The Study Abroad Experiences of Secondary Agriculture, Food and Natural Resources Students

Samantha J. Ludlam[1], Aaron J. McKim[2], and R. Bud McKendree[3]

[1]Coopersville High School
[2, 3]Michigan State University

The ethics committee at Michigan State University has approved this study (STUDY00005424), confirming this study conforms to recognized standards. There are no known conflicts of interest and this research is not from a funded project. Correspondence regarding this article should be addressed to Aaron J. McKim, 331 Natural Resources Building, 480 Wilson Road, East Lansing, Michigan 48824. Email: amckim@msu.edu

Abstract

The purpose of this research was to explore four outcomes for students who participated in a study abroad experience during their secondary school Agriculture, Food, and Natural Resources (AFNR) coursework; specifically, career determination, self-awareness, cultural awareness, and global competence. There were two distinct samples from which data were collected: (a) individuals who formerly participated in a secondary school AFNR study abroad experience and (b) a comparison group of similarly aged individuals without secondary school AFNR study abroad experience. Both groups were given a survey measuring number of countries visited, career determination, self-awareness, cultural awareness, global competence, and demographics. Results illuminate several trends worthy of further consideration, including AFNR travelers reported higher levels of global competency and cultural awareness when juxtaposed to the comparison group. Examining the relationships among variables, cultural awareness and number of countries visited yielded the strongest relationship. None of the correlations were statistically significant; therefore, potential conclusions are limited. From this exploration, encouraging both students and teachers in agriculture to explore opportunities for international study abroad, especially when programmatic objectives include student development of global competence and cultural awareness, is recommended.

Keywords: career determination, cultural awareness, global competence, self-awareness, study abroad

Study abroad experiences are defined as “any number of arrangements by which students complete part of their degree program through educational activities outside the United States" (Purdue University, 2021, lines 2-3). During the 2018-19 academic year, 347,099 U.S. post-

secondary students studied abroad, representing almost 250,000 more students than in 1994 (Martel et al., 2020). Although study abroad experiences and their benefits have been researched at the post-secondary level, there is a dearth of scholarship at the secondary school level. Within the context of Agriculture, Food and Natural Resources (AFNR) Education, there are even fewer studies examining this topic. The lack of study abroad programs available to secondary school students, especially programs focused on AFNR systems, is likely the cause. In 2020, however, one of the largest study abroad companies for secondary education (i.e., Education First Tours), started a campaign catering specifically to AFNR programs and their students (Fitzgerald, 2020). With new opportunities, it is critical to learn more about study abroad experiences and how they benefit students. In this research, we explore the experiences of students who formerly participated in a study abroad during their secondary school AFNR coursework in Michigan.

Literature Review and Theoretical Framework

Existing scholarship on study abroad programs has focused almost exclusively on post-secondary or teacher education programs. These studies have explored myriad outcomes, including cross cultural awareness (Lokkesmore et al., 2016), cultural competency (Bunch et al., 2018), global competencies (Sankey et al., 2014), and global citizenship (Berg & Schwander, 2019). Global competency, as an example, has been explored as a multi-dimensional outcome which includes a student's ability to (a) explore cultures, (b) appreciate new perspectives, (c) communicate across differences, and (d) engage in action (Asia Society, 2005). Additionally, case studies on study abroad experiences illuminate the lived experiences of students during these opportunities. For example, students from Louisiana State University shared how they felt "privileged" during their experience in Nicaragua and learned many things about the local culture and agricultural systems (O'Malley et al., 2019, p. 199). Additional research illuminates employers view study abroad experiences favorably when considering a résumé; however, noted employers want students to have gained awareness or competencies transferable to their career (Harder et al., 2015). Other studies have examined the effect of study abroad on academic performance, with Xu et al. (2013) reporting positive correlations between study abroad and academic performance indicators (i.e., GPA, graduation rate, and graduation timeline). Existing scholarship illuminates the impact of study abroad experiences on post-secondary students; however, it is unclear if those positive impacts translate to experiences at the secondary school level.

To investigate this important topic, we operationalized Astin's (1991) input-environment-output (I-E-O) model as the theoretical framework. The I-E-O posits individuals start an educational experience with certain qualities that influence their engagement (i.e., inputs). Through the environment of their experience, individuals develop measurable outputs (e.g., knowledge, skills, attitudes). Students engaged in secondary school AFNR education study abroad experiences were viewed as the inputs and their study abroad experience was conceptualized as the environment. For this study, the outputs of interest were career determination, self-awareness, empathy, cultural awareness, and global competence.

Purpose and Activities

The purpose of this research was to explore the study abroad experiences of secondary school AFNR students as they relate to career determination, self-awareness, empathy, cultural awareness, and global competence. This purpose was achieved via three distinct objectives: (a) describe the number of international travel experiences former participants in a secondary school AFNR study abroad experience participated in as well as a comparison group; (b) evaluate the outcomes (i.e., career determination, empathy, cultural awareness, and global competence) of former secondary school AFNR study abroad participants as well as a comparison group; and (c) describe the relationship between international travel experiences and educational outcomes.

Methods

Population, Sample, and Data Collection

There were two distinct samples from which data were collected for this research. The first sample was titled the "AFNR Traveler Group." Educators at three Michigan secondary school AFNR programs in which students engaged in international study abroad experiences provided a list of 37 former participants. In addition, a student comparison group consisting of 33 undergraduate students at Michigan State University enrolled in AFNR Education without secondary school AFNR study abroad experiences was identified. Importantly, the two groups were recruited to homogenize age and life experiences; the AFNR Traveler Group included students who had formerly participated in secondary school AFNR study abroad experiences and were now enrolled as undergraduate students or similarly aged individuals pursuing a career. To collect data, a Qualtrics survey was sent to the 70 potential respondents, starting in February of 2021. Over the course of five weeks, six emails encouraged individuals to participate in this survey. In total, 32 complete responses were received, for a 47.76% response rate; 16 respondents were in the AFNR traveler group (i.e., 42.34% group response rate) and 16 were in the student comparison group (48.48% group response rate).

Instrumentation

The survey included five outcome constructs (see Table 1). Items within the constructs were measured on a five-point scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). In addition, the survey included measures of international travel experiences and demographic information.

Face and content validity were evaluated by a panel of three professionals in agricultural education with expertise

Table 1.

Description of Constructs

Construct	Items	Example Item	Original Construct Source	Post-hoc Reliability
Global Competence	11	Global Competence	Foster et al. (2014) Table 3	0.91
Cultural Awareness	11	Cultural Awareness	Foster et al. (2014) Table 7	0.89
Empathy	16	Empathy	Spreng et al. (2009)	0.92
Career Determination	6	Career Determination	Crites and Savickas (1996) Career Confidence	0.86

in social science research methods. To measure the reliability of the constructs, a post-hoc Chronbach's Alpha was calculated for each construct (see Table 1).

Data Analysis

Data were retrieved from Qualtrics and analyzed using SPSS. For our first objective, the mean number of countries visited by each group of students was calculated. For the second objective, we calculated the average scores for each construct separately for the two groups. Our third objective was to describe the relationship between international travel experiences and outcomes; therefore, we calculated a Pearson correlation between the variables across both groups.

Description of Respondents

All respondents had taken at least one secondary AFNR course; 43.90% of respondents had completed at least four years of AFNR coursework. All the respondents graduated high school between 2012 and 2020 and 62.50% maintained a GPA over 3.50. The respondents ranged in ages from 18 to 26. Six of the respondents identified as male, 24 identified as female, and two respondents did not report their sex.

Findings

To address the first objective, we identified the number of countries each group had traveled to outside the United States (see Table 2). Although the means between the two groups were similar, the student comparison group (M = 3.50; SD = 3.33) had a slightly higher average.

For the second objective, we identified an average score for each outcome construct for the two groups (see Table 3). The average scores for global competence (M = 3.96; SD = 0.39) and cultural awareness (M = 4.52; SD = 0.45) were slightly higher for those students who studied abroad. Alternatively, the scores for empathy (M = 4.14; SD = 0.39) and career determination (M = 2.99; SD = 0.81) were higher in the student comparison group.

To accomplish objective three, a correlation between the number of countries visited and each outcome construct was calculated (see Table 4). No statistically significant correlations were identified; however, the highest correlation was identified between cultural awareness and the number of countries visited (r = .152; p-value = .40).

Table 2.

Average Number of Countries Visited by Group

Group	*M*	*SD*
Student Comparison	3.50	3.33
AFNR Travelers	3.38	1.59
Total	3.44	2.56

Discussion, Recommendations, and Conclusions

The emergence of new study abroad opportunities for secondary school students in AFNR underscores the need for, and timeliness, of this scholarship. Importantly, however, this research was limited by two factors. First, the scholarship is limited by the self-selection of students who opted to participate in a secondary school AFNR study abroad experience. Students who opted to engage in these experiences may have already possessed the outcomes evaluated in this study (e.g., cultural awareness, global competence); thus, we are uncertain if the experience itself was the catalyst of higher scores. Second, everyone has different lived experiences (e.g., interactions with international visitors, consumption of international news, engaging with international peers via social media) which may have impacted the outcomes evaluated in this study. These diverse, unique experiences were not accounted for in our analysis due to time and survey limitations.

Recognizing these limitations, results from this research illuminate several trends worthy of further consideration. First, the group of AFNR travelers had traveled to fewer countries than the student comparison group. This result was not expected; however, we believe this was skewed by two individuals in the student comparison group who reported travelling to 11 countries.

When considering the utility of secondary AFNR study abroad experiences, the most promising findings were AFNR travelers reporting higher levels of global competency and cultural awareness. Results indicating higher cultural awareness, when compared to global competency, is consistent with prior literature (Sankey, 2014). In total, these data suggest structured academic experiences offered for secondary AFNR students can result in increased educational outcomes like global competency and cultural awareness.

Table 3.

Average Construct Scores by Group

Group	Global Competence		Cultural Awareness		Empathy		Career Determination	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Student Comparison	3.30	0.71	4.11	0.44	4.14	0.39	2.99	0.81
AFNR Travelers	3.96	0.39	4.52	0.45	4.11	0.58	2.71	1.06
Total	3.63	0.65	4.39	0.50	4.13	0.48	2.86	0.93

In contrast, the student comparison group scored higher in empathy and career determination. Importantly, students in the comparison group were enrolled in AFNR Education, and planned to become teachers, thus, it is not surprising they reported a higher career determination score. It is plausible teachers also tend to be more empathetic in nature. In conclusion, findings provide promising evidence of the value of study abroad experiences while reinforcing strengths of our comparison group, which was comprised of preservice teachers.

Table 4.

Correlation between Number of Countries Visited and Constructs

Construct	Pearson Correlation	*p*-value
Global Competence	-.030	.87
Cultural Awareness	.153	.40
Empathy	.069	.72
Career Determination	-.011	.95

Examining the correlations identified in objective three, cultural awareness and number of countries visited yielded the strongest relationship. On the other hand, global competence and number of countries visited resulted in one of the weaker relationships. Neither correlation was statistically significant; therefore, potential conclusions are limited. One hypothesis, however, emerges; specifically, increasing cultural awareness and competence may no longer depend on a "boots on the ground" experience. Rather, those who are the most in touch with the rest of the world may stay informed through other outlets (e.g., regular media consumption, virtual interactions with people of other nationalities, etc.). We encourage further research to explore this hypothesis.

While the results of this research provide support for Astin's I-E-O model, there is still a lot of ambiguity regarding the environment of each study abroad experience. Research exploring the length and types of study abroad experiences in relation to educational outcomes alongside a deeper dive into the other international travel experiences students have experienced will add to this line of inquiry. Qualitative research should be leveraged to seize these opportunities for scholarship.

As additional recommendations, we encourage both students and teachers in secondary AFNR programs explore opportunities for international study abroad focused on AFNR; especially when programmatic objectives include student development of global competence and cultural awareness. We also recommend scholars in AFNR Education continue to explore the topic of study abroad within secondary school settings. Since this is a growing industry, it is important to be in tune to the learning these experiences cultivate.

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