

Predicting Intercultural Sensitivity Using Demographic Variables Among College of Agriculture Undergraduate Students

Fabregas Janeiro Maria G.

UPAEP University, Puebla, Mexico;

Oklahoma State University, Oklahoma, United States

Kelsey Kathleen D., Robinson Shane J.

Oklahoma State University,

Oklahoma, United States

Employers seek interculturally sensitive professionals who can successfully navigate among a variety of cultures and serve as ambassadors to promote commerce internationally. To facilitate the development of interculturally sensitive citizens, universities offer students a variety of opportunities, such as studying abroad and internationally designated courses (I-courses), with the assumption that by experiencing another culture, participants will deepen their levels of intercultural sensitivity. These assumptions are rarely tested empirically. The purpose of the study was to determine if agriculture students' level of intercultural sensitivity differed in terms of the type of intercultural experience selected (studying abroad experience or I-course) and various demographic variables. The findings indicated that 98.01% of the students were operating at the lowest levels of intercultural sensitivity (ethnocentric stage), as measured by a standardized and validated instrument. In conclusion, agriculture undergraduate college students' level of intercultural sensitivity did not differ in terms of the type of intercultural experience selected (studying abroad vs. I-course) or various demographic variables including college year. Implications suggest that neither the time spent in college (from freshman to senior years) nor experiences (studying abroad or I-courses) increased levels of intercultural sensitivity among population studied. Due to the importance of developing intercultural sensitivity among the student body, it is recommended that colleges of agriculture implement a multi-pronged approach to developing intercultural sensitivity among undergraduates, including empirically tested experiences that are known to increase cultural competency. Future research should focus on identifying variables that predict changes in intercultural sensitivity, so that program planners can achieve their goal of developing intercultural competence among the student body.

Keywords: intercultural competence and sensitivity, international experiences, predictors, faculty-led, international courses

Introduction

A global economy requires employees who can thrive in multicultural societies. Interculturally sensitive professionals who understand the importance of cultural differences and who can function in a variety of cultures effectively and appropriately are needed to serve as ambassadors to develop commerce for their employers (Gacel-Avila, 2005; Hammer, Bennett, & Wiseman, 2003; Hofstede, Van Deusen, Mueller, &

Fabregas Janeiro Maria G., UPAEP University; Oklahoma State University.

Kelsey Kathleen D., Oklahoma State University.

Robinson Shane J., Oklahoma State University.

Charles, 2002; Talbert & Edwin, 2008). To acquire cultural competence, institutions of higher education offer students a variety of experiences, such as studying abroad and internationally designated courses (I-courses), with the assumption that by participating in these experiences, students will become interculturally competent (Anderson, 2004; Briers, Shinn, & Niguyen; 2010; Bunch, Lamm, Israel, & Edwards, 2011; Connell, 2006; Irani, Place, & Friedel, 2006).

The agriculture profession in the United States remains largely Caucasian and male (Kantrovich, 2010), in spite of the profession's awareness of the need for greater cultural competence among practitioners, it struggles to recruit and retain a diverse workforce. LaVergne, Larke, Elbert, and Jones (2011) reported that although secondary agricultural education teachers in Texas had favorable attitudes towards inclusion and supported serving a diverse audience, they faced insurmountable barriers to doing so. Namely, they lacked professional agriculturalists of color to serve as role models for students of color who could show them the attributes of the profession and serve to recruit additional people of color into secondary agricultural education programs. The agricultural profession finds itself in a Catch-22 dilemma regarding enhancing cultural competency.

The system-wide paradox of failing to recruit and retain diverse and culturally sensitive students into agricultural education programs at the same time that multinational agricultural corporations seek qualified agriculturalists that are capable of working in diverse environments threatens to undermine the future of agricultural education. The United States is predicted to become a minority-majority society by 2050 (Pew Hispanic Center, 2011).

Bhawuk and Brislin (1992) found that between 10% and 40% of personnel engaged in international assignments from the United States based companies were recalled or dismissed because of poor performance. These high failure rates suggest that people selected for international assignments were not prepared to face the challenges inherent in international work, which begs the question: How should universities prepare graduates for roles in a global economy?

A variety of programs have been developed by universities to increase cultural competence among the student body, few of which have shown a significant impact on increasing intercultural sensitivity (for example, experience living in other cultures, studying or teaching in bicultural and international schools, service learning experiences, or learning how to speak another language) (Bayles, 2009; Conrad, 2006; Kelso, 2006; Park, 2006; Straffon, 2003). Given the lack of empirical evidence for the effectiveness of university-sponsored efforts to increase cultural sensitivity among the student body, this study sought to determine if specific variables could predict intercultural sensitivity among undergraduate students in a college of agriculture who participated in either a faculty-led studying abroad experience or I-course.

Conceptual Framework

This study was framed by the conceptual framework of intercultural sensitivity. Intercultural sensitivity is a predictor of intercultural effectiveness and is associated with the potential to exercise intercultural competence. Intercultural competence is the ability to operate effectively and appropriately in more than one language or culture or both (Hammer, Bennett, & Wiseman, 2003) and potentially can be achieved when people increase their intercultural sensitivity. Intercultural sensitivity skills can and should be developed. Hence, the collegial emphasis on programs targeted at international activities (Paige, Jacobs-Cassuto, Yershova, & DeJaeghere, 2003).

Culture is defined as a group of people that share common values and meanings (Peterson, 2004).

Learning about other cultures is an important educational initiative in higher education and is assumed to increase cultural sensitivity. Within the agricultural education profession, educators are expected to prepare agricultural and extension educators for international settings, as well as developing professional competences to be successful change agents (Osborne, n.d.).

To prepare students to work in a diverse society, it is not enough to facilitate multicultural or diverse social settings, take a trip, or learn another language (Peterson, 2004). Learning to deal with intercultural differences requires a conscious effort and a lifelong commitment, including the reflection on personal growth and experiences, and feedback from mentors (Moran, Harris, & Moran, 2007). People who are culturally sensitive are eager to learn about differences between cultures, while respecting those differences, values, and beliefs. Being aware of cultural differences and being capable of thinking and acting in appropriate ways in multicultural environments are qualities of people who are interculturally sensitive (Bhawuk & Brislin, 1992).

The research reported here used Bennett's (1986; 1993) DMIS (Developmental Model of Intercultural Sensitivity) to frame the study and guide data collection and analysis. DMIS explains how people act in different cultural contexts. Hammer et al. (2003) used this framework to develop an instrument to measure intercultural sensitivity called the IDI (Intercultural Development Inventory).

The DMIS was developed using grounded theory with long observation periods. Bennett (1986; 1993) applied concepts from constructivism to identify six stages that people move through to acquire intercultural competence. These stages are a progression of one's worldview that begins with denial and ends with integration. Denial is the stage where a person's culture is experienced singularly and is perceived as the only cultural option acceptable to the individual. People in this stage are indifferent or ignorant of cultural differences. People in denial typically come from homogenous communities and do not interact with people from different cultures. The next stage is defense, where an individual's culture is perceived as the most righteous. People in the defense stage feel threatened by differences and embody a dualistic point of view such as us vs. them. The next stage along the continuum is minimization, characterized by an individual's ability to recognize some differences; however, they retain the notion that all persons are the same essentially and fail to acknowledge basic differences in values and lifestyle (Bennett, 1986; Hammer et al., 2003; Paige et al., 2003). These three stages comprise the ethnocentric dimension of the DMIS.

Three additional stages comprise the ethno relative phase of cultural sensitivity development and are characterized by an individual's ability to recognize cultural differences as a neutral value, neither good nor bad. In the acceptance stage, people recognize and accept cultural differences as part of the human experience and celebrate difference. Adaption is the stage where cultural differences are recognized, allowing individuals to develop skills to relate to and communicate with the people of other cultures successfully. Finally, when an individual attains the integration stage, cultural differences are internalized, and the individual is at ease in other cultures and can successfully interact in a variety of situations. In this stage, the individual has reached a point of cultural competence according to Bennett (1986) and Hammer et al. (2003).

Purpose of the Study

The purpose of the study was to determine: (1) students' levels of intercultural sensitivity; (2) if there was a relationship between students' level of intercultural sensitivity as measured by the IDI v. 2 and their selection of either a faculty-led studying abroad experience or enrollment in an I-course; and (3) if there was a relationship between students' personal characteristics (age, gender, college major, classification in college,

place of birth, experience living in multicultural environments, traveling abroad, or learning another language) and level of intercultural sensitivity.

Methodology

Design

This study was part of a larger study and used a descriptive and non-experimental design to collect data (Creswell, 2005).

Population

The population consisted of 156 students from the State University, College of Agriculture, who were registered in an undergraduate-level I-course (Animals of the World or International Agriculture) ($n = 43$), or a faculty-led studying abroad program to the Americas (Honduras, Brazil, Costa Rica, or Nicaragua) ($n = 34$), Europe (France or Italy) ($n = 42$), or Asia/Oceania (New Zealand, Thailand, China, or Japan) ($n = 37$). The response rate was 100%. The participants' majors are shown in Table 1.

Table 1

Majors of Students Registered in an Undergraduate-Level I-Course or a Faculty-Led Studying Abroad Program

Major	Frequency	Percent (%)
Animal Sciences and Pre-veterinary	44	28.20
Environmental and Soil Sciences	24	15.38
Agribusiness and Agriculture Economics	7	4.49
Agricultural Education and Communications	19	12.18
Landscape Architecture	12	7.69
Engineering	35	22.46
Other majors	15	9.60
Total	156	100.00

Variables

The dependent variable was students' level of intercultural sensitivity, ODIS (Overall Developmental Intercultural Sensitivity), as measured by the IDI v. 2. The independent variables were the different types of intercultural experiences selected (faculty-led studying abroad or I-course) and seven personal and background factors (international experience, gender, age, classification in college, place of birth, ability to speak another language, and experience traveling abroad).

Data Collection

The data were collected by the primary researcher who met with the studying abroad students in advance of their selected experience at a pre-trip meeting to garner consent to participate in the study. Once the consent was granted, participants were asked to complete the IDI v. 2. The researcher collected data from the students enrolled in the I-course during the first week of the semester by attending the first class session. During the session, the researcher explained the study and garnered consent to participate. After the consent was granted, the students completed the IDI v. 2 and returned it to the researcher.

Instrumentation

The IDI v. 2 is a theory-based, psychometric standardized, 50-item instrument which measures cognitive

structures that are identified as one of six levels of intercultural sensitivity. The IDI v. 2 measures five of the six stages of the DMIS proposed by Bennett (1986; 1993), with a 55 to 145 points scale. The IDI v. 2 is used to assess intercultural sensitivity and results in a profile known as the ODIS. The ODIS identifies the developmental stage where the individual falls along the intercultural development continuum. Individuals who scored between 55 and 85 points were classified in the DD (Denial/Defense) or R (Reversal) stage, scores between 85.10 and 115 were classified in the Minimization stage, and scores between 115.1 and 145 were classified in the AA (Acceptance/Adaptation) stage.

The IDI v. 2 has been tested for validity and reliability (Hammer et al., 2003; Hammer, 2009). The denial/defense scale consists of 13 items and has a Cronbach's alpha coefficient of 0.85. The reversal scale consists of nine items and has a Cronbach's alpha coefficient of 0.80. The minimization scale consists of nine items and has a Cronbach's alpha coefficient of 0.83. The acceptance/adaptation scale consists of 14 items and has a Cronbach's alpha coefficient of 0.84. The encapsulated marginality scale consists of five items and has a Cronbach's alpha coefficient of 0.80.

Data Analysis

The data were analyzed using descriptive statistics to describe and summarize the data. Correlations and one-way ANOVA (analysis of variance) were also used to determine if the variables were related. The use of inferential statistics allowed the researchers to determine the probability that an observed possible difference (mean of the IDI and students' personal and background information between and within groups) was reliable or happened by chance. Readers should be advised that inferential statistics were not used to generalize the findings beyond the study, because the sample was not randomly selected; rather, inferential statistics were used to study the relationships and differences between the dependent and independent variables (Miller, 1994).

Findings

Personal Characteristics

Forty eight point three eight percent of the participants were male and 51.62% were female. The majority (67%) was between 18 and 21 years old, and 95% were born in the United States. The smallest groups were freshmen and sophomores; and the largest group was juniors. The majority (74.41%) of the participants did not speak another language; however, 70.33% had traveled outside the United States prior to this experience.

Students' Level of Intercultural Sensitivity

The mean level of intercultural sensitivity among students was 86.46 out of 145 possible for the ODIS scale or the minimization stage of the IDI v. 2 (see Table 2). Overall, students scored in the ethnocentric stage of the developmental continuum.

Table 2

Descriptive Statistics From the IDI v. 2, ODIS

Description	ODIS
Mean	86.43 (Minimization)
Standard deviation	13.55
Range	64.68
Minimum	60.52 (Denial/Defense)
Maximum	125.20 (Acceptance/Adaptation)

Relationship Between Level of Intercultural Sensitivity and Selection of Experience

To determine if the IDI v. 2 mean scores were different in terms of certain predictors, such as international experience selected, gender, age, college year, place of birth, ability to speak another language, or experience of traveling abroad, a one-way ANOVA was performed. When the IDI v. 2 mean scores were statistically different ($p < 0.05$) and more than two categories were studied, the Tukey HSD Post Hoc Test was performed to determine the significant statistical difference between categories. The results of the ANOVA test indicated no statistically significant differences ($p < 0.05$) for the ODIS among the international experience selected, age, college year, place of birth, experience of traveling abroad, or students' ability to speak another language.

The results of the one-way ANOVA indicated a statistically significant difference when considering students' gender and level of cultural sensitivity along the ODIP scale, $F_{(1, 154)} = 7.08$ ($p < 0.05$) (see Table 3). However, these findings revealed that there was no statistically significant difference in ODIS when the students selected their international experience or when considering their age, college year, place of birth, or experience of traveling abroad. Further, there was no statistically significant difference between ODIS and the ability to speak another language (see Table 3). The overall Cronbach's alpha coefficient for this administration of the IDI v. 2 was 0.79.

Table 3

Summary of ANOVA of the IDI Scores: ODIS by International Experience Selected, Gender, Age, Place of Birth, Ability to Speak Another Language, and Experience of Traveling Abroad

Demographic and background information		Sum of squares	df	Mean square	F	P-value
By international experience	Between groups	594.04	3	198.01	1.08	0.360
	Within groups	27,880.80	152	183.42		
	Total	28,474.85	155			
By gender	Between groups	1,251.67	1	1,251.60	7.08	0.009*
	Within groups	27,223.17	154	176.70		
	Total	28,474.85	155			
By age	Between groups	632.17	3	210.10	1.15	0.331
	Within groups	27,842.68	152	183.17		
	Total	28,474.85	155			
By college year	Between groups	1,510.38	4	377.59	2.12	0.082
	Within groups	26,964.47	151	178.57		
	Total	28,474.88	155			
By place of birth	Between groups	589.45	2	294.72	1.62	0.202
	Within groups	27,885.39	153	182.25		
	Total	28,474.85	155			
By the ability to speak another language	Between groups	310.33	1	310.33	1.69	0.195
	Within groups	28,164.52	154	182.88		
	Total	28,474.85	155			
By experience of traveling abroad	Between groups	164.22	1	164.21	0.893	0.346
	Within groups	28,310.63	154	183.83		
	Total	28,474.85	155			

Note. * statistically significance $p < 0.05$.

Relationship Between Students' Personal Characteristics and Level of Intercultural Sensitivity

Data were analyzed using a Pearson's product-moment coefficient to determine if group/experience of

traveling abroad, age/college year, place of birth/ability to speak another language were related at the $p < 0.01$ level ($r = -0.210$, $r = 0.622$, $r = 0.271$, and $r = -0.206$) (see Table 4). Place of birth/ability to speak another language and ability to speak another language/experience of traveling abroad were related at the $p < 0.05$ level ($r = -0.201$, $r = 0.170$). However, only the correlation between the age of the students and the college year was larger than 0.50, meaning that these two variables have the stronger degree of linear relationship (see Table 4).

Table 4

Group Pearson Correlation Matrix of Independent Variables

	Group	Gender	Age	College year	Place of birth	Ability to speak another language	Experience of traveling abroad
Group	1.000						
Gender	0.012	1.000					
Age	0.003	-0.036	1.000				
College year	-0.089	0.071	0.622**	1.000			
Place of birth	-0.104	0.015	0.271**	0.264	1.000		
Ability to speak another language	-0.075	-0.108	0.206**	-0.121	-0.201*	1.000	
Experience of traveling abroad	-0.210**	-0.067	-0.029	-0.039	-0.130	0.170*	1.000

Notes. ** Correlation is significant at the < 0.01 level (2-tailed); * Correlation is significant at the < 0.05 level (2-tailed).

Conclusions

Ninety-eight percent of the students were operating in Bennett's ethnocentric stage of the DMIS continuum, as measured by the ODIS. The mean score of the ODIS was 86.43, which corresponded to the minimization stage of the continuum. In this stage, students perceived their own culture as the most important one. Participants were able to recognize some differences, but they perceived that all persons were the same essentially (Bennett, 1986, 1993; Hammer et al., 2003).

The findings revealed that there was no statistically significant difference ($p < 0.05$) in intercultural sensitivity between the students' intercultural experience selected, age, college year, place of birth, and experience of traveling abroad. This finding is similar to the research by Fretheim (2007), who found no relationship between background variables (i.e., years working in international schools and years living abroad), and participant's IDI scores, and Ayas (2006), who found that participants who spent time living in a different culture showed no statistically significant difference in intercultural sensitivity.

The findings documented a statistically significant difference ($p < 0.05$) in intercultural sensitivity among students' gender. These results are similar to Ayas (2006), Bray (2004), and Helmer (2007), who also found statistically significant differences in gender while using samples of IDI developmental scores. However, the differences in gender were studied further by Hammer et al. (2003), who concluded that for the denial/defense scale, males scored significantly higher than females. Because gender was not observed across the other four scales systematically, the authors concluded that the IDI was not influenced by gender differences.

The levels of intercultural sensitivity were not different among students when considering their demographic and background information (i.e., students international experience selected, age, college year, place of birth, ability to speak another language, and experience of traveling abroad, demographic information, and background information). As such, the variables selected were not adequate predictors of intercultural sensitivity.

Overall, there was no statistically significant difference in the ODIS between freshmen and seniors, between students that traveled abroad, or between students that were able to speak another language. In short, students' level of intercultural sensitivity was not related to their selected experience, or personal characteristics.

Recommendations and Implications for Practice

The research reported here documented no observable difference in levels of intercultural sensitivity among freshmen, sophomores, juniors, or seniors, indicating that neither additional maturation nor college experiences mattered in terms of developing intercultural sensitivity. It is not enough to expose students to a multicultural environment or offer students experiences without a multi-pronged approach to developing intercultural sensitivity. As such, faculty-led opportunities and international courses should be redesigned to focus on improving students' intercultural competence in addition to providing a tourism experience (Briers, Shinn, & Nguyen, 2010; Zhai & Scheer, 2002).

Findings from this and other studies have documented that the isolated efforts, such as I-courses and studying abroad experiences are not sufficient for impacting intercultural sensitivity among undergraduate students (Anderson, 2004; Ayas, 2006; Conway, 2008; Fabregas, 2009; Fabregas, Kelsey, & Robinson, 2011; Fretheim, 2007; Park, 2006). Intercultural education is most effective when it is a part of a comprehensive developmental plan to increase intercultural sensitivity among students (Fabregas et al., 2011). Intercultural education in colleges of agriculture should include: (1) a comprehensive intercultural plan for each student; (2) a model of intercultural sensitivity supported by a theoretical framework of intercultural education including intercultural sensitivity stages; (3) an initiative to support foreign language development; and (4) intra- and extra-curricular activities with faculty to enhance intercultural sensitivity development among students. Such programs should include student mentoring, small group support, tutoring and academic assistance, and educational programming. Faculty can be supported with organizational leadership, professional development regarding the design of intercultural sensitivity plans with students, and monitoring and evaluating efforts (Bayles, 2009; Buck, 1997; Conway, 2008).

Over a decade ago, Swortzel (1998) and Talbert and Larke (1995), and recently Barrick, Samy, Gunderson, and Thoron (2009), and Strong and Harder (2011), alerted agricultural educators and extension agents to the lack of diversity and the need of developing international competences within the agricultural education and extension curriculum. They assessed agricultural education and extension programs regarding diversity, multiculturalism and pluralism of the curriculum, field experiences, inservice for students, and competence development. They recommended that all agricultural education and extension programs provide pre-service teachers with at least one field experience that included a diverse student body, as well as the participation in courses like change strategies and program evaluation. Unfortunately, these recommendations have gone largely unheeded. Rather, students can select I-courses, D-courses (diversity), and short-term faculty-led experience that have not been shown to significantly improve cultural competency, thus, jeopardizing students' ability to succeed in a diverse and international society. Agricultural and extension educators must develop the ways and means to integrate cultural competence building activities into the curriculum if they are going to prepare students to work in a diverse society, simply because diversity is one of the most significant developmental social aspects of our time (Talbert & Edwin, 2008; Strong & Harder, 2011).

Future Research

Future research should focus on identifying interventions that have the power to impact students' levels of intercultural sensitivity, and incorporate those efforts in a comprehensive developmental plan of intercultural sensitivity. Systematic assessment of comprehensive developmental plans should focus on the degree of change from freshmen to senior in terms of developing deeper levels of intercultural sensitivity.

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