

## **American Indian Students' Attitudes toward Agriculture as a College Major**

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### **Abstract**

Historically, American Indians have been woefully underrepresented in the United States workforce, and even more so in the agriculture industry. To increase the diversity in the agricultural workforce, scholars have made calls to target underrepresented populations through recruitment programs. To best recruit this population requires an understanding of the factors which impact the decision to pursue higher education, and more specifically agriculture. Therefore, this study sought to explore the factors which contribute to the attitudes of secondary American Indian agricultural education students' attitudes toward agriculture as a college major. The results of multiple regression analysis yielded a statistically significant model that explained 92% of the variance in the study participants' attitudes to pursue agriculture as a college major. Those professionals who work with this population are encouraged to seek opportunities to engage potential students in programs which highlight the role an agriculture career can play in the support of students' families.

### **Introduction**

Recent agriculture graduates will fill 61% of the annual industry job openings. However, this sector of the economy has struggled to attract graduates from underrepresented populations (Goecker et al., 2015; Talbert & Larke, 1995). This is not surprising as minority students comprise only 17% of all undergraduate agriculture majors (United States Department of Agriculture, 2014) and therefore, goals to diversify the agricultural workforce have been established (Stripling & Ricketts, 2016). To meet these goals, recruitment programs targeting underrepresented students have been implemented. The effects of these programs have yielded increased enrollment of minority undergraduates pursuing agriculture degrees (United States Department of Agriculture, 2014). These programs most often target African, Asian, and Hispanic or Latino American students. However, conspicuously missing from the bullseye are American Indian students.

Attempting to improve the participation of American Indians in the agricultural workforce by increasing enrollment in post-secondary agriculture programs will be challenging, at best. Among Whites, African, Asian, and Hispanic or Latino Americans, the post-secondary student demographics resemble the most recent United States population demographics (Kena et al., 2016; United States Census Bureau, 2017). However, this is not the case for American Indians. American Indians and Alaska Natives constitute approximately 1.7% of the United States population (United States Census Bureau, 2017) yet, fewer than 0.6% of the 17.3 million undergraduates enrolled in post-secondary education were American Indians or Alaska Natives (Kena et al., 2016). Similarly, these groups are awarded fewer than

1% of agriculture-related bachelor's degrees (National Science Board, 2016). However, these statistics may be misleading or even inflated, as the American Indian demographic is consolidated with Alaskan Natives, thus complicating the ability to truly discern accurate enrollment statistics.

To improve the ratio of American Indian students completing undergraduate degrees, an increase in the number of high school graduates pursuing higher education must be realized. Currently, 17% of American Indian high school graduates, compared to the national rate of 67%, enroll in post-secondary education (Oliff, 2017). Individual factors, cultural and social pressures, and lack of awareness of opportunities have been identified as factors influencing college enrollment. Students residing on reservations tend to live with large families which creates personal conflict, due in part to their perceived family support obligations (Swanson & Tokar, 1991). Since 13% of American Indians hold a bachelor's degree, current high school graduates are more likely to be first-generation college students which has been found to contribute to feelings of isolation as they are less likely to have parents with shared experiences from whom to seek guidance (Jackson & Smith, 2001). To complicate the situation, students who have contemplated leaving the reservation to pursue higher education have reported hostility from family members and tribal leaders in an attempt to prevent them from abandoning the tribe (Fann, 2004). Even though some tribes provide full financial support for post-secondary education, (Fann, 2004) few students have reported awareness of these resources (Jackson & Smith, 2001; Hoover & Jacobs, 1992). Furthermore, students have also reported that access to higher education information is often limited to those who may have the opportunity to compete in college athletics (Fann, 2004).

### **Theoretical Framework**

This study was grounded in the theory of planned behavior (Ajzen, 1991). This theory is commonly used to understand human behavior and has been used to explore the attitudes of students toward aspects of agricultural education (Osborne & Dyer, 2000; Thompson & Russell, 1993). Ajzen (2006) identified behavioral beliefs, normative beliefs, and control beliefs as factors which influence one's decisions to act. Regarding the present study, normative beliefs were operationalized as the familial and societal attitudes toward higher education as perceived by secondary American Indian agricultural education students. Control beliefs were operationalized as the factors which influence the decision to pursue higher education as perceived by secondary American Indian agricultural education students.

### **Purpose/Objectives**

The purpose of this study was to explore the factors which contribute to the attitudes of secondary American Indian agricultural education students' attitudes toward agriculture as a college major. The study was guided by the following objectives:

1. Describe the attitudes of American Indian agricultural education students toward agriculture as a subject, college major, and career.
2. Describe the levels of academic and social support as perceived by American Indian agricultural education students.
3. Determine if a model exists explaining a significant portion of the variance in American Indian agricultural education students' attitudes toward agriculture as a college major, as

explained by attitudes toward agriculture as a subject and career, and perceived levels of academic and social support.

**Methods**

This was a quantitative study. The study participants were all secondary students enrolled in agricultural education courses during the spring of 2018 (N = 75) at a public high school located on a federally recognized Indian reservation in New Mexico. The researcher developed survey was based upon the work of Frazee et al. (2011). The survey included 5-point Likert-type statements, with answer choices ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), and related to agriculture as an academic subject, college major, and career, with additional questions focused on academic and social support for pursuing higher education in agriculture. Upon approval to participate, all students completed the online survey over a two-day window during their scheduled agricultural education class. All study participants (100%, N = 75) identified themselves as American Indian and included Freshmen (14.7%, n = 11), Sophomores (17.3%, n = 13), Juniors (21.3%, n = 16), and Seniors (46.7%, n = 35) with an average age of 16.9 years.

**Findings**

Objective one sought to describe the attitudes of American Indian agricultural education students toward agriculture as a subject, college major, and career. As can be found in Table 1, the students held more positive attitudes to agriculture as a subject ( $M=3.72, SD=.54$ ) and career ( $M=3.51, SD=.65$ ) than they did agriculture as a college major ( $M=3.41, SD=.65$ ).

Table 1  
American Indian Students’ Attitudes toward Agriculture as a Subject, College Major, and Career

Construct	M	SD
Subject	3.72	.54
Career	3.51	.60
College Major	3.41	.65

Note. Five-point Likert-type scale: 1(Strongly Disagree) to 5 (Strongly Agree).

The focus of objective two was to describe American Indian agricultural education students perceived levels of academic and social support toward pursuing agriculture as a college major. Table 2 shows that the students did not strongly agree ( $M=4.51 - 5.00$ ) or strongly disagree ( $M=1.00 - 1.50$ ) with any of the perceived support statements.

Table 2  
American Indian Students’ Perceived Academic and Social Support toward Pursuing Agriculture as a College Major

Construct/Statement	M	SD
Academic Support		
Teachers work to explain difficult content to me.	3.24	.84
I feel comfortable asking teachers for help.	3.06	.79
I am satisfied with the academic help teachers provide me.	3.34	.81
Social Support		

Tribal leaders would be supportive of my decision to go to college.	2.99	.68
My family would be supportive of my decision to go to college.	3.04	.71
My friends would be supportive of my decision to go to college.	3.37	.74
Tribal leaders would be supportive if I chose agriculture as a college major.	3.12	.69
My family would be supportive if I chose agriculture as a college major.	3.17	.88
My friends would be supportive if I chose agriculture as a college major.	3.41	.77

Note. Five-point Likert-type scale: 1(*Strongly Disagree*) to 5 (*Strongly Agree*).

Objective three sought to determine if a model existed explaining a significant portion of the variance in American Indian agricultural education students’ attitudes toward pursuing agriculture as a college major, as explained by attitudes toward agriculture as a subject and career, and perceived levels of academic and social support. The results of multiple regression analysis yielded a statistically significant model ( $p < .001$ ) that explained 92% of the variance in one’s attitude to pursue agriculture as a college major. As indicated in Table 3, all variables were included in the model explaining a portion of the variability.

Table 3  
Factors Explaining American Indian Students’ Attitudes toward Pursuing Agriculture as a College Major

Variable	$\beta$	Std. Error	t	p
Agriculture as a Career	.51	.06	7.73	<.001
Academic Support	.34	.04	8.44	<.001
Agriculture as a Subject	.26	.07	3.49	.001
Social Support	-.07	.03	-.08	.03

Note:  $R^2 = .92$

**Conclusions**

The findings suggest, at least with this specific study population, beliefs toward agriculture as an academic subject and career as well as the academic and social support American Indian students receive can influence their intentions to pursue agriculture as a college major. It is clear the sense of belonging and the influence of the local community and tribal leaders play a significant role in the career decisions students. Conclusions drawn from the findings cannot be generalized to groups outside of the study population. However, the findings from this study can be used as a foundation from which to guide future research.

**Implications/Recommendations**

As the profession seeks to increase the diversity of the students pursuing post-secondary education in agriculture and, ultimately the agriculture industry, attention must be paid to this demographic. Incorporating academic and social support programs along with youth organizations like the FFA and 4-H into the lives of American Indian students may aid in the recognition of the positive benefits of pursuing agriculture as an academic and career option. As the social influence had a negative impact on the decision to pursue a career in agriculture, it is recommended that institutions seeking to enroll these students in their programs start their recruiting strategies with the potential students’ tribal leaders. Finally, it is recommended that agricultural education scholars continue to pursue diversity and multicultural research to build

the knowledge base surrounding underrepresented populations in an effort recruit and retain these groups into this sector of the economy and society.

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