

# The University of Kentucky's Freshmen Summer Program

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# The University of Kentucky's Freshmen Summer Program

The University of Kentucky's Freshmen Summer Program

**Table of Contents**

EXECUTIVE SUMMARY ..... 4

INTRODUCTION..... 5

LITERATURE REVIEW ..... 8

THE FRESHMEN SUMMER PROGRAM.....13

RESEARCH DESIGN ..... 19

ANALYSIS AND FINDINGS ..... 20

DISCUSSION ..... 22

RECOMMENDATIONS.....24

REFERENCES ..... 25

## EXECUTIVE SUMMARY

The substantial growth in the University of Kentucky's African American population since its integration in 1948 by Lyman T. Johnson and difficulties some of these students had succeeding at UK has resulted in increased spending by the university to improve retention. Programs, departments, and scholarships have been implemented to get those of African American descent to not only attend the University of Kentucky, but to leave with a degree. While this has been a pivotal issue here in Lexington as the city has hidden behind the shadow overcast which attempts to cover up the deep racial history marked in the area, successful programs have been implemented. Many studies have focused on comparing the collegiate successes of minorities who participated in the Freshmen Summer Program to those who have not. This paper focuses on identifying a relationship of success at the university not just based on the program, but a commonality that can be seen between individuals that have participated.

More specifically, this study will address the following questions:

- For Students participating in the Freshmen Summer Program, what factors predict success as reflected in graduating and final grade point average?
- For students participating in the Freshmen Summer Program, does receiving a William C. Parker Scholarship make the student more likely to graduate or have a higher Grade Point Average?

The results showed that for predicting success for students in the University of Kentucky's Freshmen Summer Program, being a William C. Parker Scholarship recipient and/or having a good high school GPA means you are likely to be successful in terms of graduating and obtaining a higher final grade point average during your time at the University of Kentucky. They also showed that majoring in a scientific related field leads to lower chances of having a high final grade point average and graduating college.

## INTRODUCTION

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I am studying the factors that lead to success of individuals that participate in the Freshmen Summer Program at the University of Kentucky. I will be seeing if for students in this program, is success reflected in the students who are graduating, and their grade point average. I also will be observing if having a William C. Parker Diversity Scholarship makes the student more likely to graduate or have a higher grade point average.

Students have been known to enter college with a wide variety of academic, personal, and career challenges and issues. Though a portion of the issues can be placed on the student, for those colleges that want to see their students succeed, it is their obligation to properly identify, evaluate, and attempt to alleviate areas of discomfort for students as early as possibly in their collegiate career.

In order to improve the retention rates of a college or university, the institution in question must devise a strategy to properly identify students who they feel require assistance. This institution must then decide what type of assistance these students need. In most cases, institutions of higher learning want to get to these students of need early. They prefer to use a student's high school background information as an early warning system to pinpoint these students of need. Though many factors may be considered, most universities concentrate on categories such as a student's high school grade point average, or how well the student performed on the American College Test (ACT). A low performance in these areas would lead to the university suggesting remedial classwork to be completed before allowing these students to enroll in regular college classes. These

## The University of Kentucky's Freshmen Summer Program

institutions then generate programs in an attempt to meet the needs of these particular students. Once the students of need are properly identified, the type of assistance given to these students can be developed.

In 1968, Dr. Michael Adelstein and Keller Dunn started the Summer College Preparatory Program at the University of Kentucky as a volunteer effort. This recruitment and retention program was designed to prepare African American students for academic success and university life. This program existed until the Office of Minority Affairs assumed this responsibility in 1985. During that year, this program became known as the Freshmen Summer Program. The University of Kentucky began to financially support the program and has offered this as an avenue for UK to improve retention rates of African American students.

The Freshmen Summer Program gives approximately 50 students each year the opportunity to earn up to six college credit hours (Math and English). Over the six-week period in which this program takes place, it allows the participants to see the similarities and differences between the college classes they are about to take, and the high school classes they completed less than a month ago. Taking classes now gives them the opportunity to avoid the likely hurdles one will encounter during the fall semester.

The Freshmen Summer Program also allows students to take a trip to places that most have never been to. Over the past few years, students of this program have visited cities such as Atlanta, Georgia, Chicago, Illinois, and Montgomery, Alabama. This trip, though very social, generally has an educational component to it. Topics discussed or books being read in the English class usually relate to the city being visited.

## The University of Kentucky's Freshmen Summer Program

In addition, the Freshmen Summer Program allows students to live on campus and get a taste of what it is like to stay on a college campus. Students get the experience of living in a residence hall, having a roommate, and getting acquainted with such a large campus. They also are provided a meal plan thus getting an early look at the different dining options made available to them during the school year. This experience allows the students to acquaint themselves with campus, thus not having to worry come fall semester when searching for particular buildings.

During the Freshmen Summer Program, students are required to attend multiple information sessions and workshops that will allow them to familiarize themselves with campus resources and other skills deemed critical to their academic success here at the University of Kentucky. These sessions, coined “success sessions” help students figure out different ways to study and what works for them to be successful. The workshops’ allow students to figure out possible majors and career paths they would like to pursue while in college.

The Freshmen Summer Program also benefits students socially as it grants them the opportunity to meet other students and faculty of the university. This makes such a large campus seem just a little bit smaller when the fall semester begins and thousands of students return to the university.

Since its move over to the Office of Minority Affairs (Now Office of Institutional Diversity) in 1985, the Freshmen Summer Program has always been sponsored by the Center for Academic Resources and Enrichment Services known as CARES. In 2003, the University of Kentucky decided to expand the target population of this program to

## The University of Kentucky's Freshmen Summer Program

include more than just African Americans. This program now includes Hispanic, American Indian, Appalachian, first generation, and low-income students. The number of students serviced by this program has varied through the years. Because of funding issues, the university limits the Freshmen Summer Program to serve a maximum of 50 minority students.

### **LITERATURE REVIEW**

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Daniel Krhin, the Director of Student Support Services at Ripon College in Ripon, Wisconsin once said that the transition from high school to college is so dramatic that many potentially successful students leave simply because they misperceive one or many signs of the college culture. The movie and television industries have brainwashed students into believing that college is one big party with no parents. Scenes of students partying greatly outnumber those of students studying.

American coach, author, and columnist Marty Nemko can support this statement. As a career counselor, Mr. Nemko found out while studying some figures from the United States Department of Education that despite colleges having “dumbed-down” classes to accommodate weak students, among the college freshmen who graduated in the bottom 40 percent of their high school class, 76 out of 100 will not earn their diploma when given approximately 8.5 years to do so. Nevertheless, colleges still admit and take hundreds of thousands of dollars from these students each year. Though they have learned little, these students are now lacking the credentials to certify their learning. From their time in college, students leave having devastated their self-esteem, are hammered by

a mountain of debt, and are forced to work a job that could have been obtained without attending college.

### Tinto's Retention Model

Though his model is very old, Syracuse professor Dr. Vince Tinto became popular in the mid-1970s with his model of student retention. It's popularity can be seen as Tinto's model is used as the basis of many of the reasons that are offered to explain student retention today. Tinto's model has also been cited over 3,000 times in Google scholar. Much of Tinto's research looked at why students dropped out of college. He defines dropout as:

1. Person's who leave the college in which they are registered
2. Person's who never receive a degree from an institution of higher education

In his model, Tinto displayed his central idea of "integration". Tinto claimed that whether a student persists or drops out is quite strongly predicted by their degree of academic integration, and social integration. Tinto stated that these would evolve over time as integration and commitment interact, with dropouts depending on commitment at the time of the decision. To measure these, Tinto's model looked at many things:

- Academic Integration
  - Grade/mark performance
  - Personal development
  - "Do you think you are doing well academically?" (Academic self-esteem).

## The University of Kentucky's Freshmen Summer Program

- Enjoying your subject(s).
  - Enjoying studying your subject(s). i.e. study patterns required/requested are or are not enjoyable
  - Identification with academic norms and values
  - Identification with one's role as a student
- Social Integration
    - How many friends do you have?
    - Personal contact with academics i.e. how many staff know your name, smile at you.
    - Are you enjoying being at the university?

Dr. Tinto analyzed Project Talent Data gathered from 1960-1965. Tinto showed that in his formula to success, academics are only a part of the equation. A student needs to be achieving socially to be what he considers a successful college student.

Rob and Hope Longwell-Rice tested Tinto's theory in 2008. From their study of students at the University of Wisconsin-Milwaukee, they gathered that many universities probably do not have the on-campus community to provide the outside of classroom experiences Tinto mentioned as being successful for the retention of students.

### Bogart's Study

Martha Bogart in her 1993 study took somewhat of a different approach in the factors she believed contributed to success in college. Here is Bogart's plan:

1. Extended orientation to the schools culture

## The University of Kentucky's Freshmen Summer Program

2. Implementation of a freshmen study skills or survival course
3. Careful identification and assessment of at-risk students
4. Collaboration among faculty, staff, and administration
5. Consistent and ongoing effective communication, sharing of information, and feedback among all staff
6. Ability to respond immediately to perceived trends
7. Flexibility to make changes in the program when necessary.

The outcomes of Bogart's program not only produce higher retention rates' but in addition, it creates a community of relationships and bonds for the students. Bogart and Tinto's models both agree in showing that there has to be some social aspect in place for success at the collegiate level.

### John Bean's model

In 1990, John Bean developed a causal model of student attrition. Taking into account empirical and theoretical studies published by those such as Tinto in the 1980s, Bean stated that the background characteristics of students must be taken into account in order to understand their interactions within the institutions of higher education. Bean's model states that the experiences of students in school affect their intentions to stay. In addition, Bean's model identifies the influences of external factors on retention.

Bean's study concluded many things. Most importantly, it found that students leave universities for a variety of reasons but mainly institutional commitment in terms of the universities commitment to the students.

## The University of Kentucky's Freshmen Summer Program

Universities vary in their approach in tackling their struggling and possibly low retention rates. Tinto and Bogart both stated in their studies that the best way to address retention rates is to attack them early. The outcomes of Bogart's program not only produced higher retention rates, but in addition, it created a community of relationships and bonds for the students. Bogart and Tinto's models both reflect agreement that there has to be some social aspect in place for success at the collegiate level.

### Bridge Programs

Pre-freshmen summer bridge programs are programs designed to promote academic and socialization skills necessary for success. While many colleges and universities have programs like this in place, they tend to target different student populations. Most programs target students that are historically underrepresented or those of low socioeconomic status. The basis of many of these programs is Tinto's Social Integration Theory and Beans Student Attrition model. As seen earlier, these models promote positive experiences with the university and an academic preparation prior to beginning freshmen year. These programs have been noted to be vital in orienting at risk students to increase success and retention at universities.

The information in this literature review suggest that considerable variation exist across studies involving what universities should do when facing issues in terms of retention. The most common factors associated with increasing retention rates seem to be some type of educational enrichment program helping students adapt to college life before they officially get there in the fall with some attention to social aspects. There

## The University of Kentucky's Freshmen Summer Program

were many other variables included in many of these studies. However, they were not consistent across all studies.

### **The Freshmen Summer Program**

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The Freshmen Summer Program at the University of Kentucky is a rigorous six-week enrichment program hosted by the Center for Academic Resources and Enrichment Services (CARES). Up until 2004, CARES primarily supported African American students. Later that year, CARES expanded to provide support for other minority groups including those from the Appalachian region of Eastern Kentucky.

The purpose of the Freshmen Summer Program is to smooth the transition from high school to college for students which are lesser represented on this campus. The end goal is that a student who participates in this program will not only have a successful first year at the University of Kentucky, but will obtain a bachelor's degree in four to six years.

The Freshmen Summer Program allows students to take two classes for college credit. Students get the opportunity to take Math 108 (Intermediate Algebra) or 109 (College Algebra) pending on their scores on a math placement exam and obtaining at least an 18 in the math section on the ACT. Other classes are made available to students who received college credit for both classes while in high school.

Students also get the opportunity take an English class. Until the recent change of the university's general studies program to UK Core, students in the Freshmen Summer Program were required to take English 264 (Major Black Writers).

## The University of Kentucky's Freshmen Summer Program

The hope is that students become acquainted with what its like to live on a college campus while attending the Freshmen Summer Program. Students are required to live in a college residence hall, have a roommate, and follow all dormitory rules. Students are also given a meal plan and are expected to be able to properly navigate their way across campus come the programs conclusion.

Lastly, the freshmen summer program is designed to create life-long relationships with numerous students, faculty, and staff. This is in hopes that these relationships will benefit the students educationally or socially during their time here at the University of Kentucky.

For my analysis, Stephanie Mayberry, the Director of the Freshmen Summer Program provided my data. General data for each year of the program was available all the way back to the programs inception in 1984. This data was made available by the University of Kentucky's department of research.

In 2005, CARES changed its mission to serve not just African Americans, but students from various minority groups that existed at the University of Kentucky. I requested the data from students that were in the 2006 Freshmen Summer Program. Seeing that most retention data is given for four and six-year periods, this data was the most recent and complete when taking into account the mission change of 2005. Because the university didn't have this data available for individuals, Mrs. Mayberry looked up each student's information individually. She also did this without help from me so that I would not know the identity of the students for which I had obtained data.

For each student, an extensive list of information was provided and can be seen in the following table:

**Table 1 Variable Description**

Variable	Description
<b>High School Grade Point Average</b>	What was the student's grade point average in high school? This is the best measure available of a student's success prior to college
<b>First Fall to Second Fall Retention</b>	Did the student enroll for the fall semester of his/her 2 <sup>nd</sup> year at the University of Kentucky
<b>Gender</b>	Is the student a male or a female
<b>Minority</b>	Is the student African American, Asian, from the Appalachian region or any other minority group
<b>Major</b>	What was the student's concentration of study
<b>In State or Out of State Resident</b>	Is the student from Kentucky
<b>First Generation College Student</b>	Is the student the first in his/her family to attend college
<b>Graduated</b>	As of March 17 <sup>th</sup> 2013, has the student graduated from college
<b>Final Grade Point Average</b>	What is the student's grade point average upon completion of college

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**William C. Parker Assistance**

Is the student a recipient of the William C. Parker Diversity Scholarship?

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The William C. Parker Diversity scholarship is financial assistance given to minorities at the University of Kentucky. Factors that are considered when it comes to a student receiving this financial reward are high school grade point average, test scores, an essay, leadership experience, extracurricular activities, awards and recognition, community service, and contribution to diversity. This award is renewable for up to four years if the student maintains certain academic requirements. The essay is on the subject of how the student applying feels they can contribute to diversity at the University of Kentucky.

One thing that I adjusted about my data was the major, gender, if they were first generation, and if they were a William C. Parker scholar. Dummy variables were created to help with understanding the data. In the case of majors, each major was assigned a number. Many of the students majors were either undeclared or in a science related field. Many of the other students would be the only ones' with that major (i.e. 1 student majoring in journalism, history, music, etc.). Summarizing categories this way made my data easier to understand.

From the literature review, we know that a students gender, race, if they receive college assistance (financially), and their major impact their success while in college. I decided to look at these statistics and the others provided because everything is a variable

## The University of Kentucky's Freshmen Summer Program

of interest. This is an exploratory study in which for the Freshmen Summer Program, I am trying to see what works and contributes towards their success.

When trying to predict the success of a student in the Freshmen Summer Program, the following regression formula can be used:

$$Y = b_0 + b_1(\text{gender}) + b_2(\text{race}) + b_3(\text{family education}) + b_4(\text{major}) + b_5(\text{scholarship}) + b_6(\text{high school gpa})$$

Two versions of this equation is being used.

$$Y = \text{GPA}$$

$$Y = 1 \text{ if graduating and } 0 \text{ if not}$$

For the former, I estimate equation 1 using ordinary least squares. For the latter, I used a linear probability model instead of logic or probit because of the few number of observations (41) in my data. Using a linear probability model works best for me because it allows me to see the relationship between my dependent variable and multiple explanatory variables.

One thing that I adjusted about my data was the major, gender, if they were first generation, and if they were a William C. Parker scholar. Dummy variables were created to help me use this data in a regression model. In the case of majors, each major was

The University of Kentucky's Freshmen Summer Program

assigned a number. Students' majors varied across the board but a large population of students had a major that was in a scientific related field if they weren't undeclared.

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(Table 2)

**Descriptive Statistics**

<b>Variable</b>	<b>Mean</b>	<b>Standard Deviation</b>
<b>High School GPA</b>	3.23	.507
<b>Female</b>	.683	.471
<b>African American</b>	.951	.218
<b>First Generation</b>	.049	.218
<b>WCP Scholar</b>	.731	.449
<b>Science</b>	.317	.471
<b>Undeclared</b>	.220	.419
<b>Final GPA</b>	2.69	.837
<b>Grad</b>	.707	.461

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N=41 observations

The descriptive statistics for the data are seen above in table 2. There were 41 observations. These observations are all from students that participated in the 2006 class of the Freshmen Summer Program. For Final Grade Point Average, there are only 40

observations as one student left the Freshmen Summer Program and never enrolled at the University of Kentucky.

## Research Design

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The purpose of this paper is to determine if it is possible to predict success in the University of Kentucky's Freshmen Summer Program based on variables of the program and other factors. The data has been analyzed at an individual level. Although there is a large general data set available for the program since its inception in 1984, I selected the 2006 class to analyze because it is the most recent class completed in terms of retention rates and because the university changed CARES (2004) to a department that supports more than just African Americans. The specific variables in my data set were High School GPA, Female, African American, First Generation, William C. Parker Scholar, Science, Undeclared, Final GPA, and Graduation. Female (Gender), African American (Race), Science (Major), and Undeclared (Major), were selected because of how frequent they appeared in the data set. They accounted for 68.3%, 95.1%, 31.7%, and 22% of the students observed.

*Research Question 1: What factors predict success as indicated by final grade point average and graduation in the University of Kentucky's Freshmen Summer Program?*

I addressed this question by analyzing the linear probability model from earlier. I used Final Grade Point Average (Table 3) and Graduation (Table 4) as program outcomes.

## The University of Kentucky's Freshmen Summer Program

In the model for final grade point average (Table 3), the variables female, African American, first generation, scholar, science, undeclared, and high school grade point average are used. In the model for graduation (Table 4), the same variables are used.

*Research Question 2: Does receiving a scholarship make you more likely to graduate or have a higher grade point average?*

The same approach used to answer research question 1 was taken here. The linear probability model from earlier was used to estimate the impact that being a William C. Parker scholarship recipient would have on a student from the Freshmen Summer Program graduating and/or leaving with a higher grade point average.

### **Analysis and Findings**

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The regression results for predicting success at the University of Kentucky's Freshmen Summer Program show that being a William C. Parker Scholarship recipient and/or having a good high school GPA means you are likely to be successful in terms of graduating and obtaining a higher final grade point average during your time at the University of Kentucky. This is not unexpected when looking at data from our literature review. This may be explained by students with higher gpa's in high school learning good study habits and what it takes to be successful at the college level. Seeing that the William C. Parker scholarship is an academic award, students were required to have a certain gpa when they received the award and were required to maintain a certain gpa to keep it. This may fully explain why scholarship and grade point average are related.

**Table 3**

**Final Grade Point Average**

Variable	Coefficient	Standard Error
Female	-.152	.255
African American	.057	.504
First Generation	-.014	.534
Scholar	.621	.286 **
Science	-.630	.270 **
Undeclared	.179	.303
High School GPA	.907	.281 ***

N=41 observations

\*\*\*p<0.01      \*\*p<0.05      \*p<0.10

From running this regression the data shows that students on the William C. Parker Scholarship have on average a 0.62 higher grade point average. Science majors have on average a 0.630 lower grade point average. It can also be seen that High School grade point average and college grade point average correlate at 0.91. Both the scholar and science categories are significant when the p-value is .05 and high school grade point average is significant when the p-value is .01.

**Table 4**

**Graduation**

The University of Kentucky's Freshmen Summer Program

Variable	Coefficient	Standard Error
Female	-.184	.132
African American	.004	.266
First Generation	-.080	.283
Scholar	.305	.151 **
Science	-.223	.142
Undeclared	-.232	.154
High School GPA	.476	.143 ***

N=41 observations

\*\*\*p<0.01      \*\*p<0.05      \*p<0.10

From running this regression the data shows that students on the William C. Parker Scholarship have a 0.31 greater probability of graduating. One can also see that a 1-point increase in grade point average raises the probability of a student in the program graduating by 0.48. Scholars were found to be significant when the p-value is .05 and high school grade point average was when the p-value is .01.

## Discussion

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There were several limitations related to this study. Most of this can be credited to a change in the mission of CARES. With the department serving more than just African Americans after 2004, data started being collected differently. Previous studies focused more of the success of those who participated in the Freshmen Summer Program

## The University of Kentucky's Freshmen Summer Program

compared to students who did not. Here I focus on how the characteristics of students in the program affect their success. The main statistics of concern were retention rates and graduation rates. It is reasonable to believe that not only does the Freshmen Summer Program have an impact on if a student graduates, but high school gpa and if the student is on scholarship do also. However, even then, it may be that students on scholarship work harder to keep and that is why college gpa is higher. That's not necessarily an issue of bias on impact of the scholarship but it is the most likely explanation of this effect.

I would have preferred to have individual data of students before 2004 so that I could have compared them to see if expanding the program to different minorities has had some effect on the program. This would have allowed me to understand if this change had some type of impact.

The time period also limited me on data available to use. Because graduation rates are accurately typically measured after six years, I wasn't able to use any data after the summer of 2006. I also had to account for the 2004 change in the population the Freshmen Summer Program was supporting so the only other year I could have used was 2005.

Freshmen Summer Program classes being low in number also limited me in my study. I used a linear probability model rather than a probit or a logic model because of the small number of observations.

## The University of Kentucky's Freshmen Summer Program

Lastly, the William C. Parker offers various levels of assistance. I would have liked to see the effects the different scholarship packages have on students that participate in the Freshmen Summer Program. The William C. Parker Scholarship offers the following scholarship packages:

1. Partial Tuition
2. Full Tuition
3. Full Tuition with Room and Board
4. Full Tuition with Room and Board and Book Stipend

### **Recommendations**

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From looking at the data, I recommend that the university take interest in the high school education of students that would possibly be attending the University of Kentucky and the Freshmen Summer Program. The data shows that there is a very positive correlation between high school grade point average and college grade point average.

I also recommend that more students receiving the William C. Parker scholarship be selected for the Freshmen Summer Program. The data supports this in showing that those on scholarship had a higher grade point average and a higher chance of graduating from college.

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