

**American Indians: The Under-Underrepresented Population
in Agriculture**

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Introduction

In Priority Area 3 of the *American Association for Agricultural Education National Research Agenda: 2016-2020* (Stripling & Ricketts, 2016) a call was made to increase diversity within the agricultural workforce. While 61% of the annual job openings in the agriculture industry will be filled with recent agriculture graduates (Goecker, Smith, Fernandez, Ali, & Theller, 2015), this sector of the economy has struggled to attract underrepresented students (Talbert & Larke, 1995). Recently, however, colleges and departments of agriculture have witnessed an increase in minority undergraduates (United States Department of Agriculture, 2014). African, Asian, and Hispanic or Latino American students are most often identified as those groups making up the underrepresented population for which increased enrollment is observed or desired. However, conspicuously missing from these lists 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) yet, less than 0.6% of the 17.3 million undergraduates enrolled in post-secondary education were American Indians or Alaska Natives (Kena et al.). Regarding agriculture specifically, of the 27,609 students, in the United States, who graduated with a bachelor's degree in agriculture in 2013, 0.8% were American Indian or Alaska Natives (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. The incongruity of the proportion of American Indian students studying agriculture, relative to the general student population justify the need to further investigate this demographic. Therefore, the purpose of this study was to explore the factors which contribute to the intentions of American Indian students to pursue agriculture as a college major.

Theoretical Framework

The theory of planned behavior served as the foundation for this study as it “provides a useful conceptual framework for dealing with the complexities of human social behavior” (Ajzen, 1991, p. 206). Furthermore, this theory provides a “means of understanding students’ decisions to act and can allow the development of programs to meet targeted students’ needs” (Murphey, Lane, Harlin, & Cherry, 2016, p. 14). Ajzen and Fishbein (2005) suggested that an individual’s behavior is a result of the combination of beliefs, attitudes, and intentions. Ajzen (1991) posited intentions precede behavior and presented a model that depicts the influences on intention. Ajzen (2006) explained that individuals act on behavioral decisions based upon *behavioral beliefs* (what one thinks the outcomes of the behavior will be), *normative beliefs* (what other people think about the behavior), and *control beliefs* (what one understands about the factors that facilitate or discourage the behavior).

Methodology

This was a quantitative case-study. The study participants were all secondary agriculture students ($N = 75$) at a public high school located on a federally recognized Indian reservation in [STATE]. The researcher developed survey was based upon the work of Frazee, Wingenbach, Rutherford, and Wolfskill (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

Multiple regression analysis was used to determine if a model existed explaining a significant portion in the variability in the students' intentions to major in agriculture as measured by their attitudes toward agriculture as a subject and career along with their academic and social support. The analysis resulted in a statistically significant model ($p = <.001$) that explained 92% of the variance in one's intentions to major in agriculture. As indicated in Table 1, all variables were included in the model explaining a portion of the variability.

Table 1

Factors Explaining American Indian Students' Intentions to Pursue Agriculture as a College Major

Variable	β	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. However, as this was a case-study, it must be noted, 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/Impact on the Profession

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. 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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