

How Does 4-H and FFA Involvement Impact Freshmen Enrollment in a College of Agriculture?

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Abstract

This study focused on entering freshmen attending a college of agriculture at a Southern Land-grant university and the primary purpose was to determine the impact that prior involvement in 4-H and FFA had on the freshmen's decision to attend the college. Of the participants who indicated prior 4-H involvement, a family member was ranked as the highest influencer with 4-H Camp Experience ranked as the second most influential factor. Those previously involved in FFA reported that an agricultural education teacher was the most significant influencer in their decision to attend college. Furthermore, a friend was the second greatest source of influence; guidance counselor was the least influential.

Introduction

The agricultural industry is one that is constantly evolving. According to the Food and Agriculture Organization of the United Nations (2009), agriculture productivity will have to increase by 70% by 2050 to feed the world's constantly growing population. In turn, agricultural industries are increasing their workforce to accommodate the food and fiber needs of today's society (Krogstad, 2012). According to a study by the USDA National Institute of Food and Agriculture, the U.S. economy will produce approximately 54,400 jobs between 2010-2015 (Goecker, et al., 2010). To address the fact that the agriculture industry is seeking a substantial number of new hires to meet global workforce needs, the number of students matriculating to agricultural colleges should be studied. Specifically, the need to better understand factors influencing student interest and enrollment in colleges of agriculture warranted this study.

This study focused on entering freshmen attending the University of Georgia's College of Agricultural and Environmental Sciences (CAES) and their reasoning for attending CAES. Previous research has shown that prior agricultural experiences play a role in the decision-making process students undertake when determining whether to attend an agricultural college (Christmas, 1989; Donnermeyer and Kreps, 1994; Esters and Bowen, 2005; Wildman and Torres, 2001). Studies have further shown that prior involvement in agriculturally related youth organizations, such as 4-H and FFA, results in higher retention rates among students enrolling in agricultural colleges (Dyer et al., 1996; Dyer and Breja, 1999; Dyer et al., 2000). However, little research has been conducted addressing the role prior involvement in these organizations has played on student enrollment in colleges of agriculture.

Youth across Georgia contribute significantly to the enrollment numbers within both 4-H and FFA. Georgia FFA's membership consists of 37,684 students ("Georgia FFA Organization," 2015) and ranks third in the nation in terms of FFA membership ("National FFA Organization," 2012). Furthermore, Georgia 4-H programming serves more than 175,372 youth across the state ("Georgia Cloverleaf 4-H," 2015).

Determining the impact prior agricultural experiences (4-H and FFA) have on an individual's decision to enroll in colleges of agriculture and specifically, the University of Georgia's CAES is of utmost importance for college recruiters. By defining the connection between prior 4-H and FFA experiences, recruitment strategies can be developed that addresses the interests and needs of those with involvement in these organizations. Adjusting current recruitment strategies could lead to a larger

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number of individuals receiving a bachelor's degree from CAES and could help develop a recruitment model useful to other colleges of agriculture.

Theoretical/Conceptual Framework

The theoretical framework for this study was rooted in the work of the Social Learning Theory of Career Decision-Making. This theory addresses how educational and occupational decisions are made. More specifically, the Social Learning Theory of Career Decision-Making is divided into four areas that influence career decisions. These areas include: (1) genetic endowments and special abilities (gender, race, characteristics, etc.); (2) environmental conditions and events (social, cultural and economic forces); (3) instrumental and associative learning experiences; (preceding circumstances/stimulus, consequences, etc.) and (4) task approach skills [personal standards of performance, work habits, etc.] (Mitchell and Krumboltz, 1990). Before students can pursue a particular career path, they must first decide on an area of study in college. The four components of this theory guided the data collection efforts of this study, which sought to understand the elements of 4-H and FFA that influenced students' academic career decisions.

Previous research posits that youth involvement in 4-H and FFA does influence students' choice to enroll in an agricultural college. Russell (1993) stated: *"To expand the pool of youth seeking undergraduate and graduate degrees in Colleges of Agriculture, it makes sense to give top priority to reaching youth who have already received positive pre-college experiences in youth programs addressing agricultural and environmental topics"* (p. 14). Prior experience with agriculture was ranked as the second most influential factor in terms of agricultural college enrollment (Donnermeyer and Kreps, 1994). Students that received a large number of awards and recognition in organizations such as FFA and 4-H were more likely to major in agriculture (Tarpley and Miller, 2004). Additionally, 59% of an entering freshmen class at Montana State University had participated in 4-H, while 45% had prior experience with FFA (Koon, et al, 2009).

Agricultural experiences with direct ties to 4-H and FFA have also influenced student decisions to enroll in colleges of agriculture. FFA participation, in particular, positively influenced 61% of those studied. Conversely, the same study revealed that the work of the Cooperative Extension Service was unable to influence more than 25% of those surveyed to pursue enrollment in an agricultural college. Thirty percent of the evaluated students were influenced by their 4-H club experience (Christmas, 1989). In terms of retention, freshmen who participated in 4-H and FFA are more likely to complete a degree in agriculture than those who did not (Dyer, et al., 2000).

While secondary education experiences influence the likelihood of students pursuing a major in an agricultural college, friends and family also play an important role. According to Chapman (1981); Esters and Bowen

(2005), students are strongly influenced by the comments of friends and families in deciding where to attend college and choice of career path. Esters and Bowen (2005) reported that parents and friends were the greatest influencer on urban high school students' decision to pursue a career in agriculture.

Researchers have also conducted studies to address the impact of significant persons encountered throughout one's tenure in the FFA and/or 4-H organizations on their agriculture enrollment. Results indicate that the types of individuals one can encounter within these youth development organizations are varied and only a few have been analyzed in previous research. However, agricultural education teachers associated with FFA involvement rank higher in importance when compared to their counterparts (4-H agents) in the 4-H organization. In a study of 14 "significant persons" elements, "high school agriculture teacher" ranked fourth compared to "agriculture or 4-H extension Educator" which ranked seventh (Herren, et al., 2011). Donnermeyer and Kreps (1994) reported similar findings.

It is important to understand the factors influencing a student's decision to enroll in a college of agriculture. Understanding the influence of these individuals within 4-H and FFA agricultural colleges can build better bridges to these potential students via these individuals, while 4-H and FFA professionals can discover how best to promote college enrollment to their students.

Methods

The purpose of this study was to determine the impact that prior involvement in 4-H and FFA had on an incoming CAES freshmen's decision to attend the college. The following objectives guided this study:

- Identify demographic characteristics of entering CAES freshmen;
- Determine the impact prior 4-H involvement had on the students' decision to attend CAES; and
- Determine the impact prior FFA involvement had on the students' decision to attend CAES.

The population for this study (purposive sample) was all first semester freshmen students enrolled at the University of Georgia's CAES who had earned a maximum of 30 college credit hours (N=355). Participation was completely voluntary and students were contacted based on their identification as a CAES freshmen student. The University of Georgia Institutional Review Board approved the study protocol and all participants were informed of their rights prior to participation in the study.

Using SurveyMonkey® and Dillman's (2000) suggestions for online survey development and distribution, emails were sent out on a weekly basis beginning with an introductory email, sent two days prior to distribution of the actual survey link explaining the voluntary nature of the survey and participation requirements. At the conclusion of data collection, 105 (30%) of the population completed the instrument. A comparison of early and late responders was conducted

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based on recommendations from Linder, Murphy and Biers (2001) and no significant differences were found.

The online survey instrument was adapted from an instrument developed by Ester and Bowen in their 2005 study of “Factors Influencing Career Choices of Urban Agricultural Education Students.” The modified survey contained the basic elements of Ester and Bowen’s (2005) instrument with slight alterations to address specific elements potentially impacting enrollment within CAES at the University of Georgia. Additionally, the researcher adjusted the demographics section to meet the research objectives.

The final version consisted of four constructs: individuals, 4-H involvement, FFA involvement and CAES recruitment with six, eight, nine and eight items in each construct respectively. Each item utilized a five point Likert-type scale (0 = no influence; 4 = very high influence). Participants were asked to indicate the influence of varying individuals and/or experiences and their impact on the participant’s decision to attend the college of agriculture. The results section only represents the 4-H and FFA constructs of this study. Additionally, the researcher chose to report the percentage of students who indicated that each item had either a “high” or “very high” impact on their decision making process.

Results

Objective 1: Identify demographic characteristics of entering CAES freshmen

Of the total respondents (n = 105), there were 85 females (81%) and 16 males (19%) and 82% (n = 86) indicated their race as white. In terms of grade point average (GPA), the majority of students (91%) indicated having a high school GPA of 3.51–4.00. Sixty-four percent of the students described their community environment while attending high school as urban (population of 10,000 or greater), whereas 29% specified living in a rural area (population of less than 10,000) and 7% were from a farm environment. Of the respondents, 16% were previously involved in 4-H, while 17% indicated prior FFA participation. Considering the educational background of the respondents’ parents/guardians, the highest level of education completed by their fathers/male guardians, in descending order, was a bachelor’s degree (31%), master’s degree (19%) and doctoral degree (13%). The highest level of education completed by the respondents’ mothers/female guardians, in descending order, was a bachelor’s degree (38%), master’s degree (22%) and doctoral degree (9%). Most incoming freshmen were majoring in Biological Sciences (42%), followed by Animal Science (25%) and Animal Health (13%).

Objective 2: Determine the impact prior 4-H involvement had on the students’ decision to attend CAES

As presented in Table 1, of the participants who indicated prior 4-H involvement, 75% (n=12) indicated that a family member had a “high” or “very high” impact

Table 1. Impact of Prior 4-H Involvement (Cronbach’s alpha = 0.825)

Item	f/p
Family member	12/75
4-H Camp Experience	7/44
4-H Alumni	6/38
4-H Agent	6/38
4-H Club Leader	5/31
State Congress participation	4/19

Note. f=frequency, p= %; n=16. Data represents individuals and experiences that had either a “high” or “very high” impact on the students’ decision making process.

Table 2. Impact of Prior FFA Involvement (Cronbach’s alpha = 0.926)

Item	f/p
An agriculture teacher(s)	17/94
A friend	14/78
FFA State Convention	14/78
Family Member	13/72
Non-agriculture teacher	13/72
FFA Alumni	13/72
Regional FFA Contest	12/67
Guidance counselor	8/44

Note. f=frequency; p=%; n=18. Data represents individuals and experiences that had either a “high” or “very high” impact on the students’ decision making process.

on their decision to attend CAES followed by 4-H Camp Experience (n=7; 44%), 4-H alumni (n=6; 38%) and 4-H Agent (n=6; 38%). However, after analyzing the distribution of responses, the modal response within this construct was “no influence.”

Objective 3: Determine the impact prior FFA involvement had on the students’ decision to attend CAES

As reported in Table 2, 94% (n=17) of participants who were previously involved in FFA reported that their agricultural education teacher had a “high” or “very high” impact on their decision to attend CAES followed by a friend (n=14; 78%) and participation at the State FFA Convention (n=14; 78%). Only eight (44%) participants indicated that their school guidance counselor had a “high” or “very high” impact on their decision to attend CAES. As with Objective 2, after analyzing the distribution of responses, the modal response within this construct was also “no influence.”

Summary

One may conclude from this data that “one-on-one” relationships played the largest role in terms of motivation for these students to attend CAES. This concept of mentorship aligns with Donnermeyer and Krep’s (1994) research, naming the agricultural education teacher as the most significant non-personal relationship impacting college choice. Agricultural education teachers should be informed of this trend and identify ways to further encourage their students to attend a college of agriculture. Additionally, pre-service educators need to be informed of the possible impact(s) they could have on a students’ college choice during their college/university training. Lastly, college recruiters need to share recruitment materials with agricultural education teachers and make classroom visits.

As represented in the data, the influence of a family member seems to be the overlapping element in the comparison between 4-H and FFA participant groups. This conclusion aligned with a significant number of studies (Donnermeyer and Krep, 1994; Ester and Bowen, 2005; Herren, et al., 2011). The family member influence was ranked at the top for former 4-H members; more than 31% of respondents ranked this option above the second most popular option (4-H camp experience). College recruitment strategies should be developed that target family members of college bound students so as

to broaden their knowledge of college majors, internship opportunities and career options. This is particularly important for first generation college students and their families.

This study supports the research of Christmas (1989), Donnermeyer and Krep (1994) and Herren, et al., (2011), which determined that significant individuals associated with the FFA organization provided a stronger influence over student college choice than the influence of 4-H professionals. The 4-H agent's lack of presence in a 4-H'ers decision to attend CAES is one of top priority. These individuals are a 4-H'ers main contact in terms of managing their 4-H participation. They are a resource that is not being utilized in terms of promoting enrollment in an agricultural college among their 4-H participants. Cooperative Extension organizations should consider highlighting in their in-service trainings how to promote interest in attending a college of agriculture among youth participants. Many 4-H agents hold degrees from colleges of agriculture themselves and would make a relevant and personal college ambassador for their 4-H participants.

Next, this data showed that guidance counselors are not harnessing their potential in providing agricultural students with the necessary information regarding agricultural colleges. Prior research supports the lack of influence guidance counselors are providing (Johnson, et al., 2009; Herren, et al., 2011). Within the FFA construct, the guidance counselor influence ranked lowest. These professionals should be trained to address the needs of all students and promote a higher education route that suits student interests. Additionally, college recruiters may need to educate guidance counselors on the cadre of curricular options in colleges of agriculture and the plethora of career possibilities in agriculture.

In terms of further research, it would be beneficial to conduct an analysis of motivational factors impacting college choice for females with the University of Georgia due to the large percentage of females currently enrolled in CAES. A second study could address major choice and the role it plays in college choice. This need was presented through the uneven distribution in major choice from the participants. Further recommendations include re-administering the current study, but with survey instrument alterations that would enable the researcher to determine with more accuracy other external variables that have an impact on a student's college choice. Also, the current study did not measure negative influences on college choice and more information is needed in this area. In addition, given the frequency of "no influence" responses reported in this study for both 4-H and FFA, additional response options should be added to the current instrument to enhance the sensitivity of the instrument to other influencers on freshmen college choice.

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