256	0.043	-0.336	0.044	-0.263	0.037
Campus Attractiveness	0.0535	0.02	-0.068	0.046	0.074	0.024	0.045	0.022	-0.031	0.046	0.090	0.050	0.069	0.040
Off-Campus Recreational Opportunities	0.0407	0.02102	0.023	0.047	0.015	0.025	0.030	0.023	0.046	0.047	0.112	0.052	-0.028	0.041
Extracurricular Activities	0.0086	0.02059	0.026	0.048	0.025	0.025	0.015	0.022	0.037	0.046	-0.040	0.051	0.035	0.040
College's Academic Reputation	0.1814	0.03371	0.117	0.066	0.199	0.035	0.169	0.031	0.190	0.080	0.067	0.098	0.259	0.052
Availability of Majors	0.0371	0.02607	0.076	0.055	0.063	0.031	0.037	0.029	0.093	0.059	0.039	0.065	-0.024	0.055
Personal Attention	0.0269	0.033	0.007	0.072	0.044	0.041	0.039	0.035	0.128	0.066	0.023	0.079	-0.133	0.073
Academic Facilities	-0.0049	0.03001	-0.062	0.069	-0.031	0.038	-0.008	0.034	-0.110	0.064	0.022	0.077	0.063	0.058
Recreational Facilities	0.0760	0.02577	0.029	0.059	0.077	0.032	0.087	0.027	0.067	0.058	0.188	0.061	0.066	0.052
On-campus Housing	-0.0572	0.02218	-0.019	0.054	-0.037	0.027	-0.015	0.024	-0.026	0.050	-0.048	0.056	-0.001	0.045
Surrounding	0.1240	0.0217	0.040	0.048	0.124	0.028	0.110	0.025	0.110	0.046	0.169	0.052	0.119	0.045
Campus Attractiveness	0.2069	0.02784	0.102	0.062	0.179	0.032	0.118	0.031	0.148	0.068	0.204	0.078	0.132	0.061
Off-Campus Recreational Opportunities	0.0711	0.02167	0.028	0.051	0.066	0.027	0.067	0.023	0.014	0.049	0.032	0.055	0.057	0.045
Extracurricular Activities	-0.0585	0.03073	0.038	0.064	-0.075	0.040	-0.027	0.035	-0.015	0.063	-0.129	0.079	-0.006	0.064
Visit to High School	-0.1076	0.02265	-0.099	0.045	-0.068	0.028	-0.107	0.024	-0.122	0.052	-0.133	0.057	-0.115	0.047
Campus Visit	0.2171	0.02213	0.198	0.048	0.186	0.026	0.153	0.024	0.177	0.051	0.266	0.053	0.200	0.047
On-Campus Interview	0.0544	0.02024	-0.047	0.048	0.033	0.025	0.037	0.022	0.021	0.049	0.008	0.050	0.102	0.040
Contact After Admitted	0.0707	0.02099	0.135	0.046	0.013	0.027	0.065	0.022	0.065	0.051	0.129	0.050	0.081	0.041
Contact with Faculty	0.1258	0.02049	0.058	0.048	0.145	0.026	0.144	0.023	0.094	0.046	0.119	0.051	0.184	0.042
Prestigious	0.1441	0.0193	0.204	0.046	0.143	0.024	0.119	0.022	0.186	0.044	0.121	0.049	0.132	0.039
Backup	-0.1908	0.02343	-0.262	0.042	-0.136	0.028	-0.143	0.024	-0.307	0.055	-0.167	0.061	-0.198	0.045
Fun	0.1034	0.01901	0.036	0.045	0.091	0.024	0.076	0.021	0.035	0.045	0.037	0.047	0.154	0.037
If Aid is Significant Factor	-0.0885	0.0258	-0.023	0.062	-0.122	0.031	-0.089	0.027	0.041	0.060	-0.071	0.057	-0.166	0.044
Applied Need-Based Aid	-0.0017	0.03512	-0.171	0.109	0.000	0.042	0.000	0.038	-0.061	0.129	-0.104	0.110	0.001	0.060
Offered Need-Based Aid	0.1058	0.04338	-0.041	0.113	0.167	0.053	0.186	0.045	0.240	0.110	0.274	0.089	-0.070	0.072
Offered Non-Need Aid	-0.0875	0.02959	-0.040	0.057	-0.073	0.035	-0.081	0.026	-0.047	0.054	-0.072	0.061	-0.216	0.044
Offered Grants	0.3213	0.03832	0.451	0.060	0.299	0.049	0.204	0.043	0.351	0.075	0.315	0.076	0.431	0.063
Offered Loans	-0.1651	0.03215	-0.129	0.057	-0.192	0.037	-0.154	0.033	-0.149	0.058	-0.337	0.072	-0.046	0.068
Offered Jobs	-0.0064	0.03397	-0.130	0.060	0.020	0.041	-0.010	0.034	-0.177	0.060	0.109	0.073	0.015	0.067

4.1 Sample Regression

The year in which the study was conducted is a significant variable, and for each additional year the probability of a student enrolling increases by 2.25 percentage points.

Basic Demographics

Family income does matter, and a student's decision to enroll is sensitive to their family's income. Low-income students, middle-income students, and upper-income students are less likely to enroll than students from families making over \$200,000; though the variable for low-income students was not statistically significant. Middle and upper-income students are equally as unlikely to enroll at Trinity, and are 6-7 percentage points less likely to enroll than a student from a family making over \$200,000. This result is surprising and suggests that Trinity does not supply adequate aid to students from families making between \$60,000 and \$200,000. A lower income student from a family making less than \$60,000 is more likely to receive aid from an institution; therefore the cost of attending a college is less influential in their enrollment decision due to their confidence in receiving an adequate financial aid package.

Gender and race are both significant components in a student's enrollment decision. Admitted male students are 11.37 percentage points less likely to enroll than admitted female students. Race also plays a significant role in a student's matriculation decision. Asians, Hispanics, blacks, and students of the other race category are all less likely to enroll at Trinity when compared to whites. White students are the most likely to enroll at Trinity College and Asians are noticeably the second most likely to enroll, and are only 7.97 percentage points less likely to enroll than whites. However, students from all of the other races are much less likely to enroll. Students from the other race category are 16.91 percentage points less likely to enroll, Hispanics are 22.2 percentage points less likely, and black students are 30.17 percentage points less likely to enroll.

A student's decision to enroll is also sensitive to the type of high school the student attended, the grades the student received in high school, and the student's SAT scores. Public

school students are 5.59 percentage points more likely to enroll at Trinity than private school students. A student's academic success also plays a vital role in a student's matriculation decision. A student that had an average high school grade between 90 and 100 is 25.97 percentage points less likely to enroll at Trinity than a student who has a lower average grade. Similar, as a student's SAT score increases the likelihood of a student enrolling at Trinity decreases. For each additional point a student receives on the SATs, the probability of the student enrolling at Trinity decreases by .11 percentage points. Whether the student was in-state was insignificant.

Student Preferences

Students' preferences for certain college characteristics influence their decision to enroll at Trinity. Students that value the availability of majors offered by a school or the school's surroundings are much less likely to enroll than students that do not value these attributes. Students valuing the availability of majors are 10.97 percentage points less likely to enroll and students valuing the school's surroundings are 27.37 percentage points less likely to enroll. Students who view the academic facilities or the recreational facilities at Trinity to be very important to their enrollment decision are between 3 -5 percentage points less likely to attend Trinity than a student that does not. Students considering the academic reputation of a school to be very important are less likely to attend Trinity, though this result is not statistically significant.

The other five variables addressed in this section increase the probability of an admitted student enrolling at Trinity; the size of the effect is very similar for all of the characteristics. Students valuing personal attention are 7.25 percentage points more likely to attend Trinity than

those that do not, while students that value the attractiveness of a college campus are 5.53 percentage points more likely to attend Trinity. Students valuing the off-campus recreational opportunities are 4.07 percentage points more likely to enroll than students not highly valuing the off-campus recreational opportunities.

Extracurricular activities and on-campus housing also have a positive effect on enrollment; however these results are not statistically significant.

Comparison to Other Colleges

The three college comparison characteristics that have the strongest positive correlation with a student's matriculation decision include Trinity's academic reputation, the campus attractiveness, and their campus visit. According to this model when a student considers Trinity's academic reputation, campus, or their campus visit to be very good or excellent their probability of enrolling increases by 18-22 percentage points.

Also positively correlated with a student's matriculation decision are the recreational facilities and off-campus recreational opportunities at Trinity. If a student rates Trinity's recreational facilities or off-campus recreational opportunities to be very good or excellent their enrollment probability increases by 7-8 percentage points. If a student believes that the surroundings of Trinity are very good or excellent the student is 12.4 percentage points more likely to attend Trinity than a student who did not highly rate Trinity's surroundings.

Admitted students value their contact with Trinity, both before and after being admitted. Students who consider their on campus interview, contact with Trinity after being admitted, and their contact with faculty to be very good or excellent are more likely to enroll at Trinity. The on-campus interview and contact with Trinity after being admitted increases the probability of a

student enrolling by 5 -7 percentage points. However, the student's contact with faculty ranks the most important of these three variables and increases student enrollment by 12.58 percentage points.

There are two additional variables that have a positive correlation with a student's decision to enroll however these variables are not statistically significant. The two variables include whether the student ranks the availability of majors or the personal attention given to students as very good or excellent.

There are three variables in this section that despite the fact that the student considers the college attribute to be very good or excellent, decreases the probability of the student enrolling at Trinity. These three variables include the on-campus housing, extracurricular activities, and Trinity's visit to the student's high school. Students who highly rank the on-campus housing or extracurricular activities are 5-6 percentage points less likely to enroll than those that do not. Students that consider Trinity's visit to their high school to be very good or excellent are 10.76 percentage points less likely to enroll when compared to students who do not consider Trinity's visit to their high school to be very good or excellent. The academic facilities also decrease the probability of a student enrolling; however this result is not statistically significant.

Student Perceptions

All three of the variables included in the student perceptions section are statistically significant and are influential in students' decisions to enroll at Trinity. Students that consider Trinity to be a prestigious school are 14.41 percentage points more likely to enroll than students who do not consider Trinity to be prestigious. Surprisingly whether a student considers Trinity to be a fun school has almost the same effect as whether a student considers Trinity to be

prestigious. When compared to students who do not view Trinity as being a fun school, a student considering Trinity to be fun is 10.34 percentage points more likely enroll. Compared to the other two variables included in this section whether the student considers Trinity to be a backup school has the greatest influence on a student's matriculation decision. Students considering Trinity to be a backup school are 19.08 percentage points less likely to enroll than those who do not consider Trinity to be a backup school.

Financial Aid

Financial aid plays a crucial role in a student's matriculation decision, and students who consider aid to be a significant factor in their enrollment decision are 8.85 percentage points less likely to enroll at Trinity than those that do not. From these results it can be concluded that a student's decision to enroll at Trinity is sensitive to the net cost of enrolling.

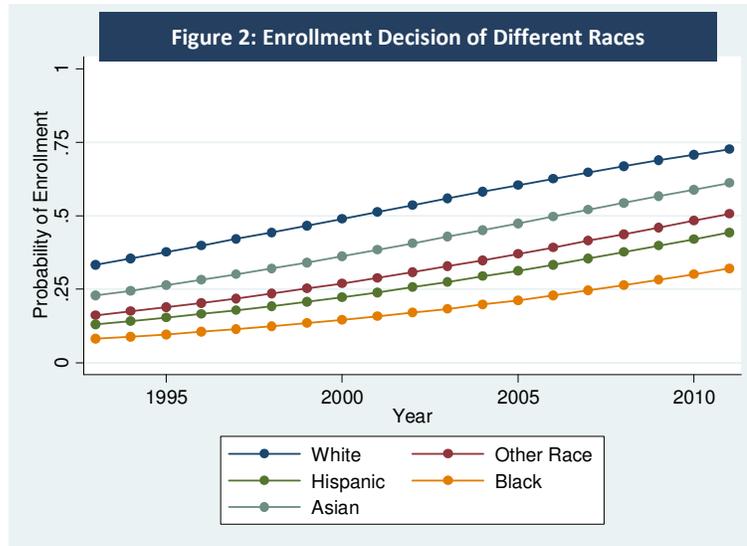
Whether a student applied for need- based aid was not significant. However, compared to students that are not offered need-based aid, students offered need -based aid are 10.58 percentage points more likely to enroll. However, the type of aid awarded affects their enrollment decisions in different ways. Students who are offered non-need aid and loans are less likely to enroll at Trinity than those who are not. Students offered non-need aid are 8.75 percentage points less likely to enroll, while students offered loans are 16.51 percentage points less likely to enroll. Grants play the most influential role; students offered grants are 32.13 percentage points more likely to enroll than a student not offered grants. On-campus jobs have a negative effect on students' enrollment probability but are not statistically significant.

4.2 Interpretation of Results

The following table reveals the probability of students enrolling at Trinity College based upon their basic demographics. When estimating these probabilities all of the variables were evaluated at the sample mean value. The variables that are bolded are the variables that were significant in the final model. The predicted probabilities are consistent to my logistic regression results. For the sample as a whole the predicted probabilities range from .0005 to .998, with an average probability of 0.466.

Basic Demographic Variables	Probability of Enrollment	% of Students With Characteristic
Instate	39.75%	17.0%
Family Income Under 60,000	41.29%	16.8%
Family Income Between 60,000-99,999	35.88%	16.0%
Family Income Between 100,000-199,999	36.83%	26.1%
Male	36.28%	56.2%
Asian	34.19%	7.3%
Hispanic	20.80%	5.2%
Black	13.47%	5.0%
Other race	25.30%	4.1%
Public	44.07%	47%
High School GPA	30.61%	51.5%

Race and gender are the two basic demographic variables that are most influential in a student's matriculation decision. Male students are much less likely to enroll at Trinity than female students. With respect to race, whites and Asians have the highest probability of enrolling at Trinity; Asians have a predicted probability of 34.19%. All other races are much less likely to enroll, black students have an enrollment probability of 13.47%, Hispanics have a predicted probability of 20.80%, and students from the other race have an enrollment probability of 25.30%. Below is a graph showing how enrollment decisions have changed over time for different races.



This graph supports the claim that whites and Asians have always had a higher probability of enrolling when compared to Hispanics, blacks, or students in the other race category. Minority students' enrollment decisions are discussed in more detail later, when a separate regression is ran for minority students.

Family income is a major contributor to a student's matriculation decision. In this model students who are from families making over \$200,000 have the highest enrollment probability. Low-income students are the second most likely to enroll with a predicted probability of 41.29%, however this result is not statistically significant. This finding most likely results from students of lower incomes receiving more financial aid, indicating that the student is not concerned with paying the full tuition cost. Upper-income students are the third most likely to enroll and have an enrollment probability of 36.83%. At this level of income, a student's family is more likely to be able to afford the cost of attending Trinity, and therefore less likely to receive a significant amount of financial aid. However, at this level of income paying the full tuition cost would have a significant impact on the family's total income. Middle-income students have the lowest

probability of enrollment, with a predicted probability of 35.88%. Students from a family with this level of income most likely need a substantial amount of aid in order to be able to afford attending Trinity. The fact that middle and upper -income students are the least likely to enroll suggests that these students are not receiving adequate aid. These results suggest that low-income students are receiving the most amount of aid which is a reason for their higher probability of enrollment; the results also suggest middle and upper-income students are less likely to enroll at Trinity due to the lack of aid awarded to them. Incomes and enrollment decisions are discussed in more detail later in this paper.

The table below shows the percentage of minorities that are low-income and the percentage of minorities that are receiving aid in the sample. From this it can be concluded that a greater percentage of minority students are from the low-income category and receiving more financial aid than non-minority students. These results also help explain why minority students are less likely to enroll than white students. The effects of aid are discussed in more detail later in this paper.

Table 6:		
	% Low Income	% Receiving Aid
Black	55%	83%
Asian	32.50%	49.36%
Hispanic	50.90%	69.96%
White	16.57%	40.50%
Other	27.00%	47%

My findings for high academically achieving students remain consistent to other literature on the subject. Students that were not A students in high school are much more likely to attend Trinity. Students that received predominately A's in high school have an enrollment probability of 30.61%. Students who were more academically successful in high school are more

likely to be admitted into more prestigious colleges, hence decreasing the probability of the student enrolling at Trinity College.

The following table reveals the predicted enrollment probabilities for students who consider different college characteristics to be very important to them in their college decision. All of these factors were evaluated at their mean value. The second column shows the percentage of students that consider the attribute to be very important to them.

Table 7:		
Student Preferences	Probability of Enrollment	% Considering the Attribute Very Important
College's Academic Reputation	40.98%	82.77
Availability of Majors	38.21%	67.53
Personal Attention	43.31%	75.75
Academic Facilities	39.98%	66.18
Recreational Facilities	39.48%	46.31
On-campus Housing	42.89%	46.62
Surrounding	25.65%	40.41
Campus Attractiveness	44.15%	51.04
Off-Campus Recreational Opportunities	44.12%	35.73
Extracurricular Activities	41.80%	61.09

From this section of variables the students that have the lowest predicted enrollment probabilities, with a predicted probability of 25.65%, are those considering Trinity's surroundings to be a very important component in their college decision. 40.41% of respondents to the survey consider the surroundings of Trinity to be an important component of their college decision. The negative effect Trinity's surrounding have on student enrollment decisions is unsurprising. Trinity is located in an inner city that experiences a lot of crime, and for students that value more isolated campuses Trinity's surroundings would be a negative determinant in their matriculation decision.

Being a small school like Trinity clearly has some advantages but it also has some drawbacks. Students valuing the availability of majors have a predicted enrollment probability of

38.21% and 67.53% of students consider the availability of majors to be an important component of their matriculation decision. Alternatively students valuing personal attention given to students have a predicted probability of enrolling that is equal to 43.31%. Trinity College is a small liberal arts college. Due to the small size of the school, Trinity is unable to offer as many majors as a larger school is able to do. However, for students who value personal attention, Trinity's small size is a positive influencer. Trinity is a small school that has teacher to student ratio of 10:1. This low faculty to student ratio results in faculty being able to offer more personal attention to students. 75.75% of students taking this survey highly value the personal attention given to students.

Admitted students who value either the academic facilities or recreational facilities of a college have a predicted probability of enrolling at Trinity equal to 39%, this predicted probability is relatively low. More students value the quality of recreational facilities than academic facilities. This result suggests that Trinity's academic and recreational facilities are not meeting student standards, and are actually decreasing the likelihood of an admitted student enrolling at Trinity College. Surprisingly, it was insignificant whether a student values the on-campus housing. In recent years Trinity has spent a lot of money improving campus housing at Trinity. Though this increased quality in student housing may be positively affecting the retention rate it does not appear to increase the probability of a student enrolling at Trinity. Perhaps Trinity should reallocate some of their funds directed towards student housing to the academic and recreational facilities in order to increase an admitted student's probability of enrollment.

Table 8:

Characteristic	Probability of Enrollment	% Considering the Attribute Very Good or Excellent
College's Academic Reputation	43.78%	87.16%
Availability of Majors	42.16%	80.29%
Personal Attention	41.79%	86.86%
Academic Facilities	41.36%	79.00%
Recreational Facilities	43.41%	73.39%
On-campus Housing	39.34%	60.32%
Surrounding	50.33%	27.26%
Campus Attractiveness	44.87%	84.42%
Off-Campus Recreational Opportunities	43.87%	64.87%
Extracurricular Activities	40.49%	82.49%
Visit to High School	32.87%	20.29%
Campus Visit	48.39%	70.43%
On-Campus Interview	44.78%	40.40%
Contact After Admitted	43.74%	67.23%
Contact with Faculty	49.97%	31.05%

The above table shows the predicted probabilities for students who ranked certain college characteristics as very good or excellent on the Admitted Student Questionnaire. The three college comparison characteristics that have the strongest positive correlation with a student's matriculation decision include the college's academic reputation, the campus attractiveness, and the campus visit. According to this model a student who believes that Trinity's academic reputation is very good or excellent has an enrollment probability of 43.78%, and 87% of the students taking the survey believe Trinity does have a strong academic reputation. This result makes conceptual sense; a student is more likely to enroll if the school is perceived as having a very good or excellent academic reputation. From these results it is also clear that students consider Trinity to have a very attractive college campus, and the beauty of Trinity's campus positively influences an admitted student to enroll. 84% of students taking the survey believe that the attractiveness of Trinity's campus is comparatively better than other colleges, and these students have a predicted enrollment probability of 44.87%. Students who consider their campus visit at Trinity to be very good or excellent have an enrollment probability of 48.39%, and 70%

of respondents consider their campus visit to be so. Students highly rating Trinity's surroundings have an enrollment probability of 50.33%, however only 27.26% of respondents consider this attribute to be very good or excellent.

Of these predicted probabilities the result that is most surprising is how students are affected by their contact with Trinity. A student who considers their contact with faculty from Trinity to be very good or excellent has a predicted probability of enrolling equal to 49.97%, however only 31.05% of students consider their contact with Trinity faculty to be very good or excellent. Trinity is a small school and one of the benefits of being a small school is that it allows for students to have closer relationships with the faculty. Clearly contact with Trinity faculty is a significant aspect in a student's matriculation decision and should therefore be improved. Students who consider their on-campus interview to be very good or excellent are more likely to enroll, and have a predicted probability of enrolling equal to 44.78%. However, only 40.4% of students consider their on-campus interview to be very good or excellent.

There are three variables from this section that have a negative effect on a student's decision to enroll despite the fact that the student considers the attribute to be very good or excellent. These attributes are the on-campus housing, extracurricular activities, and Trinity's visit to their high school. This suggests that while the student considers the attribute to be very good or excellent, this aspect of the school did not influence their decision. The variables for on-campus housing and extracurricular activities are both insignificant for the student values section; this furthers the idea that these characteristics do not influence student matriculation decisions.

The table below shows the probability of a student enrolling based upon their perceptions of Trinity.

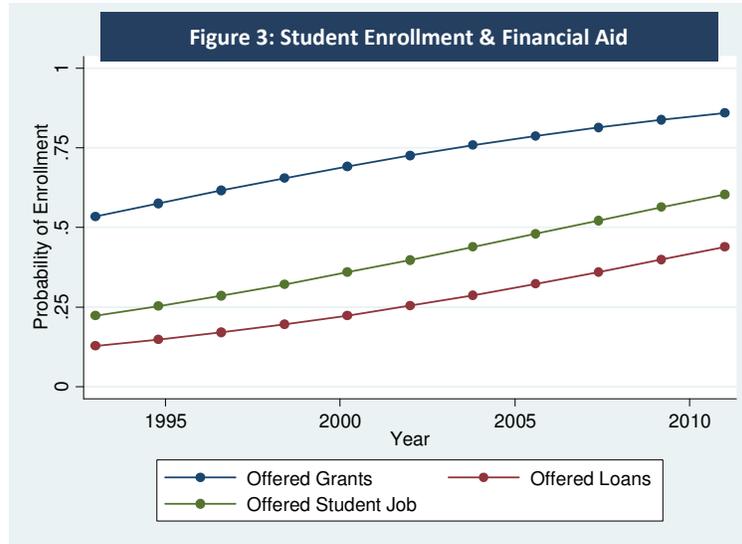
Table 9:		
Student Perception Variable	Probability of Enrollment	% Believing Characteristic Describes Trinity
Prestigious	48.80%	45.21%
Backup School	26.45%	19.28%
Fun	46.45%	52.87%

Students that consider Trinity to be a prestigious school have a predicted enrollment probability equal to 48.80%, and 45.21% of respondents consider Trinity to be a prestigious school. Students viewing Trinity as a fun school have an enrollment probability of 46.45% and 52.87% of students consider Trinity to be a fun school. Students that consider Trinity to be a backup school have a predicted enrollment probability of 26.45%, however only 19.28% of respondents consider Trinity to be a backup school. A large percentage of respondents consider Trinity to be a fun school, while this increases the probability of a student enrolling perhaps Trinity is attracting the wrong type of students.

The net cost of attending a college is clearly one of the most important components in a student's decision to attend Trinity. In general offering a student aid increases the probability of the student enrolling at Trinity College; however the type of aid offered significantly decreases or increases the probability of the student enrolling. Table 11 shows the predicted probabilities for student enrollment based upon a variety of financial aid components.

Table 10:		
Financial Aid Variable	Probability of Enrollment	Percentage of Students
If Aid is Significant Factor	36.65%	35.38%
Applied Need-Based Aid	41.39%	49.57%
Offered Need-Based Aid	46.99%	40.46%
Offered Non-Need Aid	33.70%	9.18%
Offered Grants	59.46%	45.02%
Offered Loans	32.59%	43.77%
Offered Jobs	41.07%	38.44%

If a student considers aid to be a significant factor in their enrollment decision the student has a predicted enrollment probability of 36.65%. This probability is relatively low and suggests that Trinity does not offer adequate financial aid to needy students. This idea is furthered by the fact that of the 50% of students who apply for aid, only 40% receive it. If a student is offered need-based aid however, their predicted probability increases to 46.99%. Nevertheless, student matriculation decisions are sensitive to the type of aid the student receives. From the table above, it is clear that students offered grants are the most likely to enroll and students offered loans are the least likely to enroll. Students offered grants have a predicted probability of 59.46% and students offered loans have a predicted probability of 32.59%. This result is consistent to prior research done on student enrollment decisions and financial aid. Students that are offered aid are from families that cannot afford the full tuition costs. Grants are more likely to be given to low-income students, and as a student's income increases loans are likely to begin replacing grants. However middle-income students are still unable to afford college and therefore offering loans, which must be paid back, decreases the probability of the student enrolling. The graph below demonstrates the idea that students offered grants have always been the most likely to enroll.



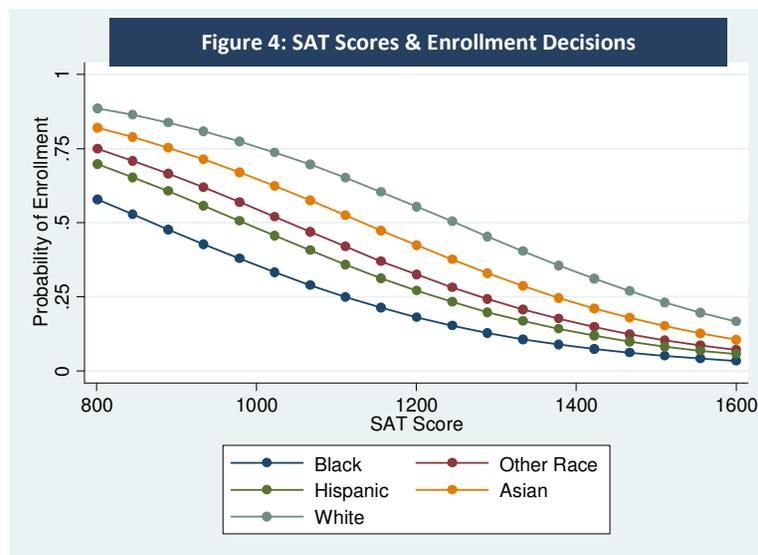
4.3 Minority Students

Minority students in this model include Hispanic students, black students, and students from the other race category. As a whole minority students are less likely than whites and Asians to enroll at Trinity. Minority students have a predicted enrollment probability that ranges from .0002 to .997, with an average predicted probability equal to .412, this number is significantly less than the sample. Overall, the aspects that are most influential in a minority student's decision to enroll include the student's family income, the financial aid awarded to the student, their communication with Trinity, and whether the student considers Trinity to be a prestigious college. Many of the college characteristics that significantly effected enrollment decisions for the sample are insignificant for the minority regression.

Family income affects minority student's enrollment decisions more strongly than it affects the sample, and as family income increases the probability of the student enrolling increases. This pattern differs from the sample. In the sample middle and upper-income students are less likely to enroll than low-income students. Minority students from families making over

\$200,000 are the most likely to enroll. Upper-income students are the second most likely to enroll and are 16.4 percentage points less likely to enroll than students making over \$200,000. Middle-income students are the third most likely to enroll and are 23.8 percentage points less likely to enroll. Low-income students are the least likely to enroll and are 26.1 percentage points less likely to enroll.

It is also clear that high academically achieving minority students are less likely to enroll at Trinity. Minority students with high SAT scores or that have an average high school grade equal to an A are less likely to enroll at Trinity. This result remains consistent to the sample regression. Thus demonstrating the more academically qualified an admitted student is the less likely the student will enroll at Trinity. The following graph shows that students with higher SAT scores are less likely to enroll at Trinity regardless of race. Though high scoring minority students are always less likely to enroll than high scoring white and Asian students.



For a minority student the decision to enroll is not affected by the type of high school the student attended. Public school students are more likely to enroll for the sample regression however the type of high school the student attended was insignificant for the minority regression.

Minority students' enrollment decisions are influenced less by the different college characteristics. However, minority students do value their contact with the college more strongly than the sample. Minority students who consider their contact with Trinity after being admitted to be very good or excellent are 13 percentage points more likely to enroll than those that do not, the magnitude of this affect is greater than the sample. Many of the other variables under the importance to student section and the college comparison section that were significant in the sample regression are insignificant in the minority regression. This suggests that minority students' enrollment decisions are much more focused on the cost variables and the school's academic reputation than any of the college characteristics.

A minority student also places more value on the perceived prestige of the school. Minority students who consider the school's academic reputation to be very important in their matriculation decision are 11.1 percentage points less likely to enroll at Trinity; this result was not statistically significant for the sample regression. Minority students who believe Trinity to be prestigious are 20.4 percentage points more likely to enroll at Trinity than those that do not, and the magnitude of this effect is much larger when compared to the sample. Minority students who consider Trinity to be a backup school are 20.4 percentage points less likely to enroll than those that do not. In the model for the sample, students who consider Trinity to be a fun school were more likely to enroll, however whether a student believes Trinity to be a fun school is

insignificant for the minority regression. This therefore fortifies the idea that minority students care more about the school’s academic reputation.

Minority students are also much more sensitive to the type of aid awarded to them. A minority student who applies for aid is 17.1 percentage points less likely to enroll than one that does not. Similar to the sample, the type of aid awarded to the student affects enrollment decisions in different ways. The signs of the variables for grants, loans, and jobs are all the same signs as the sample regression, though the magnitude of the effects are greater for minorities. Minority students receiving grants are 45.1 percentage points more likely to enroll. Minority students offered student jobs or loans are both less likely to enroll at Trinity. Students offered jobs are 13 percentage points less likely to enroll, and students offered loans are 12.9 percentage points less likely to enroll. From the table below, it is evident that minority students are more likely to receive every type of aid. This is most likely due to the fact that such a large percentage of minority students are from low-income families.

Table 11:			
	% Receiving Grants	% Receiving Loans	% Receiving Jobs
Sample	45.00%	43.80%	38.40%
Minority	70.70%	56.10%	56.20%

4.4 Male Students

Males’ enrollment decisions are almost identical to the sample regression. However, there are a few aspects that differ. Admitted male students care less about the on-campus buildings; whether the male student considers the recreational, academic, or on-campus housing to be very important in their enrollment decision are all insignificant for the male regression. Also whether a male considers Trinity’s on-campus housing to be very good or excellent was

insignificant in the male regression. Male students care less about their communication with Trinity. Male students' enrollment decisions are less affected by the on-campus interview and their contact with Trinity after being admitted. These results make conceptual sense, in general male students care less about detail and aesthetics.

4.5 High Academically Achieving Students

One of the main goals of any college is to increase the probability of the most academically qualified students enrolling at their institution. In this model a student's high school academic success is measured by whether the student had an average high school grade of an A. Most of the variables remain relatively consistent to the sample regression; however there are a few variables that differ slightly. Family income is less important, and whether the student was from a low-income or middle-income family was insignificant for this model. However upper-income students are 6.4 percentage points less likely to enroll. Whether the student attended a public high school was insignificant. This suggests that high academically achieving public school students make enrollment decisions the same as high academically achieving private school students.

High academically achieving students who are offered need-based aid are much more likely to enroll than a student who is not offered need-based aid, and increases the probability of the student enrolling by 18.59 percentage points. High academically achieving students offered non-need aid are 8 percentage points less likely to enroll than a high academically achieving student not offered need-based aid. The students most likely to be offered non-need aid are the students that have the most impressive application. Consequently these students are more likely to receive non-need aid from other schools.

4.6 Low-income students, Middle-income students, Upper-income students

Before discussing how enrollment decisions differ for students of different income groups it is important to repeat how I have categorized students of different incomes.

Low-income students: Students from families making less than \$60,000

Middle-income students: Student from families making between \$60,000 and \$100,000

Upper-Income students: Students from families making between \$100,000 and \$200,000

High-Income Students: Students from families making over \$200,000

Similar to the results from the minority regression, people from lower incomes care less about the college characteristics and place a higher value on the financial aid awarded to them.

The effect of a student's income is sensitive to a student's race. It is clear that white students are the most likely to enroll for every income group. This result is unsurprising, and remains consistent to earlier results. Middle-income students are the least likely to enroll for almost every race, low-income students are the second least likely, and upper-income students are the most likely to enroll. Middle-income black, Hispanic, and Asian students are the least likely to enroll, and are 18 to 37 percentage points less likely to enroll than middle-income white students. Asians are the most likely to enroll for every income group. Indeed, whether the student was an upper-income Asian student was insignificant for this model. This implies that upper-income Asian students make their enrollment decisions very similarly to upper-income white students, while other upper-income minorities are still less likely to enroll than whites.

Enrollment decisions for admitted students based upon certain high school characteristics also differ slightly for students of different incomes. The most surprising result is that whether

the student attended a public or private high school is insignificant for all three income levels while in the sample, public school students are more likely to enroll. I speculate that students from these income levels are less likely to have been able to afford a top private school and therefore the students in these categories that attended private school, may have attended a less prestigious private school. The effect of the academic success variables (student's SAT scores and high school GPA) on a student's enrollment decision is very similar to the results from the sample regression. Suggesting that regardless of a student's family income, the more academically qualified the student is the less likely they are to enroll.

In general, non-high income students care less about college characteristics; many of the college characteristics that were significant in the sample model are insignificant for non-high income students. Of the ten student value variables seven are significant for the sample, two are significant for low-income students, and four are significant for upper-income students.

Whether a student considers the surroundings of a school to be a very important component in their enrollment decision is the only student value variable that is significant for all three income groups and decreases enrollment probability by 25 to 33 percentage points. The only other significant variable for low-income students was whether a student considers the personal attention given to students to be very important, this increases enrollment probability by 10.3 percentage points.

Middle-income students valuing the availability of majors are 17.5 percentage points less likely to enroll. While middle-income students valuing the campus attractiveness and off campus recreational facilities are 9 to 11 percentage points more likely to enroll, this size of this affect is slightly larger than the sample. Upper-income families valuing personal attention and the campus attractiveness are more likely to enroll; the magnitude of these affects is very similar to

the sample regression. Upper-income students who value the academic facilities of a college are much less likely to enroll than the sample. It is evident that as income increases, student values play a larger role in enrollment decisions.

Non-high income enrollment decisions are also less affected by the college comparison variables. The characteristics mentioned are only the ones that differ significantly from the sample or were insignificant variables in the sample. If a student considers Trinity's academic reputation to be very good the student is more likely to enroll at Trinity, regardless of income. Upper-income students are 25.9 percentage points more likely to enroll, low-income students are 19 percentage points more likely to enroll, and middle-income students are 6.7 percentage points more likely to enroll. Low-income students considering the personal attention given to students at Trinity as very good or excellent are 12.8 percentage points more likely to enroll at Trinity. Conversely upper-income students that highly rate personal attention given to students are 13.3 percentage points less likely to enroll. This discrepancy may be one of the reasons this variable was insignificant for the final model. Possibly low-income students looked at less expensive colleges, which may include larger state universities that are unable to offer the same level of personal attention to the students, therefore Trinity would rate well comparatively. Low-income students that rate the academic facilities of Trinity or Trinity's visit to their high school as very good or excellent are 11-12 percentage points less likely to enroll, middle-income students rating Trinity's visit to their high school as very good or excellent are 13.3 percentage points less likely to enroll. Middle and upper-income students that rate Trinity's recreational facilities as very good or excellent are more likely to enroll. Upper-income students considering their on-campus interview to be very good or excellent are 10.2 percentage points more likely to enroll.

Low-income students are more likely than the other two income groups to enroll if they consider Trinity to be prestigious. Alternatively low-income students are much less likely to enroll if they consider Trinity to be a backup school. This suggests that low-income students care more about the prestige of the school. Upper-income students are 15.4 percentage points more likely to enroll if they consider Trinity to be a fun school; this result was insignificant for low and middle-income students. This suggests that students from the lower income groups highly value the prestige of the school and are less focused on whether the school is considered fun.

Aid is an extremely important component of the enrollment decision for all income groups. The type of aid awarded is one of the most influential attributes. For every income group, students that were offered grants are more likely to enroll at Trinity, offering grants increases enrollment probability by 31-43 percentage points when compared to non-high income students not offered aid. Upper-income students are the most affected by grants, low-income students are the second most affected by grants, and middle-income students are the least influenced by grants. Upper-income families are the least likely of the three income groups to receive grants; this therefore increases the probability of these students enrolling. Offering loans to low-income students negatively impacts their enrollment decision by 14.9 percentage points. Middle-income students offered loans are 33.7 percentage points less likely to enroll than middle-income students not offered loans. Offering loans was insignificant for upper-income students. Low-income students offered student jobs are less likely to enroll, this results was insignificant for the sample and for the other income groups

V. Conclusion

Due to the increased demand between colleges for the most academically qualified students, the importance of understanding how students make matriculation decisions has become increasingly important. My study focuses exclusively on enrollment decisions made at Trinity College, and therefore I am able to comment on which factors either influence or deter an admitted student from enrolling at Trinity.

From this study it is evident that Trinity is losing the most academically qualified students. The more academically qualified the student is, based upon their high school GPA and SAT scores, the less likely the student is to enroll at Trinity. This result is consistent for every subgroup tested in the project. This finding is relatively unsurprising and most schools experience a similar dilemma. It is most likely caused by the fact that these students are more likely to be admitted into more selective schools than Trinity which thus decreases the probability of the student enrolling at Trinity College. However, Trinity should still be exploring ways to increase the probability of these students enrolling, consequently increasing the yield and prestige of the school.

High achieving students make enrollment decisions very similarly to the sample and therefore it is important to explore which factors are most important in the sample's matriculation decision. Admitted students highly value their contact with the college and in order to increase the probability of students enrolling, Trinity should alter certain aspects of the college's communication system. Students highly ranking the school's contact with them after being admitted and their contact with the faculty are much more likely to enroll at Trinity, yet a very small percentage of admitted students consider these attributes to be very good or excellent. Trinity should encourage students to talk to faculty members. Students feeling a personal

connection to a faculty member are more inclined to enroll. Minority, A students, middle-income, and upper-income students all highly value Trinity's communication with them after being admitted, and are more likely to enroll if they consider this attribute to be very good or excellent. In order to increase the probability of students enrolling, Trinity should increase the amount of communication between the admitted student and the college. This communication could include more letters sent to an admitted student; some colleges even call admitted students to further encourage them to enroll at their institution. Trinity is a small school which should employ exceptional communication with the admitted student in order to achieve the highest probability of these students enrolling.

The availability of majors and Trinity's surroundings are two aspects of Trinity that negatively influence a student's decision to enroll. Clearly Trinity's surroundings are a difficult feature to alter. However, many steps can be taken that would result in a student feeling more comfortable on campus. Increasing campus safety or making Trinity a closed campus would result in a student feeling safer on campus, however unless Trinity is physically relocated very little can be done about Trinity's current location.

The availability of majors negatively affects a student's decision to enroll at Trinity. I believe this variable negatively influences a student's matriculation decision because Trinity does not offer business degrees. In my opinion, students who choose to enroll at Trinity that would have liked to major in business choose to major in economics. This belief is supported by the fact that the most popular major at Trinity has been economics for the past 5 years, and economics has been either the first or second most popular major for the past 12 years. If Trinity began offering degrees in business I believe that Trinity would experience a dramatic increase in

the number of applications they received and in their yield rate. Few liberal arts colleges offer degrees in business; therefore this addition would increase the desirability of the school.

Also, students who value the academic facilities and recreational facilities at Trinity are less likely to enroll. This suggests that more money should be spent on improving the quality of these buildings in order to increase the probability of students enrolling.

Due to the low percentage of minority students enrolled at Trinity College it is also important to consider the attributes most influential in a minority student's decision. Minority students care less about college attributes than white and upper-income students, and ultimately want to attend the most prestigious school that offers them the most amount of financial aid. Minority students are much more likely to enroll when offered grants, and much less likely to enroll when offered a loan or a student job. Therefore increasing the amount of grants offered to minority students would increase the probability of them enrolling. While grants positively influenced the probability of the sample enrolling, minority students were more strongly affected by the offering of grants.

Students from incomes under \$60,000 are more likely to enroll than students from middle and upper-income families. Trinity should consider reallocating their financial aid budget and begin offering fewer grants to low-income students and increase the number of grants given to students from families making between \$60,000 and \$200,000. From the table below it is clear that as income increases the probability of a student receiving financial aid decreases; more importantly the probability of the student receiving a grant decreases. Grants are the only type of financial aid that increases the probability of a student enrolling. Indeed, students receiving loans or student jobs are less likely to enroll for the sample and for every subgroup tested.

Table 12:

Income	% Receiving Grants	% Receiving Loans	% Receiving Jobs
Low-Income: Family Income Under \$60,000	88.90%	74.80%	44.70%
Middle-Income: Family Income Between \$60,000-\$99,999	69.90%	52.40%	52.40%
Upper-Income: Family Income Between \$100,000-\$199,999	63.30%	42.00%	41.90%

Much work can be done on this study to further improve the results. Three factors that I believe are very important in a student’s matriculation decision at Trinity were not asked in the survey, and therefore could not be used in my study. Two of these variables include how important personal safety is to the student’s enrollment decision and whether the student plans on participating in a sport at Trinity. Both of these variables were not specifically addressed in the questionnaire. While the variables for the school’s surroundings and the school’s extracurricular activities may have incorporated these characteristics, I believe that it is imperative that these characteristics be directly addressed for both play a key role in a student’s decision to attend Trinity. The third factor that was not addressed in the questionnaire was whether the student was a legacy student. Many Trinity students are legacy students, and therefore I believe that it is important for this aspect to be considered.

Unfortunately, while the survey was given to every admitted student, not every single admitted student completed the survey. Therefore the data may have overrepresented students choosing to enroll. In order to obtain more accurate results, it is necessary for every single admitted student to fill out the questionnaire. In doing so, the data will more accurately represent matriculation decisions for all admitted Trinity College students.

Appendix

Table 1: Descriptions of Variables	
Variable	Description
Enrolling at Trinity	Dummy Variable = 1 if student enrolls at Trinity
Year	The year the study was conducted
Instate	Dummy Variable = 1 if student was from Connecticut
Low-Income Student: Family Income Under 59,999	Dummy Variable = 1 if family income < 60,000 dollars; Dummy Variable = 0 if family income ≥ 200,000 dollars
Middle-Income Student: Family Income Between 60,000-99,999	Dummy Variable = 1 if family income ≥ 60,000 dollars and < 100,000; Dummy Variable = 0 if family income ≥ 200,000 dollars
Upper-Income Student: Family Income Between 100,000-199,999	Dummy Variable = 1 if family income ≥ 100,000 and < 200,000 dollars; Dummy Variable = 0 if family income ≥ 200,000 dollars
Male	Dummy Variable = 1 if student is male
Asian	Dummy Variable = 1 if student is Asian
Hispanic	Dummy Variable = 1 if student is Hispanic
Black	Dummy Variable = 1 if student is Black
Other race	Dummy Variable = 1 if student is American Indian, Alaskan Native, or Other
Public	Dummy Variable = 1 if student went to public school
Sats	Student's combined SAT math and SAT verbal score
High School GPA	Dummy Variable = 1 if student's average high school grades was between 90-100
College's Academic Reputation	Dummy Variable = 1 if academic reputation is very important to the student; Dummy Variable = 0 if academic reputation is somewhat important or not important
Availability of Majors	Dummy Variable = 1 if availability of majors is very important to the student; Dummy Variable = 0 if availability of majors is somewhat important or not important
Personal Attention	Dummy Variable = 1 if personal attention to students is very important to the student; Dummy Variable = 0 if personal attention to students is somewhat important or not important
Academic Facilities	Dummy Variable = 1 if quality of academic facilities is very important to the student; Dummy Variable = 0 if quality of academic facilities is somewhat important or not important
Recreational Facilities	Dummy Variable = 1 if quality of recreational facilities is very important to the student; Dummy Variable = 0 if quality of recreational facilities is somewhat important or not important
On-campus Housing	Dummy Variable = 1 if on-campus housing is very important to the student; Dummy Variable = 0 if on-campus housing is somewhat important or not important
Surrounding	Dummy Variable = 1 if the school's surroundings are very important to the student; Dummy Variable = 0 if the school's surroundings are somewhat important or not important
Campus Attractiveness	Dummy Variable = 1 if the attractiveness of the campus is very important to the student; Dummy Variable = 0 if the attractiveness of the campus is somewhat important or not important
Off-Campus Recreational Opportunities	Dummy Variable = 1 if off-campus cultural and recreational opportunities are very important to the student; Dummy Variable = 0 if off-campus cultural and recreational opportunities are somewhat important or not important
Extracurricular Activities	Dummy Variable = 1 if extracurricular activities are very important to the student; Dummy Variable = 0 if extracurricular activities are somewhat important or not important
College's Academic Reputation	Dummy Variable = 1 if student thought the academic reputation of Trinity was very good or excellent; Dummy Variable = 0 if student thought the academic reputation of Trinity was poor/fair, good, or not used
Availability of Majors	Dummy Variable = 1 if student thought the availability of majors at Trinity was very good or excellent; Dummy Variable = 0 if student thought the availability of majors at Trinity was poor/fair, good, or not used
Personal Attention	Dummy Variable = 1 if student thought the personal attention given to students at Trinity was very good or excellent; Dummy Variable = 0 if student thought the personal attention given to students at Trinity was poor/fair, good, or not used
Academic Facilities	Dummy Variable = 1 if student thought the academic facilities at Trinity were very good or excellent; Dummy Variable = 0 if student thought the academic facilities at Trinity were poor/fair, good, or not used
Recreational Facilities	Dummy Variable = 1 if student thought the recreational facilities at Trinity were very good or excellent; Dummy Variable = 0 if student thought the recreational facilities at Trinity were poor/fair, good, or not used
On-campus Housing	Dummy Variable = 1 if student thought the on-campus housing at Trinity was very good or excellent; Dummy Variable = 0 if student thought the on-campus housing at Trinity was poor/fair, good, or not used
Surrounding	Dummy Variable = 1 if student thought Trinity's surroundings were very good or excellent; Dummy Variable = 0 if student thought Trinity's surroundings were poor/fair, good, or not used
Campus Attractiveness	Dummy Variable = 1 if student thought Trinity was very good or excellent; Dummy Variable = 0 if student thought the academic reputation of Trinity was poor/fair, good, or not used
Off-Campus Recreational Opportunities	Dummy Variable = 1 if student thought the academic reputation of Trinity was very good or excellent; Dummy Variable = 0 if student thought the academic reputation of Trinity was poor/fair, good, or not used
Extracurricular Activities	Dummy Variable = 1 if student thought the extracurricular activities at Trinity was very good or excellent; Dummy Variable = 0 if student thought the extracurricular activities of Trinity was poor/fair, good, or not used
Visit to High School	Dummy Variable = 1 if student thought the visit of Trinity's admission staff at their high school was very good or excellent; Dummy Variable = 0 if student thought the visit of Trinity's admission staff at their high school was poor/fair, good, or not used
Campus Visit	Dummy Variable = 1 if student thought their campus visit was very good or excellent; Dummy Variable = 0 if student thought their campus visit was poor/fair, good, or not used
On-Campus Interview	Dummy Variable = 1 if student thought their on-campus interview was very good or excellent; Dummy Variable = 0 if student thought their on-campus interview was poor/fair, good, or not used
Contact After Admitted	Dummy Variable = 1 if student thought their contact with Trinity after being admitted was very good or excellent; Dummy Variable = 0 if student thought their contact with Trinity after being admitted was poor/fair, good, or not used
Contact with Faculty	Dummy Variable = 1 if student thought their contact with faculty was very good or excellent; Dummy Variable = 0 if student thought their contact with faculty was poor/fair, good, or not used
Prestigious	Dummy Variable = 1 if student thinks Trinity is prestigious
Backup	Dummy Variable = 1 if student thinks Trinity is a backup school
Fun	Dummy Variable = 1 if student thinks Trinity is fun
If Aid is Significant Factor	Dummy Variable = 1 if student thinks aid is significant factor
Applied Need-Based Aid	Dummy Variable = 1 if student applied for need-based aid
Offered Need-Based Aid	Dummy Variable = 1 if student was offered need-based aid
Offered Non-Need Aid	Dummy Variable = 1 if student was offered non-need-based aid
Offered Grants	Dummy Variable = 1 if student was offered grants
Offered Loans	Dummy Variable = 1 if student was offered loans
Offered Jobs	Dummy Variable = 1 if student was offered student job

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