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Does Length of Study Abroad Impact Cultural Intelligence of Dietetics Students?

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Abstract

As the U.S. population becomes more diverse, employers are seeking individuals who can work with people of various cultures. This study sought to answer if international travel, and more specifically study abroad, impacted dietetic students' cultural intelligence. Over 400 responses from dietetic undergraduate and graduate students were analyzed with hierarchical regression and results showed that traveling abroad, as well as length of study abroad were significantly related to the cultural intelligence of students. The lack of diversity in the profession of dietetics, coupled with our growing global world, demonstrates the need for educators and administrators to ensure dietetic professionals are positioned to meet the diverse needs of their patients and clients.

Abstract in Spanish

A medida que la población de los Estados Unidos se vuelve más diversa, los empleadores buscan personas que puedan trabajar con personas de diversas culturas. Este estudio buscó responder si los viajes internacionales, y más específicamente los estudios en el extranjero, impactaron en la inteligencia cultural de los estudiantes de dietética. Se analizaron más de 400 respuestas de estudiantes de pregrado y posgrado en dietética con regresión jerárquica y los resultados mostraron que viajar al extranjero, así como la duración de los estudios en el extranjero, estaban significativamente relacionados con la

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inteligencia cultural de los estudiantes. La falta de diversidad en la profesión de la dietética, junto con nuestro creciente mundo global, demuestra la necesidad de que los educadores y administradores garanticen que los profesionales de la dietética estén posicionados para satisfacer las diversas necesidades de sus pacientes y clientes.

Keywords:

Cultural intelligence, study abroad, United States, dietetics

Introduction

Study abroad is defined as higher education that takes place outside the student's country of origin (Holtbrügge & Engelhard, 2016). As of 2020, about 8% of U.S. students participated in study abroad experiences during undergraduate programs. (Institute of International Education, 2022). While the number of students who have participated in study abroad since the 1990's had displayed an upward trend, not surprisingly, this number nearly flatlined in 2019-2020 due to the COVID-19 global pandemic (NAFSA, 2022).

Prior to the impact of the pandemic on study abroad, the majority of students who studied abroad were White (69%), compared to Hispanic or Latino(a) (11%), Asian or Pacific Islander (9%), Black or African-American (6%), Multiracial (5%), and American Indian or Alaska Native (<0.5%) (Institute of International Education, 2022). Trends over the past two decades have supported that around two-thirds of study abroad participants identify as female (Institute of International Education, 2022). Additionally, the five-year trends show that vast majority of U.S. students are studying abroad in Europe compared to other regions (NAFSA, 2022).

When considering participating in study abroad, students may be presented with multiple program types to choose from. These include but are not limited to faculty-led programs, exchange programs between two educational institutions, internship programs, non-credit programs, and various third-party program providers that are not affiliated with a specific educational institution. In 2019-2020, due to the pandemic, there has been an increase in online global learning experiences, including internships and consulting with global companies and videoconference dialogues (Open Doors Data, 2021). In addition to the various program types, students must also

consider the length of time they will study abroad for, and what may be feasible for their curriculum plan and/or their personal interests.

In 2018-2019, 65% of students who studied abroad completed short-term study abroad experiences, which is defined as eight weeks or less during the academic year compared to those studying abroad for an academic or calendar year (long-term) (2%) and mid-length (33%) study abroad experiences over one or two quarters/semesters (Institute of International Education, 2022). As such, short-term experiences have gained momentum in academia as well as in the literature with a focus on cross cultural outcomes (Iskhakova & Bradly, 2022).

Regardless of the program type and duration, there are many benefits to participating in study abroad programs. Students who went abroad for school showed a greater increase in intercultural communication skills than those who did not study abroad (Williams, 2005). Study abroad has also been found to increase the value students' place on intercultural awareness and their development of global competencies (Byker & Putman, 2019). When study abroad is combined with an academic focus, the impact on global citizenry is greater (Tarrant et al., 2014). Cunningham (2014) found that there were several benefits for dietetics students to participating in a study abroad program, such as increased knowledge related to diet, health, and culture along with building relationships with students, faculty, and host country residents. Further, the intentional interactions with these three constituents can have a profound impact on the transformational learning that occurs during study abroad (Iskhakova & Bradly, 2022).

Literature shows that employers seek graduates with global perspective (Yamazaki & Kayes, 2004). Recruiters were more likely to rank candidates higher for a position if they had studied abroad compared to a similar candidate who did not; however, they study abroad history of the recruiter was noted to impact the rankings (Turos & Strange, 2016). Similarly, a study that assessed over 2500 participants who had studied abroad over a 25-year period in over 500 U.S. academic institutions found that 66% of participants who studied abroad were asked about the experience during a job interview and 40% reported that they were told that their study abroad experience set them apart from other candidates (Hubbard & Rexeisen, 2020). Regardless, there are many reasons more students do not participate in study abroad. Luethge (2004) identified the perceived risks as financial, psychological, physical, social, and

performance. Another barrier to study abroad could be the perception that U.S. students view study abroad programs as a chance for adventure and fun (Sánchez et al., 2006). To increase the number of students who participate in study abroad, barriers must be reduced and the benefits highlighted, notably cultural intelligence.

Cultural Intelligence

As the U.S. population becomes more diverse, service professionals, including those in health care will be challenged to provide culturally competent service and care (Alshaibani & Bakir, 2017; Marra et al., 2010; Wells, 2000). Cross et al. (1989, p. iv-v) defined cultural competence as a "set of congruent behaviors, attitudes, and policies that come together in a system, agency, or among professionals enabling them to work effectively in cross-cultural situations"; this begins with a person's cultural intelligence (Early & Makowski, 2004; Egan & Bendick, 2008).

There are a variety of terms and definitions related to cultural awareness and knowledge (Thomas et al., 2008). Cultural humility focuses on self-reflection and self-awareness, and cultural competence related to skilled nursing on the "attitudes, knowledge, and skills necessary for providing quality care to diverse populations" (American Association of Colleges of Nursing, 2008, p. 1). Campinha-Bacote (2002) defines cultural competence as cultural awareness, knowledge, skills, encounters, and desire. Similarly, cultural intelligence (CQ) is a person's ability to effectively function in culturally diverse settings (Earley & Ang, 2003). According to Ott and Michailova (2018), "[i]ndividuals with high CQ are culturally competent…" (p. 99).

The Cultural Intelligence (CQ) scale developed by Ang et al. (2007) consists of four domains. The metacognitive CQ pertains to one's ability to comprehend cultural knowledge, as well as recognizing and adapting conceptual models of cultural norms. This higher order domain is complemented by the cognitive CQ which relates to knowledge of cultural values, norms, and behaviors, including social and legal systems. Motivational CQ reflects one's interest and intention to learn culturally appropriate behavior in diverse settings. Behavioral CQ is based on one's ability to act and speak appropriately when around people of different cultures (Ang et. al., 2007).

The research on CQ has been overwhelmingly positive; thus, studies have looked at various ways to increase CQ (Eisenberg et al., 2013). One study

found that people who had been abroad for work or school had higher CQ than those who traveled abroad for other reasons (Crowne, 2008). Others have found that cultural exposure increases CQ (Lee et al., 2018; Crowne, 2013). More specifically, researchers found that cross-cultural academic training and foreign language skills were positively correlated with CQ. This is important to note because these studies explored CQ in many ways in addition to international travel, such as the previously mentioned cross-cultural academic training and foreign language skills, indicating that CQ may also be increased through domestic cultural experiences. For the purposes of this study, the focus is on findings covering the relationship between CQ and international travel. The number of foreign countries visited and length of stay were related to CQ, but frequency of international travel was not (Lee et al., 2018). Studies have shown CQ can increase through cross-cultural management classes (MacNab, 2013; Eisenberg et al., 2013). Conversely, Isaacson (2014) found that students' cultural competency decreased after a cultural immersion experience (author notes they went from unconscious incompetence to conscious incompetence, meaning the students became more aware that they did not know much about cultural differences). Overall, however, it appears that if the goal is to develop more culturally competent graduates, finding ways to increase their cultural intelligence could be important toward attaining that goal.

Purpose of the Study and Predictions

As such, the purpose of this study was to investigate whether the length of study abroad and the number of times participants (dietetic students) traveled outside of the U.S. significantly impacted the four domains of CQ (metacognitive, cognitive, motivational, behavioral). Based on the previous literature we predicted that the length of study abroad programs of number of times participants had traveled outside of the U.S would significantly impact all four domains of CQ.

Methods

Students majoring in dietetics were the targeted participants for this study. An e-mail was sent to all dietetic program directors listed on the Accreditation Council for Education in Nutrition and Dietetics (ACEND) website (n = 567). The directors were invited to forward a recruitment e-mail from the researcher to students in their program. The e-mail to students included a link to an online survey. The survey included the CQ scale, a 20-item instrument that

uses a 7-point Likert-scale (Ang et al., 2007). Other questions were used to collect demographic information; international travel experience; participation in a study abroad program; length of study abroad experience; location, courses and activities completed; and barriers and incentives associated with participation in study abroad.

Categorical data were recoded and assigned numerical values prior to statistical analysis as follows: Gender (Male = 1, Female = 2); Race (White/Caucasian = 1, Black/African American = 2, Native American/American Indian = 3, Asian/Pacific Islander = 4, Prefer not to answer = 5); Ethnicity (Hispanic = 1, Not Hispanic = 2); Area where participants grew up [Metropolitan = 1, Micropolitan = 2, Neither (Rural) = 3]; Whether languages other than English were spoken in participants' family homes (Yes = 1, No = 2); Number of times participants have traveled outside of the U.S. (One = 1, Two = 2, Three or more = 3); Length of study abroad program for participants who studied abroad [No Study Abroad = 0, Short term (1-3 weeks) = 1, Medium term (1-6 months = 2), Long term (6+ months = 3)].

The CQ dimension scores were calculated and standardized on the 1-7 (strongly disagree - strongly agree) scale developed by Ang et al (2007). The metacognitive dimension had four questions and a standardized mean of 5.72 (SD 0.91). The cognitive dimension had six questions and the standardized mean was 3.83 (SD 1.18). While the motivational and behavioral dimensions each had five questions the standardized means were 5.51 (SD 1.01) and 5.15 (SD 1.07), respectively. The standardized scores for each dimension were used as the dependent variables in the regression models.

Once all data were recoded, a four-step hierarchical multiple regression was conducted to determine the relationship and potential contribution of the independent variables or categorical data on the dependent variable, each CQ dimension, with significance set at $p < .05$. For the purpose of this study, we focus on results and overall analysis at step four considering potential contribution of all independent variables. In step one, age, gender, race, and ethnicity were entered. The categorization of the area in which participants grew up and whether languages other than English were spoken in their family homes were added in step two. In step three, the number of times participants had traveled outside the U.S. was added, followed by the length of study abroad program for those who studied abroad in step four.

Results

Over 400 undergraduate and graduate dietetics students responded to the survey (n = 401). The population was primarily Caucasian (86.0%), female (93.3%), and traditional college-aged students (Mean = 24.3, SD = 5.9), which is typical of dietetics students all across the U.S. (Table 1).

Category		n	%
Gender			
	Male	25	6.2%
	Female	374	93.3%
Age			
	18-29	353	88.0%
	30-39	33	8.2%
	40-49	7	1.8%
	50-59	5	1.3%
Race			
	White/Caucasian	345	86.0%
	Black/African American	14	3.5%
	Native American/American Indian	3	0.7%
	Asian/Pacific Islander	24	6.0%
	Prefer not to answer	13	3.2%
Ethnicity			
	Hispanic	31	7.7%
	Not Hispanic	370	92.3%

TABLE (1): PARTICIPANT DEMOGRAPHICS

When considering all variables at step four, the regression model showed statistically significant results to support the hypothesis that length of study abroad programs and/or number of times participants have traveled outside of the U.S. would have a significant impact on all CQ dimensions. Table (2) below shows results of hierarchical regression analysis of predictors of cultural intelligence (CQ), including age, gender, race, ethnicity, area where the participant grew up, languages spoken at home, times traveled outside the us,

and length of study abroad program. Both ethnicity and number of times traveled outside of the U.S. had positive and statistically significant effects on metacognitive CQ (Beta = .194, p < .05; Beta = .046, p < .05). The results showed a statistically significant regression model for the metacognitive CQ (adjusted R2 = .068, F = 4.485, p < .01). For the cognitive CQ, the regression model was statistically significant (adjusted R2 = .118, F = 7.507, p < .01). Languages spoken at home had a negative but statistically significant effect on cognitive CQ, reflecting the coding as described in the methods section (Beta = -.282, p < .05). Length of study abroad program had a positive and statistically significant effect on cognitive CQ (Beta = .164, p < .05). Number of times traveled outside of the U.S. and length of study abroad program both had positive and statistically significant effects on motivational CQ (Beta = .187, p < .05; Beta = .190, p < .05). Gender had a negative but statistically significant effect on motivational CQ, reflecting the coding as described in the methods section (Beta = -.144, p = <.05). The regression model for the motivational CQ was statistically significant (adjusted R2 = .136, F = 8.579, p < .01). The results showed a significant regression model for the behavioral CQ (adjusted R2 = .060, F = 4.123, p < .01). Length of study abroad program had a positive and statistically significant effect on behavioral CQ (Beta = .144, p < .05). Languages spoken at home had a negative but statistically significant effect on cognitive CQ, reflecting the coding as described in the methods section (Beta = -.171, p < .05).

Dependent Variable	Independent Variables	Beta	t-value	Adjusted R^2	F
Metacognitive	Age	.008	1.195	.068	4.485**
	Gender	.177	-1.432		
	Race	.052	1.379		
	Ethnicity	.194	2.495*		
	Area Grew Up	.061	-1.083		
	Languages at Home	.148	-1.525		
	Times Traveled Outside US	.046	2.125*		
	Length of Study Abroad	.056	1.905		
Cognitive	Age	.074	1.497	.118	7.507**
	Gender	.022	.447		
	Race	-.036	-.650		

	Ethnicity	.101	1.875		
	Area Grew Up	-.059	-1.170		
	Languages at Home	-.282	-4.641**		
	Times Traveled Outside US	.075	1.370		
	Length of Study Abroad	.164	3.145**		
Motivational	Age	.079	1.598	.136	8.579**
	Gender	-.144	-2.950**		
	Race	.009	.180		
	Ethnicity	.028	.528		
	Area Grew Up	-.061	-1.232		
	Languages at Home	-.082	-1.363		
	Times Traveled Outside US	.187	3.426**		
	Length of Study Abroad	.190	3.669**		
Behavioral	Age	.122	2.381*	.060	4.123**
	Gender	-.024	-.477		
	Race	.004	.068		
	Ethnicity	.074	1.331		
	Area Grew Up	-.021	-.409		
	Languages at Home	-.171	-2.730**		
	Times Traveled Outside US	.045	.788		
	Length of Study Abroad	.144	2.677**		

*p< .05, **p < .01

TABLE (2): HIERARCHICAL REGRESSION ANALYSIS OF PREDICTORS OF CQ

Discussion

Though the majority of participants in this study were female (93.3%) and white (86.0%), this is in alignment with the current demographic breakdown of the profession, which, as of September 2022, is currently reported to be 92% female and 80% white (Commission on Dietetic Registration, 2022). It is important to note that the breakdown of students is currently 89% female and 72% white, suggesting the profession is diversifying (Commission on Dietetic Registration, 2022). Regardless, it is evident that the profession is relatively monolithic, highlighting the increased importance of CQ within dietetics, particularly as the world is increasingly global. Dietetic students and dietetic

professionals must be able to provide care that meets the cultural needs of their clients.

This is critically important within dietetics due to the lack of diversity in the profession. Though this study did not specifically collect information on cultural background, it seems plausible that many in this study and in the profession identify as monocultural individuals. Intentional experiences, such as a study abroad experiences, have been shown to have a greater impact on the CQ of monocultural individuals compared to multicultural individuals (Nguyen et al., 2018). Further, monocultural individuals have been shown to have lower CQ both before and after a study abroad experience compared to multicultural individuals (Nguyen et al., 2018), further suggesting the need to focus on developing CQ within dietetics.

Exposure to languages other than the students' native language during their study abroad experience has been shown to positively impact CQ (Engle & Nash, 2016; Ott & Michailova, 2017). The results of this study highlighted the impact of languages other than English being spoken at home, as this was found to be a statistically significant predictor for both the cognitive and behavioral domains of CQ. Accordingly, second language proficiency has also shown to positively impact CQ compared to that of domestic students (Kurpis & Hunter, 2017; Robledo-Ardila et al., 2016). This finding suggests that dietetic students and dietitians who are classified as ESL bring an additional value to the profession in terms of their CQ. As the profession gets more diverse due to the intentional efforts by its members and administrators, it will be able to better serve its culturally diverse clientele.

Exposure to various cultures through travel can also impact CQ (Engle & Nash, 2016). The number of times participants traveled outside the U.S. was a statistically significant predictor for the metacognitive and motivational domains. This is in line with other studies which have shown that foreign travel experience (Macnab et al., 2012) and the number of countries visited (Kadam et al., 2019; Morrell et al., 2013) were significantly positively associated with CQ.

The results of this study demonstrated that the length of the study abroad experience was a statistically significant predictor for the cognitive, motivational, and behavior domains of CQ. However, the literature suggests that even short-term experiences can positively impact CQ for these three, as well as

the metacognitive domain when compared to students who did not study abroad (Rustambekov & Mohan, 2017).

As described in this study, the individuals background plays a role in their CQ, and this can be formed by study abroad experiences. It is imperative that dietetic students be prepared to function in culturally diverse settings. Racicot and Ferry (2016) found that for students who studied abroad, the motivational CQ predicted the metacognitive CQ, and this predicted the interest in both studying abroad again and working abroad in the future. Therefore, one way to help increase both the CQ of dietetic students as well as the likelihood that they will be open to culturally diverse experiences is through study abroad.

Limitations, Future Research and Conclusions

Though this research provides insight on the antecedents of CQ within dietetic students, it does not provide a direct cause-and-effect relationship between the variables studied and one's CQ, Regardless, the findings from this study provide data to predict an associative relationship between the independent variables and one's CQ score in each dimension. It is important to note that those with higher CQ may be more likely to study or travel abroad, which may contribute to the findings that the length spent abroad and number of times abroad have an impact on CQ.

Future research could assess the causation between traveling or studying abroad and one's CQ, within each dimension and overall CQ. Research should focus on investigating best practices to teach CQ during study abroad programs, e.g., through cultural classes or immersion, and use pre/posttests to measure the direct effect of this experience on one's CQ score. Lastly, this study used self-reported data from dietetics students, a homogenous field, so further research should explore this topic with students in different areas of study.

The results of this study show the potential impact of study abroad on CQ. In a profession, such as dietetics, which is not very diverse, the importance of these findings cannot be understated. To encourage students and increase the number who participate in study abroad, faculty and university administrators must reduce the barriers and more importantly accentuate the value of study abroad, such as employability and increase in CQ. If employers are seeking more culturally intelligent employees, it behooves them to consider students who have studied abroad.

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