

A CAUSAL-COMPARATIVE STUDY INVESTIGATING DIFFERENCES IN CULTURAL
INTELLIGENCE LEVELS OF COLLEGE FACULTY

by

Annik A. Miller

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

Liberty University

2020

A CAUSAL-COMPARATIVE STUDY INVESTIGATING DIFFERENCES IN CULTURAL
INTELLIGENCE LEVELS OF COLLEGE FACULTY

by

Annik A. Miller

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

Liberty University, Lynchburg, VA

2020

APPROVED BY:

Eric G. Lovik, Ph. D. Chair

Ellen Lowrie Black, Ed. D., Committee Member

Orlando Lobaina, Ed. D., Committee Member

ABSTRACT

In this age of globalization, colleges need to ensure that their students be able to function effectively across cultures upon graduation. This ability is referred to as Cultural Intelligence (CQ) and is comprised of four subfactors: Metacognitive, Cognitive, Motivational, and Behavioral CQ. Faculty play an important role in getting students exposed to the cross-cultural experiences and thoughts needed to develop CQ, yet little is known about the faculty's CQ levels. The purpose of this study with a quantitative causal-comparative cross-sectional research design was to determine if the undergraduate faculty members in this convenience sample have differing levels of CQ between academic units within a large faith-based university in the southeastern United States. The independent variable was the academic units in which the faculty teach and the continuous dependent variables of CQ were measured with the Expanded Cultural Intelligence Scale. A one-way analysis of variance (ANOVA) was conducted with the Composite CQ scores of faculty as the dependent variable, and a multivariate analysis of variance (MANOVA) was conducted, using the CQ scores of faculty on the four factors of CQ as dependent variables. The results of this study indicate there are statistically significant differences between the faculty of several academic units on the Composite, Cognitive, Metacognitive, and Behavioral CQ scores but not Motivational CQ scores. The findings provide valuable information to determine whether CQ training during faculty development should be provided to all faculty across the board or with discipline-specific variations.

Keywords: Cultural intelligence, CQ, cognitive CQ, metacognitive CQ, motivational CQ, behavioral CQ, faculty development

Dedication

This dissertation is dedicated to my family without whom I would not have made it through the grueling process. First to my parents Henri and Charlotte who instilled in us the gift of common sense and the value of self-discipline and hard work. Then to my husband Ron and children Amanda, Briana, and Colin who stuck by me through thick and thin. They encouraged me when I doubted myself, they made me laugh when I needed a distraction, and they picked up the slack when I didn't have time to make dinner. Hopefully, I've been able to show you that we are never too old to learn. And finally, to my nephew Jeremy, who showed me that us country-bumpkins can earn a doctorate, and my sister Brigitte who dragged me on adventures to restore my sanity.

Above all, it is dedicated to God who gave me the strength, guidance, and wisdom to persevere through the doctoral process. No doubt Cultural Intelligence is part of His perfect plan of what heaven will be like: "After this I looked and there before me was a great multitude that no one could count, from **every nation, tribe, people and language**, standing before the throne and in front of the Lamb" (Rev. 7:9, NIV).

Acknowledgments

This dissertation would not have been possible without the tireless guidance and encouragement from my chair Dr. Eric Lovik and committee members Dr. Ellen Lowrie Black and Dr. Orlando Lobaina.

Thank you also to Dr. Cindy Spaulding for leading me to the topic of Cultural Intelligence when my previous topic went off the rails. I will be happy to return the inspirational penny you handed out in EDUC 919 to keep us motivated to persevere till the end.

For their daily encouragement, I am grateful to my colleagues in the Department of Modern Languages. You are always good for a laugh, but also true personification of godliness and Cultural Intelligence.

Dr. Black, I am honored to have been prayed over by your mother and you and am happy that I was able to defend my dissertation on a day that commemorates your father. Everyone who has benefited from your teaching in an intensive no doubt remembers the seemingly impossible task you gave us: to summarize our whole paper in ten words, then three, then one. If you'll indulge me, I'll use two very short words: All nations!

Table of Contents

ABSTRACT	3
Dedication	4
Acknowledgments	5
List of Tables	10
List of Figures	11
List of Abbreviations	12
CHAPTER ONE: INTRODUCTION.....	13
Overview.....	13
Background.....	14
Historical Context	14
Conceptual Context.....	15
Societal Context	16
Problem Statement	17
Purpose Statement.....	19
Significance of the Study	19
Research Question	20
Definitions.....	21
CHAPTER TWO: LITERATURE REVIEW.....	22
Overview.....	22
Theoretical Framework.....	23
Defining Culture	23
Defining Intelligence	25

Distinctiveness of Cultural Intelligence.....	28
Learning Theories	35
Related Literature.....	38
What Is Globalization?	39
Antecedents of Cultural Intelligence	39
Confounding Variables and Boundary Conditions	43
Benefits of Higher CQ in the Workforce	45
Criticism of CQ.....	48
The Role of Colleges in Developing CQ	50
Faculty Development	56
Differences in Cross-Cultural Thinking and Interactions among Disciplines	58
Summary	61
CHAPTER THREE: METHODS.....	64
Overview.....	64
Design	64
Research Question	66
Hypotheses	66
Participants and Setting.....	67
Instrumentation	68
Procedures	73
Data Analysis	75
CHAPTER FOUR: FINDINGS	78
Overview.....	78

Research Question	78
Null Hypotheses.....	78
General Descriptive Statistics.....	79
Hypothesis One: Composite CQ Score.....	81
Descriptive Statistics.....	82
Assumptions Testing for ANOVA.....	83
Results.....	86
Descriptive Statistics: Hypotheses Two through Five	87
Descriptive Statistics: Four Factors	87
Descriptive Statistics: Cognitive CQ	88
Descriptive Statistics: Metacognitive CQ.....	89
Descriptive Statistics: Motivational CQ	90
Descriptive Statistics: Behavioral CQ	91
Assumptions Testing: Hypotheses Two through Five	92
Results.....	97
Summary of the Results	100
CHAPTER FIVE: CONCLUSIONS	101
Overview.....	101
Findings.....	101
Discussion of Results	103
Reflections on Groupings	105
Knowledge Gained from Outliers.....	106
Implications for Practice	109

Limitations	110
Recommendations for Future Research	111
REFERENCES	115
APPENDICES	140
Appendix A: Demographic Questions	140
Appendix B: IRB Approval	143
Appendix C: Informed Consent Form	144
Appendix D: Recruitment Email	146
Appendix E: Recruitment Email Follow-Up 1	147
Appendix F: Recruitment Email Follow-Up 2.....	148
Appendix G: Permission to Use E-CQS	149
Appendix H: Permission to Use Open Doors Graphics.....	150

List of Tables

Table 1: Example Items from the Expanded Cultural Intelligence Scale.....	72
Table 2: Demographic Information	80
Table 3: Descriptive Statistics: Composite CQ Scores by Group.....	83
Table 4: Levene’s Test of Equality of Variance: Composite CQ Scores.....	84
Table 5: Kolmogorov-Smirnov Test of Normality.....	85
Table 6: ANOVA: Composite CQ Score.....	87
Table 7: Descriptive Statistics: CQ Scores by Factor.....	88
Table 8: Descriptive Statistics: Cognitive CQ Scores by Group.....	89
Table 9: Descriptive Statistics: Metacognitive CQ Scores by Group.....	90
Table 10: Descriptive Statistics: Motivational CQ Scores by Group.....	91
Table 11: Descriptive Statistics: Behavioral CQ Scores by Group	92
Table 12: Kolmogorov-Smirnov Test of Normality by Groups on Each Factor.....	94
Table 13: Pearson Product-Moment Correlation.....	96
Table 14: Levene’s Test of Equality of Variance: Four factors of CQ.....	96
Table 15: Multivariate Results for Four CQ Factors.....	97
Table 16: ANOVA Results for Four CQ Factors	97

List of Figures

Figure 1: Increase in international students in the United States between 1953 and 2016...	51
Figure 2: Increase in U.S. students studying abroad between 1989 and 2015.....	52
Figure 3: Boxplots of composite CQ scores by group.....	84
Figure 4: Q-Plot of Group 5 composite CQ scores.....	85
Figure 5: Bar graph of mean composite CQ scores by group.....	86
Figure 6: Boxplots of four factors of CQ scores by group.....	93

List of Abbreviations

American Council on the Teaching of Foreign Languages (ACTFL)

Analysis of Variance (ANOVA)

Cultural Intelligence (CQ)

Cultural Intelligence Scale (CQS)

English as a Second Language (ESL)

Expanded Cultural Intelligence Scale (E-CQS)

Experiential Learning Theory (ELT)

Institutional Review Board (IRB)

Multivariate Analysis of Variance (MANOVA)

Second Language (L2)

Statistical Package for the Social Sciences (SPSS)

CHAPTER ONE: INTRODUCTION

Overview

When traveling abroad many tourists are eager to break the stereotype of the “Ugly American” (Burdick & Lederer, 1958) and show sensitivity when interacting with people in other countries. This “capability of an individual to function effectively in situations characterized by cultural diversity” is called Cultural Intelligence (Ang & Van Dyne, 2009, p. 3). Cultural Intelligence (CQ) is comprised of four facets: Cognitive, Metacognitive, Motivational, and Behavioral CQ (Earley & Ang, 2003). Its relevance extends well beyond mere public relations concerns, as being culturally intelligent rose to become a top five requirement of college graduates over a decade ago (Yankelovich, 2005). As a result of the increased internationalization of higher education, students need to develop intercultural competence while still in school in order to interact with peers and professors. More importantly, 78% of employers surveyed considered intercultural skills to be an essential attribute in their prospective employees, and thus a skill all students should develop before seeking employment (Hart Research Associates, 2015). In order to compete in the global arena, university administrators must be able to show that they are preparing students for this global workforce, both in terms of attracting international student revenue and graduating culturally intelligent students (Griffith, Wolfeld, Armon, Rios, & Liu, 2016). Just 10 years ago, fewer than 10% of college graduates were deemed globally prepared (National Leadership Council for Liberal Education and America’s Promise [NLCLEAP], 2007). It is, therefore, not surprising that the Association of American Colleges and Universities (2011) now lists the ability to work and communicate effectively across cultures as an essential outcome of higher education. Goh’s statement that “how culturally intelligent our students become is a function of a teacher’s own level of cultural

intelligence” (2012, p. 402) indicates that the role of faculty goes beyond being purveyors of content knowledge. Faculty play an integral part in providing CQ building opportunities for students across the curriculum. To do that effectively, they have to first be aware of their own CQ (Goh, 2012; Lopes-Murphy, 2014), and those lacking in CQ should be provided appropriate training during faculty development sessions. Yet little is known about the CQ makeup of faculty across disciplines, leaving faculty development specialists without data to make informed decisions on how and to whom they should provide CQ training.

Background

Just a few decades ago, working with people from other cultures was a concern only for expatriates. Thanks to advances in travel and technology, however, we now live in an increasingly globalized world, where most people have to interact with businesses, customers, suppliers, coworkers, or visitors from different cultures. The ability to function effectively across cultures is therefore crucial for success in all international dealings (West, 2012).

Historical Context

Attention to culture has ebbed and flowed over the years. After a post-World War II lull, cross-cultural psychologists regained interest in the topic of culture upon the publication of several seminal works by Triandis (1981), Hofstede (1984, 1994), and Markus and Kitayama (1991). Their work on the differences in values such as individualism-collectivism, power distance, uncertainty avoidances, and masculine-feminine sparked new research to explain how culture and behavior influence each other (Ang, Van Dyne, & Rockstuhl, 2015). The tragic events of September 11, 2001 caused Earley and Ang to reflect upon the “fundamental failure of people to understand one another’s culture and needs” (2003, p. xi). Instead of merely wanting to understand differences, they saw the need to help individuals bridge these cultural differences.

The concept of intercultural competence generated a number of studies and produced over 30 models of intercultural competence and some 300 personal characteristics associated with it, encompassing worldviews and attitudes as well as capabilities and traits resulting in a lack of theoretical precision without cohesive framework (Ang, Van Dyne, et al., 2015; Holt & Seki, 2012; Leung, Ang, & Tan, 2014; Spitzberg & Chagnon, 2009).

Conceptual Context

Earley and Ang (2003) based their theory of Cultural Intelligence upon Sternberg and Detterman's (1986) premise that intelligence is not a reflection of just one factor, but is a multidimensional construct. Unsatisfied with the traditional view of academic intelligence and the instrument used to measure the corresponding intelligence quotient (IQ), some theorists focused on nonacademic intelligences (i.e., adaptive behaviors) necessary to successfully navigate the real world outside of the school setting (Earley & Ang, 2003). These theorists viewed social intelligence as an important factor to understand why some individuals are better able to get along with others (R. L. Thorndike, 1936; R. L. Thorndike & Stein, 1937; Walker & Foley, 1973). Later, Salovey and Mayer (1990) highlighted the concept of emotional intelligence, the ability to understand emotions and guide one's actions accordingly. While social intelligence explains successful interaction within one's culture, Earley and Ang (2003) determined that these theories still left unexplained the differing abilities individuals possess to adjust across different cultures. Again following Sternberg's (1986) theory, Earley and Ang (2003) conceptualized Cultural Intelligence as a dimension of intelligence that includes not just a cognitive dimension (cognition and metacognition), but also a motivational and behavioral dimension.

Earley and Ang (2003) also conceptualized Cultural Intelligence as a malleable form of intelligence that is developed through exposure to an intercultural environment. Thus, social learning theory (Bandura, 1977b) and bioecological theory (Bronfenbrenner & Ceci, 1994) feature prominently in their understanding of how to develop CQ. Kolb's (1984) experiential learning theory provided the foundation to explain how individuals use their intercultural experiences to create knowledge. Bronfenbrenner and Ceci,(1994) contend that the extent of development based on interaction with the environment depends on motivation. Thus Earley and Ang emphasized the role of motivation, especially its self-efficacy component (Bandura, 1977a), to explain an individual's effectiveness in handling difficult cross-cultural situations.

Societal Context

Cultural Intelligence is not just a theoretical issue, as the lack of CQ has far-reaching implications in society. Due to its potential impact on the bottom line, the field of business has shown a lot of interest in the CQ concept. Research has shown, for instance, that CQ has a positive impact on dealings in complex cultural interactions in international business (Alon & Higgins, 2005; Earley & Ang, 2003; Livermore, 2015), for military personnel (Davis, 2009; Rockstuhl, Seiler, Ang, Van Dyne, & Annen, 2011), and for adaptation and task performance in diverse settings (Cho & Morris, 2015; Jyoti & Kour, 2015; Konanahalli et al., 2014). Improving CQ levels has become an integral part of the training given to business and military leaders, expatriate workers and their families, as well as participants in study abroad or mission trips (Ang et al., 2007; Crowne, 2008, 2013; Earley & Ang, 2003; Harrison & Brower, 2011; Ward & Kennedy, 1993).

Because CQ is considered a malleable trait (Van Dyne et al., 2012), it naturally is of interest to education also. The increasing diversity inside classrooms means all teachers have to

adapt their teaching to reach their culturally and linguistically diverse students (G. Li, 2013). Beyond relating to their students and purveying knowledge, however, college faculty are also charged with preparing their students to be effective in a globalized world when they leave school. To that end, research supports the importance of providing students repeated opportunities to think and interact cross-culturally (Billings, 2006; Crowne, 2008; Egan & Bendick, 2008; Karnyshev & Kostin, 2010; Lopes-Murphy, 2014; Lovvorn & Chen, 2011; MacNab, 2012; McCrea & Yin, 2012; West, 2012; William & Nagy, 2012). Many students, however, are unable to do this through study abroad or mission trips, due to money or time constraints. Developing the CQ level of all students, therefore, needs to occur across the curriculum in the classroom and not be limited to just disciplines associated with teaching culture (Karnyshev & Kostin, 2010; West, 2012).

As repeated exposure to cross-cultural experiences is needed, understanding the cultural level of all faculty is relevant (Crowne, 2008; Lopes-Murphy, 2014; Lovvorn & Chen, 2011; Tuleja, 2014). There are disciplines where teaching and comparing cultures is an integral part of the subject matter. Disciplines such as foreign languages, anthropology, or global studies prepare students for effective cross-cultural engagement (American Council on the Teaching of Foreign Languages [ACTFL], n.d.; Byram, 1997; Choudhury, 2013; National Standards in Foreign Language Education Project, 2006). Faculty in those departments, having trained in language and/or culture, might thus be expected to have higher CQ levels than faculty in other subject matters that offer little exposure to cross-cultural thought or experiences.

Problem Statement

Possessing intercultural knowledge and competence has been identified as one of twelve “Essential Learning Outcomes” (NLCLEAP, 2007, p. 12) for college learning in the 21st century.

Having ineffective expatriate employees who fail to understand the nuances of their host culture is costly to companies. Schein (1985) explains that culture is how groups of people solve common problems and reconcile their dilemmas, but the simplicity of this definition belies culture's complex nature. Trompenaars and Hampden-Turner (1997) liken the concept of culture to an onion with its multiple layers. The visible products of culture, such as buildings or roads, merely form the outside visible layer which covers a less visible layer of norms and values. Assumptions about existence constitute the core of the onion from which the layers grow. Being aware of cultural differences and being able to adapt to different cues is essential to effectively communicate or conduct business with people of other cultures. For this reason, Earley and Ang (2003) developed a framework called Cultural Intelligence or CQ to explain why some individuals are better at adapting to other cultures. Their conceptualization of CQ includes a cognitive dimension that combines Metacognitive CQ and Cognitive CQ, a motivational dimension, and a behavioral dimension. In order to be effective, all four facets of CQ need to work in unison. Building CQ in students cannot be limited to imparting declarative knowledge in isolated chunks but should occur across the curriculum (Crowne, 2008; Karnyshev & Kostin, 2010; Lovvorn & Chen, 2011; Tuleja, 2014; West, 2012). It is, therefore, incumbent upon faculty across all disciplines to consistently expose students to cross-cultural thinking and interactions (Goh, 2012; Lopes-Murphy, 2014), but little is known about CQ levels of faculty and potential variations among them. Colleges offer faculty development seminars to improve the knowledge and skills of their faculty so they can better meet the learning needs of their students (Elliott, 2014). Providers of professional development must make important decisions on the most effective use of the limited days of training they can offer faculty at the beginning of every semester (Desimone & Garet, 2015). They need to weigh which topics need to be directed

at the faculty as a whole and which are better offered to specific departments. The problem is that there is no research indicating whether there are differences in the CQ levels of undergraduate faculty between academic units to indicate who would benefit most from CQ training.

Purpose Statement

The purpose of this quantitative causal-comparative study was to determine if there is a difference in Cultural Intelligence levels of undergraduate college faculty of individual academic units at a faith-based university. CQ is considered malleable and the four factors can be improved independently through learning, training, and experience (Van Dyne et al., 2012). The independent variable is the academic unit in which the undergraduate faculty teach at this faith-based university (Liberal Arts, Behavioral Sciences, Business, Divinity, Sciences and Technology, Fine and Performing Arts, and Government). The dependent variable, Cultural Intelligence, is defined as the ability to function effectively in culturally diverse situations as measured by the participants' score on the Expanded Cultural Intelligence Scale (E-CQS; Van Dyne et al., 2012).

Significance of the Study

This study will contribute to the emerging body of knowledge on the relatively recent concept of Cultural Intelligence (Earley & Ang, 2003). As faculty play an integral part in developing students' CQ (Goh, 2012; Lopes-Murphy, 2014), it is important to understand their CQ profile in order to equip them to infuse culturally intelligent practices into the curriculum and better prepare students for global work and service. Though the Composite CQ score is important, Earley and Ang (2003) emphasize that each of the four components represents a different capability. The data gathered through this study were used to investigate differences in

Composite CQ, as well as the individual factors (Metacognitive, Cognitive, Motivational, and Behavioral CQ), and help determine whether faculty in certain disciplines share similar CQ traits. Whether data reveal significant differences in CQ between disciplines or not, the findings can inform the decisions faculty development providers make about the appropriate way to deliver CQ training (Desimone & Garet, 2015; Elliott, 2014). The absence of significant differences between some units indicates that faculty in those schools may benefit equally from CQ training, whereas lower levels in other units within the university indicate a need to target efforts toward them. This information allows for discipline-specific training on how faculty can integrate intercultural learning activities into their courses that keep students actively engaged and stimulated (Barker & Mak, 2013). Dar, Jabeen, Jadoon, and Dar's (2016) findings indicate that "faculty members at all levels are aware of the current dynamic changes in the field of teaching and they are keen to learn the state of art teaching techniques and methodologies for effective teachings" (p. 332). CQ would seem especially important at a faith-based university (Taylor, Van Zandt, & Menjares, 2013) where students from all disciplines are sent into the world to be the hands of Christ and need CQ, not merely to make money, but to serve others and affect lives. This requires the ability to interact effectively across cultures (MacNab & Worthley, 2012). The findings of this study indicate a need for other universities to likewise query their faculty on their CQ level to help guide future faculty development seminars.

Research Question

RQ1: Do the undergraduate faculty in individual academic units in a major university have different levels of Cultural Intelligence when compared to other units, as measured by the Expanded Cultural Intelligence Scale?

Definitions

1. *Behavioral CQ* - Behavioral CQ refers to an individual's flexibility to implement appropriate verbal and nonverbal actions during multicultural encounters (Earley & Ang, 2003).
2. *Cognitive CQ* - This aspect of CQ refers to the knowledge about countries and culture-specific norms and practices, and how it informs the way people think or act differently (Van Dyne, Ang, & Koh, 2008).
3. *Cultural Intelligence (CQ)* - Cultural Intelligence is the ability to function effectively in cross-cultural interactions (Van Dyne et al., 2008).
4. *Culture* - The patterned way of thinking that results from the assimilation and interaction of values and environmental responses (Hofstede, 1984).
5. *Faculty Development* - "An intentional set of educational activities designed to equip faculty to grow in their professionalism" (McKee & Tew, 2013, p. 13).
6. *Globalization* - The significant impact that events and decisions occurring in one part of the world have on communities in other parts of the world (McGrew, 1992).
7. *Metacognitive CQ* - Metacognitive CQ is an individual's active awareness of differences between cultures that comes from knowledge and awareness, and the ability to adjust mental maps accordingly (Van Dyne et al., 2008).
8. *Motivational CQ* - Motivational CQ refers to the capability (interest and confidence) to focus attention on cultural differences (Van Dyne et al., 2008).

CHAPTER TWO: LITERATURE REVIEW

Overview

Language is intertwined with culture; each is necessary to understand the other. In fact, philosopher Ludwig Wittgenstein (1953) described language as a social practice that needs to be observed in order to communicate with a given social tribe. He considered words as part of a language game that have meaning only for those familiar with the game and its rules (Wittgenstein, 1953). Even among people of a social tribe who share the same cultural context, a person with high cognitive and social intelligence is better equipped to understand and react to another person than those with low levels (Kihlstrom & Cantor, 2000). The rules of the game change again, however, when people have to interact across cultures with people who do not share the same references. Though they may know the words to communicate in the other language, they may not know all the cultural rules needed to successfully play the game. As the number of international travelers and expatriates has increased, it has become increasingly important to understand why some individuals are more successful at adapting to their new environment than others. Earley and Ang (2003) coined the term *Cultural Intelligence* (CQ) when they investigated what allowed some people to use the available information in unfamiliar settings to develop a new attributional and perceptual frame more quickly than others. They explained that “each individual brings to a situation a somewhat different mix of CQ abilities, which are often influenced by one’s values, learning history, interest, and goals” (Earley & Ang, 2003, p. 190). Though this statement highlights that each person has a unique CQ profile, it also indicates that similar learning history, interests, and goals could lead to congruent CQ skills. Livermore (2015) summarized the relevance of high levels of CQ in these words:

Having a high CQ doesn't mean exhibiting flawless behavior in cross-cultural settings. Instead, it is personified by people with a strong sense of their own cultural identity. They know who they are and what they believe, but they're equally interested to discover that in others. And individuals with high CQ have an integrated view of the world that appreciates both the similarities and differences among people. (p. 8)

This review of literature first examines the theoretical framework of the concept of CQ and the existing body of knowledge on its antecedents and consequences. Then, it explores the literature related to the shared learning history of faculty and the role of faculty development in improving CQ.

Theoretical Framework

Cultural Intelligence is a relatively new dimension of intelligence, conceptualized roughly 15 years ago by Earley and Ang (2003) to explain what allowed some individuals to adapt better to different cultures than others. This section delves into an understanding of what CQ is and how it fits into the conceptualization of intelligence. As CQ is considered a malleable trait (Earley & Ang, 2003), relevant learning theories that form the framework for developing CQ will also be addressed.

Defining Culture

Borders may define the limits of a country, but they cannot keep issues such as political, ecological, or environmental developments from reaching beyond the confines of those borders. Many confrontations occur between individuals or nations because their cultures think, feel, and act differently (Hofstede, Hofstede, & Minkov, 2010). The rapid globalization of the past century has led to unprecedented interconnectedness between people around the world, and as a result, to increased opportunities for conflict. Elie Wiesel stated that cultural hatred has always

been the major source of human conflicts (Wiesel & Heffner, 2009), yet little is still known about the psychological outcomes of the globalization phenomenon (Chiu, Gries, Torelli, & Cheng, 2011). Ginges and Atran (2013) were able to shed light on one area of globalized conflict: the importance of understanding the sacred values of other cultures. Sacred values are things or ideas that are considered as moral imperatives rather than an ordinary preference, and their link to emotions makes them resistant to material tradeoffs. Intractable conflicts surrounding sacred values are therefore not served by business negotiations but may respond to symbolic concessions that show recognition of core values (Ginges & Atran, 2013). Though such conflicts can occur within a country, such knowledge takes on increased significance in a globalized world.

Interest in the concept of culture dates as far back as the fifth century BC, when historian Herodotus commented that humans evaluated and preferred other cultures based on the standards of their own culture. Yet anthropologists, the scientists who study the characteristics, cultural development, and social customs of humankind, have yet to reach an agreement on how to define culture, in spite of centuries of effort (Spencer-Oatey, 2012). In their review of the concept of culture, Kroeber and Kluckhohn (1952) listed no fewer than 164 definitions of the term. Arnold (1932) used the term *culture* to define artistic or intellectual products. The implication was that only a small portion of any social group possesses this “high” culture. In reaction to this narrow aesthetic view, Tylor (1874) proposed a more scientific view, defining culture as “that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society” (p. 1). According to this broader perspective, everyone has culture by virtue of belonging to a social group, yet the level of culture was defined on an evolutionary progression from savage to barbaric to civilized. Against this social

evolutionist view of culture as a universal character of a single group rated on a qualitative continuum, Boas (1940) focused on the uniqueness of varied cultures of people and societies.

According to him, culture should not be viewed as high or low, nor savage or civilized.

Trying to encompass the depth of the concept, Spencer-Oatey (2008) proposed this definition:

Culture is a fuzzy set of basic assumptions and values, orientations to life, beliefs, policies, procedures and behavioural conventions that are shared by a group of people, and that influence (but do not determine) each member's behaviour and his/her interpretations of the 'meaning' of other people's behaviour. (p. 3)

She highlights the fact that culture is manifested at several layers (observable artifacts, values, and underlying assumptions), affects behavior and our interpretation of behavior, and, though associated with social groups, it is both an individual and a social construct.

Another important element of culture is that it is not genetic but learned from each individual's social environment. It is thus related to but distinct from both human nature, the universal elements all human beings have in common, and individual personality, which is based upon inherited traits modified by collective programming and unique personal experiences.

Hofstede et al. (2010) envision the three levels of uniqueness in human mental programming as a pyramid with inherited and universal human nature at its base. To this is added the middle layer of culture, which is learned and specific to each individual's group, and topped off by personality, which is both inherited and learned.

Defining Intelligence

Mirroring the complex concept of culture, the only point on which experts in psychology and philosophy agree is that there is "no agreed-upon definition of intelligence," reflecting the lack of worked-out theory of intelligence (Lanz, 2000, p. 19). At the 1921 Symposium on

Intelligence, 14 prominent educational researchers debated the concept of intelligence and how to measure it. They provided differing views on intelligence as a mental ability, a sensory capacity, a range of knowledge, a range of cognitive processes, or even noncognitive traits such as perseverance (E. L. Thorndike, 1921). A similar symposium, organized by Sternberg and Detterman 65 years later, gathered 20 intelligence researchers. Again, no consensus was reached beyond the belief that intelligence is complex, with many facets and levels (Sternberg & Detterman, 1986). Earley and Ang (2003) summarized the prevailing framework: “Broadly, intelligence is theorized and measured as an intravindividual attribute, or as a characteristic of the context or environment, or an attribute located at the interaction between an individual and his or her context/environment” (p. 27).

Some researchers, however, noticed that the type of intelligent behavior that translates into academic success does not always equate to success in daily life. Sternberg (1997) classified these forms of intelligences as nonacademic. Thorndike focused on social intelligence, which he viewed as necessary for individuals to understand others and to act wisely in human relations (R. L. Thorndike, 1936; R. L. Thorndike & Stein, 1937). Walker and Foley (1973) measured social intelligence as a cognitive construct, but also in terms of behavioral outcome. According to Kihlstrom and Cantor (2000), social intelligence is comprised of both declarative and procedural knowledge. Declarative knowledge involves conscious memory, and represents factual knowledge, such as social events or abstract social concepts. Procedural knowledge, on the other hand, involves the unconscious memory needed to apply social knowledge when performing a task. Salovey and Mayer (1990) focused on people’s ability to monitor emotions (both others’ and their own) to guide their thinking and behavior, and described their construct of emotional intelligence as overlapping Gardner’s (1983) concept of intrapersonal intelligence.

They considered it a form of intelligence because it consists of a series of mental abilities. As such, it is distinct from a mere behavioral preference, such as extraversion, which is not a mental ability but a trait, even though extraversion may lead to social competence (Mayer & Salovey, 1993). Gardner (1983, 1993, 1999) proposed a theory that individuals have varied forms of intelligences. He defined intelligence as an individual's "ability to solve problems, or to create products, that are valued within one or more cultural settings" (1983, p. x). Unhappy with the narrow focus on linguistic, logical-mathematical, and spatial intelligences, he suggested humans exhibit a collection of seven intelligences: verbal, logical, spatial, musical, kinesthetic, interpersonal, and intrapersonal (Gardner, 1983). He later added naturalistic intelligence to the list (Gardner, 1999). These intelligences relate to things, such as the arts, spiritualism, and relating to oneself, others, or nature, that cannot be measured by conventional tests.

These varied views of what constitutes intelligence expanded the construct beyond what was referred to as the *g* factor, which influences an individual's performance on cognitive ability tests (Spearman, 1927). The views reflected the belief that intelligence involves other dimensions beyond the cognitive, such as a behavioral or motivational component. Sternberg (1983) also added the observation that measures of intelligence were culturally-bound, stating: "similar mental skills might be involved in two different cultures, but the cultural instantiations of these skills, and hence the proper vehicles for assessing them, might be totally different" (p. 44). The fact that these measures of intelligence were only relevant within the specific culture that determines its norms prompted Earley and Ang (2003) to explore the concept of a Cultural Intelligence and how to measure it.

Distinctiveness of Cultural Intelligence

Sternberg and Detterman's (1986) perspective that intelligence was multidimensional opened the door to expanding the concept of cognitive intelligence, as defined by the Intelligence Quotient, with the additional dimensions of social intelligence (Thorndike & Stein, 1937), emotional intelligence (Mayer & Salovey, 1993), and practical intelligence (Sternberg, 1997). The cultural competency models existing at the time, such as the Culture-Specific Assimilator, focused on country-specific knowledge or abilities (Ang et al., 2007), and none of the frameworks addressed the ability to solve cross-cultural problems (Ng, Van Dyne, & Ang, 2012). Intrigued by the varying levels of success among expatriates, Earley and Ang (2003) wanted to understand why some people are better able to handle culturally diverse situations. They introduced the concept of Cultural Intelligence (CQ), based on Sternberg and Detterman's (1986) framework of multiple loci of intelligence. This framework placed metacognition, cognition, and motivation in the category of mental capabilities, but viewed actions as behavioral capabilities. The CQ concept also integrates Triandis's (1972) model that assesses the relationship between psychological process, values, and social environment.

A series of studies (Ang & Van Dyne, 2009; Ang, Van Dyne, & Koh, 2006; Ang et al., 2007; Earley & Ang, 2003; Van Dyne et al., 2008, 2012) were used to define CQ as an aggregate multidimensional construct that is made up of four qualitatively different, yet related, facets involving cognition (Metacognitive CQ and Cognitive CQ), motivation (Motivational CQ), and behavior (Behavioral CQ).

Metacognitive CQ. Livingston (2003) defined metacognition as "higher order thinking which involves active control over the cognitive processes engaged in learning" (p. 3). The concept can be subdivided into metacognitive knowledge and metacognitive experiences to

encompass the processes used to acquire and understand knowledge, using strategies to regulate cognitive activities (Flavell, 1979, 1987). Metacognition includes awareness of self, others, and situations (Triandis, 2006), thus Metacognitive CQ is an individual's active awareness of differences as he or she interacts with people of other cultures (Earley & Ang, 2003). It allows individuals to think critically, put together new patterns, and adjust mental maps accordingly, in order to adapt to new cultures.

According to Earley and Ang (2003), Metacognitive CQ is the abstract reasoning used to process cultural knowledge and experiences to guide future interactions. In a later return to flesh out the theoretical aspect of CQ, Van Dyne et al. (2012) further subdivided Metacognitive CQ into three essential components: *planning*, *awareness*, and *checking*. *Planning* is the advance preparation individuals undergo before an intercultural encounter. By thinking about their objectives and anticipating how they might respond to various novel situations, individuals can develop appropriate plans of actions. In contrast to planning, which focuses on anticipation, *awareness* describes how cognizant individuals are about the differences in mental processes and cultural habits between themselves and other cultures in real time. It allows them to make sense of others and situations in various cultural contexts. This real-time input may reveal that the expectations from the planning phase do not match actual occurrences, thus *checking* is required to review assumptions and adjust mental maps. Due to the dynamic nature of CQ, all three sub-dimensions of Metacognitive CQ are needed to function effectively across cultures, as individuals with high Metacognitive CQ continuously break down culture-bounded habits and thinking, and develop appropriate strategies (Earley & Ang, 2003; Van Dyne et al., 2012). Metacognition is critical to building CQ because "much of what is required in a new culture is

putting together patterns into a coherent picture, even if one does not know what this coherent picture might look like” (Earley & Peterson, 2004, p. 107).

Cognitive CQ. The knowledge about cultural institutions, norms, and practices in different settings is important, as it shapes decision-making and performance in cross-cultural interactions (Ang & Van Dyne, 2009). Literature on cultural anthropology (Brown, 1991; Murdock, 1987) and cross-cultural training (Bhawuk & Brislin, 2000) shaped Earley and Ang’s (2003) concept of Cognitive CQ. It concerns declarative knowledge, as well as the procedural knowledge to adapt behavior.

Earley and Ang (2003) defined two types of Cognitive CQ: *culture-general* and *context-specific* knowledge. Knowledge of objective cultural components such as economic, legal, political, linguistic, social, and religious systems, is considered *culture-general*, and so is knowledge of subjective culture norms and values such as gender role expectations, individualism-collectivism, or uncertainty avoidance (Ang et al., 2007; Hofstede, 2001). Besides knowledge of norms and practices, another feature of Cognitive CQ is understanding reasoning and decision-making. Earley and Ang stated that “a fundamental requirement of the international sojourner is one of data gathering and construction of new social realities” (2003, p. 114). They explained that travelers use all their senses to experience and observe their new environment and identify or create cognitive and metacognitive strategies to deal with the new culture. Understanding that people have different approaches to reasoning allows someone to understand another’s decision-making process, thus “to take the perspective of locals” (Earley & Ang, 2003, p. 115). For example, a person who operates from a categorical/analytical orientation needs to be aware that an affective/intuitive-reasoning person has a different basis for making decisions.

While this universal cultural knowledge is needed to make broad comparisons across cultures from an etic (outsider) perspective, *context-specific* knowledge provides an emic (insider) view of a specific domain. This knowledge is needed to understand how culture universals manifest themselves in a specific geographic area or demographic subgroup (Morris, Leung, Ames, & Lickel, 1999). Individuals with high Cognitive CQ combine both types of knowledge to operate effectively in their specific domain (Earley & Ang, 2003).

Motivational CQ. Kanfer and Heggestad (1997) defined motivation as providing “agentic control of affect, cognition and behavior that facilitate goal achievement” (p. 39). Motivational CQ is the interest and confidence to focus attention on learning about cultural differences and effectively navigating in that unfamiliar environment (Ang & Van Dyne, 2009). Even though culturally diverse settings are marked by additional obstacles that cause uncertainty and anxiety, existing models of intelligence, even ones focusing on contextually based capacities such as the Triarchic Model (Sternberg, 1984), the Multiple Intelligence model (Gardner, 1983), or Emotional Intelligence (Mayer & Salovey, 1993), seemed to overlook “a person’s motivation to engage the world around them” (Earley & Ang, 2003, p. 124). Some researchers do not consider motivation a requirement in their conceptualization of CQ, viewing it as an ability to interact effectively, not a “willingness to behave in a particular way” (Thomas et al., 2015, p. 1101). For Earley and Ang (2003), however, motivation is a key driver of the energy and effort needed to interact in culturally diverse situations. Their understanding of the differences in people’s motive was shaped by theories on values (Ajzen, 1991; Rokeach, 1973; Triandis, 1972), categorization (Tajfel & Turner, 1986), and status (Hughes, 1971; Mulder, 1977). Based on Ryan and Deci’s (2000) self-determination theory, Bandura’s (2002) social cognitive theory, and Eccles and Wigfield’s (2002) expectancy-value theory, Earley and Ang further subdivided

Motivational CQ into three subdimensions that provide the desire and confidence needed to interact in challenging situations: *intrinsic interest*, *extrinsic interest*, and *self-efficacy*.

Intrinsic interest allows individuals to recognize the inherent satisfaction of experiencing diverse cultures and the joy of working with people from different backgrounds (Ryan & Deci, 2000). Van Dyne et al. (2012) explain that “intrinsic benefits of intercultural experience are important because they are self-generated and not dependent on others or on the situation” (p. 304). *Extrinsic interest* allows a person to value the tangible benefits they may receive from culturally diverse experiences (Ryan & Deci, 2000). Though cross-cultural work environments may be challenging, extrinsic benefits, such as opportunities for promotion or increased reputation and employability, provide incentives for individuals to persevere through those difficulties (Van Dyne et al., 2012). *Self-efficacy to adjust* is the confidence individuals have in their ability to adjust to new cultures, interact with locals, or work in culturally diverse settings (Bandura, 1977b, 2002; Eccles & Wigfield, 2002). Combined with intrinsic motivation, this confidence allows individuals to feel efficacious and choose to engage in activities (Latham & Locke, 2007). Extrinsic interest provides tangible benefits, intrinsic interest gives personal satisfaction, and self-efficacy leads to confidence; together these types of motivation allow individuals to be attracted to intercultural situations and sustain the energy needed to overcome challenges (Earley & Ang, 2003).

Behavioral CQ. Earley and Ang (2003) defined Behavioral CQ as the ability to appropriately adapt verbal and nonverbal actions in encounters with people from another culture. What is considered appropriate in communication varies greatly across cultures. This element of CQ allows individuals to regulate their behavior to minimize misperceptions in their dealings with others and is especially important as behavior is visible to others, while thoughts or

motivation are not (Van Dyne et al., 2012). Earley and Ang based their concept on the work of cultural anthropologist Edward Hall, who developed effective cross-cultural training for the Foreign Service. After using a training method that focused heavily on imparting declarative knowledge to Foreign Service servicemen, Hall (1959) noticed that this extensive macrocultural knowledge did not translate into the ability to conduct themselves appropriately in their daily interactions with locals. This realization caused him to add training in social skills such as greetings, gestures, or small talk. He referred to this hidden dimension of intercultural communication in informal settings as “the silent language” in his book by the same name (Hall, 1959). Thus, echoing Hall’s (1959, 1993) view of the importance of this behavioral component, Earley and Ang (2003) stated:

Culturally intelligent people must at all times be mindful of self-presentation, that is the impression they make, and how these behaviors can affect how locals perceive them. Self-presentation therefore represents the sine qua non of the behavioral component of cultural intelligence. (p. 156)

Though leaving an impression of being socially inept may not be of great consequence on short trips, expatriates who engage locals on a long-term basis may find themselves ostracized. Earley and Ang thus likened this handicap of individuals with little concern for self-presentation living in a foreign culture to the behavioral deficits that people with autism experience in their own culture. They coined the term *cultural autism* to describe this similar lack of awareness of salient cues, the unusual speech patterns, or the absence of connection that affects individuals with low Behavioral CQ living in unfamiliar cultures.

Earley and Ang’s (2003) concept of Behavioral CQ includes three components: *verbal behavior*, *nonverbal behavior*, and *speech acts*. *Verbal behavior* refers to the ability to flex

vocalization (i.e., to adapt one's speed, volume, tone, formality, or inflection) as appropriate to the other culture. An awareness of when to speak, be silent, or take turns is also part of this sub-dimension. *Nonverbal behavior* is the ability to adjust body language, facial expressions, gestures, and appearance to achieve the desired communication. Various cultures have differing norms for how much eye contact to use, what distance to maintain, whether to touch while greeting, or how formally to dress. The subdimension of *speech acts* relates to an individual's flexibility when communicating specific messages. For instance, when issuing invitations, apologies, disagreement, or gratitude, it is important to know the appropriate timing and the right words, but also how directly or forcefully to proceed within a given culture. Human behavior tends to rely on habits, but individuals with high Behavioral CQ are able to adjust their behavior to the cultural context. The nuanced understanding of and respect for differing norms required to interact effectively in intercultural encounters demands a complex flexibility in all three sub-dimensions of Behavioral CQ (Van Dyne et al., 2012).

Alternate terminology. According to Earley and Ang's (2003) conceptualization of Cultural Intelligence, metacognition and cognition are considered the mental dimension of CQ that is complemented by the motivational and behavioral dimensions; the four individual facets are distinct but linked components of CQ. Other researchers have described the same concepts using different terms. Egan and Bendick (2008) summarized the concepts as "using the head (cognitive and metacognitive); heart (motivation); and body (behavioral)" (p. 391). Livermore (2015) used the terms CQ Knowledge, Strategy, Drive, and Action to refer to the same four factors and stressed that the capabilities are interrelated, with all four needed to be effective in cross-cultural interactions. For example, it is irrelevant in practical terms that individuals know

how to relate across cultures if they have no desire to do so, or that they can analyze a situation if they cannot solve the problem.

Earley and Ang's (2003) theory of Cultural Intelligence thus organized and integrated disparate prior research on intercultural competencies into one cohesive framework (Ng et al., 2012). The later addition of the Cultural Intelligence Scale (Ang et al., 2007) provided a validated instrument to study the construct. The ensuing rapid growth in research in the field led to new insights into this malleable trait and how to raise CQ and improve adaptation to foreign environments (Ng et al., 2012). This research provided a basis for a more refined theoretical conceptualization with more focus on the subdimensions and the development of the Expanded Cultural Intelligence Scale (E-CQS) that measures those subdimensions (Van Dyne et al., 2012).

Learning Theories

Earley and Ang (2003) defined Cultural Intelligence as a malleable trait which can be increased through life experiences and cross-cultural training. In order to be successful in their cross-cultural encounters, individuals have to learn from their experiences and implement change in their social interactions. Therefore, Earley and Ang identified the concepts of social, bioecological, and experiential learning as relevant learning theories.

Bandura's social learning theory. Bandura (1977b) investigated how people's social experiences influence their behavior and development. He theorized that children observe individuals around them and attempt to imitate some of them (models). Based on the reinforcement or punishment children receive, whether externally or internally, they adopt their models' behaviors, values, or attitudes. Unlike behaviorists who believed that behavior can be reduced to the association between stimulus and response (Watson, 1928), Bandura saw a reciprocal interaction between environment, cognition, and behavior. His theory considered the

effect of attention, memory, and motivation on learning. Bandura (1977a) also proposed that self-efficacy could influence both social learning and the development of cultural competence. The functional value of self-efficacy is that it allows an individual to adapt and relate to others in intercultural settings (Bandura, 2002). Earley and Ang (2003) and Earley and Peterson (2004) extended that thought to suggest that self-efficacy also is an antecedent to the development of CQ. This assertion was sustained by MacNab and Worthley's (2012) study that indicated that participants' general self-efficacy was significantly related to learning Cultural Intelligence. Earley and Ang's research indicated that any training to develop CQ needed to go beyond mere cognitive training that imparts the necessary declarative and procedural knowledge. In order to encompass the metacognitive, motivational, and behavioral aspects of cross-cultural interactions, CQ training needs to incorporate elements of social learning and self-efficacy (Bandura, 1977a, 1977b), as well as experiential learning (D. A. Kolb, 1984).

Kolb's experiential learning theory (ELT). Research on the effect of CQ on cross-cultural success is particularly prominent in the business world, thus business educators have integrated the CQ model into their traditional curriculum (MacNab & Worthley, 2012). Drawing his theory of ELT from John Dewey's (1938) work which stresses the importance of linking observation and action, Kolb (1984) described it as "the process whereby knowledge is created through the transformation of experience" (p. 41). In Kolb's ELT model, the learner effectively transforms experience into learning by experiencing, reflecting, thinking, and acting (A. Y. Kolb & Kolb, 2005; D. A. Kolb, 1984).

Some empirical evidence supports the position that life experiences have an influence on Cultural Intelligence (Chao, Takeuchi, & Farh, 2017; MacNab & Worthley, 2012; Ng, Van Dyne, & Ang, 2009). Ng et al. (2009) proposed a model that views Cultural Intelligence as a

moderator that allows international leaders to engage the four stages of experiential learning (experience, reflect, conceptualize, and experiment) to turn international work assignments into learning outcomes. They view CQ as learning capabilities whose motivational and behavioral components enhance an individual's ability to translate international experiences into learning. As supplements to didactic programs, experiential approaches through intensive cultural experiences have become increasingly important to the development of global leaders, since 80% of global leaders surveyed indicated that living and working in other countries was the most significant contributor to their leadership capabilities (Gregersen, Morrison, & Black, 1998). More importantly from a business perspective, research showed that companies do better financially when run by a CEO with international experience (Carpenter, Sanders, & Gregersen, 2001; Daily, Certo, & Dalton, 2000; Sambharya, 1996). Ng et al. (2009) view ELT as particularly relevant to learning from complex international experiences because it is a holistic and continuous "process of adapting to the world that requires the integrated functioning of the total person, which includes thinking, feeling, perceiving, and behaving, as well as interactions between the person and the environment" (p. 513).

Bronfenbrenner and Ceci's bioecological theory. Earley and Ang (2003) used insights from this bioecological theory to define Cultural Intelligence. Inspired by Vygotsky's research (1978) on how humans learn in social contexts and how the social environment affects learning, Bronfenbrenner and Ceci (1994) centered their bioecological model on understanding human development (both in children and adults) based on the interaction between the person and environment. There are three tenets of the bioecological theory that Earley and Ang used as a framework for CQ: (1) individuals have multiple innate capabilities; (2) interactions with various ecological contexts determine how these capabilities develop; and (3) the extent of this

development is affected by motivation (Bronfenbrenner & Ceci, 1994). Based on these tenets, Earley and Ang conceptualized CQ as a malleable form of intelligence developed through exposure to different cultural contexts, a process in which Motivational CQ plays a crucial role (Ang, Van Dyne, et al., 2015).

Related Literature

To establish the need for this study, it is necessary to investigate beyond the conceptualized view of CQ and look at its manifestation in education and the workforce. Globalization has emerged as a key concept in the business field, as companies seek to improve profitability by extending their presence across their continent or even the world. People working in multinational corporations expect to have dealings across borders, but nowadays, even small-sized businesses have to interact with employees, suppliers, customers, or competitors from other cultures (Crowne, 2008). Research has established that people with a high level of Cultural Intelligence are better at transformational leadership (Alon & Higgins, 2005; Ang et al., 2006; Earley & Ang, 2003) but just 15 years ago 85% of Fortune 500 companies stated they had an inadequate number of effective global managers (Manning, 2003). Since the role of education is to prepare students for the workforce, it is important to examine how higher education can equip students for a globalized world. Faculty are important contributors to the development of CQ in students (Goh, 2012). It is thus important to gather information to assess the CQ level of faculty and determine if differences among them are random or whether some faculty are better equipped to train their students in CQ based on their common life experiences or the training they received to become subject matter experts.

What Is Globalization?

Though the *New York Times* mistakenly credited Theodore Levitt with coining the term *globalization* in the obituary they printed upon his death in 2006, the term has been in use since the 1930s, long before Levitt helped popularize its use to describe a process that was changing the world in fundamental ways (James & Steger, 2014). McGrew (1992) defined globalization as the significant impact that events and decisions occurring in one part of the world have on communities in other parts of the world. Advances in technology have allowed new contacts among people, corporations, and governments, affecting not just what they do, but how they see themselves, and what they want (Woods, 1998). Friedman (2000) compared the new system of globalization with the Cold War system in the sense that it “has its own rules and logic that today directly or indirectly influence the politics, environment, geopolitics and economics of virtually every country in the world” (p. ix). Nowadays, employers do not care simply about job applicants’ professional qualifications, but want to know about their international credentials as well (Berdan, 2012). Holmes and O’Neill phrased it well: “As people become citizens of the world for the purpose of work, education, and business, they are required to span boundaries of language, ethnicity, and nationality” (2012, p. 707). Colleges need to prepare students for this globalized market.

Antecedents of Cultural Intelligence

Based on the research on intelligence that integrates findings in psychology and sociology, CQ is viewed as a learned capability (Livermore, 2015). Interestingly, there has been more interest in researching the outcomes of CQ rather than its antecedents (Ott & Michailova, 2016). It is theorized that Cultural Intelligence develops naturally through the experience of other cultures or through educational interventions (Earley & Ang, 2003; Thomas et al., 2008).

Some researchers have shown a connection between CQ and personality traits (MacNab & Worthley, 2012), and others with cross-cultural and experiential training (Lenartowicz, Johnson, & Konopaske, 2014), while some highlight differences between the effect of international experience in work and nonwork situation on CQ (Lee & Sukoco, 2010; Lee, Veasna, & Sukoco, 2014; Tarique & Takeuchi, 2008). A few studies attempted to identify a difference in CQ between males and females, but no reliable data point to a difference based on gender.

Because CQ is such desirable attribute among business professionals, Barakat, Lorenz, Ramsey, and Cretoiu (2015) used the Business Cultural Intelligence Quotient (Alon, Boulanger, Myers, & Taras, 2016), a new measure developed specially to evaluate the importance of specific antecedents of CQ to business professionals across five countries.

Personality traits. Traits and states have long been the object of psychological research trying to explain individual differences. Personality traits are considered to be the enduring and stable disposition of a person regardless of the situation or context (Allport & Odbert, 1936). Though different terms have been used, the Big Five personality traits are now commonly referred to as Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (McCrae & Costa, 1999). States, on the other hand, are a reflection of a person's adaptation to specific situations and are thus responsible for temporary emotional changes (Hamaker, Nesselroade, & Molenaar, 2007).

Digman (1990), summarizing research findings at the time on the five-factor model of personality structure, concluded that personality traits are genetically determined and stable through adulthood, and account for most of the variability between people. Yet, he also wondered what could explain the remaining variance. Conceptually, an individual's trait score would represent a mean over time removed from situational influences. Yet, "when individuals

are measured at a given occasion it is likely that variation in both trait and state contribute to the variation in observed behavior” (Hamaker et al., 2007). Traits and states are thus often confounded, which makes disentangling their effect on variances in behavior challenging.

Ang et al.’s (2006) meta-analytic review indicated that Big Five predicted job-related outcomes, but there was no meaningful research to indicate that personality traits predict how individuals adapt to a foreign environment. Unlike stable personality traits, though, CQ is considered malleable, thus the two are conceptually different (Earley & Ang, 2003). As personality traits affect an individual’s experience of and behavior in a given situation, some aspects of personality may, however, have an impact on the development of CQ. Ang et al.’s research indicated, for example, that the trait of high conscientiousness of people who value planning and order is positively related to Metacognitive CQ, while agreeableness is related to Behavioral CQ, and extraversion to Cognitive, Motivational, and Behavioral CQ. Their research further showed that the personality trait openness to experience, which makes a person adventurous, imaginative, and creative (Costa & McCrae, 1992), has a positive effect on all four factors of CQ. Data to determine the second most important predictor of CQ is split, with one study pointing at extraversion (Şahin, Gürbüz, Köksal, & Ercan, 2013) and another at conscientiousness (Ang et al., 2007). Though Ang et al. (2006) found predictive value in personality traits when they examined the connection between personality and CQ, they also demonstrated the discriminant validity of the four-factor structure of CQ from the Big Five personality traits.

International experience and cultural exposure. International experience is another important antecedent to CQ, though research shows differences between work versus nonwork experiences (Takeuchi, Tesluk, Yun, & Lepak, 2005). Shannon and Begley (2008) assessed the

number of countries individuals worked in and determined that international work experience predicts Metacognitive and Motivational CQ, while Crowne (2008) determined it predicts all but Motivational CQ. Li and Mobley (2010) also found that learning styles have a moderating effect on the relationship between CQ and international experience, as the relationship was stronger for individuals with divergent learning styles. Since much of the focus on expatriate adjustment is driven by business needs to improve the effectiveness of their workers, most of the research studied work experience as antecedents of CQ (Ng et al., 2009).

Of particular interest to this study, which is focused on improving student CQ, were Crowne's (2008, 2013) studies which measured the impact of cultural exposure on students. She investigated differences in CQ based on the breadth, depth, and type of experience individuals encountered. Not surprisingly, the data indicate that individuals who had been abroad for work or education had higher levels of CQ than those who had not. Mere vacationing abroad did not seem to increase CQ levels. The data also revealed that the more countries international sojourners visited and the more engaged they were in the local culture, the higher their CQ levels were, indicating that breadth and depth of experience also matters.

Koo Moon, Choi, and Jung (2012) found that international nonwork experience, more so than work experience, predicted CQ. Wood and St. Peters (2014), however, determined that short-term cross-cultural study tours improved the Metacognitive, Cognitive, and Motivational CQ, but not the Behavioral CQ of working professionals in an MBA program during an experientially oriented tour, even though they were only 11-12 days in length. Alon et al. (2018) determined that mid- to long-term work experiences achieved higher CQ levels. An international experience program designed with experiential learning showed that participants' time of

interaction with people of different cultures predicted the increase in their CQ level, showing the value of pretrip training (MacNab, Brislin, & Worthley, 2012).

Other antecedents of CQ. As indicated above, the antecedents of CQ have received little attention as opposed to its outcomes. Ang, Rockstuhl, and Tan (2015) stated, “Besides personality traits and international experiences, few antecedents of Cultural Intelligence have been studied. Exceptions include foreign language skills and global identity – both of which relate positively to cultural intelligence” (p. 436). Though foreign language skills may seem a logical antecedent of CQ, they cannot be claimed as a nomologic element of CQ. Regrettably, the authors did not cite the sources for their claim and none of the seminal research on CQ contained data on the effect of languages on CQ. An additional search of databases combining the terms “cultural intelligence” and “foreign language” revealed no publications on the topic.

Confounding Variables and Boundary Conditions

In light of the lack of research on antecedents of CQ, it is not surprising that little information is to be found in existing empirical studies to identify confounding variables either. Age, gender, country of origin, education level, and contextual factors occasionally appeared in some literature, but not all may be a concern in every study.

Absence of gender differences. Some research has been conducted on the difference of CQ levels between gender, but findings were contradictory as Nasiri and Ghadiri (2016) found no statistically significant difference between males and females, while Azizi, Fatemi, Pishghadam, and Ghapanchi (2015) concluded that males had significantly higher levels of CQ. Both studies, however, were conducted in Iran where gender differences cannot be generalized to a Western society. Additionally, in light of Earley and Ang’s (2003) concept of how an individual’s CQ level is shaped through exposure to and education about other cultures and

moderated by personality traits, the gender differences Azizi et al. (2015) found would most likely be due to the tremendous differences in education and life experiences between men and women in Iran, rather than due to gender. Azizi et al.'s findings echoed Engle and Nehrt's (2012), which indicated there was no gender difference among their respondents.

Age. Engle and Nehrt (2012) recommend further research on the topic of age as they uncovered an interesting dichotomy in the results. Their data indicate that the older participants had higher levels of CQ than the younger ones. This can be expected since increased age allows for greater experience and more potential exposure to cross-cultural interactions. Surprisingly, however, they found that the lowest scores overall were found in the older group, and some of the highest scores in the younger group.

Country of origin. In a study comparing the CQ level of students in France and in the United States, Engle and Nehrt (2012) found that the French students had higher levels of CQ. They attributed this to the fact that the French respondents had a higher likelihood of having traveled abroad or been in contact with people of other cultures visiting France than their American counterparts.

Education level. The interpretation of test scores in cross-cultural studies is always concerned with bias and equivalence, thus Van de Vijver and Tanzer (2004) reviewed some potential issues. They pointed out that differing education levels could affect test results from different cultures. As CQ has a strong cognitive component, a higher education level could indeed equate to more knowledge of other cultures. This concern is validated by Heckman and Kautz's (2012) findings that higher levels of education may lead to greater interest in learning about other people and cultures. This study, however, tested the CQ level of college faculty who

all must have a master's degree at the very least. The educational gap is rather limited, thus not likely to be a confounding factor in this study.

Boundary conditions. Inconsistent research results about the effect of international experience on CQ have increased attention to boundary conditions that may strengthen or weaken the effect, such as the individual's character traits, self-efficacy, belonging to majority rather than minority group, cultural capital received from parents, or whether it was their first or subsequent experience (Ang, Rockstuhl, et al., 2015). Subsidiary support and cultural distance of the home country from the host country were found to weaken the effect of Motivational CQ on work adjustment (G. Chen, Kirkman, Kim, Farh, & Tangirala, 2010).

The main goal of this study was to determine if there are any significant differences in the CQ level of faculty between academic units. These confounding variables are relevant to the goal of determining which faculty groups ought to receive CQ training. Beyond determining the existence of differences between units, however, looking deeper at existing patterns may allow some additional insight into some of these open questions regarding antecedents. Thus, the questionnaire for this study included questions related to participants' demographics and background to see if some of the prior findings are supported.

Benefits of Higher CQ in the Workforce

Thanks to modern transportation and communication, the world is becoming more interconnected and college graduates in many fields can expect to travel or even live abroad for business, pleasure, or mission work. Research conducted on behalf of the Association of American Colleges and Universities among employers showed that 65% of business executives and 73% of hiring managers rated the ability to solve problems with people of different backgrounds as a very important quality among graduates, yet only 36% and 43% respectively

rated recent graduates as well prepared for the task (Hart Research Associates, 2018). Clearly, these future employees need to be prepared to engage people of other cultures effectively, and CQ was shown to have a positive impact on cultural decision-making and judgment (Ang et al., 2007). Research also indicated that CQ is linked to job performance (Barakat et al., 2015), success in complex cultural situations for members of the Armed Forces (Davis, 2009; Rockstuhl et al., 2011) and in international business (Alon & Higgins, 2005; Earley & Ang, 2003; Imai & Gelfand, 2010; Livermore, 2015), reduces stress for international travelers (Ramsey, Leonel, & Gomes, 2011), promotes transformational leadership (Ansari, Radmehr, & Shalihar, 2012), and affects adaptation to and task performance in diverse settings (Cho & Morris, 2015; Jyoti & Kour, 2015; Konanahalli et al., 2014). The research on the effect of CQ delves mostly into its psychological or performance outcomes.

Psychological outcomes of CQ. Much of the research on the psychological impact of living abroad focuses on the key outcome of cultural adjustment. This category is further subdivided into general adjustment to living conditions in a new culture, work adjustment, and interaction adjustment to interacting with the locals (Ng et al., 2012). Multiple studies demonstrated the impact of Motivational and Behavioral CQ on cultural adjustments (Ang et al., 2007; Templer, Tay, & Chandrasekar, 2006; Williams, 2008). In a more recent study to look at boundary conditions that may strengthen or weaken the effect of CQ, G. Chen et al. (2010) determined that the Motivational CQ of expatriates had a stronger effect on their work adjustment when there was a greater distance in culture as well as subsidiary support from their location. This consideration indicates the need to further investigate factors that can have a moderating effect on the benefit of CQ for cultural adjustment.

Emotional exhaustion is another psychological outcome of interest for international firms because it can interfere with employees' work. Several studies revealed that higher CQ levels led to lower levels of emotional exhaustion in international business travelers (Tay, Rossi, & Westman, 2010; Tay, Westman, & Chia, 2008). Finally, interpersonal trust was found to be higher when the focal person had higher Metacognitive and Cognitive CQ and the partner had higher Behavioral CQ (Chua & Morris, 2009; Rockstuhl & Ng, 2008). Additionally, these studies confirmed that CQ only affects interpersonal trust when the individuals involved come from culturally different backgrounds, not when they belong to homogenous groups.

Performance outcomes of CQ. The effects of CQ on individual-level outcomes have been documented in various studies and indicate a distinction between general job performance, such as tasks and adaptive performance, and performance in specific domains, such as leadership or negotiation (Ng et al., 2012). Ang et al. (2007) were able to tie higher Metacognitive and Behavioral CQ in foreign professionals with higher performance ratings by their supervisors, while G. Chen et al. (2010) found expatriates' job performance to be positively affected by Motivational CQ. Contextual factors, however, are important to consider as G. Chen et al. showed that levels of subsidiary support and cultural distance had an indirect effect on how much Motivational CQ affected performance. X. P. Chen, Liu, and Portnoy (2011) determined that real estate agents with higher Motivational CQ also achieved higher sales rates in transactions with customers from another culture. Global leadership is also positively affected by CQ with studies indicating that CQ increased the effect of leadership on innovation (K. Groves & Feyerherm, 2011) and improved cross-border leadership effectiveness in Swiss military leaders (Rockstuhl et al., 2011).

The importance of CQ in the tourism industry has also recently received some attention. This is not surprising considering that an integral part of working in tourism is the communication with customers from all parts of the world. To study the link between worker CQ and customer satisfaction in the hospitality industry in India, Arora and Rohmetra (2010) first validated the Cultural Intelligence Scale (CQS) in this industry and the Indian setting. Their data indicate that the CQ level of employees in the hospitality industry had a positive influence on their productivity, as well as on the satisfaction level of customers. Looking at the opposite end of the interaction, Frías-Jamilena, Sabiote-Ortiz, Martín-Santana, and Beerli-Palacio (2018) investigated the CQ of tourists. Their study revealed that the prior experiences of tourists in a destination country had an impact on their CQ, which in turn influenced the perceived value of the destination. These studies addressed both psychological and performance outcomes.

Criticism of CQ

CQ's current prominence in the business world has prompted some criticism. Blasco, Feldt, and Jakobsen (2012) claim that CQ has not been tested enough to be considered more than a hypothesis. They challenge the established CQ approach which aims to regulate behaviors in order to avoid cultural failures or conflicts, arguing instead that individuals can reflect on those failures and learn from them. They also express concern that CQ could not easily be adapted to effective cultural training for business. Their article, however, was not empirical but merely a discussion to raise questions to be addressed on CQ. Crowne (2009) states that CQ is interrelated with both social intelligence and emotional intelligence and should not be viewed in isolation. Therefore, she urges researchers to study the three constructs together. Her article, however, was theoretical and her findings would need to be confirmed through empirical research.

In their review of CQ research, Ott and Michailova (2016) point out the still existing theoretical gaps regarding CQ. They noted that research into CQ started with a number of conceptual papers and a few empirical papers, followed by a phase with increased focus on empirical research. Based on this newly gained knowledge, they feel a return to theoretical development of CQ would have been warranted but has not occurred. For example, there is still little theory to explain why CQ should influence the adjustment, performance, or outcomes for expatriates (Ott & Michailova, 2016).

Some recent studies that focus more on the measurement of CQ aimed to replicate Ang et al.'s (2007) testing of the CQS. Bückner, Furrer, and Lin (2015) and Bückner, Furrer, and Peeters Weem (2016) took issue with Ang and Van Dyne's (2009) claim that "the four-dimensional structure is clear, robust, meaningful, and stable across samples, time, and countries" (Bückner et al., 2015, p. 262). Their article points out that the studies to validate the CQS were conducted with participants who had limited international exposure. Thus, they attempted to confirm the external validity of the scale by administering it to a different demographic group with more extensive international experience. Their findings led them to conclude that a two-dimensional model may be more appropriate than the CQS' current four-factor model because of concerns about the discriminant validity of the four factors. Since Bückner et al.'s (2015, 2016) research is quite recent and not replicated, whereas Van Dyne et al. (2012) used confirmatory factor analysis to demonstrate discriminant validity of the subdimensions within each of the four CQ factors, this study used Ang et al.'s (2007) four-factor scale that has been the instrument in numerous studies (Ang et al., 2006; A. S. Chen, Lin, & Sawangpattanakul, 2011; Ghonsooly & Shalchy, 2013; Ghonsooly, Sharififar, Sistani, & Ghahari, 2013; Khodadady & Yazdi, 2014; Kurpis &

Hunter, 2017; Lee & Sukoco, 2010; MacNab & Worthley, 2012; Rafieyan, Golerazeghi, & Orang, 2015; Rockstuhl et al., 2011).

The Role of Colleges in Developing CQ

Nowadays, K-12 teacher training programs include pedagogy to prepare future teachers to engage the diverse classroom (Banks, 2008; Fehr & Agnello, 2012; Gay, 2000). At the college level, however, there has been a significant decline in instructors that have previous high school teaching experience. As a result, most professors are subject matter experts but not trained educators and may thus lack formal education in cultural differences (Elliott, 2014). Now more than ever, college faculty also need to be culturally competent. First, they need to be able to connect with their diverse students who may come from all over the world to get a college degree in the United States. The Institute of International Education (2016), which tracks international student enrollment trends with support from the U.S. Department of State, reports that the number of international students has multiplied 30-fold, rising from 33,833 in 1953/54 to 1,043,839 in 2015/16 (see Figure 1). Between 2006 and 2014 alone, the United States experienced a 56% increase in the number of international college students. This 30.5 million dollar influx into the U.S. economy (Institute of International Education, 2016) certainly provides an incentive, in addition to the diversification of the classroom, to prepare faculty to provide a welcoming learning environment for students from other countries and cultures.

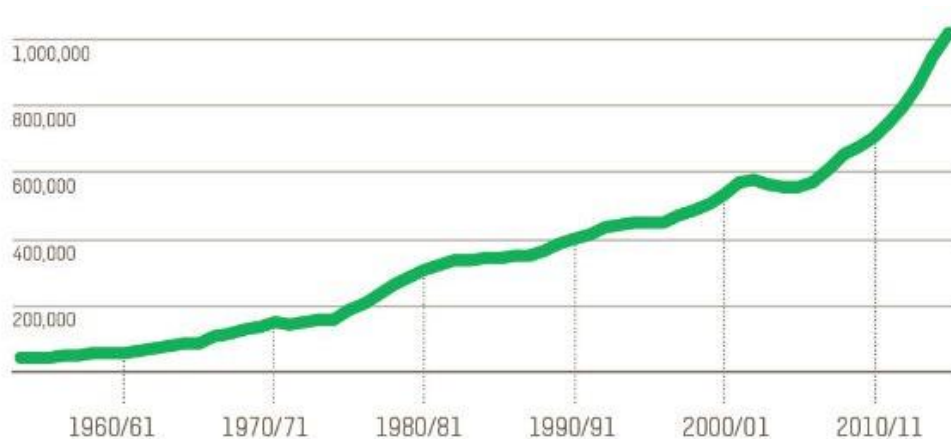


Figure 1. Increase in international students in the United States between 1953 and 2016. Adapted with permission from "International Student Enrollment Trends, 1948/49-2015/16" by The Institute of International Education, 2016, *Open Doors Report on International Educational Exchange*, retrieved from <http://www.iie.org/opendoors>. Copyright 2017 by Open Doors.

Beyond being able to connect with an increasingly diverse student body, college faculty also need to develop the Cultural Intelligence of their domestic student to prepare them for the workforce. To this end they need to provide students repeated opportunities to think and interact cross-culturally (Billings, 2006; Crowne, 2008; Egan & Bendick, 2008; Karnyshev & Kostin, 2010; Lopes-Murphy, 2014; Lovvorn & Chen, 2011; MacNab, 2012; McCrea & Yin, 2012; West, 2012; William & Nagy, 2012). Colleges can expose their students to such experiences through study or mission trips abroad which have been shown to raise CQ levels (Crowne, 2008; Haygood, 2016; Hechanova-Alampay, Beehr, Christiansen, & Van Horn, 2002; Tarique & Takeuchi, 2008; Ward & Kennedy, 1993), but little is known about the lasting impact of such trips. Thus, even before entering the workforce, students need to be prepared to interact with people of other cultures to be successful in the increasing number of study-abroad experiences. Just like the number of international students, the number of U.S. students studying abroad has

increased drastically, rising from under 70,000 in 1989/90 to over 313,000 in 2014 (see Figure 2).

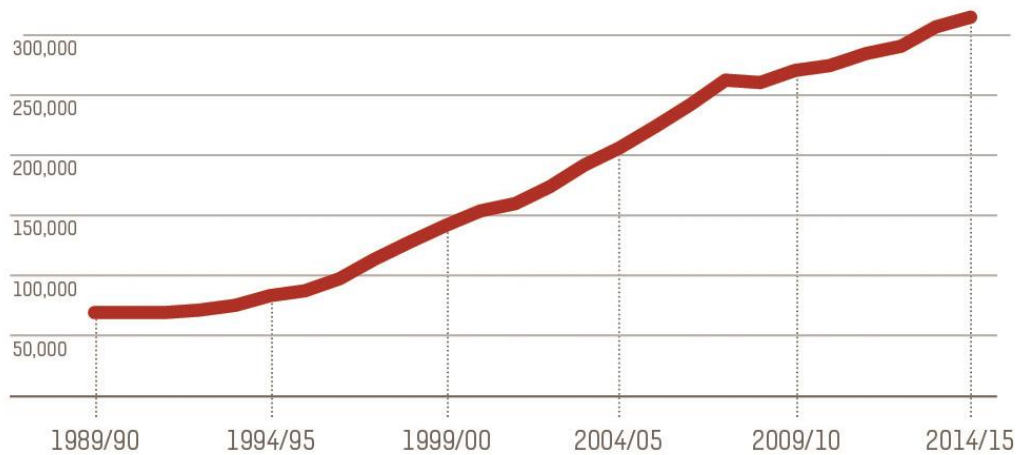


Figure 2. Increase in U.S. students studying abroad between 1989 and 2015. Adapted with permission from "International Student Enrollment Trends, 1948/49-2015/16" by The Institute of International Education, 2016, *Open Doors Report on International Educational Exchange*, retrieved from <http://www.iie.org/opendoors>. Copyright 2017 by Open Doors.

The literature on what contributes to Cultural Intelligence in postsecondary education is limited, with research on CQ emanating mostly from the business field (Crowne, 2008; Egan & Bendick, 2008; Lovvorn & Chen, 2011; McCrea & Yin, 2012). Cultural Intelligence is considered to be malleable (Earley & Ang, 2003) and therefore the purview of postsecondary education when preparing students for the workforce. Yet, data from just 10 years ago showed basic standards for global preparedness were met by fewer than 10% of college graduates (NLCLEAP, 2007). To emphasize the importance of this concern, Griffith et al. (2016) state, "If higher education institutions are to remain relevant, they must take charge of their internationalization and produce graduates who will excel in the global work arena" (p. 2). To show how globally minded they are, universities often promote academic programs such as study abroad or international internships, or humanitarian trips such as volunteering opportunities or mission trips. These universities have made diversity learning a priority and developed plans to

improve intercultural awareness and communication (Dezure, Lattuca, Huggett, Smith, & Conrad, 2014). Some studies show the benefit of such experiences (Black & Duhon, 2006; Gullekson, Tucker, Coombs, & Wright, 2011; Haygood, 2016) while others point to their limitations (Lanz, 2000; Sherriff et al., 2012; Simonelli, 2000). Crowne (2008) noted the limited influence that mere vacationing abroad has when compared to extended living abroad for work or study. Though living abroad has the potential to improve CQ, participants should already have a certain level of Cultural Intelligence to avoid potentially embarrassing or even dangerous situations (Livermore, 2015).

Through trips abroad. Educational trips abroad are positively correlated with Cognitive CQ. More trips, for either educational or professional purposes, lead to higher Cognitive CQ (Crowne, 2008, 2013; Engle & Crowne, 2014), but Crowne also points out the need for additional study to determine how training in the target country compares to training received in the home country. Also, not surprisingly, the length of stay in country is correlated to Metacognitive and Cognitive CQ (Tarique & Takeuchi, 2008). Some aspects of study-abroad trips have been researched, such as adjustment (Hechanova-Alampay et al., 2002; Ward & Kennedy, 1993), intercultural adjustment based on personality traits (Savicki, Downing-Burnette, Heller, Binder, & Sutinger, 2004), or short-term mission trips (Haygood, 2016), but not their lasting impact or the best training practices to prepare for them.

As many colleges encourage students to participate in foreign immersion programs, Lokkesmoe, Kuchinke, and Ardichvili (2016) decided to investigate the efficacy of such programs in increasing cross-cultural awareness. They concluded that “cross-cultural development requires carefully designed interventions, feedback and mentoring/coaching. Simply sending individuals on overseas assignments, no matter how well prepared and supported

by the institution, does not guarantee the development of multi-cultural attitudes and cognitive frames of mind” (Lokkesmoe et al., 2016, p. 155). Engle conducted several studies on the topic of short-term international trips. One study suggested that Cultural Intelligence can be developed significantly even on short-term international trips (Engle & Crowne, 2014). An important question that emanated from that study was whether the country to which individuals travel makes a difference in the development of CQ. The American Institute for Foreign Studies (2013) indicates that 57% of U.S. students reported traveling to English-speaking countries. It is, therefore, relevant to determine if traveling to a country that is significantly different from one’s native country provides greater opportunity to improve one’s CQ. Thus, Engle (Engle & Nash, 2016) followed up with a study investigating whether there were differences between U.S. citizens who traveled to English-speaking countries and those who went to countries that are not part of the Anglo cultural cluster. Results suggested that individuals in the non-Anglo cultural cluster group experienced greater CQ development in all four components of CQ than those who traveled to an Anglo cultural cluster (Engle & Nash, 2016).

In the classroom. Though trips abroad are important to developing CQ, it is not an option for many students, due to time and financial constraints. Even for students who can travel, research has shown that their CQ level in the adjustment phase (i.e., going into the trip) was correlated to their post-study-abroad tests (Crowne, 2008, 2013; Harrison & Brower, 2011; Nguyen, 2010). Earley & Peterson (2004) stated that CQ can be improved through cultural training and not just international experiences. Thus, it is essential to investigate how colleges can improve CQ for all students through the daily interactions in the classroom.

Lopes-Murphy (2014) conducted a review of literature to identify experiences that have a demonstrated impact on CQ in the classroom. Cognitive CQ can be enhanced through

pedagogies, such as classroom discussions and instructional materials that promote awareness and knowledge of cultural differences, while Metacognitive CQ benefits from face-to-face cultural interactions (McCrea & Yin, 2012). Metacognitive CQ can be improved through mindfulness training which is defined as “reflectively paying attention through monitoring personal feelings, thoughts, and actions” (Tuleja, 2014, p. 7). This training in mindfulness, called reflective practice in the field of education, should take place as part of the regular curriculum but in a purposeful and intentional manner, through lectures and discussions. Kurpis and Hunter’s (2017) study showed the benefits of an experiential learning theory (ELT) activity pairing marketing students with foreign English as a Second Language (ESL) students. Activities that make students reflect on their encounters and modify their behavior accordingly are also beneficial. These activities can include place-based education that incorporates local history, culture, and people, or interviews with individuals who speak another language (Lovvorn & Chen, 2011; MacNab, 2012; William & Nagy, 2012). Reflection and group discussions after the encounters are an integral part of the process (McCrea & Yin, 2012).

Including personal experiences of the teacher and the students, student involvement in community-based activities, and abundant contact with individuals from different cultures are strategies that have shown to increase Motivational CQ (Billings, 2006). Classroom projects that focus on cultural differences can encourage students to further investigate cultural diversity (Egan & Bendick, 2008). Behavioral CQ can be developed through classroom-staged activities, such as role modeling, that encourage students to reflect on whether their verbal and nonverbal behavior was appropriate when interacting with other cultures (Lopes-Murphy, 2014).

Though Dezure et al. (2014) highlighted the need to improve CQ in college students, there is limited research to confirm which teaching practices are effective. Lopes-Murphy

(2014) provided a number of promising recommendations on how to interweave practices to promote CQ into postsecondary experiences. Due to the importance of CQ for the future workforce, the focus is on how to infuse this intentional teaching toward CQ (Egan & Bendick, 2008) across all disciplines, because single cross-cultural experiences are not effective (Crowne, 2008; Lopes-Murphy, 2014; Lovvorn & Chen, 2011; Tuleja, 2014), nor should they be limited to some disciplines (Karnyshev & Kostin, 2010; West, 2012).

Faculty Development

Faculty development in higher education has evolved over the years to address different challenges in an attempt to “forestall faculty obsolescence” (Camblin & Steger, 2000, p. 1). McKee and Tew (2013) defined faculty development as “an intentional set of educational activities designed to equip faculty to grow in their professionalism with the result of being partners in advancing all segments of the institution” (p. 13). While it is still an ongoing and systematic process, it has shifted from assisting faculty in advancing their subject matter mastery to emphasizing teaching and increasing student learning (Elliott, 2014). Increased legislative attention on institutions of higher education has contributed to a new focus on accountability for student learning outcomes. Combined with a decrease in the number of college faculty equipped with teacher training and prior experience teaching at the high school level (Cohen, Brawer, & Kisker, 2013), this attention has prompted faculty development professionals to provide teachers the “tools necessary to meeting the learning needs of their students” (Murray, 2002, p. 51). The results of Dar et al.’s (2016) study indicated a positive relationship between faculty training and performance, and ultimately the performance of the university overall.

There are several reasons to develop the cultural competency of faculty. University campuses, following the pattern of K-12 schools, are becoming increasingly diverse, but the

faculty is rarely as ethnically diverse as the student body (Broido, 2004). Thus, many institutions seek to help their predominantly white faculty develop the cultural competency needed to relate to their diverse students (Torres, Howard-Hamilton, & Cooper, 2003). Due to the lack of successful models to improve cultural competency in faculty (Gurin, Dey, Hurtado, & Gurin, 2002; Pottshoff, Dinsmore, & Moore, 2001), Taylor et al. (2013) developed a pilot model to achieve that goal. Their model was designed for a Christian institution and, thus, was mindful to blend not only the cognitive and affective, but also the spiritual dimension.

Cultural competency, however, is often too narrowly defined in terms of racial or gender diversity within this country (McNeil & Pozzi, 2011) to suit the purpose of this study. When CQ is mentioned in the context of professional development research, it usually aims to sensitize teachers dealing with their increasingly culturally and linguistically diverse student population (G. Li, 2013). As this study took place at a faith-based university that seeks to equip students in all majors to be effective Christian ambassadors in all the world, it was important to keep not only the aforementioned spiritual component in mind, but also the broader view of CQ in terms of worldwide cross-cultural interactions, not just diversity within the country.

Griffer and Perlis (2007) stated that “the development of cultural intelligence begins with a study of self” (p. 29) and recommended faculty training begin with such a study of self. Each institution should gather data to be able to determine the CQ makeup of its faculty since students need to be exposed to CQ training in all their courses. Thus, it is imperative that all faculty be proficient in CQ, not just in their subject matter. This is an important step in allowing faculty development professionals to make informed decisions on how to equip faculty to fulfill their integral role in developing students’ CQ (Goh, 2012; Lopes-Murphy, 2014).

Differences in Cross-Cultural Thinking and Interactions among Disciplines

Before professors became experts in their subjects, they were students of the subject. No study has been conducted to determine whether there is a difference in CQ levels among faculty and whether potential differences are merely a reflection of individual variations or related to the discipline they teach. It is, therefore, necessary to examine from a theoretical perspective how some subjects are learned. As Earley and Ang (2003) stated that an individual's interests, goals, and learning history affect the development of their CQ, faculty in foreign languages, for instance, due to their consistent exposure to the cross-cultural thinking and interactions, could potentially share similar levels of CQ. Examining the components required to excel in a discipline allows some preliminary inferences about faculty CQ level.

Cross-cultural thinking and interactions in foreign languages. More than half of baccalaureate-granting institutions in the United States require courses in a language other than English for graduation (Geisler et al., 2007). Students often rate their foreign language courses as the most difficult subjects (Onwuegbuzie, Bailey, & Daley, 2000). Every foreign language teacher can attest that achievement varies greatly between students and there is extensive research over the past three decades to identify factors that contribute to or hinder learning. Traditional predictors of academic success seem to be only moderate predictors of success in foreign language learning (Cochran, McCallum, & Bell, 2010). Students who do so well in learning a foreign language that they decide to become subject matter experts in it and obtain a graduate degree so they can teach it can be considered to share common interests, goals, and learning experiences.

Foreign languages teaching and culture. “Culture can be thought of as patterned ways of thinking, feeling, and reacting to various situations and actions. Culture is gained and shared

among people” (Earley, Ang, & Tan, 2006, p. 21). One of the main differences researchers point out between cultures, for example, is the concept of individualism that marks Western cultures and contrasts with the collectivism of Asian and South American cultures (Greenfield, 2000; Triandis, 1996, 2001). Earley et al. (2006) further explain that there are universal parts of CQ across people of all cultures such as the ability to think about new situations and to problem-solve, though there are differences among people based on their innate abilities and their unique experiences or motivation. This would seem to indicate that differences in CQ are individual variations, unless one considers the joint experience all passionate language learners share. The social importance of second language (L2) learning lies in understanding foreign cultures and fostering acceptance of speakers of foreign languages (Byram, 1997). The ACTFL (n.d.) and the National Standards in Foreign Language Education Project (2006) broadened their learning objectives from merely language learning to include the study of culture because understanding culture was deemed essential to language mastery. Learning and reflecting about culture as well as developing a desire and the skills to interact with people of the target language simply are an integral part of the foreign language curriculum. They are elements that help build Cognitive, Metacognitive, Motivational, and Behavioral CQ.

CQ and foreign language achievement. CQ is not tied to a specific culture nor to learning a foreign language (Livermore, 2015). In fact, Tujela (2014) explains:

Simply having cultural knowledge—however notable this is—is not a predictor of competence. For example, even being fluent in another language is no replacement for being sensitive to people’s beliefs and behaviors, although it is a step in the right direction. (p. 9)

From a broader perspective, Gupta & Govindarajan (2002) encourage raising students' awareness of cultural differences so they can be prepared for immersion experiences such as the above-mentioned study abroad, mission trips, or internship opportunities. Foreign language classes can prepare students both linguistically and culturally for those experiences. While knowing a foreign language is not a prerequisite for CQ (Livermore, 2015), foreign language faculty have gone through intensive study of the language and the culture of at least two languages, and possibly more. Their daily interactions with their modern language colleagues also provide ample exposure and opportunities to appreciate additional cultures. Although no data could be found to determine whether foreign language teachers have higher CQ levels than faculty in other departments, these considerations indicate they may exist and are worth exploring.

Many students learning a foreign language in America may never have the opportunity to travel abroad due to distance and financial reasons (Mercer, 2011). The L2 classroom experience, led by faculty with high levels of cultural awareness, offers many opportunities to explore different cultures and to interact cross-culturally. There is some research on the connection between students' CQ and their foreign language achievement. A few studies have indicated a correlation between CQ and foreign language listening comprehension, but there is no agreement on which factor is a predictor of the other. Ghonsooly et al. (2013) suggested that students' increased levels of interpersonal and Cultural Intelligence led to better listening comprehension, but their findings contradicted the conclusions reached by Ang et al. (2006) and Karma and Vedina (2009). Regarding the connection between CQ and writing ability, Peivandi (2011) found that Cognitive and Motivational CQ were the best predictors of writing ability, and Ghonsooly and Shalchy's (2013) data indicated a significant correlation between Cultural

intelligence and Cognitive CQ in regard to writing ability and fluency in particular. The connection of CQ and pragmatic comprehension in another language was also explored. Pragmatic comprehension is “the ability to recognize a mismatch between the literal utterance and the intention of the utterance” (Taguchi, 2005, p. 547). Rafieyan et al. (2015) found there is a strong positive relationship between pragmatic comprehension ability and Cultural Intelligence. Most of this research, however, focuses on the effect of CQ on L2 performance, not whether learning a foreign language has an effect on CQ.

Cross-cultural thinking and interactions in other disciplines. Using a combination of the search terms CQ and other disciplines yielded very mixed results. As indicated above, much research on CQ is conducted in the field of business, thus business education is replete with research on the importance of CQ. Searches across all available databases in the university online library in other fields such as science, mathematics, or music produced no search results that addressed both search terms concurrently. This statement is not made with any negative implications in mind; it is merely to point out that cultural awareness is not considered as integral to the acquisition of the knowledge and skills needed to be successful in those disciplines. This is another indication that there are grounds for investigating the existence of potential differences among disciplines.

Summary

Research has shown that “infusion of culturally intelligent practices in postsecondary education will enable the academic curriculum to become more comprehensively internationalized and culturally intelligent and create the level of learning that will best prepare college students for an intricate global community” (Lopes-Murphy, 2014, p. 293). Ghonsooly and Shalchy (2013) remarked that learners in their home country of Iran have low exposure to a

different culture which hurts their CQ level. Therefore, they encouraged teachers and textbooks to increase attention to teaching cultural points to improve the students' cultural competence. This comment reflecting on their participants' lack of exposure to Anglophone culture can similarly be applied in the United States, where students in many states have limited exposure to foreign cultures, in great part due to the country's geographic size and location.

All four facets of CQ are needed together to function effectively, but each facet can be enhanced individually through education, travel, and intercultural experiences (Van Dyne et al., 2012). To better measure the components of CQ, Van Dyne et al. further subdivided the four factors (metacognition, cognition, motivation, and behavior) into 11 subdimensions when they developed the Expanded Cultural Intelligence Scale (E-CQS). Metacognitive CQ contains the three subdimensions of *planning*, *awareness*, and *checking*; Cognitive CQ contains the two subdimensions of *culture-general knowledge* and *context-specific knowledge*; Motivational CQ contains the three subdimensions of *intrinsic interest*, *extrinsic interest*, and *self-efficacy to adjust*; and Behavioral CQ contains the three subdimensions of *verbal behavior*, *nonverbal behavior*, and *speech acts*. Much of the research on CQ has focused on the outcome or the predictions that could be made from CQ levels in regard to academic achievement in certain subjects or on cultural adaptation, or business success abroad. Many of the interactions to improve students' CQ levels, however, occur in the classroom through traditional instruction (Earley & Peterson, 2004) and are dependent on the faculty (Goh, 2012). The example provided above of what it took for foreign language faculty to become subject matter experts overlaps with the elements of training to improve an individual's CQ. There is, therefore, theoretical reason to believe that the CQ levels of foreign language faculty, as well as other disciplines focused on teaching knowledge and awareness of culture such as Teaching English as a Second

Language, Anthropology, or Global Studies, would be higher than for faculty in others disciplines which are not predicated on comparing cultures, such as science or math. There is, however, no study found comparing the CQ levels of faculty across disciplines. Earley and Ang (2003) very clearly established that the goal of exploring Cultural Intelligence was not to label some groups of people as smarter than others. Neither is it the intention of this study to do so; it merely seeks to determine whether some college faculty have common CQ traits. This knowledge provides valuable insight for shaping faculty development. Knowledge gained from this study can help determine whether all faculty would benefit equally from CQ training or whether activities should be tailored to the specific CQ needs of the various departments. At a Christian university, this is of particular importance as McNeil and Pozzi (2011) stated, “We would argue that developing multicultural skills and competencies would be critical to the success of any movement within the church for multiracial or multiethnic Christianity” (p. 93). A faculty equipped with high levels of CQ is more adept at shaping tomorrow’s workforce to be globally effective across cultures, whether its students become businessmen, teachers, mathematicians, engineers, entertainers, politicians, healers, or missionaries.

CHAPTER THREE: METHODS

Overview

College faculty play an important role in the development of the Cultural Intelligence (CQ) of their students, a trait considered essential to the successful engagement of college graduates in a globalized world (NLCLEAP, 2007; Yankelovich, 2005). In order to expose their students repeatedly to cross-cultural interactions and thoughts, however, faculty need to be aware of their own CQ (Goh, 2012; Lopes-Murphy, 2014). Yet, little is known about potential variations in CQ among faculty. The purpose of this causal-comparative study was to determine if there are differences between units (academic schools or departments) in the Cultural Intelligence levels of undergraduate college faculty at a faith-based university. Findings from this study can inform administrative decisions regarding the need for CQ training during professional development at institutions of higher education, what kind of CQ training to provide, and whether to include all faculty or only target specific groups. The researcher used an ex post facto causal-comparative research design to address the gap in knowledge about the CQ profile of undergraduate college faculty. This chapter describes the method for the study, including design, research question, null hypotheses, participants, setting, and instrumentation, as well as data collection and analysis procedures.

Design

A quantitative, causal-comparative research design with one collection point was used to determine if faculty have differing levels of CQ between academic units within one university in the Southeastern United States. A causal-comparative design was selected because no intervention was administered, and participants could not be randomly selected nor assigned to groups (Gall, Gall, & Borg, 2007). Based on contemporary theories of intelligence (Sternberg,

1986), Earley and Ang (2003) defined the construct of Cultural Intelligence (CQ) as an individual's effectiveness in managing interactions with people of different cultures. CQ is considered a learned capability whose facets can be enhanced through "active engagement in education, travel, international assignments, and other intercultural experiences" (Van Dyne et al., 2012, p. 297). The review of literature indicated that faculty in some disciplines could have higher levels of CQ because their training to become subject matter experts included more of these CQ-boosting experiences.

The categorical independent variable was the unit (academic school or department) in which faculty teach. At this institution, there are a total of 16 schools: Aeronautics, Applied Studies & Academic Success (CASAS), Art & Sciences (CAS), Behavioral Sciences (SBS), Business (SOB), Communication & Digital Content (SCDC), Divinity (SOD), Education (SOE), Engineering, Health Sciences (SHS), Government (SOG), Music, Nursing, and Visual & Performing Arts. As the main focus of the Schools of Law and Medicine is graduate students, these two schools were not included in the survey. To avoid fragmenting into 14 groups to perform the data analysis, the schools were placed into seven groups.

The continuous dependent variable of CQ was measured with the Expanded Cultural Intelligence Scale (Van Dyne et al., 2012). The *Composite* CQ score of faculty as well as the *four components* of CQ (Metacognition, Cognition, Motivation, and Behavior) were analyzed to determine which of the factors are in need of training.

Limitations of a causal-comparative design are that the research allows only inferences, not claims of cause and effect, and the findings have limited generalizability to other populations. Yet, in spite of the limitations of its non-experimental nature, *ex post facto* group comparison research is valuable to understand educational phenomena (Gall et al., 2007). The

purpose of this study was not to determine the *cause* or *effect* of CQ differences, but to provide a better understanding of the existing CQ profile of faculty in order to guide faculty development providers in their decisions on how to allocate time and resources.

Research Question

The research question for this study was:

RQ: Do the undergraduate faculty in individual academic units in a major university have different levels of Cultural Intelligence when compared to other units, as measured by the Expanded Cultural Intelligence Scale?

Hypotheses

This study considered the following null hypotheses:

H₀₁: There will be no statistically significant difference in the *Composite* Cultural Intelligence scores of undergraduate faculty in individual academic units in a major university when compared to other units, as measured by the Expanded Cultural Intelligence Scale.

H₀₂: There will be no statistically significant difference in the *Cognitive* Cultural Intelligence scores of undergraduate faculty in individual academic units in a major university when compared to other units, as measured by the Expanded Cultural Intelligence Scale.

H₀₃: There will be no statistically significant difference in the *Metacognitive* Cultural Intelligence scores of undergraduate faculty in individual academic units in a major university when compared to other units, as measured by the Expanded Cultural Intelligence Scale.

H₀₄: There will be no statistically significant difference in the *Motivational* Cultural Intelligence scores of undergraduate faculty in individual academic units in a major university when compared to other units, as measured by the Expanded Cultural Intelligence Scale.

H₀₅: There will be no statistically significant difference in the *Behavioral* Cultural Intelligence scores of undergraduate faculty in individual academic units in a major university when compared to other units, as measured by the Expanded Cultural Intelligence Scale.

Participants and Setting

This study was conducted at a large not for profit, faith-based university in the Southeastern United States. As the ultimate reason for optimizing CQ training during faculty development is to ensure college students are equipped to function globally upon graduation, the population of interest for this study was undergraduate college faculty. Faculty who teach at the graduate level only were not included. Additional information was collected in the demographic questionnaire that accompanied the CQS to help explain potential differences.

This convenience sample consisted of a total of 1,762 faculty members teaching undergraduate courses residually and/or online at this institution. Of these 1,762 faculty contacted, 418 responded to the Qualtrics survey, which represents a 23.8% response rate. After removing incomplete survey responses, a total of 349 participants remained. Of the respondents, 205 respondents were male and 144 female, representing a roughly 59 to 41 male to female ratio. There were 13 participants in the 20-29 age range, 77 in the 30-39 range, 92 in the 40-49 range, 92 in the 50-59 range, 63 in the 60-69 range, and 12 above 70. Fifteen participants listed their ethnicity as African American, one as American Indian, seven as Asian, 308 as Caucasian, 10 as Hispanic or Latino, and eight as other (six as mixed and two chose not to indicate). Of the participants, 199 participants work as Instructors, 67 as Assistant Professors, 43 as Associate Professors, 39 as Professors, and one failed to enter a rank.

Nonrandom, convenience sampling was used as participants are part of an existing population at this university (Gall et al., 2007). Participants cannot be randomly assigned to

groups as they belong to preexisting groups (the schools where they teach). Some schools are comprised of a wider range of disciplines (such as Arts & Sciences which includes such diverse departments as English, Modern Languages, Mathematics, or Family and Consumer Science) than others, such as Nursing or Engineering, which are more singularly focused. According to Gall et al. (2007), at least 15 participants in each group are needed in causal-comparative research, and Warner (2013) recommends a minimum of 20 cases per cell to ensure the robustness of the univariate F tests.

In causal-comparative studies, homogeneity among groups is desirable to rule out that other differences may obscure the relationships under investigation (Gall et al., 2007). Therefore, this study gathered demographic information, along with data on the independent variable (school or department) and the dependent variable (CQ level). In regard to the independent variable, participants were asked to indicate not merely in what school and department they teach but also which degrees they have earned and in which discipline(s). This information was used to ensure participants who teach courses for two different schools are placed in the group which most closely matches their degree, in order to ensure independence of observation. The demographic information was also expected to contribute to a better understanding of potential differences that are indicative of individual characteristics of participants rather than representative of the school for which faculty teach. The information can also provide additional insight into the less researched antecedents and confounding variables of CQ.

Instrumentation

A published instrument, the Expanded Cultural Intelligence Scale (Van Dyne et al., 2012), and a demographic questionnaire were administered to participants in this study. Ang et

al. (2007) developed the CQS, an initial 20-question instrument to measure an individual's levels of Cultural Intelligence, but later fine-tuned it to provide additional focus on the 11 sub-dimensions. This study used this version updated in 2018 called the E-CQS which contains 39 questions. The questionnaire was used to gather data on the demographic makeup of participants such as gender, age, ethnicity, nationality, educational background, academic unit, and intercultural, international and foreign language experiences. The information concerning the school for which participants teach determined to which group they belong (the independent variable). As the accreditation process through the Southern Association of Colleges and Schools Commission on Colleges (2012) requires that faculty be credentialed for the specific courses they teach, it is unlikely that professors teach in a school for which they did not develop their subject matter expertise through degrees. It can, therefore, be assumed that the current school in which faculty teach is an indication of the training they received, but not that it represents the sum total of their subject matter expertise, as some professors have earned multiple degrees in various disciplines. As indicated above, living abroad has an impact on CQ levels (Crowne, 2009, 2013; Imai & Gelfand, 2010; Lee & Sukoco, 2010; Ramalu, Rose, Kumar, & Uli, 2010; Takeuchi et al., 2005; Tarique & Takeuchi, 2008). Thus, the researcher gathered the additional information about faculty background to determine whether existing differences in CQ levels are truly indicative of group differences rather than reflecting participants' individual traits or experiences. The remaining demographic information was gathered to identify potential confounding variables that may be a threat to the internal validity of causal-comparative studies (Brewer & Kuhn, 2010; Coryn & Hobson, 2010).

Data for the dependent variables, the Metacognitive, Cognitive, Motivational, and Behavioral CQ scores as well as the Composite score, were collected via the Expanded Cultural

Intelligence Scale (Van Dyne et al., 2012). This 39-item scale asks participants to rate how strongly they agree or disagree with cultural belief statements on a Likert-type scale ranging from 1 to 7 (1 = strongly disagree; 2 = disagree; 3 = more or less disagree; 4 = undecided; 5 = more or less agree; 6 = agree; 7 = strongly agree). Only positively worded items are used on the scale. There are nine items each respectively measuring Motivational CQ (three for extrinsic, three for intrinsic, and three for self-efficacy to adjust), Metacognitive CQ (three for planning, three for awareness, and three for checking), and Behavioral CQ (three for verbal behavior, three for nonverbal behavior, and three for speech acts) with scores ranging from 9 to 63 in each dimension. There are 12 items measuring Cognitive CQ (seven each for culture-general and five for context-specific knowledge), with scores ranging from 12 to 84. The Composite CQ scores can range between 39 and 273.

Ang et al. (2007) developed 53 items for the initial pool, which they reduced to 40 items before testing for factor validity. They retained the 20 items with the best psychometric properties: four Metacognitive, six Cognitive, five Motivational, and five Behavioral items. Confirmatory factor analysis (CFA) showed good fit for the four-factor model: $\chi^2 (164 df) = 822.26$, NNFI = .91, CFI = .92, SRMR = .06, and RMSEA = .08 ($p < .05$). Data analysis demonstrated high internal consistency and provided a Composite reliability score of 0.70 (0.72 for Metacognitive CQ, 0.86 for Cognitive CQ, 0.76 for Motivational CQ, and 0.83 for Behavioral CQ). To ensure generalizability, Ang et al. (2007) cross validated the results to establish that the four-factor model's validity and reliability hold across samples, times, and countries. They then conducted three substantive studies to "demonstrate a systematic pattern of relationships between dimensions of CQ and specific intercultural effectiveness outcomes" (Ang et al., 2007, p. 29). This four-factor model has an extensive track record as it was used in many

studies such as Ang et al., 2006; A. S. Chen et al., 2011; Ghonsooly and Shalchy, 2013; Ghonsooly et al., 2013; Khodadady and Yazdi, 2014; Kurpis and Hunter, 2017; Lee and Sukoco, 2010; MacNab and Worthley, 2012; Rafieyan et al., 2015; and Rockstuhl et al., 2011. After numerous studies used the CQS to gather data, the authors of the instrument revised it to integrate the newly gained knowledge and offer a more focused theoretical framework. They proposed the Expanded Cultural Intelligence Scale (E-CQS) which comprises 37 items and allows for better investigation of the 11 subfactors of the four factors (Van Dyne et al., 2012). They collected data from 286 individuals from more than 30 countries and performed confirmatory factor analysis that demonstrated discriminant validity of the subdimensions. The 11-factor model demonstrated significantly better fit than the four-factor model and acceptable reliabilities in validation studies (Metacognitive CQ = .77-.83; Cognitive CQ = .76-.85; Motivational CQ = .76-.82; and Behavioral CQ = .75-.79). They later added one question to the Cognitive CQ factor: "I know the rules (e.g., vocabulary, grammar) of other languages" to complement the question about speaking and understanding many languages. They also divided the Cognitive CQ question, "I can describe similarities and differences in legal, economic, and political systems across cultures," into two distinct questions: "I can describe similarities and differences in political systems across cultures," and "I can describe the legal and economic systems of other cultures." This resulted in the survey version comprising 39 questions that was used for this study. Table 1 shows examples of the questions from the 11 subscales.

Table 1

Example Items from the Expanded Cultural Intelligence Scale

Four Facets	11 Sub-facets	Example Questions
Motivational CQ (9 questions)	Intrinsic Motivation (3)	“I truly enjoy interacting with people from different cultures.”
	Extrinsic Motivation (3)	“I value the credibility I would gain from developing global networks and culturally diverse connections.”
	Self-Efficacy to Adjust (3)	“I am sure I can handle the stress of interacting with people from cultures that are new to me.”
Cognitive CQ (12 questions)	Culture-General Knowledge (7)	“I can describe differences in family systems and the varied role expectations for men and women across cultures.”
	Context-Specific Knowledge (5)	“I can describe how to put people from different cultures at ease.”
Metacognitive CQ (9 questions)	Planning (3)	“I develop action plans before interacting with people from a different culture.”
	Awareness (3)	“I am conscious of how other people’s cultural background may influence their thoughts, feelings, and actions.”
	Checking (3)	“I adjust my cultural knowledge after a cultural misunderstanding.”
Behavioral CQ (9 questions)	Speech Acts (3)	“I change how I make requests of others depending on their cultural background.”
	Verbal behavior (3)	“I change my use of pause and silence to suit different cultural situations.”
	Nonverbal Behavior (3)	“I change my nonverbal behaviors (hand gestures, head movements) to fit the cultural situation.”

Some later replication studies (Bücker et al., 2015, 2016) noted a concern about the discriminant validity of the four-factor model and advocated for a two-factor model of the CQS, combining metacognition and cognition into one and behavior and motivation into another dimension. As this two-factor model has not yet been replicated, this study remained with Earley and Ang’s (2003) more established conceptualization of CQ as having four dimensions

(Metacognitive, Cognitive, Motivational, and Behavioral). To gain more detailed insight into possible differences at the subfactor level, however, the E-CQS was used.

Procedures

The scale and questionnaire were entered into a Qualtrics© XM survey and submitted to the Institutional Review Board (IRB) for approval (see Appendix B). The institution also required additional approval from Human Resource and Marketing for the use of a Qualtrics survey. After securing all required approvals, the researcher administered the survey during the fall semester.

As the study uses a self-report scale and questionnaire, some thought needed to be given to minimizing the effect of biases. In their discussion of common method biases in questionnaire research, Podsakoff, MacKensie, Lee, and Podsakoff (2003) indicated that the concept of social desirability can induce respondents to behave in a more culturally acceptable way and cause a variance artifactually. Some preventive measures to minimize socially desirable responding and increase accuracy were taken to assure participants of the anonymity of their responses and to administer the questionnaire via computer rather than face to face (Podsakoff et al., 2003). Using a self-report instrument is a cause for concern for Conway and Lance (2010), but several studies indicated that the results of the self-report CQS are strongly correlated with other report measures, as well as with measures provided by supervisors of interactional adjustment (Ang et al., 2007; Van Dyne et al., 2008). Bückner et al. (2015) recommended administering the instrument before collecting the demographic data. This study thus implemented the same procedure to prevent potential priming effect by the questionnaire items (Podsakoff et al., 2003).

Another potential bias can result from the difference between respondents and non-respondents in surveys research, even though research indicates little correlation between

response rates and nonresponse bias (R. M. Groves, 2006). Holbrook, Krosnick, and Pfent (2007) explained that “response rates are a function of two different aspects of the interaction with respondents: *contacting* respondents and gaining their *cooperation*” (p. 501). To maximize participation, the E-CQS and the demographic questionnaire were launched in the middle of the semester to avoid the beginning or end of a semester, which tend to be the most stressful times for faculty. With the administration’s approval, the link to the Qualtrics survey was emailed to all faculty email addresses provided by the institution’s Analytics and Data office.

Permission to use the E-CQS did not need to be requested as the Cultural Intelligence Center granted it for academic research purposes, but the researcher requested it out of courtesy to the authors (see Appendix G). The scale and questionnaire (see Appendix A) were converted into computerized versions in the online survey tool Qualtrics© XM (Qualtrics, Provo, UT). As mentioned above, the E-CQS items appeared before the demographic questions to avoid priming bias. The email included a brief explanation of the survey and its purpose, information on the time investment (10-15 minutes), and a link to the survey (see Appendix D). It also contained a statement that submission of the survey constitutes assent to use the collected data for the purpose of this study. The researcher also provided assurance that the data were collected anonymously and that findings will be published in group form only to prevent potential identification of participants. Incentives have been shown to increase response rates (Gall et al., 2007), so participants were informed of their chance to win one \$300 Visa gift card by participating in the study. Qualtrics was set to prevent ballot stuffing and the collection of any personal information and contact association of survey participants. Email addresses were requested for participants wishing to be entered in the drawing for the gift cards; however, before asking participants to enter their email address, the survey sent them to a second survey to create

a data list completely separate from the survey responses to maintain anonymity. According to Heberlein and Baumgartner (1978), two or three follow-ups seem to be the most effective number. Two email follow-ups were sent out to all nonparticipants in one-week increments after the initial request (see Appendices E & F).

The survey closed three weeks after the initial invitation to participate. The researcher accessed all the data gathered in Qualtrics, downloaded it in a Comma-Separated Values (CSV) format, and secured it on a password-protected computer. After removing 66 surveys that had been opened but not completed, the data were coded. Nineteen participants indicated that they teach in more than one school. As ANOVA and MANOVA require independence of observation, these participants were assigned to the school that best matches the degrees they earned. As there are no negatively worded items on the E-CQS, no reverse coding was necessary. The data set was then entered into SPSS 25 and scanned once more for errors and incomplete entries before data analysis. The email addresses of the 266 participants who requested to be entered in the drawing for the gift card were exported from Qualtrics into Excel. The winner was selected by using a random selection formula.

Data Analysis

Descriptive statistics, a one-way analysis of variance (ANOVA), and a one-way multivariate analysis of variance (MANOVA) were computed in SPSS 25. The mean, standard deviation, and minimum and maximum scores were computed for each group on the dependent variables (Composite score, Metacognitive CQ, Cognitive CQ, Motivation CQ, and Behavioral CQ scores). Knowing whether faculty in various disciplines differ in regard to their *Composite* CQ score determines whether faculty in some schools may benefit from more CQ training than others. A more detailed understanding of the overall response pattern, however, is also valuable,

as it can inform whether different schools require additional training in all aspects of CQ or in a tailored combination of the Metacognitive, Cognitive, Behavioral, or Motivational facets of CQ. The four factors of CQ were used as the dependent variables for data analysis. Since the Composite score is computed from the four factors, however, it could not be processed along with the four factors in the MANOVA without skewing the data. Therefore, a one-way ANOVA was performed to determine if null hypothesis one could be rejected, and a MANOVA was used for null hypotheses two through five. The ANOVA is an appropriate test to determine whether groups differ on one dependent variable, and the MANOVA is appropriate for more than one dependent variable (Gall et al., 2007; Warner, 2013). In this situation conducting one MANOVA was deemed preferable to multiple ANOVA because the four factors of the E-CQS (Ang et al., 2007) which are the dependent variables represent different measurements of the same underlying construct, not separate constructs (Warner, 2013).

The use of the ANOVA and MANOVA assumes a continuous dependent variable, a categorical independent variable with two or more independent groups, and independence of observation. Both tests require normal distribution, homogeneity of variances, and the absence of significant outliers (Warner, 2013). The assumption of normality was assessed using the Kolmogorov-Smirnov test and Q-Plots. The assumption of equal variance was assessed with a Levene's test of equality of variance, and boxplots were examined to determine whether there were outliers.

The additional assumptions tested for the MANOVA were multivariate normal distribution, homogeneity of variances-covariance matrices, and absence of multicollinearity (Tabachnick & Fidell, 2007; Warner, 2013). The assumption of absence of multivariate outliers was assessed using Mahalanobis distance values. The assumption of multicollinearity was

assessed using a Pearson product-moment correlation coefficient. The assumption of linear relationship was assessed with a scatterplot matrix and the homogeneity of variance-covariance with a Box's M test.

The effect size was computed using η^2 to indicate the proportion of the Y variance that is predictable from group membership (Warner, 2013). Calculations with G*Power 3.1.9.2 calculator indicate that a minimum sample size of 299 is needed to meet the minimum criteria for a medium effect size and alpha of 0.05 to reach a statistical power level of 0.80 (Faul, Erdfelder, Lang, & Buchner, 2007). For findings indicating that the difference between groups is statistically significant ($p < .05$), the null hypotheses were rejected and post hoc analyses for pairwise comparison were conducted. To limit the risk of Type I error when using a large number of groups, a Tukey honestly significant difference (HSD) test was used. Tukey HSD has more statistical power than some other post hoc tests if all pairwise comparisons are made (Warner, 2013). In accordance with IRB instructions, the researcher will delete all data files for this research stored on the password-protected computer. The results of the data analysis are presented in Chapter 4.

CHAPTER FOUR: FINDINGS

Overview

The purpose of the study was to determine whether undergraduate faculty in each academic unit of a university have differing levels of Cultural Intelligence (CQ) from the faculty members in other units. The researcher used an ex post facto causal-comparative research design. A one-way analysis of variance and a multivariate analysis of variance with seven independent groups were used to compare the CQ level of undergraduate faculty in each academic unit on each dependent variable (Composite, Cognitive, Metacognitive, Motivational, and Behavioral CQ scores). This chapter outlines the assumptions testing, descriptive statistics, and results of the data analysis.

Research Question

This quantitative study was designed to address the following research question:

RQ: Do the undergraduate faculty in individual academic units in a major university have different levels of Cultural Intelligence when compared to other units, as measured by the Expanded Cultural Intelligence Scale?

Null Hypotheses

The null hypotheses for this study were:

H₀₁: There will be no statistically significant difference in the *Composite* Cultural Intelligence scores of undergraduate faculty in individual academic units in a major university when compared to other units, as measured by the Expanded Cultural Intelligence Scale.

H₀₂: There will be no statistically significant difference in the *Cognitive* Cultural Intelligence scores of undergraduate faculty in individual academic units in a major university when compared to other units, as measured by the Expanded Cultural Intelligence Scale.

H₀₃: There will be no statistically significant difference in the *Metacognitive* Cultural Intelligence scores of undergraduate faculty in individual academic units in a major university when compared to other units, as measured by the Expanded Cultural Intelligence Scale.

H₀₄: There will be no statistically significant difference in the *Motivational* Cultural Intelligence scores of undergraduate faculty in individual academic units in a major university when compared to other units, as measured by the Expanded Cultural Intelligence Scale.

H₀₅: There will be no statistically significant difference in the *Behavioral* Cultural Intelligence scores of undergraduate faculty in individual academic units in a major university when compared to other units, as measured by the Expanded Cultural Intelligence Scale.

General Descriptive Statistics

The scores faculty received on the Expanded Cultural Intelligence Scale (E-CQS) constituted the dependent variables for the ANOVA and MANOVA. The independent variable was the academic unit in which the faculty teach. As some schools within the university are smaller or had few respondents to the study, it was necessary to group some schools together in the following academic units:

- Group 1 ($n = 83$) - Liberal Arts, composed of the College of Arts & Sciences ($n = 76$) and College of Applied Studies & Academic Success ($n = 8$),
- Group 2 ($n = 52$) - Behavioral Sciences, composed of the School of Behavioral Sciences ($n = 35$) and School of Education ($n = 17$),
- Group 3 - School of Business ($n = 36$),
- Group 4 - School of Divinity ($n = 60$),

- Group 5 ($n = 49$) - Sciences and Technology, composed of the School of Aeronautics ($n = 7$), School of Engineering ($n = 2$), School of Health Sciences ($n = 28$), and School of Nursing ($n = 12$),
- Group 6 ($n = 31$) - Fine & Performing Arts, composed of the School of Music ($n = 12$), School of Communication and Digital Content ($n = 11$), and School of Visual & Performing Arts ($n = 8$),
- Group 7 - School of Government ($n = 37$).

Table 2 shows the details of the participants' demographic information. The request to participate was sent via email to all 1,761 undergraduate faculty at the institution. Of the 418 surveys returned, 69 surveys were discarded because the participants either did not complete all the questions on the E-CQS or failed to provide the information needed to assign them to a group (the school in which they teach). Thus, 349 were retained for data analysis. A majority of the participants were male ($n = 205$) and Caucasian ($n = 304$). The ages ranged from the 20s to above 70, with the majority of participants between the ages of 40 and 59 ($n = 184$).

Table 2

Demographic Information

Variables	<i>n</i>	%
Gender		
Male	205	58.7
Female	144	41.3
Age Range		
20-29	13	3.7
30-39	77	22.1
40-49	92	26.4
50-59	92	26.4
60-79	63	18.1
70 and above	12	3.4

Table 2 (continued)

Ethnicity		
African American	15	4.3
American Indian	1	.3
Asian	7	2.0
Caucasian	304	87.1
Hispanic or Latino	10	2.9
Other	12	3.4
Rank		
Instructor	199	57
Assistant Professor	67	19.2
Associate Professor	43	12.3
Professor	39	11.2
Missing	1	.3
Cross-Cultural Interactions		
Little experience	74	21.2
Moderately experienced	151	43.4
Very experienced	123	35.3
Missing	1	.3
Time outside US expressed in		
Days	72	20.6
Months	130	37.2
Years	103	29.5
Decades	14	4.0
Missing	1	.3
Number of Foreign Languages Learned		
0	111	31.8
1	120	34.4
2	59	16.9
3	29	8.3
4 or more	29	8.4
Missing	1	.3

Of the 349 participants, 300 lived their entire childhood and adolescence in the United States and 29 never left the country. Regarding cross-cultural interactions, 78% indicated they were moderately to very experienced which seems to coincide with the number of participants who spent considerable time outside the US. Close to one third of participants reported not having learned any foreign languages.

Hypothesis One: Composite CQ Score

Since the Composite score is a combination of the four factors of Cultural Intelligence, it

cannot be included as one of the dependent variables for the MANOVA without skewing the results. A one-way analysis of variance (ANOVA) was therefore conducted on the Composite CQ score for all groups to evaluate the null hypothesis that there is no statistically significant difference in the Composite score of faculty in individual academic units when compared to other units, as measured by the E-CQS (Van Dyne et al., 2012). The four factors were subsequently analyzed with a multiple analysis of variance (MANOVA) to evaluate hypotheses two through five.

Descriptive Statistics

With a total of 39 questions and a minimum of one point and a maximum of seven for each question, participants could earn a Composite score ranging between 39 and 273 points ($M = 199.36$, $SD = 34.89$). No participant scored the minimum possible score of 39, as the lowest score earned was 106. Two participants earned the highest possible Composite score of 273. One was from the School of Music and the other from the School of Government.

The descriptive statistics disaggregated by academic groups are presented as mean \pm standard deviation in Table 3. The academic units, ranked in order of their Composite CQ scores from highest to lowest, were Group 4/Divinity ($n = 60$, $M = 210.3$, $SD = 32.9$), Group 3/Business ($n = 36$, $M = 203.7$, $SD = 33.1$), Group 7/Government ($n = 37$, $M = 202.4$, $SD = 38.1$), Group 2/Behavioral Sciences ($n = 52$, $M = 199.5$, $SD = 28.8$), Group 6/Fine & Performing Arts ($n = 31$, $M = 198.7$, $SD = 35.5$), Group 1/Liberal Arts ($n = 83$, $M = 198.9$, $SD = 35.0$), and Group 5/Sciences & Technology ($n = 50$, $M = 181.7$, $SD = 36.1$).

Table 3

Descriptive Statistics: Composite CQ Scores by Group

Academic Unit	<i>n</i>	<i>M</i>	SD	Minimum	Maximum
1. Liberal Arts	83	198.964	35.010	106	268
2. Behavioral Sciences	52	199.519	28.812	121	252
3. Business	36	203.722	33.122	145	265
4. Divinity	60	210.316	32.960	135	264
5. Sciences & Technology	50	181.680	36.106	120	256
6. Fine & Performing Arts	31	198.709	35.537	124	273
7. Government	37	202.432	38.187	142	273
Total	349	199.358	34.884	106	273

Assumptions Testing for ANOVA

A one-way ANOVA requires one continuous dependent variable (the Composite CQ score), one categorical independent variable with two or more independent groups (Academic units; $k = 7$), and independence of observation (Warner, 2013). As mentioned above, participants who teach for two different schools were included only in the group that most closely represents their subject matter of expertise determined by the degrees they earned, to ensure independence of observation. These three assumptions of ANOVA were thus met at the design level of this study. Before using the one-way ANOVA, the data set was tested for three additional assumptions: outliers, normality, and homogeneity of variances (Warner, 2013). An inspection of the boxplots revealed that one datapoint in Group 6 is an outlier, but it is not an extreme outlier and was thus retained for data analysis (see Figure 3).

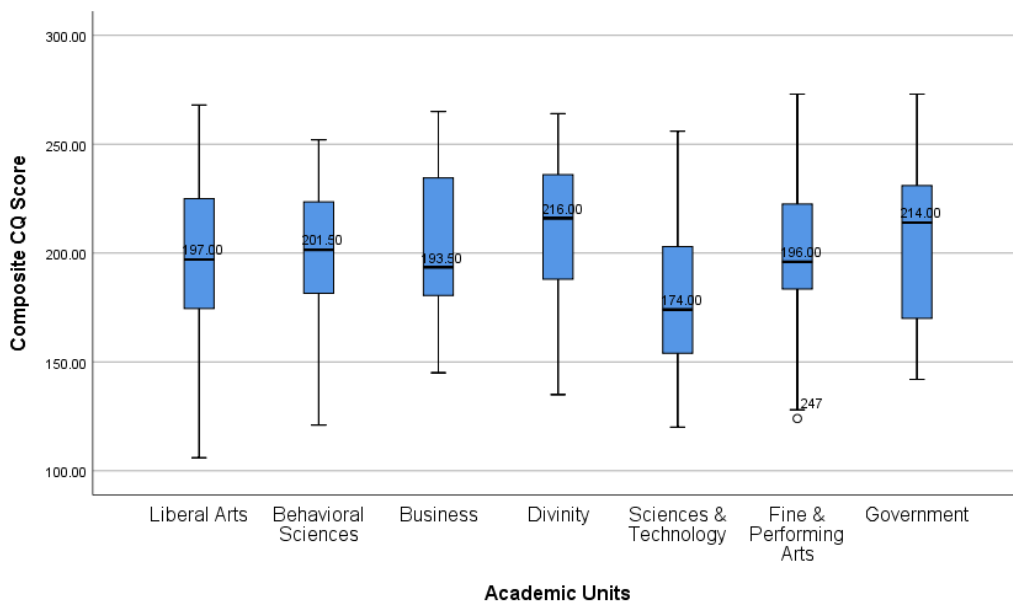


Figure 3. Boxplots of composite CQ scores by group.

A Levene's test of equality of variance was used (see Table 4) and the assumption of equal variance was considered met ($p = 0.22$).

Table 4

Levene's Test of Equality of Variance: Composite CQ Scores

Levene Statistic	<i>df1</i>	<i>df2</i>	Sig.
1.377	6	342	0.223

Note. *df* = degrees of freedom

The researcher conducted a Kolmogorov-Smirnov test of normality ($N > 50$). If the p -values for each group are greater than the threshold $\alpha p < 0.05$, the assumption of normality can be considered met (Warner, 2013). The test indicated that the Composite CQ scores for all groups except Group 5 follow a normal distribution, as shown in Table 5.

Table 5

Kolmogorov-Smirnov Test of Normality

	Academic Unit	Statistic	df	Sig.
Composite CQ Score	1. Liberal Arts	0.053	83	0.200
	2. Behavioral Sciences	0.082	52	0.200
	3. Business	0.143	36	0.060
	4. Divinity	0.111	60	0.064
	5. Sciences & Technology	0.143	50	0.013
	6. Fine & Performing Arts	0.124	31	0.200
	7. Government	0.135	37	0.86

Note. *df* = degrees of freedom

A Q-Plot of Group 5, however, shows that the data are approximately normally aligned along the diagonal line (see Figure 4). Since the ANOVA is considered robust against a violation of this assumption if sample sizes are reasonable ($N \geq 25$), the researcher proceeded with the ANOVA.

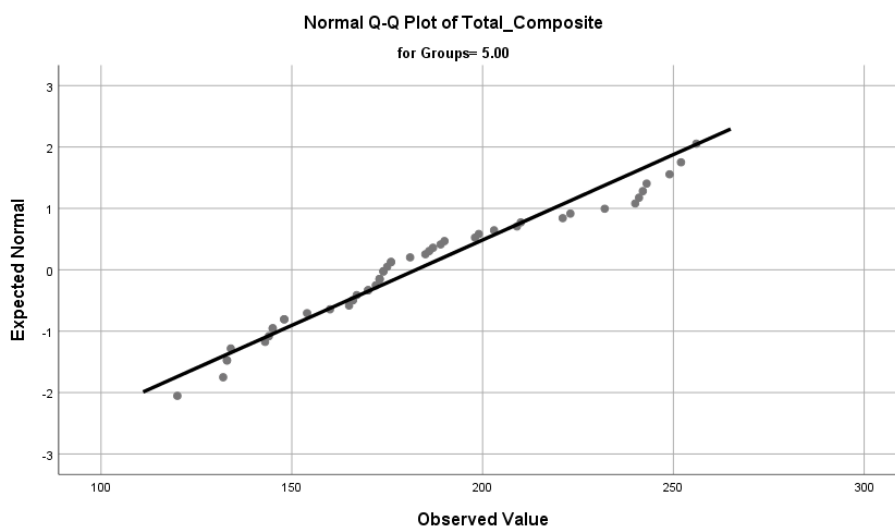


Figure 4. Q-Plot of Group 5 composite CQ scores.

Results

A one-way ANOVA was conducted to determine whether differences exist in the Composite CQ score of faculty in individual academic units when compared to others. Figure 5 gives a visual indication of the differences, especially between Groups 4 and 5. This was later confirmed by a Tukey post hoc analysis to perform pairwise comparisons.

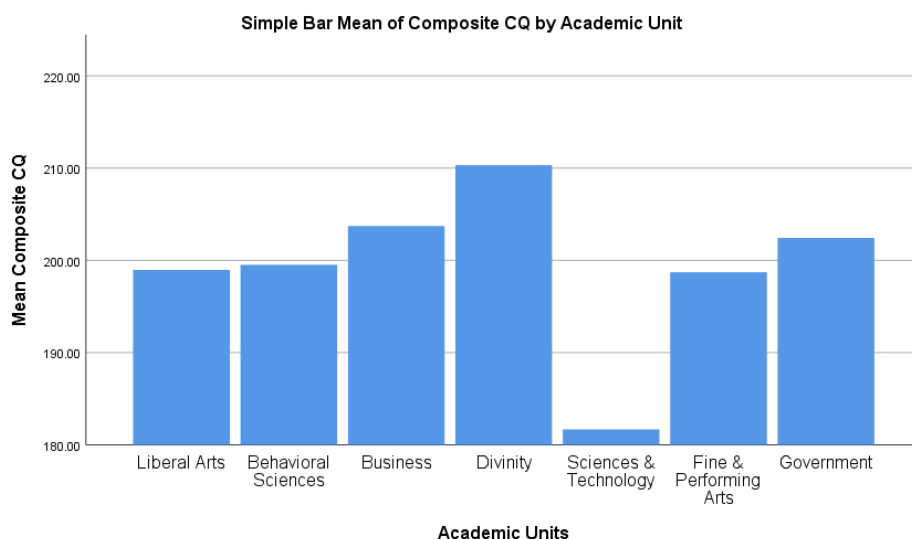


Figure 5. Bar graph of mean composite CQ scores by group.

The Composite CQ scores of faculty are statistically significantly different between academic groups, $F(6, 342) = 3.408$, $p = .003$ (see Table 6) using $\alpha = 0.5$. According to Warner (2013), the critical value of F is 2.09 ($\alpha = 0.5$, $df1 = 6$, $df2 > 120$). Because $F > F$ -critical and $p < .05$, the null was rejected. For effect size, η^2 was used to indicate the proportion of the Composite CQ score variance that is predictable from group membership (Warner, 2013). The data show the partial eta squared ($\eta^2 = 0.056$) reflects a medium effect size with 5% of the variance being attributable to group membership (Warner, 2013, p. 208).

Table 6

ANOVA: Composite CQ Score

	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.
Between Groups	23893.803	6	3982.301	3.408	0.003
Within Groups	401302.527	342	1173.399		
Total	423502.229	348			

Note. *df* = degrees of freedom

To limit the risk of Type I error and to determine which specific groups differ from each other, a Tukey post hoc analysis was conducted. Only one pairwise comparison is statistically significant at an alpha of 0.05. The mean Composite score for Group 4 ($M = 210.3$, $SD = 32.9$) is almost 28 points higher (95% CI, 8.2 to 47.3) than the mean Group 5 score ($M = 182.5$, $SD = 35.9$).

Descriptive Statistics: Hypotheses Two through Five

As the Composite CQ score is comprised of four factors (Motivational, Cognitive, Metacognitive, and Behavioral CQ), evaluating potential differences between groups on each factor was also of interest. A one-way multivariate analysis of variance (MANOVA) was conducted on the data set, using the academic units as the independent variable and the four factors as dependent variables, to determine whether null hypotheses two through five could be rejected.

Descriptive Statistics: Four Factors

With nine items measuring Motivational, Metacognitive, and Behavioral CQ, the minimum score possible in each factor is 9 and the maximum 63, while the 12 items for Cognitive CQ allow between 12 and 84 points. As shown in Table 7, each of the categories saw

some participants earning the maximum scores, but the lowest score possible was achieved only in the Cognitive factor. Further inspection of the scores shows that this lowest possible score was earned just once, yet the highest possible score was obtained 24 times in Motivational, three times in Cognitive, nine times in Metacognitive, and 19 times in Behavioral CQ.

Table 7

Descriptive Statistics: CQ Scores by Factor

CQ	Minimum	Maximum	<i>M</i>	<i>SD</i>
Cognitive CQ	12	84	53.802	14.456
Metacognitive CQ	17	63	49.131	8.399
Motivational CQ	22	63	50.123	8.046
Behavioral CQ	18	63	46.309	10.175

The descriptive statistics disaggregated by academic groups for each of the CQ factors are presented in the sections below addressing hypotheses two through five individually.

Descriptive Statistics: Cognitive CQ

The Cognitive CQ scale allow scores between 12 and 84 points. Compared to the mean score across all groups ($M = 53.80$, $SD = 14.46$), Group 4/Divinity ($M = 59.1$, $SD = 14.03$), Group 7/Government ($M = 56.86$, $SD = 13.49$), Group 3/Business ($M = 55.17$, $SD = 13.99$), and Group 1/Liberal Arts ($M = 54.81$, $SD = 14.11$) had scores above the mean, while the Cognitive CQ scores for Group 6/Fine & Performing Arts ($M = 52.74$, $SD = 14.27$), Group 2/Behavioral Sciences ($M = 50.86$, $SD = 12.46$), and Group 5/Sciences & Technology ($M = 46.28$, $SD = 15.56$) were below the mean (see Table 8). The full range of scores was obtained with Group 5 recording the only score of 12, the lowest score possible, while Groups 1, 6, and 7 all recorded some maximum scores.

Table 8

Descriptive Statistics: Cognitive CQ Scores by Group

Academic Unit	<i>n</i>	<i>M</i>	<i>SD</i>	Minimum	Maximum
1. Liberal Arts	83	54.807	14.114	24	84
2. Behavioral Sciences	52	50.865	12.462	20	81
3. Business	36	55.167	13.989	22	79
4. Divinity	60	59.067	14.032	25	82
5. Sciences & Technology	50	46.280	15.564	12	79
6. Fine & Performing Arts	31	52.742	14.273	31	84
7. Government	37	56.865	13.487	31	84

Descriptive Statistics: Metacognitive CQ

The Metacognitive CQ scale allows scores between 9 and 63 points. No group recorded the lowest number of points possible, but all groups recorded at least one maximum score of 63, except for Group 1 which scored a maximum of 62 points. Compared to the mean score across all groups ($M = 49.13$, $SD = 8.40$), Group 4/Divinity ($M = 51.05$, $SD = 7.26$), Group 2/Behavioral Sciences ($M = 50.60$, $SD = 7.36$), Group 6/Fine & Performing Arts ($M = 50.26$, $SD = 8.85$), Group 3/Business ($M = 50.083$, $SD = 7.83$), and Group 7/Government ($M = 49.21$, $SD = 9.53$) had scores above the mean, while Group 1/Liberal Arts ($M = 48.34$, $SD = 7.70$) and Group 5/Sciences & Technology ($M = 44.68$, $SD = 9.72$) were below the mean (see Table 9).

Table 9

Descriptive Statistics: Metacognitive CQ Scores by Group

Academic Unit	<i>n</i>	<i>M</i>	<i>SD</i>	Minimum	Maximum
1. Liberal Arts	83	48.638	7.701	22	62
2. Behavioral Sciences	52	50.596	7.357	31	63
3. Business	36	50.083	7.835	38	63
4. Divinity	60	51.050	7.263	33	63
5. Sciences & Technology	50	44.680	9.721	17	63
6. Fine & Performing Arts	31	50.258	8.854	22	63
7. Government	37	49.216	9.531	27	63

Descriptive Statistics: Motivational CQ

Just like the Metacognitive factor, the Motivational factor scores may range between 9 and 63 points. No group came close to the lowest number of points as the minimum score ranged from 22 for Group 4 to 36 for Group 3. All groups recorded at least one maximum score of 63. Compared to the mean score across all groups ($M = 50.12$, $SD = 8.05$), Group 3/Business ($M = 52.11$, $SD = 7.88$), Group 4/Divinity ($M = 51.62$, $SD = 8.26$), and Group 6/Fine & Performing Arts ($M = 50.13$, $SD = 8.29$), had scores above the mean while Group 1/Liberal Arts ($M = 49.98$, $SD = 8.36$), Group 7/Government ($M = 49.92$, $SD = 8.02$), Group 2/Behavioral Sciences ($M = 48.92$, $SD = 6.83$), and Group 5/Sciences & Technology ($M = 48.02$, $SD = 7.92$) were below the mean (see Table 10).

Table 10

Descriptive Statistics: Motivational CQ Scores by Group

Academic Unit	<i>n</i>	<i>M</i>	<i>SD</i>	Minimum	Maximum
1. Liberal Arts	83	49.976	8.358	32	63
2. Behavioral Sciences	52	48.923	6.827	29	63
3. Business	36	52.111	7.880	36	63
4. Divinity	60	51.616	8.256	22	63
5. Sciences & Technology	50	48.020	7.924	29	63
6. Fine & Performing Arts	31	50.133	8.287	27	63
7. Government	37	49.916	8.023	34	63

Descriptive Statistics: Behavioral CQ

The scores for the Behavioral factor of CQ may range between 9 and 63 points. No group came close to the lowest number of points as the minimum score ranged from 18 for Group 6 to 31 for Group 4. All groups recorded at least one maximum score of 63. Compared to the mean score across all groups ($M = 46.30$, $SD = 10.17$), Group 2/Behavioral Sciences ($M = 49.13$, $SD = 7.76$), Group 4/Divinity ($M = 48.58$, $SD = 8.88$), and Group 3/Business ($M = 46.36$, $SD = 10.54$) had scores above the mean while Group 7/Government ($M = 46.08$, $SD = 11.11$), Group 1/Liberal Arts ($M = 45.54$, $SD = 9.96$), Group 6/Fine & Performing Arts ($M = 45.16$, $SD = 12.52$), and Group 5/Sciences & Technology ($M = 42.70$, $SD = 10.75$) were below the mean (see Table 11).

Table 11

Descriptive Statistics: Behavioral CQ Scores by Group

Academic Unit	<i>n</i>	<i>M</i>	<i>SD</i>	Minimum	Maximum
1. Liberal Arts	83	45.542	9.965	22	63
2. Behavioral Sciences	52	49.135	7.759	30	63
3. Business	36	46.361	10.540	21	63
4. Divinity	60	48.583	8.884	31	63
5. Sciences & Technology	50	42.700	10.746	19	63
6. Fine & Performing Arts	31	45.161	12.519	18	63
7. Government	37	46.081	11.109	22	63

Assumptions Testing: Hypotheses Two through Five

A one-way MANOVA requires two or more continuous dependent variables (the four subfactors of CQ), one categorical independent variable with two or more independent groups (Academic units; $k = 7$), and independence of observation (Warner, 2013). These three assumptions of MANOVA were met at the design level. Additional assumptions require testing for outliers, normality, multivariate normal distribution, homogeneity of variances-covariance matrices, and absence of multicollinearity (Tabachnick & Fidell, 2007; Warner, 2013).

To check for univariate outliers, a Box and Whisker plot was created for each group. Scores that fall outside the adjacent values of more than three standard deviations of the sample mean would be considered extreme outliers (Tabachnick & Fidell, 2007). Some outliers were noted: two in Liberal Arts, one in Behavioral Sciences, six in Divinity, one in Sciences & Technology, and two in Fine & Performing Arts. Business and Government had no outliers at all. The outliers occurred in each of the four factors, but it is interesting to note that all were at the low end of the scale; no outliers were found at the high end of the score range. The inspection of the boxplot for values greater than 1.5 box lengths from the edge of the box,

however, did not reveal any extreme outliers (see Figure 6). To identify multivariate outliers a linear regression analysis was run to determine the Mahalanobis distance. Three cases ($p = 18.69$, $p = 22.65$, and $p = 22.97$) exceeded the critical value ($df 4$) of Chi-Square ($p = 18.47$) and are considered multivariate outliers (Warner, 2013).

Since the intent of the study was to determine if the faculty in various academic units exhibited similar CQ profiles, removing outliers based on faculty with unusual life experiences that led to these unexpected CQ scores would be a valid consideration. The ultimate objective, however, was to guide efforts to provide CQ training in a targeted fashion during faculty development. In that respect, removing outliers would not provide an accurate representation of the faculty CQ profile in each academic unit at this particular university.

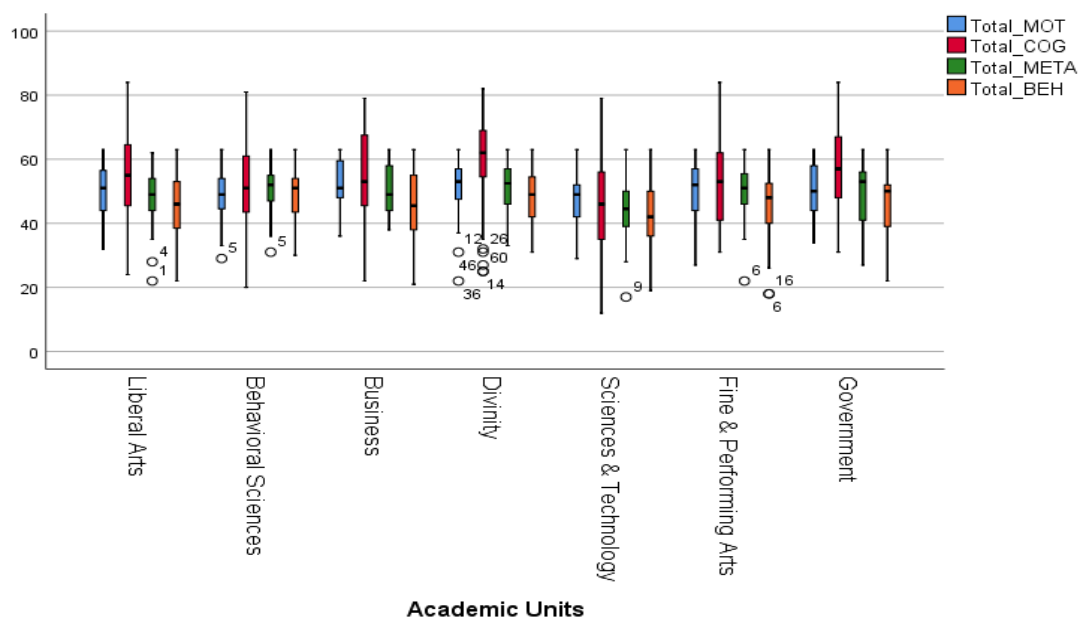


Figure 6. Boxplots of four factors of CQ scores by group.

To assess normality a Kolmogorov-Smirnov test was used because of the large sample size ($N > 50$). If the p -values for each group are greater than the threshold alpha ($p = 0.05$), the assumption of normality can be considered met (Warner, 2013). As Table 12 indicates, the data

for Group 2 were not normally distributed in Metacognitive scores; for Group 4 in Motivational, Cognitive, and Behavioral scores; and for Group 7 in Metacognitive and Behavioral scores.

Table 12

Kolmogorov-Smirnov Test of Normality by Groups on Each Factor

	Group	Statistic	<i>df</i>	Sig.
Motivational CQ Score	1	0.066	83	0.200
	2	0.078	52	0.200
	3	0.115	36	0.200
	4	0.120	60	0.031
	5	0.092	50	0.200
	6	0.103	31	0.200
	7	0.118	37	0.200
Cognitive CQ Score	1	0.054	83	0.200
	2	0.068	52	0.200
	3	0.089	36	0.200
	4	0.142	60	0.004
	5	0.080	50	0.200
	6	0.114	31	0.200
	7	0.077	36	0.200
Metacognitive CQ Score	1	0.078	83	0.200
	2	0.113	52	0.022
	3	0.122	36	0.198
	4	0.107	60	0.086
	5	0.086	50	0.200
	6	0.121	31	0.200
	7	0.179	37	0.004

Table 12 (continued)

Behavioral CQ Score	1	0.067	83	0.200
	2	0.114	52	0.088
	3	0.099	36	0.200
	4	0.100	60	0.031
	5	0.081	50	0.200
	6	0.103	31	0.200
	7	0.151	37	0.032

Note. *df* = degrees of freedom

Due to these violations to normality, the researcher first attempted to use a log transformation to attempt to bring outliers closer to the mean and reduce the problem of unequal variance. Warner (2013) describes this technique as mostly used to bring high-end outliers closer to the mean. As indicated above, the outliers were all at the lower end; thus, the log transformation yielded no usable results. The non-parametric Kruskal-Wallis H test, which does not rely on normal distribution, was also considered. The test, however, does require that the data have a similar distribution pattern across all groups, which was not the case for this data set. Since the MANOVA is considered robust to violations of normality if the group numbers are large enough ($n > 20$), the researcher proceeded with the remaining assumptions testing.

To use MANOVA, the dependent variables should be moderately but not too highly correlated. A Pearson product-moment correlation coefficient was used to measure the strength of the linear association between the variables, with $r > .8$ indicating possible multicollinearity (Tabachnick & Fidell, 2007). There was no multicollinearity on any of the factors (see Table 13).

Table 13

Pearson Product-Moment Correlation

	Motivational	Cognitive	Metacognitive	Behavioral
Motivational	1	0.611	0.534	0.536
Cognitive	0.611	1	0.620	0.613
Metacognitive	0.534	0.620	1	0.796
Behavioral	0.536	0.613	0.796	1

In a scatterplot matrix for each group, the classic cigar shape was detected on the scatterplots of each variable for each academic unit. Thus, the assumption of linear relationship between dependent variables was considered met. The assumption of homogeneity of variance-covariance matrices was assessed using a Box's M test. This assumption was considered met ($p = .178$). To test equal variance between groups, Levene's test of equality of variance was performed with a threshold alpha of $p = 0.01$ due to the large N as recommended by Warner (2013). The test was not statistically significant on any of the dependent variables ($p = .485$, $p = .488$, $p = .249$, and $p = .057$) and the assumption of homogeneity of variances was also considered met (see Table 14).

Table 14

Levene's Test of Equality of Variance: Four Factors of CQ

CQ Factor	Levene Statistic	<i>df1</i>	<i>df2</i>	Sig.
Motivational	0.914	6	342	0.485
Cognitive	0.526	6	342	0.488
Metacognitive	0.535	6	342	0.249
Behavioral	2.067	6	342	0.57

Note. *df* = degrees of freedom

Results

A one-way MANOVA was conducted on the *four factor* scores for all groups to evaluate the null hypothesis that there is no statistically significant difference in the CQ scores of faculty in individual academic units when compared to other units. There was a statistically significant difference, at an alpha of 0.05, between the academic units on the combined dependent variables, $F(24, 1183) = 2.577, p < .001$; Wilks' $\Lambda = .837$, partial $\eta^2 = .043$ (see Table 15).

Table 15

Multivariate Results for Four CQ Factors

Variable	Wilks' Λ	<i>df</i>	<i>F</i>	Sig.	Partial η^2
Groups	.837	24	2.577	0.000	0.43
Error		1183.84			

Note. *df* = degrees of freedom

Table 16

ANOVA Results for Four CQ Factors

Variable	<i>df</i>	<i>MS</i>	<i>F</i>	Sig.	Partial η^2
Cognitive					
Score	6	912.219	4.639	0.000	0.075
Error	342	196.643			
Metacognitive					
Score	6	235.929	3.487	0.002	0.058
Error	342	67.656			
Motivational					
Score	6	96.727	1.507	0.175	0.026
Error	342	64.179			
Behavioral					
Score	6	244.735	2.422	0.026	0.041
Error	342	101.056			

Examination of the analysis of each factor indicated the following results:

H₀2: There was a statistically significant difference in Cognitive CQ scores between the faculty from different academic units, $F(6, 342) = 4.639, p < .001$, partial $\eta^2 = .075$ (see Table 16). According to Warner (2013), the critical value of F is 2.09 ($\alpha = .5, df1 = 6, df2 > 120$). Because $F > F$ -critical and $p < .05$, the null was rejected. For effect size, η^2 was used to indicate the proportion of the *Cognitive CQ score* variance that is predictable from group membership (Warner, 2013). The data show the partial eta squared ($\eta^2 = .075$) reflects a medium effect size with 7% of the variance being attributable to group membership (Warner, 2013, p. 208).

Post hoc comparisons using Tukey HSD were conducted to reduce the risk of Type I error and to determine which pairwise comparisons were significant at an alpha of 0.05. The test indicated there is a statistically significant difference in Cognitive scores between Group 5 and Groups 1, 4, and 7, as well as between Group 4 and Group 2. The Cognitive score for Group 5 ($M = 46.3, SD = 15.6$) is 12.8 points lower (95% CI, 4.8 to 20.7) than Group 4 ($M = 59.1, SD = 14.3$), 10.6 points lower (95% CI, -6.5 to 10.9) than Group 7 ($M = 56.9, SD = 13.5$), and 8.5 points lower (95% CI, -2.8 to 11.3) than Group 1 ($M = 54.8, SD = 12.114$). The Cognitive score of Group 2 ($M = 50.9, SD = 12.5$) is 8.2 points lower (95% CI, -16.1 to -.3) than Group 4 ($M = 59.1, SD = 14.3$).

H₀3: There was a statistically significant difference in the Metacognitive CQ scores between the faculty from different academic units, $F(6, 342) = 3.487, p = .002$, partial $\eta^2 = .058$ (see Table 16). According to Warner (2013), the critical value of F is 2.09 ($\alpha = 0.5, df1 = 6, df2 > 120$). Because $F > F$ -critical and $p < .05$, the null was rejected. For effect size, η^2 was used to indicate the proportion of the *Metacognitive CQ score* variance that is predictable from group membership (Warner, 2013). The data show the partial eta squared ($\eta^2 = 0.058$) reflects a

medium effect size with almost 6% of the variance being attributable to group membership (Warner, 2013, p. 208).

Post hoc comparisons using Tukey HSD were conducted to determine which pairwise comparisons were significant at an alpha of 0.05. The test indicated there is a statistically significant difference in the Metacognitive scores of faculty in Group 5 when compared to Groups 2, 3, 4, and 6. The Metacognitive score for Group 5 ($M = 44.7$, $SD = 9.7$) is 6.3 points lower (95% CI, - 11.0 to -1.7) than Group 4 ($M = 51.0$, $SD = 7.3$), 5.9 points lower (95% CI, - 10.7 to -1.0) than Group 2 ($M = 50.6$, $SD = 7.4$), 5.6 points lower (95% CI, - 11.2 to -.01) than Group 6 ($M = 50.3$, $SD = 8.9$), and 5.4 points lower (95% CI, - 10.7 to -.1) than Group 3 ($M = 50.1$, $SD = 7.8$).

H₀₄: There was no statistically significant difference in the Motivational CQ scores between the faculty from different academic units, $F(6, 342) = 1.507$, $p = .175$, partial $\eta^2 = .026$ (see Table 16). Therefore, null hypothesis four could not be rejected and no pairwise comparison was conducted.

H₀₅: There was a statistically significant difference in the Behavioral CQ scores between the faculty from different academic units, $F(6, 342) = 2.422$, $p = .026$; partial $\eta^2 = .041$ (see Table 16). According to Warner (2013), the critical value of F is 2.09 ($\alpha = .5$, $df1 = 6$, $df2 > 120$). Because $F > F$ -critical and $p < .05$, the null was rejected. For effect size, η^2 was used to indicate the proportion of the *Behavioral CQ score* variance that is predictable from group membership (Warner, 2013). The data show the partial eta squared ($\eta^2 = .041$) reflects a medium effect size with 4% of the variance being attributable to group membership (Warner, 2013, p. 208).

Post hoc comparisons using Tukey HSD were conducted to limit the risk of Type I error and to determine which pairwise comparisons were significant at an alpha of 0.05. The test

indicated there is a statistically significant difference in the Behavioral scores of faculty in Group 5 when compared to Groups 2 and 4. The Behavioral score for Group 5 ($M = 42.7$, $SD = 10.7$) is 6.4 points lower (95% CI, -12.3 to -5.3) than Group 2 ($M = 49.1$, $SD = 7.8$), and 5.9 points lower (95% CI, -11.6 to -0.2) than Group 4 ($M = 48.6$, $SD = 8.9$).

Summary of the Results

The purpose of this study was to determine if the faculty in one academic unit have different levels of Cultural Intelligence when compared with other units. The Composite CQ scores, as well as the four CQ factors (Cognitive, Metacognitive, Motivational, and Behavioral) as measured by the Expanded Cultural Intelligence Scale (ECQS) were analyzed to understand whether all academic units require the same amount or type of CQ training. The analysis revealed that there is no statistically significant difference between academic units in Motivational scores. There are, however, statistically significant differences in Composite, Cognitive, Metacognitive, and Behavioral scores. Pairwise comparisons indicated Group 5 (Sciences & Technology) consistently scored significantly lower across the board, except in Motivational CQ. It was lower in Composite CQ than Group 4 (Divinity); lower in Cognitive CQ than Groups 1 (Liberal Arts), 4, and 7 (Government); and lower in Metacognitive CQ than Groups 2 (Behavioral Sciences), 3 (Business), 4, and 6 (Fine & Performing Arts). The only statistically significant pairwise comparison that did not involve Group 5 was the significantly lower score recorded by Group 2 compared to Group 4 in Cognitive CQ.

CHAPTER FIVE: CONCLUSIONS

Overview

This quantitative causal-comparative study examined the Cultural Intelligence (CQ) of faculty in various academic units of a university in order to determine whether they exhibit differing levels of CQ from the faculty in other units. The study compared the group means of faculty using their Composite, Metacognitive, Cognitive, Motivational, or Behavioral scores on the Expanded Cultural Intelligence Scale (Van Dyne et al., 2012) as the dependent variables. A one-way ANOVA was performed on the Composite score and a MANOVA on the four factors of CQ. The participants were divided into seven groups based on the academic unit in which they teach. The current study is significant because the findings indicate there are differences between groups. This chapter will discuss findings, implications for practice, limitations, and recommendations for future research.

Findings

An increasingly important competence today is knowing how to relate to people of different cultures (Dusi, Messetti, & Steinbach, 2014). Cultural Intelligence is now considered an essential attribute college graduates need before entering the globalized workforce (Association of American Colleges and Universities, 2011; Berdan, 2012; Griffith et al., 2016; Hart Research Associates, 2015). The purpose of this study was to better understand the CQ makeup of faculty who are charged with helping students develop CQ. This information can inform decisions about how to best allocate time and resources during faculty development by determining whether all academic units within a university need training or which specific units may need additional training in some or all components of CQ. As no prior research existed to

investigate faculty CQ, this initial study was conducted to determine whether any differences existed between the various academic units.

For this study, the researcher contacted all undergraduate faculty at this institution and asked them to take the E-CQS as well as provide some additional answers to a demographic questionnaire. Out of 1,761 faculty members contacted, 349 participants completed all the questions required to be included in the data analysis: all questions on the E-CQS, as well as indicating in which school they teach so they could be assigned to a group. To reduce the number of groups to a manageable size and avoid having to exclude some schools with small faculty or too few participants, several schools were grouped together. The following groups were thus used for data analysis: Group 1- Liberal Arts was made up of the College of Arts & Sciences and the College of Applied Studies & Academic Success; Group 2 - Behavioral Sciences combined the School of Behavioral Sciences and the School of Education; Group 5 - Sciences and Technology included the School of Aeronautics, School of Engineering, School of Health Sciences, and School of Nursing; Group 6 - Fine & Performing Arts was composed of the School of Music, School of Communication and Digital Content, and School of Visual & Performing Arts. Three schools had enough participants to remain distinct academic units: Group 3 - School of Business, Group 4 - School of Divinity, and Group 7 - School of Government. A one-way analysis of variance was then conducted on the Composite CQ score and a one-way MANOVA on the four factors: Metacognitive, Cognitive, Motivational, and Behavioral CQ scores for each group. Data analysis revealed statistically significant differences in Composite, Metacognitive, Cognitive, and Behavioral CQ between some academic units, but not in Motivational CQ.

Discussion of Results

The results of the ANOVA and MANOVA conducted to compare the CQ levels of faculty in individual academic units indicated that there were statistically significant differences between groups on the Composite score as well as the Cognitive, Metacognitive, and Behavioral CQ scores but not on Motivational CQ. Pairwise comparisons showed Group 5 (Sciences & Technology) scores to be significantly lower than a number of other groups in all aspects of CQ except Motivational CQ.

As no study has ever investigated the differences in CQ levels of faculty, the results of this study neither support nor contradict prior findings but invite additional study. The School of Divinity ranked in the top two of mean scores on every dependent variable. It ranked number one in Composite, Cognitive, and Metacognitive CQ and number two in Motivational and Behavioral. This indicates that the shared educational and personal experiences of faculty in this group contribute to the acquisition of knowledge about cultural differences and the awareness of their own self-conceptions and mental functioning (Earley & Ang, 2003). On the opposite spectrum, Group 5 consistently ranked the lowest on all five dependent variables. As would be expected from disciplines centered on Science and Technology, the faculty in these schools do not seem to have benefited from the same exposure to cultural experiences in the course of their academic training. By extension, their students probably also lack those opportunities and would benefit from intentional inclusion of such experiences into their curriculum.

Group 2/Behavioral Sciences seems to be aptly named as it ranked highest of all groups in Behavioral CQ and second in Metacognitive CQ. It was interesting to note, however, that the group ranked below the mean in Cognitive and Motivational CQ. Their training clearly imparted on them the awareness of self and mental functioning related to metacognition as well as the aim

to regulate their social behavior to reduce misperceptions related to Behavioral CQ (Earley & Ang, 2003). Group 7/Government, on the other hand, ranked above the mean in Cognitive and Metacognitive CQ, congruent with the amount of knowledge about other countries required from government majors, but below the mean in Motivational and Behavioral. Their educational path possibly prepared them more for comparative studies of governments but not the intent to live in other cultures. Not surprisingly, Group 3/Business consistently ranked above the mean on all five dependent variables and was ranked number one in Motivational CQ. As shown in the review of literature, the vast majority of studies on CQ originate in the field of business. It is, therefore, no surprise that faculty in the School of Business would be highly aware of Cultural Intelligence. Because of the importance of CQ on the bottom line for international businesses (Alon & Higgins, 2005; Ansari et al., 2012; Barakat et al., 2015; Carpenter et al., 2001; Cho & Morris, 2015; Daily et al., 2000; Imai & Gelfand, 2010; Jyoti & Kour, 2015; Konanahalli et al., 2014; Livermore, 2015), courses in business seem to incorporate the teaching of knowledge of other cultures but also sensitize students to the “motivation to engage the world around them” (Earley & Ang, 2003, p. 124).

In order to better understand some of the differences between individuals or groups, the researcher asked participants to answer some questions about their personal experiences with other cultures. When Earley and Ang (2003) defined Cultural Intelligence, they did so as a construct determined by an interaction between genetic and environmental factors. Just like academic intelligence is widely acknowledged as being influenced by childhood experiences, parenting, and education, they determined that CQ is likewise affected by these elements, not just by an individual’s genes. Since CQ is a malleable trait and has been linked to personal and educational experiences (Earley & Ang, 2003), this study asked questions about the participants’

experience with other cultures, the number of countries they have visited, the number of countries they have lived in, and their level of experience with other languages. Based on indicators from previous studies on CQ these elements all influence CQ in an individual (Alon et al., 2018; Crowne, 2008, 2013; Koo Moon et al., 2012; Lenartowicz et al., 2014; Ng et al., 2009; Presbitero, 2019; Shannon & Begley, 2008; Takeuchi et al., 2005). Seventy-four participants indicated they had little experience interacting with people from other countries, 152 said they were moderately experienced, and 123 answered very experienced. Twenty-nine participants stated they had never been outside the United States, and of the remaining participants, 202 had only visited but never lived more than two months in other countries. Those who lived abroad ($n = 117$) indicated they lived in anywhere between one and 22 other countries, with three countries having the highest frequency ($n = 19$) and one country the second highest frequency ($n = 13$). Though the majority of faculty have not lived in another country, they are very well-travelled with answers about the number of countries visited by an individual listed as anywhere between one and 70 countries. Of the 320 participants who indicated they had been abroad, more than one third ($n = 116$) had been to more than ten different countries and 14 have visited more than 30 countries each.

Reflections on Groupings

Ideally, analyses of group differences are performed on groups that are fairly homogenous (Warner, 2013). While some schools within a university are fairly homogenous in terms of the educational path their faculty followed to become credentialed to teach the content, other schools such as Liberal Arts have a wide range of content and backgrounds. “In many quantitative studies, it is desirable to break groups into subgroups for further analysis” (Gall et al., 2007, p. 176); therefore, it would have been preferable to be able to subdivide such a diverse

school into its individual departments, but this would have resulted in group sizes much smaller than the required 30. In fact, with the small number of faculty or the small number of respondents, some schools had to be combined. The faculty were divided into seven groups based on the schools in which they teach: Group 1 - Liberal Arts (College of Arts & Sciences and College of Applied Studies & Academic Success), Group 2 - Behavioral Sciences (School of Behavioral Sciences and School of Education), Group 3 - School of Business, Group 4 - School of Divinity, Group 5 - Sciences and Technology (School of Aeronautics, School of Engineering, School of Health Sciences, and School of Nursing), Group 6 - Fine & Performing Arts (School of Music, School of Communication and Digital Content, and School of Visual & Performing Arts), and Group 7 - School of Government. Another concern in an analysis based on group mean is the uneven group size: Group 1 ($n = 83$), Group 2 ($n = 52$), Group 3 ($n = 36$), Group 4 ($n = 60$), Group 5 ($n = 50$), Group 6 ($n = 31$), Group 7 ($n = 37$). The new groupings and uneven group sizes may have affected the results.

Knowledge Gained from Outliers

As noted in the results from Chapter 4, it was interesting to note that all outliers in any of the scores across all groups occurred on the low end. The lowest number of points it was possible to score on each factor was earned just once (a Cognitive CQ score of 12), yet the highest possible score was reached 24 times for Motivational, three times for Cognitive, nine times for Metacognitive, and 19 times for Behavioral CQ. Not a single group or factor included a datapoint that was an outlier above the mean. This study was conducted with college faculty, a population that has a higher than normal level of education, since all are required to have at least a master's degree to teach at the postsecondary level, and 200 have earned a terminal degree. This population would be likely to have a higher level of Cognitive and Metacognitive CQ than

the general population, though Motivational and Behavioral CQ would not necessarily be influenced by educational level. Earley and Ang (2003) stated that personal and cultural values, efficacy expectations, and goal setting affect motivation while the desire to minimize misperceptions impacts the ability to manage one's social behavior. To better understand the low scores of these outliers, the researcher looked at the answers that participants provided to the additional questions included with the E-CQS in the survey.

Two outliers were noted in Group 1/Liberal Arts, both in the Metacognitive CQ category. One was about 2.5 and the other 3.3 standard deviations from the group mean. One participant had been abroad, while the other had spent a matter of days visiting two countries. Both had just a beginning level of foreign language learning. Group 2/Behavioral Sciences recorded just one outlier. This datapoint was an outlier in both Motivational and Metacognitive CQ by 2.9 and 2.5 standard deviations from the mean respectively. This participant had not spent any time outside the United States and had just a beginning-level knowledge of one foreign language.

Group 4/Divinity registered the highest number of outliers with two in Motivational and five in Cognitive CQ (with one datapoint being an outlier in both). Of the five outliers, four did not have any foreign language knowledge. One participant indicated having learned four foreign languages but listed the proficiency in each as "n/a," leading the researcher to believe that the selection of the number of foreign languages learned may have been in error. The remaining outlier listed beginning-level proficiency in one foreign language. Only one of these participants had lived in another country, but all had visited between two and eight foreign countries. The number of outliers in this one group may indicate a wider range of personal or educational experiences among the faculty in this school than in other groups.

Only one participant in Group 5/Sciences & Technology was an outlier in Metacognitive CQ by a standard deviation of 2.8 below the group mean. This participant had learned one foreign language at a beginning level and had never been abroad. Of the two outliers in Group 6/Fine & Performing Arts, one participant was the sole outlier among the Composite CQ scores across all groups. The mean scores in Composite, Motivational, Cognitive, Metacognitive, and Behavioral CQ for Group 6 were all very close to the overall mean. For this one outlier, however, the scores were within one standard deviation below the mean on Motivational and Cognitive, but more than two standard deviations below the mean on Metacognitive and Behavioral. From the participant's answers on the questionnaire, it was determined that this individual had never lived abroad and spent only days visiting two foreign countries. The participant had learned only one foreign language to a beginning-level proficiency. The second outlier found in Group 6 was only an outlier in the Behavioral CQ with a score more than two standard deviations below the mean. This participant has never lived abroad nor learned another language but has spent over a month visiting two foreign countries.

Business and Government had no outliers at all. It is relevant to note that the two schools without any outliers were two groups consisting of one single school each, not a combination of schools. This raises the concern that the need to combine several schools into groups may have introduced an element that could distort the group mean. In the School of Engineering only two faculty members responded, but there is no way to determine whether this lack of participation is due to its faculty's perception that Cultural Intelligence is irrelevant to the engineering or merely to a busy schedule. It is, therefore, impossible to have an accurate evaluation of the average CQ of faculty in that school and their inclusion in the Group 5 may have skewed the data for the other schools included in this group.

Implications for Practice

Developing Cultural Intelligence starts with a study of self (Griffer & Perlis, 2007), which applies to the institutional level as well as the individual. The analysis of the data gathered from this study revealed that there are statistically some significant differences between academic units at this university. A frequent complaint of faculty is the wasting of time during faculty development on presentations or training that is not applicable to them or not conducive to improving teaching in their specific discipline. Yet faculty are eager to learn new and more effective teaching methodologies (Dar et al., 2016). The findings of this study indicate the need to consider administering different levels and types of CQ training to various units within this institution. The implications, however, extend to every institution of higher learning that aims to prepare students for today's workforce. This would ensure faculty development includes targeted training to raise the faculty CQ of each individual group, but also pedagogical tools they can in turn use to raise the CQ level of their students using activities that are appropriate to their discipline. Due to the grouping needs addressed above, however, the study may need to be replicated with all faculty and not merely volunteer participants before decisions are made on training needs by school.

Beyond implications for faculty development, this study also provides some ideas for integrating additional elements into the educational experience of students. The investigation of outliers provided some insight into the antecedents of CQ among faculty, supporting the limited prior research indicating a link between CQ levels and foreign language learning, exposure to cultural knowledge and experiences, and opportunities to live and study abroad (Alon et al., 2018; Crowne, 2008, 2013; Koo Moon et al., 2012; M. Li & Mobley, 2010; Shannon & Begley, 2008; Takeuchi et al., 2005; Wood & St. Peters, 2014).

Limitations

There are some limitations for this study that need to be addressed. Causal-comparative studies always include limitations as they are nonexperimental and thus causal inferences cannot be made (Warner, 2013). In addition, this study relied on voluntary participation, which involves two limitations. First, the sample used in a study should be representative of the characteristics of a population. Though 418 participants out of a population of 1,761 returned the survey, a response rate of roughly 24%, only 349 of the collected surveys were completely filled out and usable, which represents an actual response rate of roughly 20%. While there is no consensus on what response rate is acceptable or what the reasons for not responding are, a low response rate does influence the credibility of the findings (Baruch & Holtom, 2008). Secondly, it could be an indication that the faculty who chose to respond may have more interest in Cultural Intelligence than the 76% that did not respond, and therefore produced an inflated mean.

Another limitation was the number of questions on the survey. The regular CQS (Ang et al., 2007) includes 20 questions while the E-CQS (Van Dyne et al., 2012) consists of 39. This study used the more recent version because it would allow for more in-depth analysis of the factors. Combined with the additional demographic questions, the longer version of the CQ scale could have contributed to fatigue in respondents preventing them from evaluating their answers carefully. Finally, the plan for this study was to conduct an ANOVA on the Composite score of CQ, then conduct a MANOVA on the four factors combined to reduce the risk of Type I error as recommended by Warner (2013). Conversely, using MANOVA can lead to an increased risk of failing to reject a false null hypothesis, a concern heightened by the violations of assumptions. In light of these limitations, the researcher recommends additional studies be

conducted on the CQ of faculty before decisions are reached about the type and amount of CQ training that is required for various academic units.

Recommendations for Future Research

As indicated above, this study is the first to look at the CQ makeup of faculty. It should be replicated in a similar setting to confirm the results. Ideally, a study into the difference of faculty CQ across departments would include enough participants in each to break down each school into individual department, creating groups that are more homogenous. A group such as Liberal Arts includes too many departments with very diverse characteristics to yield accurate results when aggregated.

Taylor et al. (2013) considered culturally competent faculty of such importance to a faith-based institution that they created a pilot program to develop it from a cognitive, affective, and spiritual perspective. No doubt one can expect differences in the faculty between a faith-based and a secular university. To determine whether the faith-based setting for this study had an impact on the results, it would therefore also be informative to replicate the study at a secular university because each institution's theology, climate, culture, and population guide its efforts to develop culturally competent faculty (McNeil & Pozzi, 2011).

With the prevalence of online education, some additional angles of research to consider are whether there are differences in CQ between online and residential faculty. More importantly, researching the perception of online students of the Cultural Intelligence of the online faculty and course designers would provide valuable insight to improve courses. As online students are much more diverse than traditional residential students, Cultural Intelligence is particularly relevant to making them feel welcome in their learning environment.

It is possible that continuing to compare CQ scores across groups of faculty may yield limited benefits beyond knowing whether to offer Cultural Intelligence training to all the faculty or only to the departments in need. Antecedents of CQ, however, is an area that greatly needs additional research. Much research has been done about the benefits of having high CQ levels in a variety of settings, but in order to help students develop CQ, it is imperative to find out more about what factors actually contribute to higher levels of CQ. Due to their diversity in background and experiences, faculty and students can be an excellent source of knowledge on possible antecedents of CQ. With better understanding of what leads to higher levels of CQ, more attention can then be given to what strategies are effective in providing those experiences in a targeted fashion in the classroom.

In their recent study on the antecedents of business CQ in professionals, Alon et al. (2018) summarized how learning a foreign language provides exposure to the culture associated with it:

Language trainers transfer traditions, literature, cultural values, and assumptions to individuals, who then benefit from enhanced cultural knowledge and intercultural skills. Speaking a foreign language fluently cannot be achieved without adapting to how native speakers think, as the individual learns to adapt to the structure and rationale of the foreign language. (p. 239)

This relationship between learning a language and CQ has been mentioned in theoretical terms in many studies, but before Alon et al. (2018) only one empirical study investigated the relationship between language skills and CQ. It determined that learning new languages was related to Cognitive and Behavioral CQ among university students in Ireland (Shannon & Begley, 2008).

When investigating the outliers, which were all recorded at the low end of the scale on the four factors, the researcher looked at the answers that participants provided on their foreign language experience and on the amount of time spent in other countries. The participants whose scores constituted outliers in this study all reported very little foreign language knowledge or living abroad experience. This seems to indicate there is a clear need to further investigate travel experience along with foreign language learning as antecedents of CQ. It would also help confirm Alon et al.'s claim that the "key antecedents are, in order of importance from high to low, the number of countries lived in for six months or more, education level, and number of languages spoken" (2018, p. 247). Future research should thus investigate what kind of language learning is most effective. Is it preferable to learn several languages to an intermediate level of proficiency or to learn one to advanced proficiency? Is there a difference in the CQ gained from learning a language that is very different from one's native language (English and Arabic or Chinese, for instance) compared to learning a language that is closely related (Spanish and Portuguese, for instance)? As previous studies reported conflicting information about whether short-term trips to other countries are effective in building CQ, additional studies on the effect of the length of a stay in another country would also be warranted.

Finally, there has been a lot of research on the type of training that is most effective. Lenartowicz, Johnson, and Konopaske's (2014) article proposing improvements to existing programs provides some guidance to companies on how to train their employees to be effective in cross-cultural business environments. This is important to businesses as it impacts their bottom line, but it would seem postsecondary institutions could significantly contribute to the solution by ensuring graduating students are prepared with adequate CQ before they reach the workforce. Beyond the above-mentioned language learning and trips abroad, CQ development

should be integrated across the curriculum. Yet, there is limited research to indicate which teaching practices are effective in the classroom beyond some promising recommendations made by Lopes-Murphy (2014). Additional research on this topic would help faculty better implement strategies to build CQ into their curriculum.

REFERENCES

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.
- Allport, G. W., & Odbert, H. S. (1936). *Trait-names: A psycho-lexical study*. *Psychological Monographs* (Vol. 47).
- Alon, I., Boulanger, M., Elston, J. A., Galanaki, E., Martínez de Ibarreta, C., Meyers, J., ... Vélez-Calle, A. (2018). Business cultural intelligence quotient: A five-country study. *Thunderbird International Business Review*, 60(3), 237–250.
<https://doi.org/10.1002/tie.21826>
- Alon, I., Boulanger, M., Myers, J., & Taras, V. (2016). The development and validation of the business cultural intelligence quotient. *Cross Cultural and Strategic Management*, 23(1), 78–100.
- Alon, I., & Higgins, J. M. (2005). Global leadership success through emotional and cultural intelligences. *Business Horizons*, 48(6), 501–512.
- American Council on the Teaching of Foreign Languages [ACTFL]. (n.d.). *Standards for foreign language learning: Preparing for the 21st century*. Retrieved from http://www.actfl.org/sites/default/files/pdfs/public/StandardsforFLExecsumm_rev.pdf
- American Institute for Foreign Studies. (2013). AIFS study abroad outcomes report. American Institute for Foreign Studies.
- Ang, S., Rockstuhl, T., & Tan, M. L. (2015). Cultural intelligence and competencies. *International Encyclopedia of the Social & Behavioral Sciences*, 5, 433–439.
- Ang, S., & Van Dyne, L. (2009). *Handbook of cultural intelligence: Theory, measurement, and applications*. Armonk, GB: Routledge.

- Ang, S., Van Dyne, L., & Koh, C. (2006). Personality correlates of the four-factor model of cultural intelligence, *31*(1), 100–123.
- Ang, S., Van Dyne, L., Koh, C., Ng, K.-Y., Templer, K. J., Tay, C., & Chandrasekar, N. A. (2007). Cultural intelligence: Its measurement and effects on cultural judgment and decision making, cultural adaptation, and task performance. *Management and Organization Review*, *3*, 335–371.
- Ang, S., Van Dyne, L., & Rockstuhl, T. (2015). Cultural Intelligence origins, conceptualization, evolution, and methodological diversity. In M. J. Gelfand, C. Y. Chiu, & Y. Y. Hong (Eds.), *Handbook of advances in culture and psychology (Vol. 5)* (pp. 273–323). Oxford Scholarship Online.
- Ansari, M. I., Radmehr, R., & Shalikar, M. (2012). Analysis the relationship between cultural intelligence and transformational leadership (The case of managers at the trade office). *International Journal of Business and Social Science*, *3*(14), 252–261.
- Arnold, M. (1932). *Culture and anarchy: Landmarks in the history of education*. Cambridge, UK: Cambridge University Press.
- Arora, P., & Rohmetra, N. (2010). Cultural Intelligence: Leveraging differences to bridge the gap in the international hospitality industry. *International Review of Business Research Papers*, *6*(5), 216–234.
- Association of American Colleges and Universities. (2011). The LEAP vision for learning: Outcomes, practices, impact, and employers' views. *Peer Review*, *13*(2), 1–28.
- Azizi, Z., Fatemi, A. H., Pishghadam, R., & Ghapanchi, Z. (2015). Investigating the relationship between Iranian EFL learners' cultural intelligence and their home cultural attachment. *Mediterranean Journal of Social Sciences*, *6*(3), 575–585.

- Bandura, A. (1977a). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191–215.
- Bandura, A. (1977b). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (2002). Social cognitive theory in a cultural context. *Applied Psychology: An International Review*, *51*, 269–290.
- Banks, J. A. (2008). *An introduction to multicultural education*. Boston, MA: Pearson Allyn & Bacon.
- Barakat, L. L., Lorenz, M. P., Ramsey, J. R., & Cretoiu, S. L. (2015). Global managers: An analysis of the impact of cultural intelligence on job satisfaction and performance. *International Journal of Emerging Markets*, *10*, 781–800.
- Barker, M. C., & Mak, A. S. (2013). From classroom to boardroom and ward: Developing generic intercultural skills in diverse disciplines. *Journal of Studies in International Education*, *17*(5), 573–589.
- Baruch, Y., & Holtom, B. C. (2008). Survey response rate levels and trends in organizational research. *Human Relations*, *61*(8), 1139–1160. <https://doi.org/10.1177/0018726708094863>
- Berdan, S. N. (2012). Preparing our students for the global marketplace. *Huffpost*. Retrieved from http://www.huffingtonpost.com/stacie-nevadoski-berdan/preparing-our-students-fo_b_1189512.html
- Bhawuk, D. P. S., & Brislin, R. (2000). Cross-cultural training: A review. *Applied Psychology: An International Review*, *49*(1), 162–192.
- Billings, N. C. (2006). Bringing globalization into the classroom. *Journal of Family and Consumer Sciences*, *98*(3), 48–50.
- Black, H. T., & Duhon, D. L. (2006). Assessing the impact of business study abroad programs on

- cultural awareness and personal development. *Journal of Education for Business*, 81(3), 140–144.
- Blasco, M., Feldt, L. E., & Jakobsen, M. (2012). If only cultural chameleons could fly too: A critical discussion of the concept of cultural intelligence. *International Journal of Cross Cultural Management*, 12(2), 229–245.
- Boas, F. (1940). *Race, language and culture*. New York, NY: Macmillan.
- Brewer, E. W., & Kuhn, J. (2010). Encyclopedia of research design: Vol. 1. In N. J. Salkind (Ed.) (pp. 124–130). Thousand Oaks, CA: SAGE Publications.
- Broido, E. M. (2004). Understanding diversity in millennial students. *New Directions for Student Services*, 2004(106), 73–85. Retrieved from <http://doi.wiley.com/10.1002/ss.126>
- Bronfenbrenner, U., & Ceci, S. J. (1994). Nature-nurture reconceptualized in developmental perspective: A bioecological model. *Psychological Review*, 101(4), 568–586.
- Brown, D. E. (1991). *Human universals*. New York, NY: McGraw-Hill.
- Bücker, J., Furrer, O., & Lin, Y. (2015). Measuring cultural intelligence (CQ): A new test of the CQ scale. *International Journal of Cross Cultural Management*, 15(3), 259–284.
- Bücker, J., Furrer, O., & Peeters Weem, T. (2016). Robustness and cross-cultural equivalence of the Cultural Intelligence Scale (CQS). *Journal of Global Mobility: The Home of Expatriate Management Research*, 4(3), 300–325.
- Burdick, E., & Lederer, W. J. (1958). *The ugly American*. New York, NY: W.W. Norton.
- Byram, M. (1997). *Teaching and assessing intercultural communicative competence*. Bristol, PA: Multilingual Matters.
- Camblin, L. D. J., & Steger, J. A. (2000). Rethinking faculty development. *Higher Education*, 39(1), 1–18.

- Carpenter, M. A., Sanders, W. G., & Gregersen, H. B. (2001). Bundling human capital with organizational context: The impact of international assignment experience on multinational firm performance and CEO pay. *Academy of Management Journal*, *44*, 493–511.
- Chao, M. M., Takeuchi, R., & Farh, J. L. (2017). Enhancing cultural intelligence: The roles of implicit culture beliefs and adjustment. *Personnel Psychology*, *70*(1).
<https://doi.org/10.1111/peps.12142>
- Chen, A. S., Lin, Y. C., & Sawangpattanakul, A. (2011). The relationship between cultural intelligence and performance with the mediating effect of culture shock: A case from Philippine laborers in Taiwan. *International Journal of Intercultural Relations*, *35*(2), 246–258.
- Chen, G., Kirkman, B. L., Kim, K., Farh, C. I., & Tangirala, S. (2010). When does cross-cultural motivation enhance expatriate effectiveness? A multilevel investigation of the moderating roles of subsidiary support and cultural distance. *Academy of Management Journal*, *53*, 1110–1130. <https://doi.org/10.5465/AMJ.2010.54533217>
- Chen, X. P., Liu, D., & Portnoy, R. (2011). A multilevel investigation of motivational cultural intelligence, organizational diversity climate, and cultural sales: Evidence from U.S. real estate firms. *Journal of Applied Psychology*. <https://doi.org/10.1037/a0024697>
- Chiu, C. Y., Gries, P., Torelli, C. J. J., & Cheng, S. Y. Y. (2011). Toward a social psychology of globalization. *Journal of Social Issues*, *67*, 663–676.
- Cho, J., & Morris, M. W. (2015). Cultural study and problem-solving gains: Effects of study abroad, openness, and choice. *Journal of Organizational Behavior*, *36*(7), 944–966.
- Choudhury, M. H. (2013). Teaching culture in EFL: Implications, challenges and strategies. *Journal of Humanities and Social Science*, *13*(1), 20–24.

- Chua, R. Y., & Morris, M. W. (2009). *Innovation communication in multicultural networks: Deficits in intercultural capability and affect-based trust as barriers to new idea sharing in intercultural relationships*. Harvard Business School.
- Cochran, J. L., McCallum, R. S., & Bell, S. M. (2010). Three A's: How do attributions, attitudes, and aptitude contribute to foreign language learning? *Foreign Language Annals*, *43*, 566–582.
- Cohen, A. M., Brawer, F. B., & Kisker, C. B. (2013). *The American community college* (6th ed.). San Francisco, CA: Jossey-Bass.
- Conway, J. M., & Lance, C. E. (2010). What reviewers should expect from authors regarding common method bias in organizational research. *Journal of Business and Psychology*, *25*(3), 325–334.
- Coryn, C. L., & Hobson, K. A. (2010). Using nonequivalent dependent variables to reduce internal validity threats in quasi-experiments: Rationale, history, and examples from practice. *New Directions for Evaluation*, *131*, 31–39.
- Costa, P. T., & McCrae, R. R. (1992). *Revised NEO-Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual*. Odessa, FL: Psychological Assessment Resources.
- Crowne, K. A. (2008). What leads to cultural intelligence? *Business Horizons*, *51*, 391–399.
- Crowne, K. A. (2009). The relationships among social intelligence, emotional intelligence and cultural intelligence. *Organization Management Journal*, *6*, 148–163.
- Crowne, K. A. (2013). Cultural exposure, emotional intelligence, and cultural intelligence: An exploratory study. *International Journal of Cross Cultural Management*, *13*(1), 5–22.
- Daily, C. M., Certo, S. T., & Dalton, D. R. (2000). International experience in the executive

- suite: The path to prosperity? *Strategic Management Journal*, 21, 515–523.
- Dar, S., Jabeen, N., Jadoon, Z. I., & Dar, I. S. (2016). Faculty development programs and their effect on individual and organizational performance in Pakistan. *Pakistan Vision*, 17(2), 318–364.
- Davis, K. D. (2009). *Cultural intelligence and leadership: An introduction for Canadian Forces leaders*. Kingston, Ontario: Canadian Defence Academy Press.
- Desimone, L. M., & Garet, M. S. (2015). Best practices in teachers' professional development in the United States. *Psychology, Society & Education*, 7(3), 252–263.
- Dewey, J. (1938). *Experience and education*. New York, NY: Simon & Schuster.
- Dezure, D., Lattuca, L. R., Huggett, K. D., Smith, N. C., & Conrad, C. F. (2014). *National reports on the undergraduate curriculum, traditional and contemporary perspectives: Innovations in the undergraduate curriculum*. Retrieved from <http://education.stateuniversity.com/pages/1896/Curriculum-Higher-Education.html>
- Digman, J. M. (1990). Personality structure: Emergence of the five-factor model. *Annual Review of Psychology*, 41, 417–440.
- Dusi, P., Messetti, G., & Steinbach, M. (2014). Skills, attitudes, relational abilities & reflexivity: Competences for a multicultural society. *Procedia - Social and Behavioral Sciences*, 112(April), 538–547. <https://doi.org/10.1016/j.sbspro.2014.01.1200>
- Earley, P. C., & Ang, S. (2003). *Cultural intelligence: Individual interactions across cultures*. Palo Alto, CA: Stanford University Press.
- Earley, P. C., Ang, S., & Tan, J. S. (2006). *CQ: Developing cultural intelligence at work*. Palo Alto, CA: Stanford University Press.
- Earley, P. C., & Peterson, R. S. (2004). The elusive cultural chameleon: Cultural intelligence as a

- new approach to intercultural training for the global manager. *Academy of Management Learning and Education*, 3, 100–115.
- Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. In S. T. Fiske, D. L. Schacter, & C. Zahn-Waxler (Eds.), *Annual review of psychology* (pp. 109–132). Palo Alto, CA: Annual Reviews.
- Egan, M. L., & Bendick, M. J. (2008). Combining multicultural management and diversity into one course on cultural competence. *Academy of Management Learning & Education*, 7(3), 387–393.
- Elliott, R. W. (2014). Faculty development curriculum: What informs it? *The Journal of Faculty Development*, 28(3), 35–45.
- Engle, R. L., & Crowne, K. A. (2014). The impact of international experience on cultural intelligence: An application of contact theory in a structured short-term programme. *Human Resource Development International*, 17(1). <https://doi.org/10.1080/13678868.2013.856206>
- Engle, R. L., & Nash, B. (2016). Foreign travel experience and cultural intelligence: Does country choice matter? *Journal of Teaching in International Business*, 27(1), 23–40. <https://doi.org/10.1080/08975930.2016.1173615>
- Engle, R. L., & Nehrt, C. C. (2012). Antecedents of cultural intelligence: The role of risk, control, and openness in France and the United States. *Journal of Management*, 13(5), 35–47. Retrieved from http://www.na-businesspress.com/JMPP/NehrtRL_Web13_5_.pdf
- Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39, 175–191.
- Fehr, M. C., & Agnello, M. F. (2012). Engaging in diverse classrooms using a diversity

- awareness survey to measure. *Multicultural Education*, 19(2), 34–39.
- Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American Psychologist*, 34(10), 906–911.
- Flavell, J. H. (1987). Speculations about the nature and development of metacognition. In F. E. Weinert & R. H. Kluwe (Eds.), *Metacognition, motivation and understanding* (pp. 21–29). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Frías-Jamilena, D. M. M., Sabiote-Ortiz, C. M. M., Martín-Santana, J. D. D., & Beerli-Palacio, A. (2018). Antecedents and consequences of cultural intelligence in tourism. *Journal of Destination Marketing & Management*, 8, 350–358.
- Friedman, T. I. (2000). *The Lexus and the olive tree*. New York, NY: Farrar, Straus and Giroux.
- Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research: An introduction*. Boston, MA: Pearson Education.
- Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. New York, NY: Basic Books.
- Gardner, H. (1993). *Multiple intelligences: The theory in practice*. New York, NY: Basic Books.
- Gardner, H. (1999). *Intelligence reframed*. New York, NY: Basic Books.
- Gay, G. (2000). *Culturally responsive teaching: Theory, research, & practice*. New York, NY: Teachers College Press.
- Geisler, M., Kramsch, C., McGinnis, S., Patrikis, P., Pratt, M. L., Ryding, K., & Saussy, H. (2007). Foreign languages and higher education: New structures for a changed world: MLA ad hoc committee on foreign languages. *Profession*, 234–245.
- Ghonsooly, B., & Shalchy, S. (2013). Cultural intelligence and writing ability: Delving into fluency, accuracy and complexity. *Novitas-ROYAL (Research on Youth and Language)*,

7(2), 147–159.

- Ghonsooly, B., Sharififar, M., Sistani, S. R., & Ghahari, S. (2013). Cultural intelligence in foreign language learning contexts. *Cultus*, *47*, 47–68.
- Ginges, J., & Atran, S. (2013). Sacred values and cultural conflict. *Advances in Culture and Psychology*, *4*, 273–301.
- Goh, M. (2012). Teaching with cultural intelligence: Developing multiculturally educated and globally engaged citizens. *Asia Pacific Journal of Education*, *32*(4), 395–415.
- Greenfield, P. (2000). Three approaches to the psychology of culture: Where do they come from? Where can they go? *Asian Journal of Social Psychology*, *3*(3), 223–240.
- Gregersen, H. B., Morrison, A. J., & Black, J. S. (1998). Developing leaders for the global frontier. *Sloan Management Review*, *40*, 21–32.
- Griffer, M. R., & Perlis, S. M. (2007). Developing cultural intelligence in preservice speech-language pathologists and educators. *Communication Disorders Quarterly*, *29*(1), 28–35.
- Griffith, R. L. L., Wolfeld, L., Armon, B., Rios, J., & Liu, O. L. (2016). Assessing intercultural competence in higher education: Existing research and future directions. *ETS Research Report Series*, *2016*(2), 1–44.
- Groves, K., & Feyerherm, A. (2011). Leader cultural intelligence in context: Testing the moderating effects of team cultural diversity on leader and team performance. *Organization Management Journal*, *36*, 535–566. <https://doi.org/10.1177/1059601111415664>
- Groves, R. M. (2006). Nonresponse rates and nonresponse bias in household surveys. *Opinion Quarterly*, *70*(4), 646–675.
- Gullekson, N. L., Tucker, M. L., Coombs, G., & Wright, S. B. (2011). Examining intercultural growth for business students in short-term study abroad programs: Too good to be true?

- Journal of Teaching in International Business*, 22(2), 91–106.
- Gupta, A. K., & Govindarajan, V. (2002). Cultivating a global mindset. *Academy of Management Executive*, 16(1), 116–126.
- Gurin, P., Dey, E. L., Hurtado, S., & Gurin, G. (2002). Diversity and higher education: Theory and impact on educational outcomes. *Harvard Educational Reviews*, 7(3), 330–366.
Retrieved from <https://search-proquest-com.ezproxy.liberty.edu/docview/212287515?pq-origsite=summon&accountid=12085>
- Hall, E. T. (1959). *The silent language*. New York, NY: Anchor Books.
- Hall, E. T. (1993). *An anthropology of everyday life*. New York, NY: Anchor Books.
- Hamaker, E. L., Nesselroade, J. R., & Molenaar, P. C. (2007). The integrated trait–state model. *Journal of Research in Personality*, 41(2), 295–315.
- Harrison, J. K., & Brower, H. H. (2011). The impact of cultural intelligence and psychological hardiness on homesickness among study abroad students. *Frontiers: The Interdisciplinary Journal of Study Abroad*, 21, 41–62.
- Hart Research Associates. (2015). *Falling short? College learning and career success*. Washington, DC: Author. Retrieved from <http://www.aacu.org/sites/default/files/files/LEAP/2015employerstudentsurvey.pdf>
- Hart Research Associates. (2018). *Fulfilling the American dream: Liberal education and the future of work*. Washington, DC. Retrieved from <https://www.aacu.org/sites/default/files/files/LEAP/2018EmployerResearchReport.pdf>
- Haygood, A. E. (2016). *The role of the short-term mission trip process in the development of cultural intelligence in university students: A collective case study*. Liberty University. Retrieved from <http://digitalcommons.liberty.edu/doctoral/1352>

- Heberlein, T. A., & Baumgartner, P. (1978). Factors affecting response rates to mailed questionnaires: A quantitative analysis of the published literature. *American Sociological Review, 43*, 447–462.
- Hechanova-Alampay, R., Beehr, T. A., Christiansen, N. D., & Van Horn, R. K. (2002). Adjustment and strain among domestic and international student sojourners a longitudinal study. *School Psychology International, 23*(4), 458–474.
- Heckman, J. J., & Kautz, T. (2012). Hard evidence on soft skills. *Labour Economics, 19*(4), 451–464.
- Hofstede, G. (1984). *Culture's consequence*. Newbury Park, CA: Sage.
- Hofstede, G. (1994). Cultures and organizations: Software of the mind. *Administrative Science Quarterly, 38*(1), 132–134.
- Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations*. Thousand Oaks, CA: Sage.
- Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind*. New York, NY: McGraw-Hill.
- Holbrook, A., Krosnick, J. A., & Pfent, A. (2007). The causes and consequences of response rates in surveys by the news media and government contractor survey research firms. *Advances in Telephone Survey Methodology, 499–528*.
- Holmes, P., & O'Neill, G. (2012). Developing and evaluating intercultural competence: Ethnographies of intercultural encounters. *International Journal of Intercultural Relations, 36*(5), 707–718. <https://doi.org/10.1016/j.ijintrel.2012.04.010>
- Holt, K., & Seki, K. (2012). Global leadership: A developmental shift for everyone. *Industrial and Organizational Psychology, 5*(2), 196–215.

- Hughes, E. C. (1971). *The sociological eye: Selected papers*. Chicago, IL: Aldine-Atherton.
- Imai, L., & Gelfand, M. J. (2010). The cultural intelligent negotiator: The impact of cultural intelligence (CQ) on negotiation sequences and outcomes. *Organizational Behavior and Human Decision Processes*, *112*, 83–98.
- Institute of International Education. (2016). *Open Doors 2016 Report on International Educational Exchange*. Retrieved from <http://www.iie.org/opendoors>
- James, P., & Steger, M. B. (2014). A genealogy of “globalization”: The career of a concept. *Globalizations*, *11*(4), 417–434.
- Jyoti, J., & Kour, S. (2015). Assessing the cultural intelligence and task performance equation: Mediating role of cultural adjustment. *Cross Cultural Management*, *22*(2), 236–258.
- Kanfer, R., & Heggestad, E. D. (1997). Motivational traits and skills: A person-centered approach to work motivation. *Research in Organizational Behavior*, *19*, 1–56.
- Karma, K., & Vedina, R. (2009). Cultural intelligence in global teams: A fusion model of collaboration. *Group and Organization Management*, *31*, 124–153.
- Karnyshev, A. D., & Kostin, A. K. (2010). Intercultural competence as a competitive advantage of secondary school graduates. *Russian Education and Society*, *52*(11), 12–26.
- Khodadady, E., & Yazdi, B. H. (2014). Cultural intelligence of English language learners within a mono-cultural context. *International Journal of Psychology and Behavioral Sciences*, *4*(5), 165–172.
- Kihlstrom, J. F., & Cantor, N. (2000). Social intelligence. *Handbook of Intelligence*, *2*, 359–379.
- Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of Management Learning & Education*, *4*(2), 193–212.

- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.
- Kononahalli, A. O., Oyedele, L., Spillane, J., Coates, R., von Meding, J., & Ebohon, J. (2014). Cross-cultural intelligence (CQ): Its impact on British expatriate adjustment on international construction projects. *International Journal of Managing Projects in Business*, 7(3), 423–448.
- Koo Moon, H., Kwon Choi, B., & Jung, J. S. (2012). Previous international experience, cross-cultural training, and expatriates' cross-cultural adjustment: Effects of cultural intelligence and goal orientation. *Human Resource Development Quarterly*, 23(3), 285–330.
- Kroeber, A. L., & Kluckhohn, C. (1952). Culture: A critical review of concepts and definitions. *Peabody Museum of Archaeology & Ethnology, Harvard University*.
- Kurpis, L. H., & Hunter, J. (2017). Developing CQ through experiential learning. *Journal of Marketing Education*, 39(1), 30–46.
- Lanz, P. (2000). The concept of intelligence in psychology and philosophy. In H. Cruse, J. Dean, & H. Dean (Eds.), *Prerational intelligence: Adaptive behavior and intelligent systems without symbols and logic*, 1 (pp. 19–30). Dordrecht, NL.
- Latham, G. P., & Locke, E. A. (2007). Employee motivation. In J. Barling & C. L. Cooper (Eds.), *The Sage handbook of organizational behavior: Vol. 1. micro approaches*. Thousand Oaks, CA: Sage.
- Lee, L.-Y., & Sukoco, B. M. (2010). The effects of cultural intelligence on expatriate performance: The moderating effects of international experience. *The International Journal of Human Resource Management*, 21(7), 963–981.
- Lee, L.-Y., Veasna, S., & Sukoco, B. M. (2014). The antecedents of cultural effectiveness of

- expatriation: moderating effects of psychological contracts. *Asia Pacific Journal of Human Resources*, 52, 215–233.
- Lenartowicz, T., Johnson, J. P., & Konopaske, R. (2014). The application of learning theories to improve cross-cultural training programs in MNCs. *International Journal of Human Resource Management*. Taylor & Francis. <https://doi.org/10.1080/09585192.2013.860384>
- Leung, K., Ang, S., & Tan, M. L. (2014). Intercultural competence. *Annual Review of Organizational Psychology and Organizational Behavior*, 1(1), 489–519.
- Li, G. (2013). Promoting teachers of culturally and linguistically diverse students as change agents: A cultural approach to professional learning. *Theory Into Practice*, 52(2), 136–143.
- Li, M., & Mobley, W. H. (2010). The role of experiential learning in the development of cultural intelligence. In *Academy of Management*. Montreal, Canada.
- Livermore, D. (2015). *Leading with cultural intelligence: The new secret to success*. New York, NY: AMACOM.
- Livingston, J. A. (2003). *Metacognition: An overview*.
- Lokkesmoe, K. J., Kuchinke, K. P., & Ardichvili, A. (2016). Developing cross-cultural awareness through foreign immersion programs. *European Journal of Training and Development*, 40(3), 155–170. <https://doi.org/10.1108/EJTD-07-2014-0048>
- Lopes-Murphy, S. A. (2014). Experiences in postsecondary education that may lead to cultural intelligence: Exploring and proposing practices. *International Journal of Teaching and Learning in Higher Education*, 26(2), 287–296.
- Lovvorn, A. S., & Chen, J.-S. (2011). Developing a global mindset: The responsibility between an international assignment and cultural intelligence. *International Journal of Business and Social Sciences*, 2(9), 275–283.

- MacNab, B. R. (2012). An experiential approach to cultural intelligence education. *Journal of Management Education*, 36(1), 66–94.
- MacNab, B. R., Brislin, R., & Worthley, R. (2012). Experiential cultural intelligence development: Context and individual attributes. *International Journal of Human Resource Management*, 23(7), 1320–1341. <https://doi.org/10.1080/09585192.2011.581636>
- MacNab, B. R., & Worthley, R. (2012). Individual characteristics as predictors of cultural intelligence development: The relevance of self-efficacy. *International Journal of Intercultural Relations*, 36(1), 62–71.
- Manning, T. T. (2003). Leadership across cultures: Attachment style influences. *Journal of Leadership and Organizational Studies*, 9(1), 20–32.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98(2), 224.
- Mayer, J. D., & Salovey, P. (1993). The intelligence of emotional intelligence. *Intelligence*, 17, 433–442. Retrieved from <http://www.sciencedirect.com/science/article/pii/0160289693900103>
- McCrae, R. R., & Costa, P. T. (1999). A five-factor theory of personality. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 139–153). New York, NY: Guilford.
- McCrea, E. A., & Yin, J. Z. (2012). Developing cultural intelligence: An undergraduate course assessment framework. *Organization Management Journal*, 9(2), 104–111.
- McGrew, A. G. (1992). Conceptualizing global politics. In A. G. McGrew & P. G. Lewis (Eds.), *Global politics: globalization and the nation-state* (pp. 1–28). Cambridge: Polity Press.
- McKee, C. W., & Tew, W. M. (2013). Setting the stage for teaching and learning in American

- higher education: Making the case for faculty development. *New Directions for Teaching and Learning*, 133, 3–14.
- McNeil, J. D., & Pozzi, C. (2011). Developing multicultural competency. In R. J. Priest & A. L. Nieves (Eds.), *This Side of heaven: Race, ethnicity, and christian faith*. Oxford Scholarship Online.
- Mercer, S. (2011). *Towards an understanding of language learner self-concept*. Dordrecht, NL: Springer.
- Morris, M. W., Leung, K., Ames, D., & Lickel, B. (1999). Views from inside and outside: Integrating emic and etic insights about culture and justice judgment. *Academy of Management Review*, 24, 781–796.
- Mulder, M. (1977). *The daily power game*. Leiden, The Netherlands: Martinus Nijhoff Social Sciences Division.
- Murdock, G. P. (1987). *Outline of cultural materials* (5th ed.). New Haven, CT: HRAF.
- Murray, J. P. (2002). Faculty development in SACS-accredited community colleges. *Community College Review*, 29(4), 50–66.
- National Leadership Council for Liberal Education and America's Promise [NLCLEAP]. (2007). *College Learning for the New Global Century*. Washington, DC. Retrieved from http://www.aacu.org/leap/documents/GlobalCentury_final.pdf
- National Standards in Foreign Language Education Project. (2006). *Standards for foreign language learning in the 21st century*. Yonkers, NY: National Standards in Foreign Language Education Project.
- Ng, K.-Y., Van Dyne, L., & Ang, S. (2009). Developing global leaders: The role of international experience and cultural intelligence. *Advances in Global Leadership*, 5, 225–250.

- Ng, K.-Y., Van Dyne, L., & Ang, S. (2012). Cultural intelligence: A review, reflections, and recommendations for future research. In A. M. Ryan, F. T. L. Leong, & F. L. Oswald (Eds.), *Conducting multinational research: Applying organizational psychology in the workplace* (pp. 29–58). Washington, DC: American Psychological Association.
- Nguyen, A. T. (2010). *Expatriate effectiveness and cultural intelligence among multiculturals and monoculturals abroad*. University of California, Riverside.
- Onwuegbuzie, A. J., Bailey, P., & Daley, C. E. (2000). Cognitive, affective, personality, and demographic predictors of foreign-language achievement. *The Journal of Educational Research, 94*(1), 3–15.
- Ott, D. L., & Michailova, S. (2016). Cultural intelligence: A review and new research avenues. *International Journal of Management Reviews, 00*, 1–21.
<https://doi.org/10.1111/ijmr.12118>
- Peivandi, A. (2011). *The relationship between CQ and IQ in writing ability of adult Iranian EFL learners*. Ferdowsi University of Mashhad, Mashhad, Iran.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879–903.
- Pottshoff, D., Dinsmore, J. A., & Moore, T. J. (2001). The diversity cohort—a professional development program for college faculty. *The Teacher Educator, 2*, 145–156.
- Presbitero, A. (2019). Foreign language skill, anxiety, cultural intelligence and individual task performance in global virtual teams: A cognitive perspective. *Journal of International Management, (February)*. <https://doi.org/10.1016/j.intman.2019.100729>
- Rafieyan, V., Golerazeghi, H., & Orang, M. (2015). Relationship between cultural intelligence

- and pragmatic comprehension. *Journal of Language Teaching and Research*, 6(3), 560–565.
- Ramalu, S. S., Rose, R. C., Kumar, N., & Uli, J. (2010). Doing business in global arena: An examination of the relationship between cultural intelligence and cross-cultural adjustment. *Asian Academy of Management Journal*, 15(1), 79–97.
- Ramsey, J. R., Leonel, J. N., & Gomes, G. Z. (2011). Cultural intelligence's influence on international business traveler's stress. *Cross Cultural Management: An International Journal*, 18(1), 21–37.
- Rockstuhl, T., & Ng, K.-Y. (2008). The effects of cultural intelligence on interpersonal trust in multicultural teams. In S. Ang & L. Van Dyne (Eds.), *Handbook of cultural intelligence: Theory, measurement, and applications* (pp. 206–220). New York, NY: Sharpe.
- Rockstuhl, T., Seiler, S., Ang, S., Van Dyne, L., & Annen, H. (2011). Beyond general intelligence (IQ) and emotional intelligence (EQ): The role of cultural intelligence (CQ) on cross-border leadership effectiveness in a globalized world. *Journal of Social Issues*, 67, 825–840.
- Rokeach, M. (1973). *The nature of human values*. Free press.
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25, 54–67.
- Şahin, F., Gürbüz, S., Köksal, O., & Ercan, U. (2013). Measuring cultural intelligence in the Turkish context. *International Journal of Selection and Assessment*, 21, 135–144.
- Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition and Personality*, 9(3), 185–211.
- Sambharya, R. B. (1996). Foreign experience of top management teams and international

- diversification strategies of U.S. multinational corporations. *Strategic Management Journal*, 17, 739–746.
- Savicki, V., Downing-Burnette, R., Heller, L., Binder, F., & Sutinger, W. (2004). Contrasts, changes, and correlates in actual and potential intercultural adjustment. *Journal of Intercultural Relations*, 28(3–4), 311–329.
- Schein, E. (1985). *Organizational culture and leadership*. San Francisco, CA: Jossey-Bass.
- Shannon, L. M., & Begley, T. M. (2008). Antecedents of the four-factor model of cultural intelligence. In S. Ang & L. Van Dyne (Eds.), *Handbook of cultural intelligence: Theory, measurement, and applications* (pp. 41–55). New York, NY: Sharpe.
- Sherriff, N. S., Jeffery, A., Davies, J. K., Hills, M., Carroll, S., Jackson, S., ... Attorp, A. (2012). Transatlantic student exchange between Canada and Europe: Experiences from the CEIHPAL project. *Journal of Further and Higher Education*, 36(1), 41–55.
- Simonelli, J. (2000). Service learning abroad: Liability and logistics. *An International Forum*, 11(1), 35–44.
- Southern Association of Colleges and Schools. (2012). *The principles of accreditation: Foundations for quality enhancement*. Southern Association of Colleges and Schools, Commission on Colleges. Retrieved from <http://www.sacscoc.org/pdf/2012PrinciplesOfAccreditation.pdf>
- Spearman, C. (1927). *The abilities of man*. Newbury Park, CA: Macmillan.
- Spencer-Oatey, H. (2008). *Culturally speaking. Culture, communication and politeness theory*. (2nd ed.). London, UK: Continuum.
- Spencer-Oatey, H. (2012). What is culture ? A compilation of quotes. *GlobalPAD Core Concepts*. Retrieved from

<http://www2.warwick.ac.uk/fac/soc/al/globalpad/interculturalskills/>

- Spitzberg, B. H., & Chagnon, G. (2009). Conceptualizing intercultural competence. In D. K. Deardorff (Ed.), *The SAGE handbook of intercultural competence* (pp. 2–52). Thousand Oaks, CA: Sage.
- Sternberg, R. J. (1983). Components of human intelligence. *Cognition*, *15*(1), 1–48.
- Sternberg, R. J. (1984). Toward a triarchic theory of human intelligence. *Behavioral and Brain Sciences*, *7*(2), 269–287.
- Sternberg, R. J. (1986). A framework for understanding conceptions of intelligence. In R. J. Sternberg & D. K. Detterman (Eds.), *What is intelligence? Contemporary viewpoints on its nature and definition* (pp. 3–15). Norwood, NJ: Ablex.
- Sternberg, R. J. (1997). *Successful intelligence: How practical and creative intelligence determine success in life*. New York, NY: Plume.
- Sternberg, R. J., & Detterman, D. K. (Eds.). (1986). *What is intelligence? Contemporary viewpoints on its nature and definition*. Norwood, NJ: Ablex.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston, MA: Pearson.
- Taguchi, N. (2005). Comprehending implied meaning in English as a foreign language. *The Modern Language Journal*, *89*(4), 543–562.
- Tajfel, H., & Turner, J. C. (1986). The social identity theory of inter-group behavior. In S. Worchel & W. Austin (Eds.), *Psychology of intergroup relations*. Chicago, IL: Nelson-Hall.
- Takeuchi, R., Tesluk, P. E., Yun, S., & Lepak, D. P. (2005). An integrative view of international experience. *Academy of Management Journal*, *48*, 85–100.
- Tarique, I., & Takeuchi, R. (2008). Developing cultural intelligence: The roles of international

- nonwork experiences. In S. Ang & L. Van Dyne (Eds.), *Handbook of cultural intelligence: Theory, measurement, and applications* (pp. 56–70). New York, NY: Sharpe.
- Tay, C., Rossi, A. M., & Westman, M. (2010). International business travelers: Inter-role conflicts and moderating effects on emotional exhaustion. In *Paper presented at the annual meeting of the Academy of Management*. Montreal, Canada.
- Tay, C., Westman, M., & Chia, A. (2008). Antecedents and consequences of cultural intelligence among short-term business travelers. In S. Ang & L. Van Dyne (Eds.), *Handbook of cultural intelligence: Theory, measurement, and applications* (pp. 126–144). Armonk, NY: M.E. Sharpe.
- Taylor, D. L., Van Zandt, C., & Menjares, P. C. (2013). Developing culturally competent faculty: A cognitive, affective, and spiritual model. *Christian Higher Education, 12*(1), 110–121.
- Templer, K. J., Tay, C., & Chandrasekar, N. A. (2006). Motivational cultural intelligence, realistic job preview, realistic living conditions preview, and cross-cultural adjustment. *Group & Organization Management, 31*, 154–173.
<https://doi.org/10.1177/1059601105275293>
- Thomas, D. C., Elron, E., Stahl, G., Ekelund, B. Z., Ravlin, E. C., Cerdin, J. L., ... Lazarova, M. B. (2008). Cultural intelligence: Domain and assessment. *International Journal of Cross Cultural Management, 8*(2), 123–143. <https://doi.org/10.1177/1470595808091787>
- Thomas, D. C., Liao, Y., Aycan, Z., Cerdin, J. L., Pekerti, A. A., Ravlin, E. C., ... Van de Vijver, F. (2015). Cultural intelligence: A theory-based, short form measure. *Journal of International Business Studies, 46*(9), 1099–1118. <https://doi.org/10.1057/jibs.2014.67>
- Thorndike, E. L. (1921). Intelligence and its measurement: A symposium. *Educational*

- Psychology*, 12, 123–147.
- Thorndike, R. L. (1936). Factor analysis of social and abstract intelligence. *Journal of Educational Psychology*, 27(3), 231–233.
- Thorndike, R. L., & Stein, S. (1937). An evaluation of the attempts to measure social intelligence. *Psychological Bulletin*, 43, 275–285.
- Torres, V., Howard-Hamilton, M., & Cooper, D. L. (2003). Identity development of diverse populations: Implications for teaching and administration in higher education. *Higher Education Report*, 29(6), 1–8.
- Triandis, H. C. (1972). *The analysis of subjective culture*. New York, NY: John Wiley.
- Triandis, H. C. (1981). *Handbook of cross cultural psychology (Vols. 1-6)*. (H. C. Triandis, W. Lambert, J. Berry, W. Lonner, A. Heron, R. Brislin, & J. Draguns, Eds.). Boston, MA: Allyn & Bacon.
- Triandis, H. C. (1996). The psychological measurement of cultural syndromes. *American Psychologist*, 51(4), 407–415.
- Triandis, H. C. (2001). Individualism-collectivism and personality. *Journal of Personality*, 69(6), 907–924.
- Triandis, H. C. (2006). Cultural intelligence in organizations. *Group and Organization Management*, 31, 20–26.
- Trompenaars, A., & Hampden-Turner, C. (1997). *Riding the waves of culture: Understanding cultural diversity in global business*. New York, NY: McGraw-Hill.
- Tuleja, E. A. (2014). Developing cultural intelligence for global leadership through mindfulness. *Journal of Teaching in International Business*, 25(1), 5–24.
- Tylor, E. B. (1874). *Primitive culture: Researches into the development of mythology*,

- philosophy, religion, language, art and customs (Vol. 1)*. New York, NY: Henry Holt.
- Van de Vijver, F., & Tanzer, N. K. (2004). Bias and equivalence in cross-cultural assessment: An overview. *Revue Européenne de Psychologie Appliquée*, 54, 119–135.
- Van Dyne, L., Ang, S., & Koh, C. (2008). Development and validation of the CQS. *Handbook of Cultural Intelligence*, 16–40.
- Van Dyne, L., Ang, S., Ng, K.-Y., Rockstuhl, T., Tan, M. L., & Koh, C. (2012). Subdimensions of the four-factor model of cultural intelligence: Expanding the conceptualization and measurement of cultural intelligence. *Social and Personality Psychology Compass*, 6(4), 295–313.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Walker, R. E., & Foley, J. M. (1973). Social intelligence: Its history and measurement. *Psychological Reports*, 33(3), 839–864.
- Ward, C., & Kennedy, A. (1993). Psychological and socio-cultural adjustment during crosscultural transitions: A comparison of secondary students overseas and at home. *International Journal of Psychology*, 28(2), 129–147.
- Warner, R. M. (2013). *Applied statistics: From bivariate through multivariate techniques*. Thousand Oaks, CA: SAGE Publications.
- Watson, J. B. (1928). *The ways of behaviorism*. Oxford, UK: Harper.
- West, C. (2012). *Toward globally competent pedagogy*. Washington, DC. Retrieved from http://www.nafsa.org/uploadedFiles/Chez_NAFSA/Find_Resources/Publications/Periodicals/Epublications/epub_toward_globally.pdf
- Wiesel, E., & Heffner, R. D. (2009). *Conversations with Elie Wiesel*. New York, NY: Schocken

Books.

- William, V., & Nagy, S. (2012). Sweetgrass science. *Science and Children*, 49(7), 46–49.
- Williams, M. E. (2008). *Individual differences and cross-cultural adaptation: A study of cultural intelligence, psychological adjustment, and sociocultural adjustment*. Trident University International University.
- Wittgenstein, L. (1953). *Philosophical Investigations*. (G. E. Anscombe, Ed.). Oxford, UK: Blackwell Publishing.
- Wood, E. D., & St. Peters, H. Y. Z. (2014). Short-term cross-cultural study tours: Impact on cultural intelligence. *International Journal of Human Resource Management*, 25(4), 558–570. <https://doi.org/10.1080/09585192.2013.796315>
- Woods, N. (1998). Globalization: Definitions, debates and implications. *Oxford Development Studies*, 26(1), 5–13.
- Yankelovich, D. (2005). Ferment and change: Higher education in 2015. *The Chronicle of Higher Education*, 52(14), 1–12.

APPENDICES

Appendix A: Demographic Questions

Demographic Information:

Please indicate your gender:

- Male
- Female

Please indicate your age range:

- 20-29
- 30-39
- 40-49
- 50-59
- 60-69
- Above 70

Please indicate your ethnicity:

- African American
- American Indian
- Asian
- Caucasian
- Hispanic or Latino
- Other: _____

Educational & Employment Information:

Please indicate the subject matter of each of the degrees you have earned:

- Bachelor's in _____
- Master's in _____
- Doctorate in _____

Please indicate your rank:

- Instructor
- Assistant Professor
- Associate Professor
- Professor

Mark all that apply to your duties as faculty:

- Full-time
- Part-time
- Residential
- Online
- Graduate
- Undergraduate

Please indicate in which school(s) and department(s) you teach:

- School of _____
- Department of _____

International and Intercultural Experience:

Please evaluate your level of experience interacting with people from other countries:

- 1 = no experience
- 2 = a little experience
- 3 = moderately experienced
- 4 = very experienced

Please indicate if you grew up in the United States:

- Yes, I lived my entire childhood/adolescence in the United States
- Partially, I moved here or away as a child/teenager
- No, I moved here as an adult
- Other _____

Have you spent any time outside the United States?

- Yes
- No

If yes, please indicate your experience outside the United States (include both short trips and extended living situations):

- Number of countries besides the USA where you have lived (extended living/more than 2 months): _____
- Number of countries besides the USA you have visited (visits under 2 months): _____
- Can your total time spent outside the USA be expressed in:
 - days
 - weeks
 - months
 - years
 - decades

Please indicate your language experience:

- What is your native language? _____
- How many languages besides your native language have you learned (more than just a few words)? _____
- How would you rate your proficiency in each foreign language?
(Add more if necessary)

	N/A	Elementary Proficiency (can get by as a tourist)	Intermediate Proficiency (can handle most basic social or some work situations)	Advanced Proficiency (communicate effectively in professional settings)
Foreign Language # 1				

Foreign Language # 2				
Foreign Language # 3				
Foreign Language # 4				
Additional Languages				

Additional comments you would like to make:

Appendix B: IRB Approval

LIBERTY UNIVERSITY

INSTITUTIONAL REVIEW BOARD

July 12, 2019

Annik A. Miller

IRB Exemption 3823.071219: A Causal Comparative Study Investigating Differences in Cultural Intelligence Levels of College Faculty

Dear Annik A. Miller,

The Liberty University Institutional Review Board has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and no further IRB oversight is required.

Your study falls under exemption category 46.101(b)(2), which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:101(b):

(2) Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if . . . the following criteria is met:

(i) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects;

Please note that this exemption only applies to your current research application, and any changes to your protocol must be reported to the Liberty IRB for verification of continued exemption status. You may report these changes by submitting a change in protocol form or a new application to the IRB and referencing the above IRB Exemption number.

If you have any questions about this exemption or need assistance in determining whether possible changes to your protocol would change your exemption status, please email us at irb@liberty.edu.

G. Michele Baker, MA, CIP
Administrative Chair of Institutional Research
 Research Ethics Office

LIBERTY
 UNIVERSITY
Liberty University | Training Champions for Christ since 1971

Appendix C: Informed Consent Form

The Liberty University Institutional
Review Board has approved
this document for use from
7/12/2019 to --
Protocol # 3823.071219

CONSENT FORM

A CAUSAL COMPARATIVE STUDY INVESTIGATING DIFFERENCES IN CULTURAL INTELLIGENCE LEVELS OF COLLEGE FACULTY

Annik Miller
Liberty University
School of Education

You are invited to be in a research study about the Cultural Intelligence of undergraduate faculty. You were selected as a possible participant because you are a member of the faculty teaching undergraduate courses at Liberty University. Please read this form and ask any questions you may have before agreeing to be in the study.

Annik Miller, a doctoral candidate in the School of Education and faculty member in the department of Modern Languages at Liberty University, is conducting this study.

Background Information: The purpose of this study is to determine if the undergraduate faculty in individual units (academic schools or departments) at Liberty University have different levels of Cultural Intelligence when compared to other units as measured by the Expanded Cultural Intelligence Scale.

Procedures: If you agree to be in this study, I would ask you to do the following things:

1. Complete the Cultural Intelligence Scale. This should require 8-10 minutes.
2. Answer a few demographic questions. This should take roughly 3-4 minutes.

Risks: The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

Benefits: Participants should not expect to receive a direct benefit from taking part in this study. The findings of this study will provide valuable information to determine whether CQ training during faculty development should be provided to all faculty across the board or with discipline-specific variations.

Compensation: Participants may be compensated for participating in this study. A raffle will be held among participants completing the survey for a \$300.00 VISA gift card. Email addresses will be requested for compensation purposes; however, they will be separate from the survey responses to maintain anonymity.

Confidentiality: The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely, and only the researcher will have access to the records. I may share the data I collect from you for use in future research studies or with other researchers; if I share the data that I collect about you, I will remove any information that could identify you, if applicable, before I share the data. Participants' email address will be requested for compensation purposes, but will be separate from survey responses to maintain anonymity.

The Liberty University Institutional
Review Board has approved
this document for use from
7/12/2019 to --
Protocol # 3823.071219

Data will be stored on a password locked computer and may be used in future presentations.
After three years, all electronic records will be deleted.

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time, prior to submitting the survey, without affecting those relationships.

How to Withdraw from the Study: If you choose to withdraw from the study, please exit the survey and close your internet browser. Your responses will not be recorded or included in the study.

Contacts and Questions: The researcher conducting this study is Annik Miller. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at aamiller9@liberty.edu. You may also contact the researcher's faculty chair, Dr. Lovik, at eglovik@liberty.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu.

Please notify the researcher if you would like a copy of this information for your records.

Statement of Consent: I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

_____ *Yes, I agree to participate in this study.*

_____ *No, I choose not to participate in this study.*

Appendix D: Recruitment Email

Dear colleague:

As a graduate student in the School of Education and fellow faculty member at Liberty University, I am conducting research as part of the requirements for a Doctor of Education degree. The purpose of my research is to better understand the Cultural Intelligence makeup of undergraduate faculty at Liberty University, and I am writing to invite you to participate in my study.

If you teach any classes at the undergraduate level at Liberty University, whether residually or online, and are willing to participate, you will be asked to take the Expanded Cultural Intelligence Scale and answer a few questions about your background. It should take approximately 15 minutes for you to complete the procedures listed. Your participation will be completely anonymous, and no personally identifiable information will be collected as a part of data collection. Results of the study will be shared in aggregate form only, which will prevent any potential identification of individual participants.

To participate, click on the link provided below and complete and submit the survey. A consent document is provided as the first page you will see after you click on the link. The consent document contains additional information about my research. Select “yes” at the end of the consent information to indicate that you have read the consent information and would like to take part in the survey.

If you choose to participate, you will have the option to be entered in a raffle drawing to receive a \$300 Visa gift card.

This study has been approved by both LU administration and the Institutional Review Board. The IRB approval number is 3823.

[Survey link: https://liberty.co1.qualtrics.com/jfe/form/SV_02Hfbs7n7FKUEER]

Sincerely,

Annik Miller, EdS.

Assistant Professor of German and French

Department of Modern Languages

(434) 582-2448

LIBERTY
UNIVERSITY

Liberty University | Training Champions for Christ since 1971

Appendix E: Recruitment Email Follow-Up 1

Dear colleague:

As a graduate student in the School of Education and fellow faculty member at Liberty University, I am conducting research as part of the requirements for a Doctor of Education degree. The purpose of my research is to better understand the Cultural Intelligence (CQ) makeup of faculty at Liberty University.

Last week you received an email inviting you to participate in this research study. This follow-up email is being sent to remind you to complete the survey if you would like to participate. The deadline for participation is [____Date]. Your participation in this study will contribute valuable insight to determine whether CQ training during faculty development should be provided to all faculty across the board or with discipline-specific variations. To ensure the findings are truly representative of our faculty's CQ, I would very much welcome your contribution to the study.

If you choose to participate, you will be asked to take the Cultural Intelligence Scale and answer a few questions about your life experiences. It should take approximately 15 minutes for you to complete the study procedures. Your participation will be completely anonymous, and no personally identifiable information will be collected as a part of data collection. Results of the study will be shared in aggregate form only which will prevent any potential identification of individual participants.

To participate, click on the link provided below and complete and submit the survey. A consent document is provided as the first page you will see after you click on the link. The consent document contains additional information about my research. Select "yes" at the end of the consent information to indicate that you have read the consent information and would like to take part in the survey.

If you choose to participate, you will have the option to be entered in a raffle drawing to receive a \$300 Visa gift card.

[Survey link: https://liberty.co1.qualtrics.com/jfe/form/SV_02Hfbs7n7FKUEER]

Sincerely,

Annik Miller, EdS.

Assistant Professor of German and French

Department of Modern Languages

(434) 582-2448

LIBERTY
UNIVERSITY

Liberty University | Training Champions for Christ since 1971

Appendix F: Recruitment Email Follow-Up 2

Dear colleague:

Last week you received an email reminder to participate in a research study. This follow-up email is being sent to remind you that your last opportunity to complete the survey if you would like to participate is [_____Date].

As a graduate student in the School of Education and fellow faculty member at Liberty University, I am conducting research to better understand the Cultural Intelligence makeup of faculty at Liberty University. I would value the contribution of every undergraduate faculty member to ensure the findings are truly representative of CQ levels across our schools.

Your participation would require approximately 15 minutes as you take the Cultural Intelligence Scale and answer a few questions about your life experiences. Your participation will be completely anonymous, and no personally identifiable information will be collected as a part of data collection. Results of the study will be shared in aggregate form only, which will prevent any potential identification of individual participants.

To participate, click on the link provided below and complete and submit the survey. A consent document is provided as the first page you will see after you click on the link. The consent document contains additional information about my research. Select “yes” at the end of the consent information to indicate that you have read the consent information and would like to take part in the survey.

If you choose to participate, you will have the option to be entered in a raffle drawing to receive a \$300 Visa gift card.

[Survey link: https://liberty.co1.qualtrics.com/jfe/form/SV_02Hfbs7n7FKUEER]

Sincerely,

Annik Miller, EdS.

Assistant Professor of German and French

Department of Modern Languages

(434) 582-2448



Liberty University | Training Champions for Christ since 1971

Appendix G: Permission to Use E-CQS

Dear Annik,

Thank you for reaching out.

You have our permission to use our copyrighted CQ surveys in your research aimed at publication in scholarly journals.

There are two easy ways you can do this.

- 1) We offer on-line assessments using the E-CQS that provide personal feedback reports to participants. This provides them with an incentive to participate in your research because the reports allow people to compare their CQ scores with the world-wide norms and also gives them information on the CQ sub-dimensions. The feedback reports also include questions to guide interpretation of results and creation of personal development plans. We offer highly discounted prices cost for academic researchers. Alternatively, you can set up a program using the E-CQS where participants pay personally by individual credit card before accessing the assessment. In either case, we can provide you with an xls file with individual participant responses to the items in the E-CQS that you can use in your research. I can give you more information on these programs and costs if you are interested.
- 2) You can create your own survey using the 39 E-CQS items in the attached file. If you do this, be sure to include the following copyright information on all electronic and paper copies of the survey.

© Cultural Intelligence Center 2018. Used by permission of Cultural Intelligence Center.

Note. Use of this scale granted to academic researchers for research purposes only.

For information on using the scale for purposes other than academic research (e.g., consultants and non-academic organizations), please send an email to info@culturalq.com

Please remember these are copyrighted scales and I am making them available to you ONLY for scholarly research aimed at publication in academic journals. Should you decide you want to use the scale for consulting or program evaluation in the future, please contact me to make the necessary arrangements.

In addition, please remember that you should use 1-7 Likert scales responses in research and research papers/presentations, with a focus on relationships (predictors and/or outcomes of CQ or development of CQ) because the world-wide norms, interpretation of scores, and the 1-100 scores are proprietary. We wish you the best with your research. Please share your results with us so that we can learn from you.

Sincerely,
Keyla

Keyla Waslawski

Director of Operations
+1-616-855-1762

CULTURAL INTELLIGENCE CENTER

30300 Telegraph Road Suite #260
Bingham Farms, MI 48025
+1-248-232-3032 (Main Office)

Appendix H: Permission to Use Open Doors Graphics

Hello Annik,

Thank you for reaching out. Do feel free to use the *Open Doors* graphics in your dissertation.

Please make sure that all *Open Doors* data is properly cited. Please let me know if you have any other questions.

Citation:

Institute of International Education (2019) “GRAPH NAME and date range” *Open Doors Report on International Educational Exchange*, Retrieved from <http://www.iie.org/opendoors>

Best,

Natalya

Natalya Andrejko

Research Analyst

Institute of International Education

809 United Nations Plaza • New York, NY 10017

opendoors@iie.org • www.iie.org/opendoors

IIE • *The Power of International Education*