Factors Influencing Students' Decisions to Pursue Agricultural Degrees at Non-Land-Grant Colleges of Agriculture

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Abstract

Recently, enrollments at numerous American universities have been trending downward. This has led to an increasingly competitive atmosphere for attracting new students, creating the need to better understand why students ultimately attend their chosen institution. Prior research has explored factors that influence students to pursue agricultural degree programs at Land-Grant Universities with limited research addressing why students opt to study agriculture at Non-Land-Grant Colleges of Agriculture (NLGCAs). The purpose of our study was to describe the factors influencing students' decisions to pursue agricultural degrees at NLGCAs. We distributed a valid and reliable instrument to all first-semester students enrolled at our NLGCAs. Regarding enrollment factors, we found that: (1) students most frequently used degree program information on a university website to help make their enrollment decision; (2) cost of attendance was most frequently cited as an *Influential* or *Very influential* university-related factor; (3) career opportunities available for graduates was most frequently cited as an *Influential* or *Very influential* major selection-related factor; (4) a parent or guardian was most frequently cited as an *Influential* or *Very influential* individual-related factor; and the (5) availability of student organizations was most frequently cited as an *Influential* or *Very influential* social interaction-related factor.

Keywords: degrees, enrollment, NLGCA, students, university

Universities share an ongoing concern regarding the recruitment of students to agricultural degree programs (Rayfield et al., 2013). Prospective students are faced with many choices to consider after high school graduation.

Among these are the choice to continue their education or to enter the workforce. The students who choose to continue their education are then faced with the choice of which institution to attend. Chapman (1981) identified significant persons, fixed college characteristics, and college efforts to communicate as external influences guiding that decision.

The external influences (Chapman, 1981) were noted among high school and transfer matriculates in the College of Agriculture at the University of Florida (Rocca & Washburn, 2005). Specifically, the students in the College of Agriculture identified conversations and interactions with faculty and campus visits as useful sources of information. Similarly, first-time enrollees in the College of Agriculture at the University of Missouri reported that visits to campus, participation in events on campus, and personal conversations with college representatives and professors were among the most valuable information sources that influenced their decision to attend (Robinson et al., 2007).

In a national study that included 1862 and 1890 Land-Grant Universities (LGU) as well as Non-Land-Grant Universities, Alston et al. (2020), found that students were most influenced by the friendly atmosphere, friendliness of the departmental faculty, as well as the teaching reputation of the faculty when selecting an academic major in agriculture. Additionally, college-based factors such as scholarships and other financial incentives were perceived as influential by students.

Although the external influences that students report as most influential in their decision to major in agriculture have been consistent over time (Alston et al., 2020; Robinson et al., 2007; Rocca & Washburn, 2005), the student's decision of which college to attend is less clear. Students are recruited by and choose to attend a variety of institutions (Alston et al., 2020). Among these are the 1862 and 1890 LGU, private institutions, and state-supported regional universities. However, specific research regarding student's choice to attend regional public universities is limited.

Regional public universities (RPU) serve as an access point for many rural, first-generation, and minority college students (Orphan et al., 2022). In fact, RPUs often serve communities with average higher need than their non-RPU counterparts. Many RPUs are located in counties that are medically underserved and have persistent child poverty, low employment, persistent poverty, and/or low educational attainment. According to Orphan et al. (2022), 37% of RPU students receive Pell grants in comparison to only 21% of students receiving Pell grants at non-RPU institutions. Although RPUs serve as an access point to higher education for underserved people and communities, "RPUs and their students have experienced relative invisibility when compared with the attention paid to community colleges, private colleges, and land-grant and flagship universities." (Orphan et al., 2022, p. 19).

As a subset of RPUs, Non-Land-Grant Colleges of Agriculture (NLGCA) award 45% of the baccalaureate degrees in agriculture, food, renewable resources, and related disciplines each year (Association of Public and Land-Grant Universities [APLU], 2023). Per the United States Department of Agriculture (USDA) (2022), there are 79 NLGCA across the country. To date, there is limited literature directly addressing why students elect to pursue undergraduate agricultural degrees at NLGCA. We sought to fill this gap in the literature.

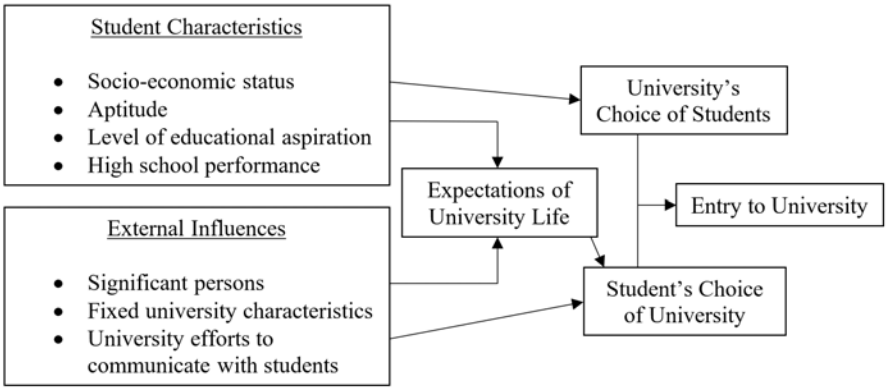
Conceptual Framework

We used an adapted version of Chapman's (1981) Influences on Student College Choice Model as the conceptual framework for our study (see Figure 1).

Chapman (1981) indicated that students' choices regarding their post-secondary pursuits are reflective of both *Student Characteristics* and an assortment of *External Influences*. As described by Chapman, *Student Characteristics* include: (1) socioeconomic status (SES), (2) aptitude, (3) level of educational aspiration, and (4) high school performance. The variety of *External Influences* detailed by Chapman include: (1) significant persons, (2) fixed university characteristics, and (3) university efforts to communicate with students. *Student Characteristics* (e.g., ACT scores, expressed interest in a university's academic majors, etc.) influence both students' *Expectations of University Life* (e.g., availability of social activities, diversity

Figure 1.

Adapted Version of Chapman's (1981) Model of Influences on Student College Choice



Note. Adapted From "A Model of Student College Choice," by D. Chapman, 1981, Journal of Higher Education, 52(5), p. 492 (https://doi.org/10.1080/00221546.1981.11778120). Copyright 1981 by Taylor & Francis, Ltd.

of student body, etc.) and the *University's Choice of Students*. On the other hand, *External Influences* impact both *Expectations of University Life* and the Student's *Choice of University*. Per Chapman, *Expectations of University Life* also contribute to the *Student's Choice of University*. In tandem, the University's Choice of Students and the *Student's Choice of University* ultimately result in a student's *Entry to University*.

Regarding our study, we used the factors modeled by Chapman as a lens through which to collect, report, and interpret our data. Our research instrument was previously used by Cletzer et al. (2021) in their study, *Factors Influencing College Choice: A Comparison of Matriculants and Non-Matriculants at a Midwestern College of Agriculture*. In essence, our study was a replication of their work albeit in the context of students at three NLGCA.

Purpose

The purpose of our study was to describe the factors influencing students' decisions to pursue agricultural degrees at three NLGCA as designated by the USDA (2022). As highlighted by Stripling and Ricketts (2016), the recruitment of individuals into agricultural career pathways and educational pursuits, such as undergraduate degree programs at NLGCA, is of the utmost priority for ensuring a steady stream of well-prepared, competent agriculturists in the coming years.

Methods

We used survey research methods to conduct our study. We attempted a census of all first-semester (i.e., first-semester freshman and transfer) undergraduate students enrolled in agricultural degree programs at three NLGCA. We collected data from 125 students. We obtained Institutional Review Board (IRB) approval prior to collecting our data.

Instrumentation

Our valid and reliable instrument was previously used in Cletzer et al.'s (2021) study. Dr. Adam Cletzer provided us with an electronic copy of their instrument (personal communication, June 28, 2021). Their instrument included the following sections: student demographics (16 items), university information source (17 items), university-related factors (17 items), influential individuals (12 items), academic major-related factors (seven items), social interaction factors (nine items), and decision-making timelines (three items). We adapted their instrument slightly (e.g., changed the university name, etc.) based on the student population we were surveying.

Data Collection

We collected our data electronically during the Fall 2021 semester. Our target population was all 259 first-semester undergraduate students enrolled in agricultural degree programs at three NLGCAs. We collaborated with enrollment office personnel at the three institutions to obtain the names and e-mail addresses of members of the target population. We used Qualtrics to facilitate our data collection process.

Following the recommendations provided by Dillman et al. (2014), we used both multiple contacts and contact modes to help improve our response rate. Specifically, we used a combination of five e-mail contacts and in-class reminders about our study. The five e-mail contacts included: (1) a pre-notification e-mail about the study, sent on Tuesday, September 28, 2021, (2) a formal invitation to participate in the study, sent on Tuesday, October 5, 2021, (3) the first reminder e-mail, sent on Tuesday, October 12, 2021, (4) the second reminder e-mail, sent on Tuesday, October 19, 2021, and (5) the third reminder e-mail, sent on Tuesday, October 26, 2021. We ceased collecting data on Tuesday, November 2, 2021. The entirety of the data collection process occurred over 36 days. One-hundred-and-twenty five students provided usable responses to our instrument, yielding a response rate of 48.3%.

Data Analysis

We used the IBM® Statistical Package for the Social Science (SPSS©) Version 21 software to analyze our data. We used descriptive statistics (i.e., frequencies and percentages) to analyze our student demographics data. We further used descriptive statistics (i.e., frequencies percentages, medians, and modes) to analyze data pertaining to specific student enrollment factors (e.g., cost of attendance, influential persons, etc.).

We addressed non-response error by comparing early respondents to late respondents in accordance with the suggestions provided by Lindner et al. (2001). Similar to the approach used by Wells and Hainline (2021), we considered students who responded before we sent the first reminder e-mail on Tuesday, October 21, 2021 to be early respondents and those who responded on or after Tuesday, October 21, 2021 to be late-respondents. We used t-tests to compare the mean responses of the influential factors between our early and late respondents. We did not identify any statistically significant differences at the $p < .05$ level between the two groups. We can thus generalize our findings to all first-semester undergraduate students enrolled in agricultural degree programs at these three NLGCA.

Table 1.

Selected Undergraduate Student Demographics

Item	*f*	%
Academic major (n = 120)		
Animal Science (or closely-related)	47	39.17
Agribusiness (or closely-related)	43	35.83
Agricultural Education (or closely-related)	18	15.00
Plant Science (or closely-related)	12	10.00
Gender (n = 112)		
Female	71	63.39
Male	40	35.71
Non-binary	1	0.89
How would you describe yourself? (n = 119)		
White	109	91.60
Black or African American	4	3.36
Other	5	4.20
Are you of Hispanic, Latino, or of Spanish origin? (n = 119)		
Yes	5	4.20
No	114	95.80
Home community size (n = 119)		
Less than 10,000 people in my home community	89	74.79
Between 10,000 and 50,000 people in my home community	21	17.65
More than 50,000 people in my home community	9	7.56
Are you a first-generation college student? (n = 119)		
Yes	67	56.30
No	52	43.70
Were you ever a member of FFA? (n = 118)		
Yes	84	71.19
No	34	28.81
Were you ever a member of 4-H? (n = 119)		
Yes	47	39.50
No	72	60.50
How did you enter this university? (n = 116)		
Directly from high school	73	62.93
Transferred from another university or community college	42	36.21
Other	1	0.86
Did you earn dual credit while you were enrolled in high school? (n = 119)		
Yes	71	59.66
No	48	40.34

Table 1 Cont.

Selected Undergraduate Student Demographics

Item	*f*	%
To how many other universities besides your current one did you apply? (n = 118)		
1-3	62	52.55
4-6	19	16.09
7+	31	31.35
To how many other universities besides your current one were you admitted? (n = 115)		
1-3	61	53.05
4-6	16	13.92
7+	37	32.18

Results

Respondents

The typical respondent was majoring in Animal Science or a closely-related major (*f* = 47, 39.17%), was female (*f* = 71, 63.39%), was White (*f* = 109, 91.60%), was not of Hispanic, Latino, or of Spanish origin (*f* = 114, 95.80%), reported there were less than 10,000 people in their home community (*f* = 89, 74.79), reported their parent / guardian #1's highest level of education was a bachelor's degree (*f* = 31, 26.05%), reported their parent / guardian #2's highest level of education was a high school diploma or equivalent (*f* = 33, 28.45%), was a first generation college student (*f* = 67, 56.30%), was an FFA member (*f* = 84, 71.19%), was not a 4-H member (*f* = 72, 60.50%), entered their current university directly from high school (*f* = 73, 62.93%), earned dual credit while enrolled in high school (*f* = 71, 59.66%), applied for admission to a range of one to three other universities besides their current one (*f* = 62, 52.55%), and was admitted to a range of one to three other universities besides their current one (*f* = 61, 53.05%). Selected demographic information of all students participating in our study can be found in Table 1.

Influence of Selected Factors on University and Major Selection

Regarding the use of selected information sources when selecting a university or a major, respondents most frequently indicated that they used the "Degree program (major) information on a website" (*f* = 97, 77.60%), the "University information on a website" (*f* = 95, 76.61%), and a "Visit to campus" (*f* = 85, 68.00%). Further, the majority of respondents indicated that each of these information sources was either Of average use or Very useful (93.75%, 90.62%, and 95.24%, respectively). In contrast, respondents most frequently indicated that they did not use "Participation in athletic events on campus (e.g., sports camps, etc.)" (*f* = 110, 88.00%), "Participation in an on-campus recruitment program" (*f* =109, 87.90%), or "College comparison guides (e.g., U.S. News & World Report, Forbes rankings, Bloomberg rankings, etc.)" (*f* = 106, 84.80%) as information sources when selecting a university or a major (see Table 2).

Regarding the perceived influence of selected university-related factors on the university selection decision process, respondents most frequently indicated that the following factors were either Influential or Very influential: "Cost (tuition, fees, and room and board)" (*f* = 97, 78.86%); "Quality of the faculty" (*f* = 88, 72.13%); and "Preparation for employment" (*f* = 84, 67.74%). In contrast, respondents least frequently indicated that the following factors were either Influential or Very influential: "Prominence of university athletic teams" (*f* = 22, 17.89%); "Competitiveness of admission standards" (*f* = 41, 33.33%); and "Prestige of the university" (*f* = 54, 43.20%) (see Table 3).

Regarding the perceived influence of selected factors on the specific academic major selection decision process, respondents most frequently indicated that the following factors were either Influential or Very influential: "Career opportunities available for graduates" (*f* = 89, 74.17%); "Quality of the courses" (*f* = 76, 62.30%); and "Quality of the faculty" (*f* = 73, 59.84%). In contrast, respondents least frequently indicated that the following factors were either Influential or Very influential: "Number of students in the major" (*f* = 53, 44.17%); "Quality of the graduates" (*f* = 68, 55.74%); and "Size of classes" (*f* = 68, 56.66%) (see Table 4).

Regarding the perceived influence of selected individuals on the university selection decision process, respondents most frequently indicated that the following individuals were either Influential or Very influential: "Parent or guardian" (*f* = 61, 55.96%); "Relative who attended the university" (*f* = 43, 53.75%); and "Graduate of the Department of Agriculture" (*f* = 45, 52.94%). In contrast, respondents least frequently indicated that the following individuals were either Influential or Very influential: "High school science teacher" (*f* = 9, 10.46%); "Other high school teacher" (*f* = 15, 16.48%); and "Extension personnel" (*f* = 15, 17.85%) (see Table 5).

Regarding the perceived influence of selected social interaction factors on the university selection decision process, respondents most frequently indicated that the following factors were either Influential or Very influential: "Availability of student organizations" (*f* = 54, 45.76%);

Table 2.

Use of Selected Information Sources and Perceived Usefulness of Sources

Item	Source use (%)			If "Yes", usefulness of source (%)					
	n	*Yes*	*No*	*NAAU*	*OLU*	*OAU*	*VU*	*Mdn*	*Md*
Degree program (major) information on a website	125	77.60	22.40	2.08	4.17	32.29	61.46	4	4
University information on a website	124	76.61	23.39	2.08	7.29	44.79	45.83	3	4
Visit to campus	125	68.00	32.00	2.38	2.38	32.14	63.10	4	4
Social media (e.g., Facebook, Instagram, Snap Chat, etc.)	125	45.60	54.40	6.78	13.56	57.63	22.03	3	3
Letter and / or information mailed from a university admission representative	124	41.94	58.06	7.41	9.29	61.11	22.22	3	3
Personal conversation with a professor	125	39.68	60.32	1.89	3.77	30.19	64.15	4	4
Personal conversation with a departmental representative	125	34.40	65.60	4.35	2.17	41.30	52.17	4	4
Printed university publications (e.g., brochures, etc.)	125	31.20	68.80	9.52	14.29	66.67	9.52	3	3
Participation in student activity events on campus (e.g., FFA, summer academies, etc.)	124	29.84	70.16	9.52	2.38	30.95	57.14	4	4
Personal conversation with a university admission representative	125	28.00	72.00	7.89	10.53	50.00	31.58	3	3
Visit by university representative to your school	124	25.81	74.19	12.20	17.07	39.02	31.71	3	3
Letter and / or information mailed from a departmental representative	124	19.35	80.65	13.33	6.67	63.33	16.67	3	3
TV, radio, newspaper, billboard, or magazine advertisements	125	16.80	83.20	30.77	23.08	42.31	3.85	2	3
Letter and / or information mailed from a professor	125	16.00	84.00	20.69	10.34	48.28	20.69	3	3
College comparison guides (e.g., U.S. News & World Report, Forbes rankings, Bloomberg rankings, etc.)	125	15.20	84.80	12.50	20.83	41.67	25.00	3	3
Participation in an on-campus recruitment program	124	12.10	87.90	19.03	14.29	47.62	19.05	3	3
Participation in athletic events on campus (e.g., sports camps, etc.)	125	12.00	88.00	21.74	17.39	43.48	17.39	3	3

Note. Usefulness scale: 1 = Not at all useful (NAAU), 2 = Of little use (OLU), 3 = Of average use (OAU), 4 = Very useful (VU); Mdn = Median; Md = Mode.

"Availability of off-campus activities" (*ƒ* = 42, 35.60%); and "Leisure activities" (*ƒ* = 39, 33.05%). In contrast, respondents least frequently indicated that the following factors were either Influential or Very influential: "Greek system life" (*ƒ* = 13, 11.02%); "Diversity of ideas on campus" (*ƒ* = 27, 23.08%); and "Diversity of student body" (*ƒ* = 29, 24.78%) (see Table 6).

University and Major Selection Decision Timelines

Regarding the timeline for initiating the university selection decision process, respondents most frequently indicated that they started doing so "During 11th grade" (*ƒ* = 31, 26.05%). In contrast, respondents least frequently indicated that they started doing so "Before 9th grade" (*ƒ* = 9, 7.56%) (see Table 7).

Regarding the timeline for finalizing the university selection decision process, respondents most frequently indicated that they did so "During 12th grade, second semester" (*ƒ* = 39, 32.77%). In contrast, respondents least frequently indicated that they did so "Before 9th grade" (*ƒ* = 2, 1.68%) (see Table 8).

Regarding the timeline for finalizing the academic major selection decision process, respondents most frequently indicated that they did so "During 12th grade, second semester" (*ƒ* = 27, 22.69%). In contrast, respondents least frequently indicated that they were "Still undecided" (*ƒ* = 2, 1.68%) (see Table 9).

Table 3.

Perceived Influence of Selected University-related Factors on University Selection Decision

Item	Source use (%)			If "Yes", usefulness of source (%)					
	n	*NI*	*SI*	*MI*	*I*	*VI*	*Mdn*	*Md*	*Md*
Cost (tuition, fees, and room and board)	123	5.69	1.63	13.82	29.27	49.59	4	5	4
Quality of the faculty	122	3.28	5.74	18.85	42.62	29.51	4	4	4
Preparation for employment	124	4.84	5.65	21.77	33.06	34.68	4	5	4
Opportunities after graduation	123	7.32	7.32	18.70	27.64	39.02	4	5	3
Scholarships awarded	124	14.52	4.84	16.13	20.97	43.55	4	5	3
Quality of the facilities	125	6.40	6.40	24.80	39.20	23.20	4	4	4
Closeness to home	123	13.01	9.76	16.26	26.02	34.96	4	5	4
Variety of majors offered	123	11.38	11.38	17.07	24.39	35.77	4	5	3
Quality of the graduates	123	7.32	10.57	23.58	35.77	22.76	4	4	4
Academic reputation of the university	125	2.40	11.20	28.00	39.20	19.20	4	4	3
Size of classes	125	7.26	14.52	22.58	27.42	28.23	4	5	3
Availability of other financial aid	124	16.13	9.68	21.77	21.77	30.65	4	5	3
Campus safety and security	124	16.13	10.48	24.19	24.19	25.00	3	5	3
City in which campus is located	123	11.38	14.63	30.08	21.14	22.76	3	3	3
Prestige of the university	125	7.20	17.60	32.00	34.40	8.80	3	4	3
Competitiveness of admission standards	123	14.63	17.89	34.15	21.95	11.38	3	3	3
Prominence of university athletic teams	123	47.15	16.26	18.70	13.01	4.88	2	1	3

Note. Influence scale: 1 = Not influential (NI), 2 = Slightly influential (SI), 3 = Moderately influential (MI), 4 = Influential (I), 5 = Very influential (VI); Mdn = Median; Md = Mode.

Table 4.

Perceived Influence of Selected Factors on Academic Major Selection

Item	%							
	n	*NI*	*SI*	*MI*	*I*	*VI*	*Mdn*	*Md*
Career opportunities available for graduates	120	3.33	6.67	15.83	30.00	44.17	4	5
Quality of the courses	122	5.74	8.20	23.77	27.87	34.43	4	5
Quality of the faculty	122	8.20	8.20	23.77	29.51	30.33	4	5
Quality of facilities	120	7.50	6.67	26.67	30.83	28.33	4	4
Size of classes	120	10.83	11.67	20.83	28.33	28.33	4	4/5
Quality of the graduates	122	10.66	12.30	21.31	27.87	27.87	4	4/5
Number of students in the major	120	16.67	13.33	25.83	26.67	17.50	3	4

Note. Influence scale: 1 = Not influential (NI), 2 = Slightly influential (SI), 3 = Moderately influential (MI), 4 = Influential (I), 5 = Very influential (VI); Mdn = Median: Md = Mode.

Table 5.

Perceived Influence of Selected Individuals on University Selection Decision

Item		%						
	n	*NI*	*SI*	*MI*	*I*	*VI*	*Mdn*	*Md*
Parent or guardian	109	15.60	13.76	14.68	32.11	23.85	4	4
Relative who attended the university	80	26.25	11.25	8.75	20.00	33.75	4	5
Graduate of the Department of Agriculture	85	27.06	11.76	8.24	23.53	29.41	4	5
Graduate of the university	97	25.77	8.25	15.44	20.62	29.90	4	5
Friend in college	97	26.80	9.28	21.65	22.68	19.59	3	1
High school agriculture teacher	92	29.35	15.22	14.13	16.30	25.00	3	1
Friend in high school	95	33.68	9.47	21.05	17.89	17.89	3	1
Current Department of Agriculture student	83	37.35	16.87	10.84	15.66	19.28	2	1
High school guidance counselor	99	42.42	22.22	15.15	13.13	7.07	2	1
Extension personnel	84	41.67	22.62	17.86	10.71	7.14	2	1
Other high school teacher	91	51.65	15.38	16.48	8.79	7.69	1	1
High school science teacher	86	63.95	15.12	10.47	5.81	4.65	1	1

Note. Influence scale: 1 = Not influential (NI), 2 = Slightly influential (SI), 3 = Moderately influential (MI), 4 = Influential (I), 5 = Very influential (VI); Mdn = Median; Md = Mode.

Table 6.

Perceived Influence of Selected Social Interaction Factors on University Selection Decision

Item		%						
	n	*NI*	*SI*	*MI*	*I*	*VI*	*Mdn*	*Md*
Availability of student organizations	118	13.56	14.41	26.27	30.51	15.25	3	4
Availability of off-campus activities	118	18.64	18.64	27.12	24.58	11.02	3	3
Leisure activities	118	18.64	25.42	22.88	21.19	11.86	3	2
Availability of recreational services	118	18.64	17.80	31.36	20.34	11.86	3	3
Availability of agricultural competitive teams	118	27.97	20.34	19.03	22.03	10.17	3	1
Campus residence halls	118	33.90	16.95	19.49	20.34	9.32	2	1
Diversity of student body	117	31.62	22.22	21.37	15.38	9.40	2	1
Diversity of ideas on campus	117	25.64	26.50	24.79	12.82	10.26	2	2
Greek system life	118	54.24	22.88	11.86	7.63	3.39	1	1
Extension personnel	84	41.67	22.62	17.86	10.71	7.14	2	1
Other high school teacher	91	51.65	15.38	16.48	8.79	7.69	1	1
High school science teacher	86	63.95	15.12	10.47	5.81	4.65	1	1

Note. Influence scale: 1 = Not influential (NI), 2 = Slightly influential (SI), 3 = Moderately influential (MI), 4 = Influential (I), 5 = Very influential (VI); Mdn = Median; Md = Mode.

Table 7.

Timeline for Initiating University Selection Decision (n = 119)

Item	*f*	%
Before 9th grade	9	7.56
During 9th grade	19	15.97
During 10th grade	21	17.65
During 11th grade	31	26.05
During 12th grade	26	21.85
After 12th grade	13	10.92

Table 8.

Timeline for Finalizing University Selection Decision (n = 119)

Item	*f*	%
Before 9th grade	2	1.68
During 9th grade	3	2.52
During 10th grade	3	2.52
During 11th grade	14	11.76
During 12th grade, 1st semester	24	20.17
During 12th grade, 2nd semester	39	32.77
1st year after high school	7	5.88
2nd year after high school	27	22.69

Table 9.

Timeline for Finalizing Academic Major Selection (n = 119)

Item	*f*	%
Before 9th grade	14	11.76
During 9th grade	5	4.20
During 10th grade	14	11.76
During 11th grade	16	13.45
During 12th grade, 1st semester	18	15.13
During 12th grade, 2nd semester	27	22.69
1st year after high school	5	4.20
2nd year after high school	18	15.13
Still undecided	2	1.68

Discussion and Recommendations

When examining the student characteristics data we collected in our study, it should be noted that the respondent demographics information we collected were fairly consistent with other recently reported data within this topic area. In our study, almost two-thirds (63.39%) of respondents identified as female, over ninety percent (91.60%) as White, and nearly one-hundred percent (95.80%) as non-Hispanic. Fernandez et al. (2020) also recently reported females and White, non-Hispanic undergraduate students as representing an overwhelming majority of agricultural degree program graduates in American universities. Similarly, in Alston et al.'s (2020) study, the typical respondent were also female and White, non-Hispanic. With the decreasing number of males and the small number of racial minorities earning agricultural degrees at our respective universities, we recommended examining these trends and creating targeted recruitment initiatives for those demographic groups to continue to increase the diversity within our institutions.

Another interesting take-away was the number of agricultural students coming from urban areas. In our investigation, almost three-quarters (74.79%) of the respondents still either came from a farm or a rural community of less than 10,000 people with only one-quarter (25.21%) coming from more urban areas. In similar studies, Foreman et al. (2018) and Alston et al. (2020) each reported a slightly higher percentage of individuals coming from urban areas (30% and 32.8%, respectively). However, each of their studies included respondents from LGU. This may suggest that NLGCA could be attracting less students from urban areas than their LGU counterparts and that an opportunity to focus recruitment efforts in more urban parts of our states may exist.

We also noted both the number of respondents earning dual credit while enrolled in high school and the large number of individuals identifying as first-generation college students. Similar to Alston et al.'s (2020) study, a sizable number (59.66%) of our respondents had earned college credit prior to enrolling in our institutions. Due to the high number of students desiring college course credits while in high school and over 80% of schools now offering dual credit coursework at these institutions (National Center for Educational Statitistics [NCES], 2020), it is imperative that NLGCA continue to partner with both high schools and community colleges to make agricultural coursework for college credit more accessible. Additionally, over half (56.30%) of our respondents identified as a first-generation college student attending our four-year universities. This is significantly higher than the national average indicating only one-third of all college students identifying as first-generation students (Whitley et al., 2018). It would be interesting to determine if this discrepancy was due to our being a RPU or because of the specific academic majors being examined. We recommend further research on this topic.

When evaluating external influences of student college choice (Chapman, 1981) and our institutions' recruitment efforts to communicate with students, we determined that a vast majority of our students felt that both the degree and university information on our websites (77.60% and 76.61%,

respectively) and participating in an on-campus visit (68.00%) were the most useful sources of information in evaluating their decision on which institution to attend. Our findings are consistent with similar studies citing campus visits and degree information on their websites as top-ranking sources of information (Cletzer et al., 2021; Robertson et al., 2017; Robinson et al., 2007). We recommend to our institutions that instead of allocating recruitment funds to traditional advertising (television, radio, newspaper, billboard, magazine, etc.) and bringing students to campus for athletic events, we focus our limited financial resources on improving our respective websites and engaging students in on-campus university and departmental visits.

As for fixed college characteristics (Chapman, 1981), our students were most-influenced by the cost (tuition, fees, and room and board) of the institution, quality of the faculty, preparation for employment, opportunities after graduation, scholarships awarded, quality of the facilities, and the proximity to home. Being a more cost-effective option for a college education, the scholarships awarded, and the distance from home had a considerably higher ranking for the respondents at our NLGCA than those in similar studies at LGU. In contrast, the preparation for employment, opportunities after graduation, and the quality of faculty and facilities found similar positions at the top of the influential university-related factors list (Cletzer et al., 2021; Rocca & Washburn, 2005; Robinson et al., 2007). NLGCA should continue to advocate for affordable tuition at their institutions and promote scholarships offered to attract more students to their respective universities. When evaluating specific factors for selecting an academic major at our institutions, our respondents also felt that the career opportunities available and the quality of the courses, faculty, and facilities were of high importance. Interestingly, each respondent felt that all of the selection factors listed were important or very important in their decision when selecting an academic major.

Also consistent with the existing literature (Alston et al., 2020; Cletzer et al., 2021, Rayfield et al., 2013; Rocca & Washburn, 2005), the parent(s) or guardian(s) was found to be the most influential individual (Chapman, 1981) on a student's decision to attend their respective university. The other top two influential individuals in our study were relatives who attended the university and graduates of the department or university. The literature on these other two factors are inconsistent regarding where these individuals rank in importance; however, this could be due to the nature and size of the institution under investigation. Regardless, these overall findings reveal the importance of involving a parent or guardian and indicate that our institutions should continue providing opportunities to engage them in the recruitment process.

Finally, when evaluating social interaction factors on a student's university selection decision, the availability of student organizations led our list with 45.76% of students denoting it as Influential or Very Influential. With the median of three or less for each factor, we can infer that most of our students do not find social interaction factors as Influential or Very Influential in their decision to attend our respective institutions. Further research on how social interaction factors influence a student's decision at both LGU and NLGCA should be conducted.

Summary

The purpose of our study was to describe the factors influencing students' decisions to pursue agricultural degrees at three Non-Land-Grant Colleges of Agriculture (NLGCA). Based on our findings, we conclude that the factors most influencial in our students choice to enroll in our NLGCA were the degree program information on the respective university website, cost of attendance, parents or guardians, career opportunities available for graduates, and the availability of student organizations. It should also be noted that a majority of our respondents did not start initiating their four-year university search until 11th grade, nor did they finalize their selection until either 12th grade year or their second year of community college. This information may assist in determining the potential timeline in which to recruit students. We recommend that our respective NLGCA use these data to strategically plan recruitment efforts at their universities. Further, we acknowledge these findings are not generalizable beyond our respective institutions, so we recommend that our study be replicated at other NLGCA to further explore this important topic.

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