

Analyzing Race and Ethnicity Trends of Program Completers in Agricultural Education

Daniel Foster

Associate Professor
The Pennsylvania State University
212 Ferguson Building
University Park, PA 16802
(814) 863-0192
foster@psu.edu

Amy R. Smith

Associate Professor and Program Leader
University of Minnesota
146 Ruttan Hall
St. Paul, MN 55108
(612) 624-6590
arsmith@umn.edu

Michael Spiess

Professor Emeritus
California State University, Chico
College of Agriculture
Chico, CA 95929-0310
(530) 521-6866
mspiess@csuchico.edu

Rebecca Lawver

Department Head & Professor
Applied Sciences, Technology and Education
Utah State University
1498 N 800 E | ASTE 101C
UMC 2300
Logan, UT 84321
(435) 797-1254
rebecca.lawver@usu.edu

Analyzing Race and Ethnicity Trends of Program Completers in Agricultural Education

Introduction

Diversity, equity, and inclusion are at the forefront of educational efforts. While not the only valuable metric used to measure diversity, race and ethnicity is one metric for exploring representation among the teaching profession. Since 1965, the National Supply and Demand (NSD) for Agricultural Education project has been supported by the American Association for Agricultural Education (AAAE) and utilized by members. The project collects race and ethnicity data for newly licensed program completers (PCs), however, securing this information has been a challenge (Kantrovich, 2010). In 2000, Camp reported that “Agricultural Education teachers are disproportionately white, non-Hispanic males” and suggested efforts be taken to address the underrepresentation of ethnic minorities in agricultural education. Unfortunately, profound underrepresentation still exists today. Lawver, Smith, and Foster (2018) recommended additional research to identify strategies to recruit underrepresented populations and that “major efforts should be made to recruit and prepare minority teachers for the profession.”

Conceptual Framework

The conceptual framework for the NSD project (adapted from Lyndsey et al., 2009) identifies factors contributing to SBAE teacher supply and demand. Due to space restrictions for the poster abstract process, the figure can be viewed in the 2014-2016 NSD three-year report (Lawver et al., 2018) which is available on the AAAE Website.

Methods

This poster provides a historic review of race and ethnicity of PCs in SBAE. The objectives include: 1) describe race and ethnicity of SBAE program completers from 2014-2022 and, 2) determine trends and/or regional differences in race and ethnicity of PCs. Data resulted from NSD data collected (2014-2022), as approved by the Institutional Review Board at The Pennsylvania State University. PC data was provided as supply data from a frame representing agricultural education teacher licensure programs. Given this is a legacy study, the supply instrument was developed from previous iterations with additions and revisions based on literature and feedback from a panel of experts to ensure validity. Reliability was found appropriate for a descriptive study. Data was collected using Qualtrics in accordance with Dillman’s (2014) guiding principles. In total, 2014-2022 surveys yielded 370 records. Since the study is concerned with race and ethnicity of the population, any records with more than 50% “unknown” or incomplete data were omitted. This resulted in the analysis of 365 complete records from 44 states and Puerto Rico.

Results

Data from 120 institutions (49 - North Central, 52 – Southern, 19 - Western), was analyzed. Institutional production of PCs varied from 1 to 350 over the study period. For objective 1, race and ethnicity profiles from 2014-2022 are provided in Table 1. In 2022, the race and ethnicity profile of PCs was 88% white, 1% African American, 5% Hispanic, 6% other, and 1% reported as unknown. Comparatively, practicing teachers were 81% white, 1% African American, 3% Hispanic, 2% other, and 13% reported as unknown (Foster et al., 2022). Objective 2 looked at trends and regional differences in PCs’ race and ethnicity. Nationally, white PCs declined from 88% to 86%, although this varied from 93% to 86% over the study period. Regionally, race and

ethnicity profiles of PCs were more diverse. North Central averaged 95% white, Southern averaged 87% white, and Western averaged 86% white. At the state level even more variation existed from 0% (Puerto Rico), 75% (Maryland and New Mexico) to 100% (Massachusetts, Iowa, New Jersey, West Virginia, Nebraska, Wisconsin, Michigan, and North Dakota).

Table 1:
Racial distribution of program completers from 2014-2021

Year	White	African American	Hispanic	All Other	Unknown
2014	88%	2%	5%	2%	0%
2015	91%	1%	5%	3%	0%
2016	91%	1%	5%	2%	0%
2017	89%	2%	6%	2%	2%
2018	93%	1%	5%	2%	0%
2019	87%	1%	4%	2%	6%
2020	89%	0%	6%	4%	0%
2021	92%	1%	4%	3%	0%
2022	86%	3%	5%	6%	1%
Average	89%	1%	5%	3%	1%

Findings

SBAE teachers continue to be predominately white. Nationally, there is no discernable trend toward increasing race and ethnicity diversity over the past nine years. Regionally and at the state level, we see differences in both numbers and trends. This is less surprising, since student race and ethnicity demographics in each state differ within datasets such as the National Center for Education Statistics. Anecdotally, California SBAE students are less than 40% white, while some states remain more than 90% white. This implies discrepancies exist in some states when it comes to mirroring program completers' race and ethnicity profiles to SBAE student profiles.

Conclusions and Recommendations for the Profession

If we indeed strive to have a SBAE teaching profession that reflects our students, we have significant opportunities for improvement. Agricultural education teacher preparation programs continue to graduate predominantly White program completers. Using gender as a demographic example, we observe program completer trends influencing the gender demographic profile of the agricultural teachers (Lawver, Smith, & Foster, 2018). This underscores the importance of investing in recruitment and retention of diverse students into teacher education programs. While only one metric of diversity, data suggests effort is needed to align teacher demographics with student, school district, and community demographics. Additional research is needed to understand the magnitude of these issues more clearly. Our profession must capture data like that collected by the National Teacher and Principal Survey (U.S. Department of Education, 2020). Alignment between race and ethnicity of SBAE teachers and students could assist in recruiting and retaining teachers from diverse populations. While desirable for agricultural teachers' and students' race and ethnicity to align, additional research should be done to assess if SBAE students reflect the demographics of schools, and to examine obstacles underrepresented students face when entering college agricultural education programs. Continued study of SBAE students also must address reasons why certain students don't consider teaching agriculture.

References

- Camp, W. G. (2000). *The 33rd volume of a national study of the supply and demand for teachers of agricultural education 1996-1998*. Blacksburg, VA: Virginia Polytechnic Institute and State University. American Association for Agricultural Education.
- Dillman, D. A., Smyth, J. D., Christian, L. M., & Dillman, D. A. (2014). *Internet, mail, and mixed mode surveys: The tailored design method*. Hoboken, N.J: Wiley & Sons
- Foster, D. D., Lawver, R. G., Smith, A. R., Spiess, M., (2022). *National Agricultural Education Supply and Demand Study* [data set]. American Association for Agricultural Education. Retrieved from: <http://aaae.agedweb.org/nsd>.
- Kantrovich, A. J. (2010). *The 36th volume of a national study of the supply and demand for teachers of agricultural education 2006-2009*. West Olive, MI: Michigan State University. American Association for Agricultural Education.
- Lawver, R. G., Foster, D. D., & Smith, A. R. (2018). *Status of the U.S. Supply and Demand for Teachers of Agricultural Education, 2014 - 2016*. <http://aaaeonline.org/Teacher-Supply-and-Demand>
- Lindsay, J. J., Wan, Y., & Gossin-Wilson, W. (2009). *Methodologies used by Midwest Region states for studying teacher supply and demand* (Issues & Answers Report, REL 2008–No. 080). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Midwest. Retrieved from <http://www.eric.ed.gov/?id=ED506631>
- Smith, A. R., Lawver, R. G., & Foster, D. D. (2021). *National Agricultural Education Supply and Demand Study, 2016 Executive Summary*. Retrieved from:http://aaaeonline.org/Resources/Documents/NSD_2016Summary.pdf
- U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS) (2020) “*Public School Teacher Data File,*” 2017–18. Available at: <https://nces.ed.gov/programs/coe/indicator/clr>