

Work in Progress - Factors African American Males Consider When Choosing a Graduate School: Implications for Science and Engineering Fields

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Abstract – Analyzing survey data from a national sample of 672 Black men, this study investigated the factors they consider when choosing a graduate school. Academic reputation, aid awarded, and proximity to home were considered most frequently and STEM major was correlated with 5 of the factors ($p < 0.05$). Results offer ideas about broadening participation among Black men.

Index Terms – African American, graduate students, men, STEM.

INTRODUCTION

College student retention is a major policy issue in American higher education. Countless studies have been conducted, to date, examining the “departure puzzle” [1] with most attention given to undergraduates (UGs) [2] and, more recently, those majoring in science, technology, engineering, and math (STEM) fields [3]-[4]. Studying factors that influence graduate students’ success also is important as graduate student attrition is associated with loss of department resources [5]-[6], shortage of scientists and engineers [7], and even long-term effects such as loss of productivity [8], and self-esteem [9].

According to Lovitts, “Most graduate programs have responded to the problem of graduate student attrition by placing greater emphasis on selection, assuming that if they could only make better admissions decisions, attrition rates would decline” [10]. Emphasizing the selection process suggests that decisions made prior to enrollment are related to graduate student success, decisions such as why graduate students choose to attend a particular school (hereafter “graduate college choice” or GCC). Perhaps by understanding more about GCC, educators can leverage such information to broaden participation in STEM fields among historically underrepresented minorities (URMs). In particular, this study focuses on African American (AA) men who are disproportionately underrepresented in higher education. Statistics indicate that only 43% of AA men graduate from high school, less than 25% (ages 18-24) enroll in college, and more than two-thirds who start never finish their college degree, which is the highest attrition rate among all races and both sexes [11]. Thus, today, AA men make up only 4% of all UGs, 3% of all graduate students, and the number of AA men enrolled in graduate fields like astronomy, earth science, and aerospace engineering is a

“single digit,” according to NSF’s *Science and Engineering Indicators* report. More information is needed to understand these trends.

PURPOSE

The purpose of this study was to examine the factors that AA men consider when choosing a graduate school. Two research questions (RQ) guided the analyses: (a) What GCC factors do AA men consider most frequently when choosing a school? (b) What is the relationship between being a STEM major and the GCC factors AA men consider?

METHOD

As part of a larger study funded by the NSF that consists of both quantitative and qualitative components, this analysis presents only survey findings from Phase 1 of this multi-year project.

Sample

The sample consisted of 672 AA male graduate students. The mean age was 30.27 ($SD=7.70$) and participants reported few dependents ($M=0.50$, $SD=0.97$). The mean UG GPA was 3.14 ($SD=0.43$), mean GGPA was 3.35 ($SD=0.94$), and average time-to-degree in graduate school was 3.61 ($SD=2.04$). Additional information describing the sample is shown in Table 1.

Data Collection and Analysis

Data were collected using an electronic survey, which was developed by the author for the purposes of the study. Working through national (e.g., National Society of Black Engineers) and professional (e.g., graduate deans) listservs, online social networks, and graduate faculty members across the nation, the author sent electronic invitations to those who met the sampling criteria. Of the total number of people who accessed the website, there were 672 usable responses, yielding a 65% response rate. The survey consisted of 64 items designed to measure aspects of the graduate school experience. One major section (12 items) elicited information about factors considered when choosing a graduate school; this is the focus on the present study.

Data analysis proceeded in two stages. First, descriptive statistics and frequencies were calculated to answer RQ1. Then, correlations were computed to answer RQ2.

TABLE 1
DESCRIPTION OF SAMPLE (N = 672)

Variables	%
<i>Academic</i>	
Graduate status at survey	
Recently graduated	23
Currently enrolled/other	77
Full-time	81
Part-time	19
Graduate degree type	
Master's degree	49
Doctoral degree	43
First-professional degree	8
Had assistantship?	
Yes, research assistant	39
Yes, teaching assistant	24
Graduate institutional type	
PWI	87
HBCU	5
HSI	2
Other	6
<i>Demographic</i>	
Marital status	
Single	69
Married	29
Divorced/widowed	2
Mom's educational attainment	
High school degree or less	52
AA or BA	30
Advanced degree	18
Dad's educational attainment	
High school degree or less	60
AA or BA	22
Advanced degree	18

Note. PWI = predominantly White institution. HBCU = historically Black college/university. HSI = Hispanic-serving institution. AA = associate's degree. BA = bachelor's degree.

RESULTS

Results indicate that AA men do not consider GCC factors equally when making graduate school decisions. For instance, a majority of respondents indicated considering the "academic reputation of the institution" (74%) and the "type/amount of aid awarded" (62%). Relatively few, however, considered "advice from parents" (9%) or siblings (4%); a larger majority considered advice from other graduate students (39%). Perhaps surprisingly, less than one-third considered *US News and World Report* rankings. Table 2 presents a summary of the results.

Correlation results revealed 5 statistically significant relationships. For instance, AA men whose UG majors were in STEM fields reported considering "advice from parents," as well as institution and program rankings more than their non-STEM counterparts, indicating that AA men in STEM and non-STEM fields may differ in terms of their decision-making process. Additionally, being an UG STEM major was associated with not considering "time-to-degree" and "number of minority faculty." Table 3 presents a summary of the correlation analysis.

TABLE 2

FACTORS CONSIDERED WHEN CHOOSING GRADUATE COLLEGE

Factor	% Yes
Institution's academic reputation	74
Type/amount of aid awarded	62
Proximity to home	40
Advice from other graduate students	39
Time-to-degree	37
Advice from teachers/counselors	35
Program's ranking in <i>US News</i>	29
Institution's ranking in <i>US News</i>	23
Number of minority students at institution	16
Number of minority faculty at institution	14
Advice from parents	9
Advice from siblings	4

NOTE. N = 672.

TABLE 3

CORRELATION OF STEM MAJOR WITH GRADUATE CHOICE FACTORS

Factor	r
Institution's academic reputation	0.01
Type/amount of aid awarded	-0.04
Proximity to home	-0.05
Advice from other graduate students	-0.07
Time-to-degree	-0.11**
Advice from teachers/counselors	-0.01
Program's ranking in <i>US News</i>	0.11**
Institution's ranking in <i>US News</i>	0.10*
Number of minority students at institution	0.07
Number of minority faculty at institution	-0.10*
Advice from parents	0.10*
Advice from siblings	-0.02

NOTE. N = 672.

* $p < 0.05$. ** $p < 0.01$.

CONCLUSION

Survey results from the national sample indicate that the academic reputation of the institution, type/amount of aid awarded, and proximity to home are most frequently considered by AA men when choosing a graduate school. Graduate deans, faculty members, federal agencies, and current graduate students could benefit from these findings. For instance, graduate deans who hope to increase enrollment among AA men might provide additional information about the academic reputation of their institution, the type/amount of aid available, as well as expose aspiring students to those who are currently enrolled. Although more research is needed, some of which is underway already as a part of this research program, this study provides an initial foray into the factors AA men consider and how that information can be used by college student educators. Future work will examine the extent to which GCC factors predict success in graduate school as measured by grades, retention, and degree attainment.

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