

Factors Influencing Career Choices of Ethnic Minorities in Agriculture



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Abstract

The purpose of this study was to identify and describe factors that are related to African American and Hispanic graduates' decisions to choose (or not to choose) a career in agriculture or a related field prior to and/or after college. When respondents enrolled in their first agriculture-related course did not have a major effect on the probability that they would select an agriculture-related career. This suggests that the college experience can have a positive effect on students' career choice. Having people of color to encourage respondents to consider an agriculture-related career increased respondents' likelihood of pursuing an agriculture-related career. Having actual or perceived limited job opportunities in agriculture led respondents to choose careers other than agriculture and related fields.

With this knowledge, college personnel should take a more active role in the process of students' career choices. This can be done through educating students more about career opportunities (the teaching and advising process), better mentoring and enhanced interaction with leaders in the career field.

Introduction

Five major challenges face the U.S. agricultural industry in the next decade: (1) maintaining an agricultural system that is highly competitive in the global economy; (2) balancing agricultural production and the environment; (3) providing a safe and secure food supply for all citizens; (4) maintaining a healthy, well rounded population; and (5) increasing economic opportunities and improving the quality of life of all Americans (Agriculture Fact Book, 1998).

The expanding world population is increasing the demand for food and fiber; however, increasing productivity in the highly efficient U.S. agricultural sector is expected to meet domestic and export requirements easily with fewer but larger farms (U.S. Department of Labor, 1996). Agricultural institutions must play a vital role in the training of talented

young men and women if the United States is to maintain its leading role in agriculture (Zoldoske, 1996). Agriculture is the United States' largest employer, with more than 22 million people employed in some phase from growing food and fiber to selling agricultural products at the retail level (American Farm Bureau, 1998). But, the demand for graduates, particularly minority individuals, in this field continues to exceed supply. Demographic trends indicate that minority populations are increasing; therefore, more minority students must be recruited into agriculture careers in order to sustain the agricultural industry for the future and to help ensure that the U.S. remains competitive in the global economy (Agriculture Fact Book, 1998; Mitchell, 1993).

Declining minority enrollment in undergraduate and graduate programs in recent years compounds the challenge of increasing enrollment in agriculture-related fields (Gwynn and Thompson, 1990). To reverse the trend wherein fewer individuals, particularly minorities, are pursuing agriculture-related careers and to dispel the myths about the field, educational leaders must understand the motivational factors and rewards that lure people to a particular career (Zoldoske, 1996).

To sustain agriculture at its current status, recruitment of outstanding individuals must be enhanced. To enhance recruitment, more effective recruitment strategies must be implemented. To develop effective recruitment strategies, it is necessary to research students' decision-making processes and their images of agriculture (Lucas, 1993).

In a qualitative study of 20 undergraduate students in the Midwest, Fisher and Griggs (1994) concluded that career development profiles of Whites tend to be influenced by objective factors (socioeconomic status, intelligence quotient, family occupational status) while the profiles of minorities tend to be influenced more by subjective indicators (personal efficacy, educational aspirations, perception of

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opportunity structure, support and influence of significant others). But, in an earlier study of 36 purposefully selected departments of agricultural education in the United States (included 1862, 1890, land grant and non-land grant institutions), Bowen et al. (1991) found that nothing different or special was being done in most of the departments for recruitment and/or retention of undergraduate or graduate students from diverse populations. Also, they found that universities that emphasized recruitment of diverse populations tended to be in states with highly diverse populations.

Mitchell (1993) suggested that minority students often decide to select agriculture as a career at a later stage in their education or lives, and rather than choosing agriculture as a major in their college freshman year, they often transfer into the discipline. This sometimes causes minority individuals to have to undergo a critical period of adjustment wherein they must become acclimated to or learn the basics of the field while their classmates from the majority population may have been acclimated to the field all of their lives. This puts minority students at a disadvantage academically and increases the challenge of getting more minorities involved in agriculture-related careers. Because of their potential disadvantaged status, these individuals often choose to pursue careers for which they are more prepared or with which they are more familiar. Mitchell states further that to continue to increase minority student enrollment in agriculture at an earlier stage, the need exists to know what factors influence minority students to declare a major in agriculture.

Materials and Methods

The research design applied in this study was *ex post facto* (causal-comparative method), which is appropriate when attempting to determine cause and effect relationships between events that have already occurred; that is, causes are studied after they presumably have exerted their effect on another variable (Gall et al., 1996).

The population for the study was all African American and Hispanic graduates who received an undergraduate degree in an agriculture-related discipline from Texas A&M University from May 1990 through December 1997 (N = 551) as identified by the Texas A&M University Former Students Association (Association of Former Students Database, Texas A&M University, 1999). Texas A&M University is a comprehensive, Research One institution offering 26 major programs in agriculture-related fields. The University faculty is 5% Hispanic and 3% African American. This includes tenure track and non-tenure track faculty. The current student population in the College of Agriculture and Life Sciences is 7% Hispanic and 2%

African American.

The study's population was selected because the researchers desired to study a group that may have similar characteristics to prospective students today in terms of career interests, background, motivation, and perceptions of agriculture-related fields. Also, the researchers sought graduates who would have had at least one year on the job market.

The graduates' data did not provide the specific ethnic breakdown of the population; however, based on data from the Texas A&M University Student Information Management System (SIMS) and on self-reported information from respondents, the ethnic breakdown of the target population was determined to be Hispanics (n = 437; 79%), African Americans (n = 94; 17%), and biracial or undisclosed (n = 20; 4%).

The ethnic breakdown of the responding sample somewhat mirrored the ethnic breakdown of the target population: Hispanic (n = 95; 68%), African American (n = 29; 21%), and Biracial (n = 14; 10%). One respondent (1%) did not report ethnic information.

Though the term Hispanic may not be accurately inclusive of all individuals involved in this study, the authors used this term since it is the official designation used by the U.S. Census and the state of Texas to describe individuals of Spanish, Latin American, or Spanish-Indian heritage. The authors realize that some individuals in the study do not prefer to be considered strictly Hispanic, but may prefer Latino, Latina, Spanish, or some other specific related ethnic designation.

The survey used in this study was developed using similar questionnaires found in the literature as a guide. Career choice factors studied were those that appeared frequently in the literature. The questionnaire used was divided into three parts.

Part I sought information about the respondents' personal characteristics, which focused mainly on demographic information. Primarily, respondents were asked to check or circle the appropriate answers or to write a numerical answer in the space provided. Specifically, the characteristics investigated were gender, age, place of birth, marital status, number of children, family background, ethnic group membership, level of income, and grade level wherein the respondent's first agriculture-related class was taken.

Part II sought information about the respondents' professional characteristics as related to their career path, particularly a career in agriculture. Questions were both fixed-response and open-ended. For the data analysis stage, open-ended questions were categorized and grouped to facilitate coding of responses.

Part III was a 30-item career factor survey using a

five-point Likert-type scale designed to determine level of influence that selected factors had on the respondents' choice of their current career. Numeric values and levels of influence were (1) no influence, (2) slight influence, (3) moderate influence, (4) high influence, and (5) extreme influence.

A panel of five experts screened and reviewed the instrument for content and clarity; 15 master's and doctoral students pilot tested the instrument for readability and clarity. The instrument was deemed to have content and face validity. The SPSS^x procedure RELIABILITY (SPSS, Inc, 1986) was used to determine the internal consistency of the instrument. Cronbach's coefficient alpha for the 30 career choice factors on the instrument was found to be 0.85, which made the test sufficiently reliable (Cronbach, 1951).

Questionnaires were mailed to 551 graduates; 15 were returned as undeliverable because of an insufficient or incorrect address. A follow-up post card was mailed to non-respondents one month after the initial mailing. Also, the researchers sent follow-up letters two months after the initial mailing to non-respondents. Follow-up correspondence yielded additional responses.

Of the 536 questionnaires presumably delivered to addressees, 139 completed questionnaires were returned, yielding a 26% return rate. According to Clausen and Ford (1947), non-respondents are assumed to be similar to late respondents. Thus, early respondents can be compared to late respondents to determine if any differences exist between respondents and non-respondents. Comparison of late respondents to early respondents in this study yielded no statistically significant differences. Therefore, the responding sample was deemed to be representative of the target population. Data were analyzed using the Statistical Package for Social Sciences (SPSS^x) (1986). An alpha level of 0.05 was used to determine statistical significance.

Results and Discussion

In this study, researchers investigated the impact of 30 career choice factors. Findings stated here will

focus on the impact of significant others, time of exposure to an agriculture-related career and the impact of exposure to an agriculture-related career.

Researchers have documented that significant others, particularly parents and teachers, and the impact of role models play two of the

most critical roles in the career decisions of youth. In the review of literature, parents, teachers and counselors were found to be almost twice as influential in one's choice of agriculture as a career as other factors listed.

Table 1 lists, by category, those people of color identified as significant others (role models) in this study. Those listed included professors, advisors, professional staff (non-faculty) at higher education institutions or secondary schools, industry professionals in agriculture-related careers, agriculture teachers, family members, high school counselors and others who may have influenced the respondents in their career paths. Respondents identified government representatives, friends, health care professionals and coworkers as additional significant others not listed in the questionnaire.

Excluding the category of "none," most respondents identified professors and advisors as the people of color in an agriculture-related career who served as a role model to them, as indicated in Table 1. Professors were identified by 36% of the respondents, and advisors were identified by 24% of the respondents as people of color in an agriculture-related career who served as a role model for the respondents. Thirty-three percent of the respondents indicated that no people of color in an agriculture-related career had served as a role model to them. High school counselors in an agriculture-related discipline were identified least frequently (1%) of those listed. Some subjects identified multiple role models.

The target group also was asked to identify people of color, regardless of their profession, who encouraged respondents to pursue an agriculture-related career. Some respondents identified multiple individuals who encouraged pursuit of an agricul-

Table 1. People of Color in an Agriculture-Related Career Who Served as a Role Model for Respondents²

Role Model	% of Respondents
Professors	36
Advisors	24
Staff	8
Industry Professionals	18
Teachers	12
Family Members	19
High School Counselors	1
Government Representatives	2
Friends	1
None	33

²Some subjects identified multiple role models.

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ture-related career. A plurality of individuals (38%) indicated that no people of color, regardless of their profession, had encouraged them to pursue an agriculture-related career. Family members were identified by 27% of the respondents, and professors were identified by 27% of the respondents as people of color who had encouraged them to pursue an agriculture-related career. Again, the number of respondents who identified high school counselors as individuals who encouraged them to pursue agriculture was low (2%).

As shown in Table 2, on the Likert-type scale used in the study, respondents ranked influence by others as having a slight influence to moderate influence (Mean = 2.27) on choosing their current career. However, in terms of this career choice factor, the difference between those employed in an agriculture-related career and those not employed was not statistically significant ($p = 0.17$).

In considering the role of significant others in graduates' decisions to choose or not choose a career in an agriculture-related discipline, the difference

between those whose father's occupation was in an agriculture-related job and those whose father's occupation was not in an agriculture-related job was statistically significant ($p = .00$). Of the 20 respondents whose fathers were employed in an agriculture-related occupation, 16 individuals (80%) themselves were employed in an agriculture-related occupation; only four (20%) were not. Of the 118 respondents whose fathers were not employed in an agriculture-related occupation, 28 individuals (24%) themselves were employed in an agriculture-related occupation; whereas, 90 individuals (76%) were not.

This finding suggests that having a father whose occupation is agriculture-related strongly increases the likelihood that the child will pursue an agriculture-related career as well, and having a father whose occupation is not agriculture-related strongly increases the likelihood that the child will not pursue an agriculture-related career.

The difference between those who identified someone who encouraged them to pursue agriculture as a career compared to those who did not was statistically significant ($p = 0.03$). This suggests that, in terms of the impact of significant others on influencing one to pursue an agriculture-related career, having someone of color (regardless of his or her profession) to encourage an individual to pursue an agriculture-related career makes a substantial impact on one's decision to pursue such a career.

The conclusions found in this

Table 2. Respondents' Perception of Level of Influence of Selected Career Choice Factors on Their Decision to Pursue

FACTOR	No Influence	Slight Influence	Moderate Influence	High Influence	Extreme Influence	Mean
Work Conditions	6	9	16	65	43	3.94
Use of Skills	5	8	27	64	34	3.83
Decision Participation	8	7	28	54	41	3.82
Work Environment	6	9	33	49	42	3.81
Autonomy	7	6	36	62	25	3.68
Advancement Opportunity	15	12	22	48	42	3.65
Interaction with Others	7	12	38	52	30	3.62
Fulfillment of Goals	11	10	35	50	32	3.59
Problem Solving	11	15	24	59	30	3.59
Use of Technical Skills	9	11	40	52	26	3.54
Creativity	14	16	29	56	24	3.43
Societal Influence	17	16	36	33	35	3.39
Personal Recognition	11	21	44	35	28	3.35
Independent Work	18	14	38	44	25	3.32
Salary	15	13	49	38	23	3.30
Retirement Pay	21	21	27	39	31	3.27
Prestige	13	20	39	50	17	3.27
Exposure to Careers	21	10	51	41	16	3.15
Merit Pay	29	18	36	33	23	3.02
Prior Work Experience	34	20	30	31	24	2.94
Job Opportunities	54	12	26	24	20	2.59
Proximity to Family	58	13	24	21	23	2.55
Work Environment	50	17	31	32	9	2.52
Experimental Exposure	42	32	39	20	6	2.40
Influence by Others	53	28	34	15	9	2.27
Political Involvement	57	31	22	20	8	2.21
Physical Challenge	71	21	26	14	7	2.03
Academic Rigor	78	22	20	10	7	1.88
Job Convenience	83	22	17	9	7	1.80
Mental Challenge	100	15	12	11	1	1.55

Legend:
 LEVEL OF INFLUENCE FACTOR VALUE
 No Influence 1
 Slight Influence 2
 Moderate Influence 3
 High Influence 4
 Extreme Influence 5

study regarding the impact of significant others adds credence to Byler (1987), Fisher and Griggs (1994), Shipp (1992), and other studies which found that support and influence of significant others played a vital role in students' career choices. Minority students, especially, have been found to be impacted substantially by the influence of significant others. Having people of color, regardless of their profession, to encourage respondents to consider a career in an agriculture-related field increased respondents' likelihood of pursuing an agriculture-related career.

Considering the population in this study, when (pre-high school, high school, or college) an individual enrolled in his or her first agriculture-related class was not statistically significant in his or her deciding to pursue or not to pursue an agriculture-related career. Most of the respondents (63%) did not enroll in their first agriculture-related class until college. A small percentage (8%) enrolled in their first agriculture-related class at the elementary/middle school level. The remaining group (29%) enrolled in their first agriculture-related class in high school. Of the 72 respondents who were previously or currently employed in an agriculture-related job, a slight majority (51.4%) did not decide to pursue an agriculture-related career until after they enrolled in college, and a small percentage (5.6%) decided to pursue an agriculture-related career after college graduation. Eight respondents (11.1%) indicated that they made that decision prior to high school, and 23 respondents (31.9%) indicated that they made that decision during high school.

Given other populations, the college experience may have a positive effect on students' career choice and may make a difference in a student's career decision. For instance, Byler (1987) found that prior work experience, extracurricular activities, teacher expectations, completion of high school or college courses, suggestions from high school or college teachers or advisors and suggestions from significant others all were important considerations in one's career choice.

Myers and Caruso (1992) state the importance of preparing students of color to enter their career fields. Doing so contributes to the economic strength of an institutional community and graduates become able to contribute to the productivity of the work force. Myers and Caruso further state that institutions have the responsibility to prepare students for life after college through programs and services which encourage graduate study and/or facilitate effectiveness in employment.

Incidentally, on the Likert-type scale used in the study, respondents, as a group, ranked exposure to agriculture-related careers (having been exposed to and gaining an appreciation of available careers in the field) as having a moderate influence to high

influence (Mean = 3.15) on choosing their current career. But the difference noted between those who pursued an agriculture-related job and those who did not pursue an agriculture-related job was not statistically significant in terms of previous exposure to careers.

College provides individuals with prior work experience in a career field and experimental exposure to careers through such experiences as internships, cooperative work programs and career fairs. Therefore, the researcher compared the differences found in prior work experience, experimental exposure to careers, and exposure to careers between those who currently were pursuing agriculture-related jobs and those who were not pursuing such careers.

In choosing their current career, respondents, as a group, using the Likert-type scale in the survey, ranked prior work experience in an agriculture-related career as having slight influence to moderate influence (Mean = 2.94). They ranked experimental exposure to careers as having a slight influence to moderate influence (Mean = 2.40), and they ranked exposure to careers as having a moderate to high influence (Mean = 3.15). However, the differences in these factors for individuals currently pursuing an agriculture-related career and those not pursuing an agriculture-related career were not statistically significant. Alpha levels for these factors were 0.52, 0.46 and 0.71, respectively.

Having limited job opportunities in agriculture careers (unable to find suitable employment in one's previously selected "ideal" career) led respondents to choose a career other than one in an agriculture-related field. In terms of perceived job opportunities available, a statistically significant difference was found between those employed in an agriculture-related job and those not employed in such a career. All of the respondents had received a degree in agriculture, but since most of the respondents were not in an agriculture-related career, this may suggest that they desired an agriculture-related career (previously selected "ideal" career) but did not find their ideal job in that field because of limited opportunities.

Compared to those employed in an agriculture-related career, those not employed in an agriculture-related career tended to be influenced to a greater extent by retirement plan (being guaranteed a comfortable retirement income) and job opportunities (unable to find suitable employment in one's previously selected "ideal" career).

This finding supports Henry (1992), who found that motivational factors ranked highest among respondents in choosing a teaching career were retirement plan, work conditions and advancement opportunities. Also, Zoldoske (1996) found that

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respondents ranked autonomy and retirement plan highest among motivational factors for choosing an agriculture-related career.

Summary

Due to the dwindling participation of people of color in agriculture-related careers and the substantial demographic percentage increase that this population is expected to make in the next decade, those charged with perpetuating the United States' leadership role in the area of agriculture and related fields should continue to find ways to enhance participation of this group. Based on findings in this study, early exposure did not play a critical role in one's decision to pursue agriculture; however, people of color should continue to encourage individuals (at various stages of their career development) to pursue an agriculture-related career since this was shown to have a positive impact on promoting participation in the industry.

College personnel should take a more active role in the student decision making process. Colleges should seek to make a greater impact on students in the career choice, especially since many students of color don't decide to enroll in an agriculture-related class or pursue an agriculture-related career until college. Impact in this process can be made through teaching, mentoring and providing enhanced interaction with leaders already in the career field.

Researchers have documented that significant others, particularly parents and teachers, and the impact of role models play two of the most critical roles in the career decisions of youth. Parents, teachers, and counselors were found to be almost twice as influential in one's choice of agriculture as a career as other factors listed.

In the present study, the role of significant others (i.e., people of color who encouraged individuals to pursue agriculture as a career) was found to be statistically significant regarding the respondents' choice of an agriculture-related career. Therefore, this supports the suggestion that these significant others should gain greater understanding and appreciation for agriculture-related careers, and that they should be involved to a greater extent in promoting people's of color involvement in agriculture and related fields at various stages of development. They should continue to encourage youth to consider agriculture-related fields as a career option. In this study, fathers who were employed in an agriculture-related career, for instance, were found to make a positive impact on their children's decision to pursue agriculture as a career. Therefore, fathers pursuing an agriculture-related career should encourage their children to consider a career in an agriculture-related field if a potentially suitable career option exists in the field. College personnel should continue to seek a

more active partnership with the aforementioned entities that could assist graduates in their career choice process.

Faculty should help insure that students are aware of the numerous job opportunities available and enlighten students on the availability of competitive employment options. Since prospective employees (based on findings in this study) may perceive that employee benefits in agriculture-related careers are not as competitive as they desire, college personnel should be instrumental in helping employers to be more aware of this perception and to make benefits in their particular organizations more competitive with jobs in other careers in order to enhance potential participation in agriculture-related careers.

As Mitchell (1993) suggested, people of color often decide to pursue agriculture related professions in later stages of their lives and often do not enroll in related courses until college. In order to provide sufficient incentives for people of color to decide to pursue agriculture related careers after college, faculty and other college personnel should consider the findings of the current study and other related studies in order to maximize the effects of students' education and exposure to agriculture-related careers.

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