A STUDY OF THE IMPACT OF CLASS LEVEL AND CULTURAL EXPOSURE ON CULTURAL INTELLIGENCE SCORES OF BUSINESS ADMINISTRATION STUDENTS AT A COMMUNITY COLLEGE

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ABSTRACT

Globalization has resulted in the need for not only competent leaders but also leaders who have high levels of cultural intelligence. Currently there is a paucity of empirical research demonstrating causes of cultural intelligence, especially in the educational setting (Haigh, 2002; Knight, 2007; Rivera, Jr., 2010). The purpose of the current investigation is to examine whether educational experience (class level) has an impact on cultural intelligence and whether there is a statistical interaction between levels of cultural exposure and educational experience (class level) on cultural intelligence scores. A causal-comparative quasi-experimental cross-sectional quantitative study was used for the current investigation to describe differences between selected independent variables of educational experience (class level) and cultural exposure (none, minimal, moderate, high) on the dependent variable of cultural intelligence scores as measured by the Cultural Intelligence Scale (CQS) (Ang et al., 2007). Main and interaction effects of the independent variables on the dependent variable indicated that differences in educational experience (class level) and/or cultural exposure level have an impact on cultural intelligence scores. The data were collected from a population consisting of business administration students at a community college in the midwestern United States. A convenience sampling technique was used, drawing from the database of students enrolled in the business administration program. Because differences in cultural intelligence scores were found between class levels in college in the additional analyses, education might impact cultural intelligence positively, and strategies to foster more educational opportunities were recommended. Differences in cultural exposure levels resulted in differences in cultural intelligence scores in both the primary and the

additional analysis and additional opportunities for cultural exposure expansion were recommended. The results of this study are useful because institutions of higher education prepare students for a global environment and advance the cultural knowledge of their students. The information from this study corroborates and adds to the literature on education and cultural intelligence and may suggest that institutions of higher learning should promote augmented cultural information/exposure.

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Background of Problem

The business environment has changed significantly over the last decade as many organizations now pursue a global strategy (Adler, 2006; Bird & Osland, 2005; Goldsmith, 2004). Because of this, leaders at all levels of organizations must work across national and cultural boundaries to lead organizations toward their goals and mission. Earley and Ang (2003) believed that there is agreement on the need for a sufficient supply of global managers and workers to sustain the competitiveness of organizations.

Globalization presents distinctive organizational challenges regarding the cultural diversity of employees (Hofstede, 1997; Javidan & House, 2001; Manning, 2003). In addition, leaders will usually encounter a global world outside the organizational boundaries (Acker, 2007; Cant, 2004; Kouzes & Posner, 2002). The more leaders increase their knowledge regarding cultural influences, their ability to direct the organization will improve because of the understanding of the behaviors of their own employees. A consequence of globalization is increased diversity, which requires leaders to improve their cultural intelligence.

Most recent management research on globalization has demonstrated an increased importance of cultural intelligence among many business leaders. Oertig and Buergi (2006) claimed, “While firms are gaining expertise and cultural sensitivity, some initiatives flounder as people fail to fully consider culture’s impact” (p. 115). Indeed, the failures of many international ventures are observable and costly to all of the companies involved, with more than 70 percent of international mergers and acquisitions failing to achieve their goals (Nguyen & Kleiner, 2003; Weber & Camerer, 2003). According to

Earley, Ang, and Tan (2006), "Reports from United States expatriates failing to complete their assignments range from 10 to 15 percent" (p. 125). One cause of the failure of U.S. expatriates may be their approaches to management. A survey conducted by Tung and Miller (1990) of 123 executives from a random sample of U.S. firms revealed that "American executives appear to be consistently ethnocentric in their approach to management succession and the development and implementation of policies, practice, and procedures designed to support corporate management succession programs. (p.13) A challenge for institutions of higher education and organizations alike is how to improve cultural intelligence in an effort to enhance the effectiveness of cross-cultural management and expatriate assignment success. According to Mor-Barak (2005) a deep understanding of individuals who live in other cultural contexts is a much needed skill for managers and workers of any company.

Cultural Intelligence

The concept of cultural intelligence (CQ) was introduced by Earley and Ang (2003). They maintained that cultural intelligence is an aspect of intelligence that illustrates an individual's ability to adapt to unfamiliar cultural settings. Some researchers suggest that cultural intelligence is a necessity for successful interaction across cultures (Manning, 2003; Triandis, 2006). Furthermore, individuals with high levels of cultural intelligence are shown to be capable of transferring social skills across cultures (Brislin, Worthley, & Macnab, 2006). Whereas a lack of cultural intelligence is shown to contribute to the failure of relationships and operating performance in cross-border activities, an increase in cultural intelligence may have a positive impact on cross-cultural business interactions (Earley and Ang, 2003). Manning (2003) confirmed the need to

have high levels of cultural intelligence as he suggested that the most frequent source of interpersonal or cultural conflict is the lens through which an individual views the world.

It is imperative that business degree programs develop leaders of the future. Students in business programs are exposed to a variety of business concepts that contribute to their business knowledge and individual growth. As institutions of higher education decide what courses and programs to offer, organizational leaders are looking to define the skills necessary for leaders to succeed in today's global environment (Anderson, 2007; Brown, 2007; Cox, 2001).

Although globalization has resulted in the need for not only competent leaders but also leaders who have high levels of cultural intelligence, there is a paucity of empirical research demonstrating causes and contributors to cultural intelligence, especially in the educational setting (Haigh, 2002; Knight, 2007; Rivera, Jr., 2010). Research has indicated that a lack of cultural intelligence in business can contribute to the deterioration of relationships and operating performance in cross-border activities (Earley and Ang, 2003). This makes the cultural intelligence skills of leaders and business professionals necessary. Research on cultural intelligence also indicates that increases in cultural intelligence may have a positive impact on cross-cultural business interactions (Earley and Ang, 2003); however it is not clear what contributes to the development of cultural intelligence skills. The problem this study will investigate is higher education's challenge in improving cultural intelligence among business graduates. The current investigation will attempt to add to the literature on the development of cultural intelligence in the educational setting.

Statement of Purpose

The purpose of this causal-comparative, quasi-experimental, quantitative study is to describe differences between the independent variables of educational experience (class level, either freshman or sophomore) and cultural exposure (none, minimal, moderate, high) on the dependent variable of cultural intelligence scores. Main and interaction effects of the independent variables on the dependent variable will indicate whether or not differences in educational experience and/or cultural exposure result in significant differences on cultural intelligence scores. The results of this study may lead to additional longitudinal or experimental studies at the same host school with the same sample of students.

The correlation research of Earley and Ang (2003) provided evidence of a positive relationship between cultural competence and organizational success in cross-border activities. Still other researchers maintain that global literacies are the foundation of universal leadership, and as the world becomes more integrated, cultural differences become more important (Rosen, Digh, Phillips, & Rosen, 2000). According to Cant (2004) the highly competitive global market requires leadership competencies that support the ability to work with employees, customers, and suppliers with different values, beliefs, assumptions and traditions. Cant (2004) claimed that the starting point to developing these competencies is the appreciation of other cultures and the understanding of the impact that one's own culture has on how events are perceived.

The research in the area of leadership development and leadership education has turned toward the identification of leadership competencies (Fulmer & Goldsmith, 2001). It is assumed that once these competencies are identified, the leadership development

process or higher education system could begin to work on the existing deficiencies. According to Magee (2003) the most important leadership competencies are those that can be transferred across cultures. Although there is significant research in the areas of leadership competencies, a comprehensive list of global leadership competencies does not exist, and it is unclear whether the competencies required for global leaders are different than those required for non-global leaders (Marquardt, 2000).

The concept of cultural intelligence (CQ) has been the focus of current research, and Ang, Van Dyne, Koh, Ng, Templer, Tay, & Chandrasekar (2007) noted that "given the newness and novelty of the construct, empirical research on cultural intelligence is sparse albeit growing" (p. 101). Still, according to Crowne (2008), limited information is available describing what leads to the increase of cultural intelligence and what adds to higher levels of cultural intelligence. It is also unclear whether the traditional business curriculum can improve or is improving cultural intelligence scores of students.

Significance of Research

The results of this study augment the literature on education and cultural intelligence and consider whether institutions of higher learning should promote augmented cultural information/exposure. This quantitative study adds to the literature on global leadership, cultural exposure, and cultural intelligence. Differences in cultural intelligence found between class levels indicated that education may impact cultural intelligence positively, and strategies to foster more educational opportunities can be recommended. Differences in cultural exposure level resulted in differences in cultural intelligence scores; additional opportunities for cultural exposure expansion can be made. Additional research on contributors to cultural intelligence impact the field of leadership

positively and, if the findings indicate, can be used to create training to improve leadership competencies for the global environment or to inform curriculum developers how to adequately prepare business and management graduates. The results from the current investigation may also be applicable to leadership research and the identification of global leadership competencies.

Nature of the Study

The quantitative study investigated the degree of cultural intelligence reported by early first and late second year business administration majors at a community college in the midwestern United States. The dependent variable is the cultural intelligence of the participants operationally defined and measured by the score on the four-factor Cultural Intelligence Scale (CQS) (Ang et al., 2007). An additional demographic survey was administered that included questions about the students' school level (sophomore, freshman), national origin, travel abroad, secondary languages, and cultural exposure level. Additional information on the instruments is provided in chapter 3. There are two class level independent variables (freshman and sophomore) and four cultural exposure level variables (none, minimal, moderate, high). The independent variables of class level and cultural exposure were selected variables, not manipulated variables, and as a result, causality cannot be concluded in the current investigation. This quasi-experimental design is an appropriate approach, however, to determine if there are differences based on class level and cultural exposure. Main and interaction effects of the independent variables on the dependent variable indicate whether or not differences in educational and/or cultural exposure result in significant difference on cultural intelligence scores.

The data were collected from a population consisting of business administration students at a community college in the midwestern United States. A convenience sampling technique was used, drawing from the database of students enrolled in the business administration program. Permission was obtained from the dean of the School of Business as well as the host institution's Office of Institutional Research (IRB) before data collection began. After this permission was granted, additional permission was sought from Indiana Tech's IRB Board. After approval from Indiana Tech's IRB was obtained, informed consent forms were provided to the potential participants.

Conceptual/Theoretical Framework

The theoretical impetus for the current investigation is based on Hofstede's (1980) dimensions of culture, research from the Global Leadership and Organizational Behavior Effectiveness (GLOBE) study (House, Javidan, & Dorfman, 2001; Javidan, Dorfman, deLuque, & House, 2006), the construct of cultural intelligence (Earley & Ang, 2003; Earley & Peterson, 2004), and multiple intelligence theory.

Hofstede's (2001) cultural dimensions and the GLOBE study (Javidan & House, 2001) documented important examples in examining leadership behaviors in a global environment. Most importantly, it was noted that global leadership requires cross-cultural understanding as leaders work with various cultural backgrounds and perspectives.

Earley and Ang (2003) presented a theoretical overview of cultural intelligence in their research. They found cultural intelligence to be distinct from other intelligences such as social intelligence or emotional intelligence. Current research indicates that the promotion of cultural intelligence is becoming increasingly important in the work environment; however, it is unclear what causes cultural intelligence (Crowne, 2008).

There is, however, a general agreement that "this kind of sophisticated cultural competence does not come naturally and requires a high level of professionalism and knowledge" (Earley & Ang, 2003, p. 263). Therefore, some researchers maintain that cultural intelligence must be learned (Earley & Ang, 2003). The construct of cultural intelligence developed out of theory and research on intelligence. Sternberg (1997, 1998, 2000) argued that intelligence involves abilities that are necessary for adaptation in varying environmental contexts. In addition, cultural intelligence began with the foundational support of cross-cultural psychology, which contributes to understanding of cross-cultural influences of understanding intelligence (Earley & Ang, 2003).

Research Questions

The following research questions and hypotheses were proposed for investigation in the current study.

Research Question 1 (RQ1): Are there significant differences between freshman and sophomore business students on cultural intelligence scores?

Research Question 2 (RQ2): Are there significant differences between students with none, minimal, moderate, and high levels of cultural exposure on cultural intelligence scores?

Research Question 3 (RQ3): Is there an interaction between the levels of the two independent variables of the investigation—student's educational experience (freshman, sophomore) and cultural exposure (none, minimal, moderate, high)—on the dependent variable of cultural intelligence scores?

Hypothesis $H0^1$ (Null Hypothesis): There will be no significant difference between class levels on cultural intelligence scores.

Hypothesis HA^1 (Alternative Hypothesis): Sophomore students will have significantly higher cultural intelligence scores than freshman students.

Hypothesis $H0^2$ (Null Hypothesis): There will be no significant difference between cultural exposure levels on cultural intelligence scores.

Hypothesis HA^2 (Alternative Hypothesis): Students who have moderate or high levels of cultural exposure will have significantly higher cultural intelligence scores than students who have minimal or no cultural exposure.

Hypothesis $H0^3$ (Alternative Hypothesis): There will be no significant interaction between class level and cultural exposure level on cultural intelligence scores.

Limitations and Scope of Research

One limitation of this study is that the measurement is based on a survey in which respondents self reported. Using a self-report survey increases the risk of receiving false answers. A false answer may be obtained if the respondent provides answers they feel the researcher wants to hear. Another source of a false answer is the participant providing a response that is not an accurate description of their capabilities at that time. A second limitation concerns the scope of the sample. This sample includes freshman and sophomore level business administration students in the midwestern United States. As a consequence, the results of the current investigation may not generalize to other geographic locations or other class levels of students. Non-response bias is a limitation of the survey instrument (Alreck & Settle, 2009). Students may opt not to participate in the study or fill out the survey. This should not have been a problem because the researcher circulated the surveys during a normal class period.

Internally imposed factors may also limit the study. Only participants who are college students at one community college were invited to participate in the study. All participants needed to know English in order to complete the surveys. Although students from other countries could complete the survey, only data from U.S. residents was utilized. The purpose of this between-subjects, cross-sectional, quasi-experimental study was to determine if significant differences in the dependent variable, cultural intelligence scores, exist among the independent variable levels of freshman and sophomore student status in the same program. The current investigation was not considered a repeated measure design and therefore did not use the same subjects and test them twice at different levels in their programs. If significant differences between the groups were obtained in this investigation, longitudinal investigations examining the impact of education on cultural intelligence would have been recommended. In addition, the results may lead to the development of an intervention and a future experiment with the same host school. The sample of freshman students and sophomore students, however, are similar in demographic characteristics and thus allowed for two samples that are similar in nature and provided the rational for the use of a between-subjects design. The time required to complete the CQS and demographic survey was approximately 20 minutes. This might have deterred some participants and thus limit the number of students who respond to the survey. Additionally, the instrumental use of a Likert Scale for responses can lead to different interpretations regarding the gaps between each space on the scale. Finally, as the independent variables are not manipulated, causality cannot be determined in the current investigation.

Assumptions

This research was conducted under the following assumptions:

1. The instrument used to assess cultural intelligence will provide reliable and valid results.
2. The respondents will freely participate and honestly answer the survey questions.
3. It is desirable for students, workers, and leaders to have high levels of cultural intelligence.

Definition of Terms

Business administration majors: Students enrolled in business administration coursework that prepares students to start their own businesses, advance their business career, or join a business in entry-level supervisory positions.

Cross-cultural understanding: The ability to interpret and appropriately respond to culturally diverse individuals and situations.

Culture: The learned and shared values, knowledge, and beliefs of social groups that influence behavior (Hofstede & Hofstede, 2004). This term was defined by Parrillo (2000) as the objects, attitudes, values, customs, and beliefs shared by members of a society.

Cultural competence: Behaviors and attitudes that enable people to work and respond effectively in cross-cultural situations (Cross, 1989, p. iv). The culturally competent individual has qualities of "genuineness, empathy, warmth; the capacity to respond flexibly to a range of possible solutions; an acceptance of and openness to different cultural backgrounds, and an articulation and clarification of stereotypes and

biases and how these may accommodate or conflict with the needs of culturally diverse groups" (Earley and Ang, 2003, p. 263).

Cultural exposure: Experiences in a country or region that develop familiarity with the custom, values, and beliefs of that country or region (Crowne, 2008). It could include exchanges with individuals and customs from a country other than one's home country. An individual with minimal cultural exposure would have had only a few exchanges with people from a different culture. An individual with moderate exposure would have more than a few exchanges with people from a different culture. An individual with a high level of cultural exposure would have extensive interaction.

Cultural intelligence (CQ): An aspect of intelligence that illustrates an individual's ability to adapt to unfamiliar cultural settings (Earley & Ang, 2003). Thomas and Inkson (2005) added, "being flexible about understanding a particular culture, learning more about it . . . and gradually reshaping your thinking to be more sympathetic to the culture and your behavior to be more skilled and appropriate when interacting with others from the culture" (p. 14–15).

Difference/significant difference: When these terms are used in regard to a causal comparative study and its output, it is to state that this type of study is experimental in nature and seeks to examine differences in means between the independent variable levels on the dependent variable. A significant difference is one that meets the criteria for ruling out the null hypothesis.

Educational experiences: Coursework related to completion of requirements for an associate degree in business administration at the host institution.

Globalization: The interaction across cultures, which has resulted in the integration of a global human community (Chanda, 2003). Thomas and Inkson (2005) claimed that globalization is the result of incredible shifts in economics, politics, and technology.

Global leader: Leaders who are competent and equipped to adapt and function within new and diverse cultural settings (Alon & Higgins, 2005; Earley et al., 2006; Earley & Mosakowski, 2004; Rosen et al., 2000; Suutari, 2002).

Global leadership: Global leadership competencies and global leadership skills are those that enable the leader to adapt quickly and function appropriately in new and different cultural settings (Alon & Higgins, 2005; Earley et al., 2006; Earley & Mosakowski, 2004; Rosen et al., 200; Suutari, 2002).

Global strategy: The global strategy of higher education encompasses the facets necessary to promote the development and production of globally competent students.

Leadership: The process of influencing others to coordinate an individual or collected effort toward a common goal (Yukl, 2010).

Leadership competencies: In 1984, Warren Bennis studied 90 of the most successful leaders in the United States and found that they had four common competencies: a compelling vision or sense of purpose, the ability to readily and clearly communicate that vision, a demonstration of consistency, a focus on that vision, and the knowledge of their own strengths and weaknesses. According to Magee (2003) the most important leadership competencies are those that can be transferred across cultures.

Leadership development: Taking part in opportunities to learn and build one's capacity to lead over time (Komives, Mainella, Longerbeam, Osteen & Owen, 2006).

Leadership education: Leadership development both in and out of the classroom (McCauley & Van Velsor, 2003).

Summary

The purpose of the current investigation is to determine if educational experiences and cultural exposure impact cultural intelligence and if there is an interaction between levels of cultural exposure with educational experience on cultural intelligence. Globalization has resulted in the need for not only competent leaders, but also leaders who have high levels of cultural intelligence. Currently there is limited empirical research demonstrating causes of cultural intelligence. A causal-comparative, quasi-experimental quantitative study was proposed for the current investigation to describe differences between selected independent variables of class level (freshman, sophomore) and cultural exposure level (none, minimal, moderate, high) on the dependent variable of cultural intelligence scores. Main and interaction effects of the independent variables on the dependent variable indicate whether or not differences in educational and cultural exposure have an impact on cultural intelligence scores. The data were collected cross sectionally from a population consisting of business administration students at a community college in the Midwest. A convenience sampling technique was used, drawing from the database of students enrolled in the college's business administration program. The results from this study describe the influence of educational experience (class level) and cultural exposure on cultural intelligence. Differences in cultural intelligence found between class levels in college signify that education may impact cultural intelligence positively, and strategies to foster more educational opportunities can be recommended. Where differences in cultural exposure levels result in differences

in cultural intelligence scores, then additional opportunities for cultural exposure expansion can be recommended. Additional research on contributors to cultural intelligence such as this study will fill a gap in the research and impact the field of leadership positively.

This dissertation is organized in five chapters. Chapter 1 discussed the background of the study, highlighting the importance of cultural intelligence to business graduates and future leaders. This chapter has provided the theoretical frameworks, introduced the research questions and provided operational definition of terms. Chapter 2 reviews the relevant literature and discusses the existing research on culture, cultural intelligence, global leadership competencies, and higher education's role in preparing students. Chapter 3 describes the research methodology, research design, sample, and instrumentation. Chapter 4 analyzes the data collected and reports the study's findings. Chapter 5 provides an interpretation of the research results and offers recommendations based on those findings.

Chapter 2: Literature Review

The purpose of this literature review is to examine literature applicable to the variables in the study and to present a knowledge base from which the current research was constructed. Initially in the literature review, the topic of globalization is explored, followed by information on culture and culture's impact on leadership. The next section presents information on cultural intelligence and its relationship to leadership and business. Finally, the role of higher education in the development of global leaders is explored. With a proper understanding of the problem surrounding leadership in a global environment, the necessity for both understanding requisite leadership competencies and cultural intelligence contributors is emphasized.

Globalization

Thomas and Inkson (2005) claimed,

> Globalization is the result of dramatic shifts that have taken place in economics, politics and technology. Stromquist (2007) posited that globalization has played a part in new economic dynamics and social relationships. However, the day-to-day reality of global business involves transactions and relationships with people who are culturally different. (p. 8)

Globalization has limited the ability of leaders to transfer their skills across cultures that do not hold the same value systems. For example, according to Hofstede (1997), "the highly skilled technical worker in Germany does not need a manager or leader to motivate him or her as is done in America" (p. 468).

Globalization has presented the area of leadership with new challenges and demands (Clawson, 2006). The entire shift toward globalization has created the need for

leaders to rethink the way they do business on an international scale. This move has created a paradigm shift for leaders and has muddled the definition of what it means to be an effective leader (Clawson, 2006). Globalization impacts educational institutions in that it is essential for graduates to be prepared to live and work in a globalized society. This supports the need for high levels of cultural intelligence among business school graduates.

The Impact Globalization on Education

The Association of American Colleges and Universities (AACU) encourages global education to help prepare students for the workforce. Husen (1990) defined global learning as "a focus on global issues and the learning needs which are associated with them" (p. 160). A related concept was brought up by McIntosh (2005) who defined global citizenship as

> the ability to see oneself and the world around one, the ability to make comparisons and contrast, the ability to see plurality as a result and the ability to balance awareness of one's own realities with the realities of entities outside of the perceived self. (p. 23)

Landson-Billings (2005) stated that a competent citizen willingly works with others who are different and is genuinely concerned about the welfare of others. Landson-Billings further noted that schools lack attention to global issues.

The response to the global environment by universities has changed significantly over the years. In previous years, a college would claim to be focusing on international aspects of learning if they sent a student to study abroad. According to McMurtrie (2007), most American colleges previously felt that they must educate students about cultures

and economies outside the country's borders. McMurtrie suggested this could be a consequence of "*The World Is Flat* syndrome," a concept popularized in the book of the same name by Thomas Friedman. Friedman (2006) argued that technology and business have broken down barriers that once existed between the United States and the rest of the world, and as a consequence, more international students are studying in the United States and vice versa.

Efforts by higher education to respond to the forces of globalization have been referred to as "internationalization" (Schoorman, 2000). The American Council on Education (ACE) defined internationalization as "a broad range of intellectual and experiential activities designed to help individuals understand the global environment, communicate across borders, and acquire an understanding of the cultural, social, and political systems of other nations and the interactions between nations" (as cited in Hayward, 2000, p. 1). In addition, ACE identified "ten ground rules for internationalizing higher education."

1. Require all graduates to demonstrate competence in at least one foreign language.
2. Encourage understanding of at least one other culture.
3. Increase understanding of global systems.
4. Revamp curricula to reflect the need for international understanding.
5. Expand study abroad and internship opportunities for all students.
6. Focus on faculty development and rewards.
7. Expand the organizational needs of international education.
8. Build consortia to enhance capabilities.

9. Cooperate with institutions in other countries.

10. Encourage interactions with local schools and communities (ACE, 2002).

With this information institutions of higher education can begin to include internationalization as a business strategy.

The main strategies utilized to facilitate internationalization include the promotion of globally engaged faculty, more students studying abroad, and more classes incorporating international components (Lehman, 2009). Hser (2005) suggested that the ideal outcome of internationalization is to develop global citizens and added that global citizens have a high awareness of the world's complexity, can appreciate differences and have the ability to communicate across cultures. Oxfam (2007), an international, nongovernmental organization dedicated to promoting global citizenship, proposed seven characteristics of global citizens:

(a) Are aware of the wider world and have a sense of their own role as a world citizen;

(b) Respect and value diversity;

(c) Have an understanding of how the world works economically, politically, socially, culturally, technologically, and environmentally;

(d) Are outraged by social injustice;

(e) Participate in and contribute to the community at a range of levels from local to global;

(f) Are willing to act to make the world a more sustainable place; and

(g) Take responsibility for their actions. (p. 1)

Spariosu (2004) used the term "global intelligence" to describe "the ability to understand,

respond to, and work toward what is in the best interest of and will benefit all human beings and all other life on the planet" (p. 6). According to Spariosu (2004), a globally intelligent person displays global competence and global expertise. Hayward (1995) stated that "unless today's students develop the competence to function effectively in a global environment, they are unlikely to succeed in the 21st century" (p.1).

According to Hser (2005) schools have begun to increase international activities, improve student and faculty exchanges, and revise mission statements and goals to involve a global perspective. Hser maintained that college mission statements should contain verbiage about improving intercultural knowledge and building global understanding. More recent strategies include the addition of international, multicultural, or global components and content to the curriculum (AACU, 2007).

Sizoo and Serrie (2004) suggested that cross-cultural skills are necessary for success in a global business environment. Results from Sizoo and Serrie indicated that students must learn to manage cultural difference at the personal, interpersonal, and organizational levels. The study included several groups of college freshmen and one group of adult learners. A treatment group and two control groups consisted of freshman enrolled in an intensive three-week orientation course. Another treatment group was comprised of American students enrolled in a Cross-Cultural Primer course. One control group was comprised of American students enrolled in an Introduction to International Business course. Another control group was comprised of foreign freshmen enrolled in a course called Living in the U.S.A. A final control group consisted of adult learners taking an evening marketing course. At the beginning of the three-week term, all four groups took the Intercultural Sensitivity Inventory (ICSI). After completion of the three-week

intense session, all four groups once again completed the ICSI. Sizoo and Serrie (2004) reported that experience living in a foreign country does not increase intercultural sensitivity; instead, the development of intercultural sensitivity "requires specific cross-cultural skill training that addresses both the intellectual and experiential aspects of cultural differences" (p.164).

Mahoney and Schamber (2004) investigated the impact of general education curriculum on diversity through a developmental model of intercultural sensitivity. They found an unprecedented need for the development of student skills in managing personal and social relationships in a global society. They noted that "a simplistic emphasis on a cognitive curriculum is insufficient, especially for courses intended to change attitudes and behaviors associated with intercultural sensitivity" (p. 316). These researchers called for additional investigations on the development of cultural intelligence and identify a sense of urgency concerning the issue of preparation for interaction in a global society and the measures of cultural intelligence.

Although there seems to be consensus on the virtues of internationalization in higher education, traditional approaches to education are still in place (Kezar, 2009; Mangan, 2009). In an article by Mangan (2009) a business school dean was reported as stating that business schools are not international. Mangan used the term "globaloney" to describe this skepticism.

It was suggested that the nature of globalization and the skills that are required to succeed in a global economy are important, but it is unclear how these skills develop. What has been demonstrated is that cultural dimensions may contribute to the ways behaviors and experiences are interpreted (Biblikova & Kotelnikov, 2008) and that there

is a relationship between culture and leadership (House & Javidan, 2004; Schein, 2004). In addition, Earley and Ang (2003) maintained that cultural intelligence requires the capability of leaders to adapt and respond effectively in various cultural situations. Although the definition and response to internationalization varies among educational institutions, most acknowledge that globalization dictates the preparation of students to compete and work in a diverse and multicultural environment (Cant, 2004; Friedman, 2006). Graduates of institutions of higher education are expected to understand the dynamics of the global environment and function effectively within this environment; however there are gaps in actual knowledge preparation and ability.

Culture

Globalization has forced organizations and leaders to deal with the complexity of cross-cultural differences on a daily basis (Adler, 2006; Bird & Osland, 2005; Buckley, 2002; Goldsmith, 2004; Jacob, 2005). Indeed, many leadership challenges are tied to cultural issues and a lack of understanding concerning the differences that culture imposes on individuals and organizations. Culture has been defined as "the collective programming of the mind, which distinguishes the members of one category of people from another" (Hofstede, 2001, p.4).

According to Ford and Kea (2009), culture is learned and acquired. For the purpose of this research, culture is defined as the beliefs, attitudes, values, habits, customs, and traditions shared by a group of people (Ford & Kea, 2009). Although all aspects of culture are important, the current investigation focuses on the cultural aspects of spoken language and ethnicity. There are language differences across cultures; however, it cannot be assumed that cultural differences are the cause of all

miscommunication. Therefore, leaders and organizations can gain an advantage over other institutions or businesses that do not by exploring and understanding these differences and using them to their benefit.

The Relationship between Culture and Leadership

According to Shahin and Wright (2004), "Leadership is deeply attached to culture" (p. 449). There are many ways to determine how culture can influence leadership. Cultural groups vary in their idea of what is necessary for effective leadership (Hofstede & Hofstede, 2004). House, Hanges, Ruiz-Quintanilla, Dorfman, Javidan, and Disckson (1999) proposed that cultural differences impact leadership behavior and how constituents view leadership roles. They stated that "what is expected of leadership, what leaders may or may not do, and the status and influence bestowed upon them vary considerably as a result of the cultural forces in the countries or regions which the leaders function" (p. 180).

Cultural factors may also impact the personality and work values of both the leaders and the followers. Research has shown that there is variation in how cultures around the world perceive effective leadership (Shein, 2004). Culture has also been found to influence leadership behaviors in ways that leaders do not consciously realize (Hofstede & Hofstede, 2004).

Ford and Kea (2009) suggested that all humans have many commonalities and are more alike than different. In fact, cultural differences can bring many benefits to an organization. Indeed, House and Javidan (2004) posited that the role of culture and its influence on leadership behavior is crucial to the success of an organization.

Hofstede's Cultural Dimensions

Hofstede (1980) made a significant contribution in the understanding of cultural differences among nations by identifying the four dimensions of cultural and national influences. These four dimensions are: power distance, individualism versus collectivism, masculinity versus femininity, and uncertainty avoidance. According to Sivakumar and Nakata (2001), much of the research around international business involves national culture as a key variable. Researchers use this variable to explain how culture influences individuals, groups, and working relationships. Hofstede's cultural dimensions have been increasingly used in international business research (Tu, 2010).

Power distance. According to Hofstede's (1980) definition of dimensions, the United States ranks at the midpoint in the terms of power distance. Power distance is the perceived degree of inequality among a nation's people. In countries with a large power distance, marked privileges as well as differences, depending on status, can be observed.

Individualism versus collectivism. The second dimension described by Hofstede (1980) is individualism versus collectivism, the power of the individual or the group. The U.S. culture is considered to be one of the most individualistic of all nations (Hofstede, 1980, 2001), and as a result of this individualism, many U.S. nationals suffer culture shock when they travel outside the United States. Conversely, in collectivist countries, the group's consensus prevails over individual concerns. The dimension of "individualism versus collectivism" can impact work relationships and personal living choices.

Masculinity versus femininity. The third dimension identified by Hofstede (1980) is masculinity versus femininity. Hofstede (1980, 2001) reported that universal

gender roles exist. Many U.S. organizations are thought to display more masculine than feminine traits. The masculine traits of most U.S. organizations are those of assertiveness and competitiveness. Countries that display more feminine traits show values that are concerned with quality of life and concern for others.

Uncertainty avoidance. The fourth dimension identified by Hofstede is uncertainty avoidance. Uncertainty avoidance is the extent to which a society feels threatened by the unknown (Tu, 2010). U.S. companies rank low on Hofstede's (1980) uncertainty avoidance dimension because organizations in the U.S. value risk and sometimes diverge from the norm.

Hofstede's overall contributions to theoretical research on national cultural dimensions showed that cultural differences impact business behavior, leadership, and communication (Tu, 2010). Hofstede (2001) suggested that together these dimensions lend each national culture its distinctiveness and unique character (Nahavandi, 2006).

Hofstede's model has been criticized due to several limitations. One limitation is the nature of the sample. Hofstede's study included respondents who were non-managerial employees at International Business Machines (IBM) (Orr & Hauser, 2008), which led to questions regarding the ability to generalize the finding. In addition, at that time, most of IBM's non-managerial employees were women. Another limitation that has been brought to the forefront is the question of time relevancy. Researchers have questioned the applicability today of data that were collected between 1966 and 1973 (Orr & Hauser, 2008). Although Hofstede's model has been under academic scrutiny, his contributions to the research on cultural dimensions cannot be ignored. His research has

been widely cited in many cultural studies. These four dimensions are included in many textbooks on leadership and are foundational to many cultural studies.

The Global Leadership and Organizational Behavior Effectiveness Study (GLOBE)

The GLOBE research project is a long-term project that sought to understand leadership in different cultural contexts. The purpose of the GLOBE project was to investigate the relationship between national cultures and leadership. Robbins (2005) stated that the GLOBE project not only confirmed the validity Hofstede's dimensions, but also added dimensions as well as rated countries based on each dimension. A large study undertaken by the GLOBE project surveyed 17,000 middle managers from 62 societies and 951 organizations. Data analyzed from this study led to the development of nine attributes of culture and six global leadership behaviors. The nine cultural dimensions are defined as "uncertainty avoidance, power distance, institutional collectivism, in-group collectivism, gender egalitarianism, assertiveness, future orientation, performance orientation and humane orientation" (p.11).

Performance orientation. Performance orientation refers to the degree to which group members are rewarded for performance (Javidan et al., 2006). The United States scores high on this cultural dimension. Countries that have high scores on this dimension are more likely to encourage training and development than those countries that score low on this dimension. In low scoring countries, family background counts for more than work performance. Denmark and Netherlands are among the countries ranking low in the performance orientation dimension (Javidan et al., 2006).

Assertiveness. The assertiveness dimension refers to the degree in which individuals are assertive, aggressive, and confrontational in relationships with others

(Javidan et al., 2006). The U.S. scores high on this dimension and individuals from the U.S. will enjoy competition more than those from a less assertive country.

Humane orientation. In a high humane orientated country, behaviors such as fairness, altruism, and caring behaviors are encouraged and rewarded (Javidan et al., 2006). Malaysia and Egypt rank high on this cultural dimension.

Institutional collectivism. The reward and encouragement of shared resources falls under the institutional collectivism dimension identified by the GLOBE study. Countries with high institutional collectivism reward group performance, while countries with low institutional collectivism encourage and reward individual contributions (Javidan et al., 2006). Japan and Singapore score high in this dimension, while Greece and Brazil score low (Javidan et al., 2006).

In-group collectivism. The degree to which individuals display loyalty and pride in their organizations and families is referred to as in-group collectivism (Javidan et al., 2006). Countries such as Egypt and Russia are viewed as high on in-group collectivism in that they take great pride in their families and in the organizations for which they work (Javidan et al., 2006).

Gender egalitarianism. Gender egalitarianism refers to a goal for equality of genders. Countries that rank high in gender egalitarianism minimize gender inequality (Javidan et al., 2006). European countries score high in gender egalitarianism and Egypt and South Korea score low as they are male dominated societies (Javidan et al., 2006).

Northouse (2007) criticized the GLOBE study's vague definitions and isolated leadership attributes that ignored situational effects. Kirkman, Lowe, and Gibson (2006) stated that the use of only a few categories of culture can lead to stereotyping and does

not take into consideration the variances that occur within cultures. Even with consideration of these criticisms, the GLOBE study has made a significant contribution to the study of culture and leadership. One important contribution of the GLOBE project is the findings of a complex interaction between culture and leadership style (House, Javidan, Hanges, & Dorfman, 2002). The GLOBE study has made a positive contribution to the study of global leadership.

Leadership Competencies and Globalization

Leadership competencies are often investigated because leaders are an integral part of an organization, and they have been shown to have the ability to make or break a company. In 1984, Warren Bennis studied 90 of the most successful leaders in the United States and found that they had four common competencies. These four competencies included a compelling vision or sense of purpose, the ability to readily and clearly communicate that vision, a demonstration of consistency, and a focus on that vision and the knowledge of their own strengths and weaknesses. These competencies have been foundational to future leadership studies, including those of Northouse (2007).

Alon and Higgons (2005) posited that the rapid increase in globalization would compound the impact of leadership on outcomes. The increasing rate of change and the many new challenges that leaders now face call for 21st century leaders with a high skill level and some new competencies as well (Yukl, 2010). Moodian (2009) confirmed that the drastic shift toward globalization requires leaders who are skilled in the global aspects of business.

In the past, research on management and leadership focused only on U.S. perspectives as well as issues pertinent to U.S. managers and leaders (Boyacigiller &

Adler, 1997). However the GLOBE study has brought many cultural implications of leadership to light. The GLOBE study suggested that cultural values are influential to leadership action and behaviors. Marquardt and Horvath (2001) confirmed that effective leaders in the global environment recognize, appreciate and value cultural differences. Leaders who have the abilities and skills to deal with culturally diverse individuals and environments are better suited to leverage the advantages cultural diversity and globalization have to offer (Earley et al., 2006; Marquardt & Horvath, 2001; Rosen et al., 2002).

Global Leaders

There has been a blurred definition of domestic leadership since the emergence of international business as a separate field of study in the 1950s and the subsequent challenges multinational corporations faced in the 1960s. In the past, leadership was considered to be more complex and challenging, which led some researchers to coin the term, global leadership (Mendenhall, Osland, Bird, Oddou & Maznevski, 2008). The concept of global leadership encompasses more than geography, it also includes cultural ideas, such as interacting and building relationships with people of diverse cultural backgrounds (Mendenhall et. al, 2008).

Osland & Bird (2006) provided a comprehensive definition of global leadership as "a process of influencing the thinking, attitudes and behaviors of a global community to work together synergistically toward a common vision and common goals" (p. 204). Likewise, Mendenhall et al. (2008) proposed a broad definition of global leaders:

> Global leaders are individuals who effect significant positive change in organizations by building communities through the development of trust and the

> arrangements of organizational structures and processes in a context involving multiple cross-boundary stakeholders, multiple sources of external cross-country boundary authority, and multiple cultures under conditions of temporal, geographical and cultural complexity. (p. 17)

Global leaders are those who are prepared to adapt and accept varying cultural environments and then operate effectively within those settings (Alon & Higgons, 2005; Earley et al., 2006; Earley & Mosakowski, 2004; Marquardt & Horvath, 2001).

Distefano and Meznevski (2000) claimed that an important part of dealing with cultural difference is "knowing what you don't know" and being cognizant of the necessity to pay attention to these differences (p. 57). A leader who is mindful of cultural differences and is aware of the value and benefit these differences bring to an organization has an advantage over other leaders in competitive organizations with cross-cultural employees and locations (Alon & Higgins, 2005; Tan, 2004). A deficit in the ability to understand a different culture can cause negative consequences for the leader and the organization as a whole (for example, failed mergers and cultural conflict); therefore, supporting cultural intelligence as a global leadership competency (Earley et al., 2006).

Cultural Intelligence

Earley and Ang (2003) defined the concept of cultural intelligence as "the person's capability to adapt effectively to new cultural contexts and therefore represent a form of situated intelligence where intelligently adaptive behaviors are culturally bound to these values and beliefs of a given society or culture" (p.26). Cultural intelligence (CQ) consists of four key elements: metacognition, cognition, motivation, and behavior

(Earley & Peterson, 2004). Table 2.1 presents the cultural intelligence components and the description of each dimension. This four-part model has been described as:

1. Metacognitive – the process used to acquire and understand cultural knowledge (Earley & Ang, 2003). Ang et al. (2007) stated that metacognitive CQ is the individual's cultural consciousness and awareness.
2. Cognitive – the general understanding of culture and cultural differences (Earley & Ang, 2003). Cognitive CQ reflects knowledge of norms and practices of different cultures (Ang et al., 2007). People who have high cognitive CQ understand similarities and differences across cultures (Brislin et al., 2003).
3. Motivational – the reason why individuals want to engage with people from different cultures and understand cultural differences (Earley & Ang, 2003). It is the drive behind and interest in adapting to different cultural contexts (Ang et al., 2007).
4. Behavioral – how well an individual can adapt and respond to new cultural settings (Earley & Ang, 2003). According to Earley and Ang (2003), individuals with high behavioral CQ are capable of displaying appropriate behaviors, gestures, tones and words.

Table 2.1

Earley and Ang 2003 CQ Dimensions

Components of CQ	**Descriptions**
Metacognitive	Inductive reasoning Analogical reasoning Self-awareness
Cognitive	Declarative knowledge Procedural knowledge Conditional knowledge
Motivational	Self-efficacy Self-enhancement Self-consistency
Behavioral	Repertoire of behaviors Culturally intelligent behaviors Positive self-presentation

Metacognitive CQ

Ang, Van Dyne, and Koh (2006) described each of the four components of cultural intelligence. They described metacognitive CQ as a cultural mindfulness used during interactions with people from different cultures. They posited that metacognitive CQ is important because it promotes a consideration of people and situations in foreign cultural settings, prevents bounded, narrow-minded thinking, and pushes people to revise their strategies for successful cross-cultural interaction.

Cognitive CQ

Cognitive CQ involves knowledge about a culture. This knowledge includes things such as legal systems, economic systems and political systems as well as procedural knowledge on how to get things accomplished within a specific culture (Ang et al., 2006). This type of knowledge can be gained through inquiry, observation, and

mimicry. Cognitive CQ is important as it is fundamental for individuals to acquire a better understanding of the new culture and procedures within that culture (Ang et al., 2006).

Motivational CQ

Individuals with a high level of motivational CQ display an interest and openness to new cultures. In addition, these individuals will persevere when faced with obstacles and failures in a new cultural setting. Motivational CQ is important because it drives effort, action, and inquiry into the new cultural setting (Earley & Ang, 2003).

Behavioral CQ

Behavioral CQ is the extent to which an individual will take the knowledge acquired and respond appropriately in a new cultural context (Ang et al., 2006). This includes both verbal and nonverbal behaviors. Behavioral CQ is important because it fosters increases in cultural intelligence as it requires more than just knowing and the ability to elicit an appropriate response.

Thomas and Inkson (2005) defined cultural intelligence as the ability to understand a culture different from your own. With this definition, culturally intelligent individuals eagerly learn about different cultures and, as a part of the process, see new cultures in a more positive light and also begin to recognize patterns of behavior that are habits or norms in that culture (Earley & Mosakowski, 2004). In addition, individuals with high cultural intelligence exhibit behavior that is appropriate in interactions with people from different cultures. Individuals with high levels of cultural intelligence are shown to have the ability to transfer social skills across cultures, which leads to an increased level of cross-cultural understanding and the ability to recognize differences

and adapt more readily (Brislin et al., 2006). The natural outcome of culturally intelligent behavior is more effective intercultural communication, interaction, and relationship building (Thomas, Elron, Stahl, Ekelund, Raulin, & Cerdin, 2008). The most important developments in cultural intelligence are summarized in the table in Appendix A.

Contributors to Cultural Intelligence

Previous research revealed that early childhood exposure to international experiences or living in different countries and/or in multicultural, bilingual family atmosphere may help develop an attitude of openness, flexibility, cross-cultural knowledge, and the ability to relate to differences in work and social settings (Dalton, Ernst, Deal, & Leslie, 2002). Additional studies (Crowne, 2008; Shannon & Begley, 2008) have confirmed that individuals can increase their cultural intelligence in several ways such as by travelling, working, living, or studying abroad as well as regularly interacting with people from other cultures and learning additional languages. Ng & Earley (2006) suggested that cultural intelligence can be improved through increased contact with people from different cultures.

Acquiring new language skills is foundational to learning cultural knowledge about and understanding the social systems of different cultures. This can contribute to cultural intelligence as it can help the individual accurately speak and participate in cross-cultural relationships. Individuals who lack the ability to learn a new language will have lower levels of cultural intelligence (Earley, 2002).

Cultural Intelligence as a Global Leadership Competency

In today's increasingly globalized businesses, developing an ability to work effectively across cultures can be an important competency toward improving the

competitive advantage of an organization (Earley & Mosakowski, 2004). Earley, Ang, and Tan (2006) asserted that "acting or behaving professionally in a diverse workplace requires high cultural intelligence, especially as notions of what constitutes professional behavior differ across different cultures" (p. 108).

According to Earley (2000) research indicates that 90% of international managers are chosen for their technical expertise, ignoring other important competencies. Chin, Gu, and Tubbs (2001) were among the first to recommend the development of global leadership competencies in order to maximize the potential of business and cultural opportunity. They suggested a model or hierarchy of global leadership competencies that is depicted in a pyramid model, similar to Maslow's hierarchy of needs, that can be seen in Figure 2.1. Chin, Gu, and Tubbs (2001) posited that global leadership competencies seem to follow a hierarchy as individuals move from the state of "global leadership deficiencies" toward "global leadership competencies." They suggested that an individual cannot reach a higher level until they have first moved through a lower level. In addition, they maintained that through negative experience it is possible for an individual to slip backward as well.

The levels of competence in this hierarchy are as follows, moving from low to high: a) ignorance, b) awareness, c) understanding, d) appreciation, e) acceptance, f) internalization, and g) transformation. Chin, Gu and Tubbs (2001) later modified the model, replacing transformation with adaptation, revealing a positive relationship between adaptability and effective leadership across cultures.

It is important to note that the levels of this hierarchy are closely related to the four components of cultural intelligence postulated by Earley and Ang (2003). For

instance, the three lowest levels (ignorance, awareness, understanding) are connected to the metacognitive and cognitive components of cultural intelligence. At this level of the hierarchy not only are individuals learning, they are thought to be making a conscious effort to understand differences (motivational). The level "understanding" in the hierarchy overlaps and also connects to the motivational component of cultural intelligence. Likewise, the level of "appreciation" corresponds to the motivational aspect of cultural intelligence. The top levels (acceptance, transformation) are connected to the behavioral component of cultural intelligence.

Figure 2.1. Model of Global Leadership Competencies (Chin, Gu & Tubbs, 2001).

Livermore (2009) offered many reasons why cultural intelligence is important for leaders today. He referenced a study of leaders in 68 countries in which 90% of all participants chose cross-cultural leadership as a central challenge for the future of leadership. Livermore also maintained that cultural intelligence was important in

leadership, especially in understanding diverse customers, managing cross-cultural teams, recruitment of cross-cultural employees, adapting leadership styles, and demonstrating true respect for people.

Besides representing an important leadership skill, cultural intelligence embodies strategic capabilities of leaders (Tan, 2004). Earley et al. (2006) concurred and included a description of cultural strategic thinking as the cognitive component of cultural intelligence. According to Alon and Higgins (2005), cultural intelligence is central to the success of the global leader. Furthermore, they maintained that high levels of cultural intelligence are requisite for leaders to be effective with people who are internationally and culturally diverse.

Cultural Intelligence as a Developmental Tool

Globalization has presented challenges to leadership training and development. Not only are managers and leaders exposed to several different cultures in a workday, many travel abroad for work assignments. To make matters even more difficult, the length of time managers are spending in a single country is shortening, and they are often moved from one location to another, making country-specific knowledge less obtainable (Earley & Peterson, 2004). The aforementioned authors (Earley & Peterson, 2004) added that the decreasing time spent in a country challenges the traditional training and development approaches of most organizations. Conventional training methods that focus on country-specific knowledge are failing to prepare these managers for the complexity they will encounter during their multinational assignments.

Training in Cultural Intelligence

Earley and Peterson (2004) report several weaknesses in the current approaches to the intercultural development of individuals. The weakness they cited are: the assumption that all persons require the same training protocol, the heavy focus on cognitive or knowledge-based information, the assumption of a strong link between cultural values and norms and individual behavior within a culture, and the reliance on analogical learning. With this, Earley and Peterson (2004) suggested that intercultural training be designed around the unique capabilities of an individual to adapt and respond in a new cultural setting reflected by the four facets of the cultural intelligence model.

To deal with these limitations and supplement the current approach, Earley and Peterson (2004) introduced a new conceptual framework for intercultural training. Their approach identified specific capabilities based on a model of cultural intelligence that portrays cultural intelligence traits as a relatively malleable collection of abilities that can be improved over time (Ang et al., 2007; Earley & Peterson, 2004). Earley and Peterson (2004) argued that this approach is superior to traditional developmental approaches for the following reasons:

> (a) it is uniquely tailored to the strengths and deficits of an individual; (b) it provides an integrated approach to training and deals with knowledge and learning, motivational, and behavioral features; (c) it is built upon a unifying psychological model of cultural adaptation rather than the piecemeal and country-specific approach to training typically employed. (p.2)

This information can help better inform for uses of cultural intelligence in curriculum and global leadership training programs.

Earley and Ang (2003) maintain that cultural intelligence training should emphasize more motivational and metacognition components than traditional cross-cultural training. Cultural intelligence training should be embraced as an integral component to the development of leadership capabilities for a global environment (Alon & Higgins, 2005).

Cultural Intelligence Measures and Instrumentation

There are several instruments utilized to measure cultural intelligence and intercultural compentencies.

Cultural Intelligence Scale. The Cultural Intelligence Scale (CQS) developed by Ang et al. (2007) has proven useful at identifying many of the competencies required for leadership in a global environment. In addition, the CQS scale is one of the few instruments that assess an individual's capabilities that can be improved upon by education, training, and experience. The 20 item, four factor CQS has been shown to be useful within a broad variety of cultural contexts.

Intercultural Adjustment Potential Scale. Another measure used to assess global leadership capabilities is the Intercultural Adjustment Potential Scale (ICAPS). ICAPS measures the potential of a leader to adjust to varying cultural settings (Matsumoto & Juang, 2004). This measure only covers a single behavioral component.

The Multicultural Personality Questionnaire. The Multicultural Personality Questionnaire (MPQ) measures the five factors of intercultural effectiveness, including emotional stability, openness, social initiative, flexibility, and cultural empathy. This instrument measures personality factors very similar to the Big Five personality traits

assessment. The Big Five personality assessment measures the five personality traits of openness, conscientiousness, extraversion, agreeableness, and neuroticism.

Intercultural Sensitivity Inventory. Bhawuk and Brislin (2000) developed the Intercultural Sensitivity Inventory (ICSI). Bhawuk and Brislin (2000) found that flexibility and open mindedness are important factors in intercultural sensitivity. This instrument covers the cognitive and motivational aspect of global competence.

Global Mindset Inventory (GMI). The GMI was developed through a scientific process that included pilot tests with over 1,000 global managers (Javidan, 2009). The GMI is an internet-based survey designed to measure the global mindset capabilities of individuals or groups by providing feedback on intellectual capital, psychological capital, and social capital. This is a self-report survey containing 92 items on a 5- point scale. The instrument was not considered for this study because it is proprietary, lengthy and expensive.

Global Competencies Inventory (GCI). The GCI is an instrument developed by the International Institute (Kozai Group, 2009). It requires certification and licensure before use. The instrument contains three areas that assess the way individuals approach cultural differences. The instrument's self -reporting format uses a 5-point Likert scale. The length and the cost of the instrument removed it from the consideration set of this study.

Although there are several measures available to test intercultural competencies in a number of different ways, the 20-item, four-factor CQS is the only one that assesses all four components of Cultural Intelligence (metacognition, cognition, motivation, and behavior). CQS is also the most comprehensive instrument at assessing all four

components of cultural intelligence that are required for social adaptation and appropriate intercultural interactions.

Previous Research Incorporating the Cultural Intelligence Scale (CQS)

Most of the empirical research on cultural intelligence has focused on expatriate assignments, performance levels of overseas employees, and cross-cultural team performance. There has been little research on cultural intelligence and its development during higher education experiences in a business program.

Ang et al. (2007) conducted a series of three studies to determine if cultural intelligence significantly predicted task performance and adjustment situations among undergraduates, international executives, and foreign professionals. During the first study, undergraduates were given a cultural judgment and decision-making task that required them to read five scenarios and select the best response. It was found that metacognitive and cognitive cultural intelligence significantly predicted cultural judgment and decision making over demographic variables and cognitive abilities.

A second study involved business executives from various nations. Each of the participants took part in an executive development program on cultural intelligence. The participants were later assigned to intercultural teams on which they were assigned the task of analyzing a business scenario that involved the development of a vacant piece of land in a diverse location in Singapore. The task consisted of a written business proposal and presentation convincing landowners that the plan was viable. At the end of the program, the teams were rated on their task performance by their peers. It was found that motivational and behavioral CQ predicted general adjustment (Van Dyne, Ang & Koh, 2008).

In a third study, an online survey was administered to foreign professionals. The survey contained information on general work and interaction adjustment, and allowed the participant's supervisor to rate their work performance. It was found that metacognitive CQ and behavioral CQ predicted work performance, while motivational and behavioral CQ predicted all three types of adjustment factors (Van Dyne, Ang & Koh, 2008).

Ang, Van Dyne, and Hoh (2006) also examined the relationship between the Big Five personality factors and the four-factor model of cultural intelligence in business students. The 20-item, four-factor CQS (metacognitive CQ, cognitive CQ, motivational CQ, and behavioral CQ) was administered to 465 undergraduate business students at a large public university in Singapore. The researchers controlled for age, gender, and years of experience interacting with people from other cultures (Ang, et al, 2006). The data were gathered a second time from the same sample of students and this time 338 students participated. The results demonstrated that several personality factors are significantly associated with cultural intelligence. The personality factor "conscientiousness" was found to be positively correlated with 'metacognitive' CQ. Although the personality factor 'emotional stability' was negatively related to behavioral CQ, the personality factor 'agreeableness' was positively related to behavioral CQ. Similarly those who are highly extraverted were high in cognitive CQ, motivational CQ and behavioral CQ. Openness to experience was the only personality factor found to be related to all four factors of CQ.

In another study, Templer, Tay, and Chandrasekar (2006) examined the relationship between the motivational component of cultural intelligence and the realistic

process of cross-cultural adjustment (work, general, and interaction adjustment) of global professionals from diverse backgrounds. The researchers controlled for age, gender, time spent in host country and prior international experience (Templer et al., 2006). The motivational component of CQ was measured using the 5 item motivational subscale of the four-factor CQS scale (Ang, et al., 2006). Motivational CQ was found to be significantly related to all three adjustment factors. The findings suggest that motivational CQ is critical for the facilitation of adjustment in new cultural settings (Templer et al., 2006).

In a recent study using the CQS scale, Crowne (2008) found that individuals who had traveled abroad for employment or education were found to have higher levels of cultural intelligence. Other types of exposure however, such as vacationing, did not increase the participant's level of cultural intelligence. Overall, most studies concerning expatriates and international assignments also found that cultural intelligence is positively related to personality traits, adjustment and mental well-being (Kim, Kirkman, & Chen, 2008; Van Dyne, Ang, & Koh, 2008).

Elenkov and McMahan (2005) used the CQS in a study to investigate the effects of different variables on marketing innovations in three diverse parts of Switzerland. The data gathered from 237 Swiss companies demonstrated that the CQS is a reliable measure of cultural intelligence in a multicultural environment.

In a more recent study, Ward, Wilson, and Fisher (2011) tested the predictive validity of cultural intelligence over time. They found that motivational CQ failed to prove incremental validity in contributing to the predictive model of sociocultural adaptation problems.

Despite the finding by Ward, Wilson, and Fisher (2011), the Cultural Intelligence Scale has been used in several current studies that have provided support for construct and external validity of the scale across different samples, times, and cultures. Chronbach's Alpha reliabilities for the four-factor scale introduced by Ang et al. (2007) exceed .70 (metacognitive CQ = .72, cognitive CQ = .86, motivational CQ = .76, and behavioral CQ = .83).

Higher Education's Role in Preparing Future Leaders

It has been argued that global awareness and cultural intelligence are becoming essential skills of workers in U.S. companies. Even when employees are not required to travel abroad, all business is reportedly becoming more global (Moxon, O'Shea, Brown, & Escher, 1997). Consequently, the business world is expecting higher education to prepare students to handle international business responsibilities. Webb, Mayer, Pioche, and Allen (1999) had multinational employers rank order the importance of several skills and characteristics. Results indicated that perceived important skills and characteristics included: (a) knowledge of other cultures; (b) cross-cultural communication skill; (c) experience in international business; (d) college degree; (e) experience in related areas (marketing for sales people); (f) fluency in a foreign language; and (g) general knowledge of other countries geography, history, public policies (p. 392). Other studies confirmed the existing demand for global leadership skills (Gregersen Morrison & Black, 1998; Sheridan, 2005). According to a 2009 survey by the Economist Intelligence Unit, the most desirable leadership qualities in the workplace include: negotiating, networking, working with cultural diversity, complex problem-solving ability, and global leadership skills (Global Education 20/20, 2009).

Educational leaders, just like leaders of other organizations, are facing challenges resulting from globalization. Egan and Bendick (2008) argued that cultural competence could be used as a competitive advantage. They stated that business educators cannot just teach that cultural differences matter, they must teach students how cultural differences work and how to use that knowledge as a competitive advantage. While preparing students for the 21st century, educational leaders must be looking for solutions to position the institution, faculty, and students for success in a global environment. It is very likely that each educational leader and faculty member will be required to interact with someone culturally different than him- or herself, and almost every graduate will be required to deal with the impact of globalization in the workplace. As globalization leads to increased cross-cultural endeavors, higher education leaders need to have a global mindset in order to facilitate relationships with employees and students from varying cultures. The development of leadership in higher education and the ability to effectively lead on diversity is often reported as a challenge (Practicing Diversity Leadership in Higher Education, n.d.). More importantly leaders in higher education must change the way they lead faculty, prepare their students, and build relationships to be responsive to and from the impact of globalization.

According to the Association to Advance Collegiate Schools of Business (AACSB, 2011),

> The global nature of today's business environment demands that international content be consciously included within the core curriculum of all business programs and that it is not solely an optional elective or supplemental course or component of only those programs with a specifically "global focus." (p. 106)

If business schools do not take the statement made by AACSB into consideration, they are placing more of the responsibility to train the workforce on businesses.

Business leaders expect business educators to be more forward thinking and proactive as they prepare students to be more culturally competent. In addition to demanding globally competent graduates, multinational corporations are pushing for standardization of education. Dew (2010) confirmed that corporations are calling for the standardization of content in key areas of study such as engineering and business. The differences in educational standards among nations and regions recently have been brought to the forefront. According to Dew (2010), "There is no international standard for a baccalaureate or a master's degree, for instance, and there is also wide variation among nations in quality assurance of academic programs, faculty credentials, and educational support services." These differences can create problems for students as they move internationally and for employers that desire a workforce that is globally prepared.

Conclusion

As the business environment becomes increasingly global, it is essential to acknowledge that each culture's view of the world is different and leadership practices that work in one country may not be effective in another (Hofstede & Hofstede, 2004; Northouse, 2004). Northouse (2004) stated that "leadership is a process whereby an individual influences a group of individuals to achieve a common goal" (p.3). Today, groups being led are growing more diverse. As a consequence, 21st century leaders need to develop leadership competencies that are effective both inside and outside their own national boundaries (Gregersen, Morris & Black, 1998). The GLOBE study and more recent research (Crowne, 2008; Thomas et al., 2008) have changed the current

understanding of the relationship between cultural intelligence and leadership and should be taken in consideration when developing research to ascertain the importance of culturally aware leadership.

A review of the literature has shown that the success of the leader and the organization is dependent on the leader's ability to adapt in diverse national, organizational and professional cultures (Harris, Moran, & Moran, 2004). From a pragmatic perspective, the next generation of leaders and followers must develop strategies that allow them to make sense of the world around them. Such strategies will enable leaders and followers to recognize the distinct differences found when engaging different cultures, to assimilate the information acquired into a personal meaning, and to use that meaning to guide the development of behaviors that are acceptable with the culture of interaction.

Chapter 3: Methodology

This quantitative study examined whether or not class level and cultural exposure impact cultural intelligence scores of community college students enrolled in a business administration program. The 20-item Cultural Intelligence Scale (CQS) was utilized to measure cultural intelligence. The advantage of using this scale is that the results of this study can be compared to the results of other studies using the same scale, and the results of the current investigation will contribute to the reliability and validity information in a new population. This chapter includes information about the proposed research design and variables, research questions, participants, instruments, data collection, and data analysis.

Research Design

The current investigation used a quantitative, causal-comparative (ex post facto) design to examine and describe differences between the independent variables of class level and cultural exposure on the dependent variable cultural intelligence scores as measured by the CQS. The class level was divided into two levels, freshman and sophomore, and respondents were assigned a level based on their response to the year in school question on the demographic questionnaire. Cultural exposure had four levels—none, minimal, moderate, and high. Participating students were placed into their cultural exposure level by responding to a question on the demographic questionnaire. Respondents were asked to rate their level of exposure to other cultures (examples of exposure can include interacting with people from other countries or cultures including family members, friends, co-workers, or classmates) and four options including:

1) None (no exposure),

2) Minimal (a few exposures),

3) Moderate (more than a few exposures), and

4) High (extensive exposures).

As these independent variables are selected and not manipulated, the research design is considered causal comparative or ex post facto (Creswell, 2008). As a consequence, information about causality cannot be determined. The ex post facto design is appropriate when a researcher is unable to assign the participants into random groups because their grouping is already pre-existing (Breakwell, Hammond, Fife-Schaw, & Smith, 2006; Schenker & Rumrill, 2004). This study did include other independent variables based on the results of the demographic survey. Participants were asked to complete a demographic survey. When needed, the study controlled for other variables such as: nationality of parents, experience traveling abroad, and the number of languages fluently spoken. If a significant number of students responded "yes" to these questions, other independent variables were included in this study. For instance, one question in the demographic portion of the survey asked respondents if they had traveled abroad. If enough participants indicated that they have, travel abroad was added as an independent variable.

The dependent variable is the score on the Cultural Intelligence Survey (CQS). The students' cultural intelligence was measured using the paper-and-pencil, 20-question, four-factor CQS. The CQS scale uses a 7-point Likert-type, self-report survey with a scale ranging from strongly disagree to strongly agree. Van Dyne et al. (2008) claimed that the scale was reliable and valid across different samples, time, and countries.

SPSS version 18 was used to conduct the descriptive and inferential analysis to address the research questions. Main and interaction effects of the independent variables on the dependent variable indicated whether or not differences in educational and/or cultural exposure had an impact cultural intelligence scores.

Research Questions

The following research questions and hypotheses were proposed for investigation in the current study.

Research Question 1 (RQ1): Are there significant differences between freshman and sophomore business students on cultural intelligence scores?

Research Question 2 (RQ2): Are there significant differences between students with and without cultural exposure on cultural intelligence scores?

Research Question 3 (RQ3): Is there an interaction between the levels of the two independent variables of the investigation—student's educational level (freshman, sophomore) and cultural exposure (none, minimal, moderate, high)—on the dependent variable of cultural intelligence scores?

Hypothesis $H0^1$ (Null Hypothesis): There will be no significant difference between class levels on cultural intelligence scores.

Hypothesis HA^1 (Alternative Hypothesis): Sophomore students will have significantly higher cultural intelligence scores than freshman students.

Hypothesis $H0^2$ (Null Hypothesis): There will be no significant difference between cultural exposure levels on cultural intelligence scores.

Hypothesis HA[2] (Alternative Hypothesis): Students who have moderate or high cultural experience levels will have significantly higher cultural intelligence scores than students who have minimal or no cultural exposure.

Hypothesis H0[3] (Null Hypothesis): There will be no significant interaction between class level and cultural exposure level in cultural intelligence scores.

Table 3.1 provides a summary of each hypothesis with its associated dependent variable (DV), independent variable (IV), level of measurement, and statistics used. It is proposed that 2 (class level) X 4 (cultural exposure) factorial analysis of variance (ANOVA) be used to determine if the main effects and interaction effect are significant. If the interaction is significant, follow-up post hoc tests will be conducted.

Table 3.1

Variables and Descriptive Statistics Associated with Each Hypothesis

Hypothesis	DV	IV (level)	Statistics
H1	Cultural intelligence	Class level (freshman, sophomore)	ANOVA
H2	Cultural intelligence	Cultural exposure (none, minimal, moderate, high)	ANOVA
H3	Cultural Intelligence	Class level/Cultural exposure	ANOVA

Population and Sampling

Freshman and sophomore college students from a business administration program at a community college in the Midwest were invited to participate in the current investigation. This college is assumed to represent community colleges around the country in student attitudes about leadership competencies, cultural intelligence, and cultural differences. The sample was restricted to freshman and sophomore students who

are enrolled in the business administration program and to those who are U.S. citizens. Within this population, it was anticipated that most of the students would be 18 to 24 years old and that the sample would be similar to community college population in demographic characteristics. At the time of the survey, there were 450 students enrolled in the business administration program and all were invited to participate. A G*Power a priori power analysis for ANOVA revealed that for a large effect size for ANOVA (d=.40; Cohen, 1988), with alpha equal to .05 (power = .95), 112 participants were needed or at least 14 in each of the 8 groups (Faul, Erdfelder, Lang, & Buchner, 2007).

Instrumentation

Cultural Intelligence Scale (CQS)

It was proposed that cultural intelligence be measured with the 20-item, four-factor Cultural Intelligence Scale (Ang et al., 2007) in a pencil and paper format. Although there are several measures that test different intercultural competencies or multicultural competencies, the 20-item, four-factor CQS is one of a few that assesses all four components of Cultural Intelligence (CQ): metacognition, cognition, motivational, and behavioral. In addition, the CQS concentrates measures on individual competencies that can be augmented by education, training, and experience. The CQS includes four metacognitive CQ, six cognitive CQ, five motivational CQ, and five behavioral CQ questions. Sample items include, “I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds” for metacognitive CQ; “I know the legal and economic systems of other cultures” for cognitive CQ; “I enjoy interacting with people from different cultures” for motivational CQ; and “I change my verbal behavior (e.g., accent, tone) when a cross-cultural interaction requests it” for

motivational CQ (see Appendix C for full instrument).

The CQS first began as a pool of 53 items gathered by Ang et al. (2006) from the cross-cultural adjustment literature and interviews with eight executives with international experience. The 53 items were tested for relevance, clarity, and reliability. Each of the items was also rated for consistency with the definitions of the four factors of cultural intelligence. The researchers entered a process in which they retained the ten best items for each of the four factors, resulting in a forty- item CQ scale. Finally, 576 undergraduates in Singapore completed the scale and confirmatory analysis used the scale again on a second sample of undergraduates in Singapore. The analysis of these two samples led to a 20-item measure. Reliability for this 20-item scale was determined acceptable: metacognitive (.72), cognitive (.86), motivational (.76), and behavioral (.83). In addition, the authors examined the use of this instrument across time samples. Five months after the initial assessment, participants completed the 20-item scale for a second time. The results indicated factor invariance across time. Finally cross-validation included administering the CQS to 337 American undergraduates. The findings were supportive of invariance in factor loading, factor structure, and factor covariances across the Singapore undergraduate and the American undergraduate samples.

The CQS scale does not come without criticism. Ward, Wilson, and Fisher (2011) tested the predictive validity of cultural intelligence over time. They found that motivational CQ failed to prove incremental validity in contributing to the predictive model of sociocultural adaptation problems. With this, it is still believed that the strength of the evidence supporting the reliability and validity of the CQS is sufficient.

Personal Data Sheet and Demographic Variables

In addition to the CQS instrument, the students were given a pencil-and-paper Personal Data Sheet (see Appendix B) to complete. This sheet was used to collect demographic data and determine independent variable level assignment for class level and cultural exposure level. Other demographic information, including gender, age, national culture, citizenship, parent's nationality, and languages spoken also was included on the Personal Data Sheet.

Instrument Pilot

The researcher chose a small group of participants (n=17) to run a pilot study with the CQS instrument and the demographic survey. These participants were from the same host school with very similar demographics to the research sample. The researcher asked participants to provide feedback on the clarity of the instructions as well as the overall time to complete, any errors in spelling, and so forth. The researcher considered the feedback and made the necessary revision before the data collection was started.

Procedure

Data Collection

Freshman and sophomore community college business administration students were invited to participate in this study via personal invitation through a class visit (Appendix D). At that time, a detailed description of the survey requirements and procedures (Appendix D) was provided. Data were collected by administering the survey to students enrolled in the business administration program during the fall 2011 semester. Once participants provided informed consent (Appendix E), these students participated by completing a Personal Data Sheet and the Cultural Intelligence Scale (Appendix C).

All hard copy study documents are kept in a locked cabinet in the researcher's home and all electronic data are password protected. All research documentation is available to the dissertation committee upon request. Informed consent forms and other study documents will be shredded five years after the study is completed.

Data Analysis

The data collected from the respondents and survey responses were entered into the Statistical Package for the Social Sciences (SPSS) version 18.0. Participants indicated whether they were freshman or sophomore students. The freshmen students were coded as 1, and sophomore students as a 2 in SPSS. Participants indicated their level of cultural exposure. The choices were: (1) none, (2) limited, (3) moderate and (4) extensive. Preliminary and descriptive analyses (means, standard deviations, percentages, and percentiles) were conducted on all demographic data. Inferential statistics including a 2 (class level) x 4 (cultural experience) factorial ANOVA was conducted and main effects for each independent variable and an interaction effect was reported. The main effect for cultural exposure was significant; Tukey post hoc tests were used to determine which of the levels differed significantly from the other. The interaction was not significant and did not require additional inferential simple effect follow-up tests.

Chapter 4: Results

The purpose of this study was to describe differences between the independent variables of class level (freshman, sophomore) and cultural exposure (none, minimal, moderate, high) on the dependent variable of cultural intelligence scores.
The sample used for the analysis included business administration students at a community college in the Midwest during the 2011 fall semester.

A quantitative data collection approach and a causal comparative (quasi-experiment) design were used to answer the research questions. The quantitative data were collected over a three-week period via a demographic questionnaire (see Appendix B) and the 20-factor Cultural Intelligence Scale (CQS) (Van Dyne et al., 2008). A 2 x 4 ANOVA was conducted to evaluate the main and interaction effects of the independent variables on the dependent variable. The results indicated whether or not differences in class level and/or cultural exposure result in significant differences on cultural intelligence scores.

Chapter four includes descriptive and inferential results from the quantitative statistical analyses. The descriptive statistical analyses included the development of a demographic profile of the sample and descriptive statistics of survey responses. The inferential analysis consisted of an ANOVA with class level (freshman, sophomore) and cultural exposure (none, minimal, moderate, high) as the two independent variables and cultural intelligence scores as measured by the CQS (Van Dyne et al., 2008) as the dependent variable.

Participants

Participants were students enrolled in a business administration program at a community college in the Midwest. All business administration instructors at the community college were contacted in an effort to gain permission to collect data during the normal class period. The classes visited were those in which the instructor granted the researcher permission to use the class period to collect data. During the fall semester of 2011, the researcher visited 16 business administration courses to collect data. Among the courses visited were Introduction to Business, Managerial Finance, Case Studies in Business, Principles of Management, Business Law, Supply Chain Management, and Introduction to Marketing. Each class was not specific to a grade level, in some instances enrolling both freshman and sophomore students (see Table 4.1). The sample was selected by a convenience method. The 173 respondents were 50% of the total number of business administration students attending face-to-face business administration courses during the fall semester.

The data collected will be protected and the confidentiality of the participants will be maintained. All hard copy study documents are kept in a locked cabinet in the researcher's home, all electronic data is password protected, and the documentation is available to the dissertation committee upon request. Informed consent forms and other study documents will be shredded five years after the study is completed.

Table 4.1.

Freshman and Sophomore Students by Class

Course	# of sections attended	# Freshman	# Sophomores
Principles of Mgmt.	3	8	20
Managerial Finance	2	0	21
Case Studies	1	0	12
Business Law	2	3	17
Intro to Business	6	41	38
Intro to Marketing	1	4	5
Supply Chain Mgmt.	1	0	4

Sample Demographics

There were 173 responses total. Of these, 163 were U.S. citizens and 125 were business administration majors. However, only 119 of the potential participants were both U.S. citizens and business administration majors. Only data from those 119 students were included in the analysis. Of these 119 students, three were missing data on the dependent variable (total Cultural Intelligence Score). Students missing one or more selections from the 20-point CQS were excluded from the study, as missing data on the dependent variable would not provide accurate results. After these three cases were removed the sample became n = 116.

The sample was 48% male (83 participants) and 52% female (90 participants) with an average age of 26 (median age of 22). The median age reflects the typical age of an undergraduate student in a two-year business administration program (Profile of Community Colleges, 2010). The diversity of the local community is reflected in the

demographics of the participants with 17% students of color, 5.8% born outside the U.S., and 8.7 % who did not list English as their primary language.

Table 4.2

Country of Citizenship of Participants

Country of Citizenship	# of Participants	% of Participants
U.S.	163	94%
Mexico	3	1.7%
S. Korea	2	1.2%
Brazil	1	.06%
India	2	1.2%
Kenya	1	.06%
Burma	1	.06%

Class level. Each subject completed the CQS and a personal data sheet via self-report. The subject's placement on the class level independent variable was determined by a student's response on a question asking if the student was a freshman or sophomore at the community college. After removing the missing data (described in previous section), the sample consisted of 41 freshmen and 75 sophomores.

Cultural exposure. The subject's placement on the cultural exposure level independent variable was determined by the response to a question asking the student to select from one of four cultural exposure categories. Participants self- selected their level of cultural exposure from a list of four pre-defined levels. In addition, participants were asked to provide an explanation to their choices. These four pre-defined levels were:

1. None (no exposure or interaction with people from other countries/cultures such as family members, friends, co-workers, and classmates).
2. Minimal (a few exposures or interactions with people from other countries/cultures such as family members, friends, co-workers, and classmates).
3. Moderate (more than a few exposures or interactions with people from other countries/cultures such as family members, friends, co-workers, and classmates).
4. High (extensive exposure or interaction with people from other countries/cultures such as family members, friends, co-workers, and classmates).

Twelve students reported no cultural experience, 49 reported minimal experience, 38 reported moderate experience, and 17 reported high experience. When grade level and cultural exposure were considered together, there were eight freshmen with no cultural exposure and four sophomores with no cultural exposure, 12 freshmen with minimal cultural exposure and 37 sophomores with minimal cultural exposure, 13 freshmen with moderate cultural exposure and 25 sophomores with moderate cultural exposure, and finally, eight freshmen with high cultural exposure and nine sophomores with high cultural exposure, respectively.

Table 4.3

Frequency by Level of Exposure

Level of Exposure	Frequency	Percentage
None	12	10.1%
Minimal	50	42.0%
Moderate	40	33.6%
High	17	14.3%
Total	119	100%

Total Cultural Intelligence Score (CQS).

The scores on the 20 items from the CQS were summed and an overall mean score was computed per participant. The minimum mean CQS score was 1.25 and the maximum was 7.0. The overall mean of the CQS was 4.2150; SD = 1.18762 .

Research Questions and Hypotheses

The following research questions were developed based on the existing literature on cultural intelligence. The overall findings relating to each hypothesis is indicated. Table 4.6 breaks down each hypothesis in terms of the variables, technique used to test the hypothesis, and significance level of the current results.

Research Question 1: Are there significant differences between freshman and sophomore business students on cultural intelligence scores?

Hypothesis H0[1]: There was no significant difference between class levels on cultural intelligence scores.

Hypothesis HA[1]: Sophomore students had significantly higher cultural intelligence scores than freshman students.

Research Question 2: Are there significant differences between students with and without cultural exposure on cultural intelligence scores?

Hypothesis $H0^2$: There was no significant difference between cultural exposure levels on cultural intelligence scores.

Hypothesis HA^2: Students who had moderate or high cultural exposure levels had significantly higher cultural intelligence scores than students who had minimal or no cultural exposure.

Research Question 3: Is there an interaction between the levels of the two independent variables of the investigation, student's educational level (freshman, sophomore) and cultural exposure (none, minimal, moderate, high) on the dependent variable cultural intelligence scores?

Hypothesis $H0^3$: There was no significant interaction between class level and cultural exposure level on cultural intelligence scores.

Hypothesis HA^3: There was a significant interaction between class level and cultural exposure level on cultural intelligence scores.

Table 4.4

Independent Variables, Dependent Variables, Statistical Techniques, and Significance Level of Results for Hypotheses 1–3

Hypothesis	IV	DV	Statistical Test	Sig.
1	Class Level	Cultural Intelligence	ANOVA	0.083
2	Exposure Level	Cultural Intelligence	ANOVA	0.00*
3	Class Level Exposure Level	Cultural Intelligence	ANOVA	0.455

Note. Asterisks indicate that the relationship was significant at $p < .05$.

Data Analysis Procedure

Prior to collection of data, consent was gained from the participating institution's human subject review board. The consent was contingent upon gaining approval from Indiana Tech's Institutional Review Board (IRB). The participating institution's approval did not authorize publication of its name with the findings. Furthermore, it was requested that a final report and analysis be sent to the institution for internal use. In addition, the process also included obtaining permission from the author of the CQS as shown in Appendix F. After all necessary approvals were obtained, the research began with an instrument pilot. Inferential statistics were used to draw conclusions from the sample population tested. The Statistical Package for the Social Sciences (SPSS) version 18 was used to code and tabulate scores and provide summarized values where applicable. Descriptive statistics including frequency counts and percent statistics were computed for the demographic variables. A factorial ANOVA was used to evaluate hypotheses 1–3. Parametric assumptions were evaluated prior to each analysis. The alpha level was set at .05.

Pilot Study of Investigation Materials

As indicated earlier, the CQS is a validated instrument (Ang, et al., 2006) and authorization was granted to use the instrument. Prior to the collection of data, a pilot study was conducted to test the clarity of the personal data sheet's questions as well as the time it would take to complete both the personal data sheet and the CQS. The pilot consisted of 17 participants chosen by convenience sample. These participants were excluded from the final research study. Feedback from the pilot confirmed that the personal data sheet was clear and easy to use. There were a few recommendations

regarding wording and spacing for ease of completing the form. Feedback also confirmed the expectation that both forms would take 20–30 minutes to administer. As the primary purpose of the pilot study was to determine the clarity and ease of use of the survey instrument, no formal analyses were conducted on the feedback.

Preliminary Analyses

Prior to analysis of hypotheses 1–3, the data were screened by group for missing data and outliers. Missing data were evaluated using frequencies, and univariate outliers were evaluated by transforming raw scores on the DV to z-scores and comparing the z-scores to a criterion of +/- 3.29, $p < .001$ (Tabachnik & Fidell, 2007). Tabachnik and Fidell (2007) suggested that scores that exceed this critical value are considered extreme and should not be included in the analysis; however, no outliers were identified in the current data set. The assumptions of normality and homogeneity of variance were checked for each group. Normality was evaluated using histograms and skewness statistics. The skewness statistic was divided by the standard error of skewness, and the resulting coefficient was compared to the critical value of +/- 3.29, $p < .001$. No variables exceeded the critical value, and therefore, the data were deemed normal. Homogeneity of variance was evaluated using Levene's test for equality of variances. Levene's test was not significant, $F(7, 108) = 1.174$, $p = .324$; thus the assumption of homogeneity of variance was met.

Main Analyses

Research Question One Findings

Research question one asked: Are there significant differences between freshman and sophomore business students on cultural intelligence scores? It was hypothesized that

sophomore students would have significantly higher cultural intelligence scores than freshman students. A 2 x 4 factorial ANOVA was conducted, and the results did not support the hypothesis. The univariate main effect of class level was not significant, F (1, 108) = 3.056, p =.083, partial eta squared = .028 (Table 4.5). There was not a significant mean difference in cultural intelligence scores. Although freshmen scored lower (M = 4.092; SD = 1.11) than sophomores (M = 4.524; SD = 1.23) in cultural intelligence, this difference was not significant. Based on this information, the null hypothesis that there was no significant difference in cultural intelligence scores depending on class level was retained.

Table 4.5

Model Summary for ANOVA for Hypotheses 1–3

Source	SS	df	MS	*F*	Sig.	Partial Eta Squared
Corrected Model	36.484a	7	5.212	4.478	0.000	0.225
Intercept	1416.782	1	1416.782	1217.131	0.000	0.918
Class Level	3.557	1	3.557	3.056	0.083	0.028
Exposure	29.841	3	9.947	8.545	0.000	0.192
Class Level * Exposure	3.067	3	1.022	.878	0.455	0.024
Error	125.716	108	1.164			
Total	2223.122	116				
Corrected Total	162.2	115				

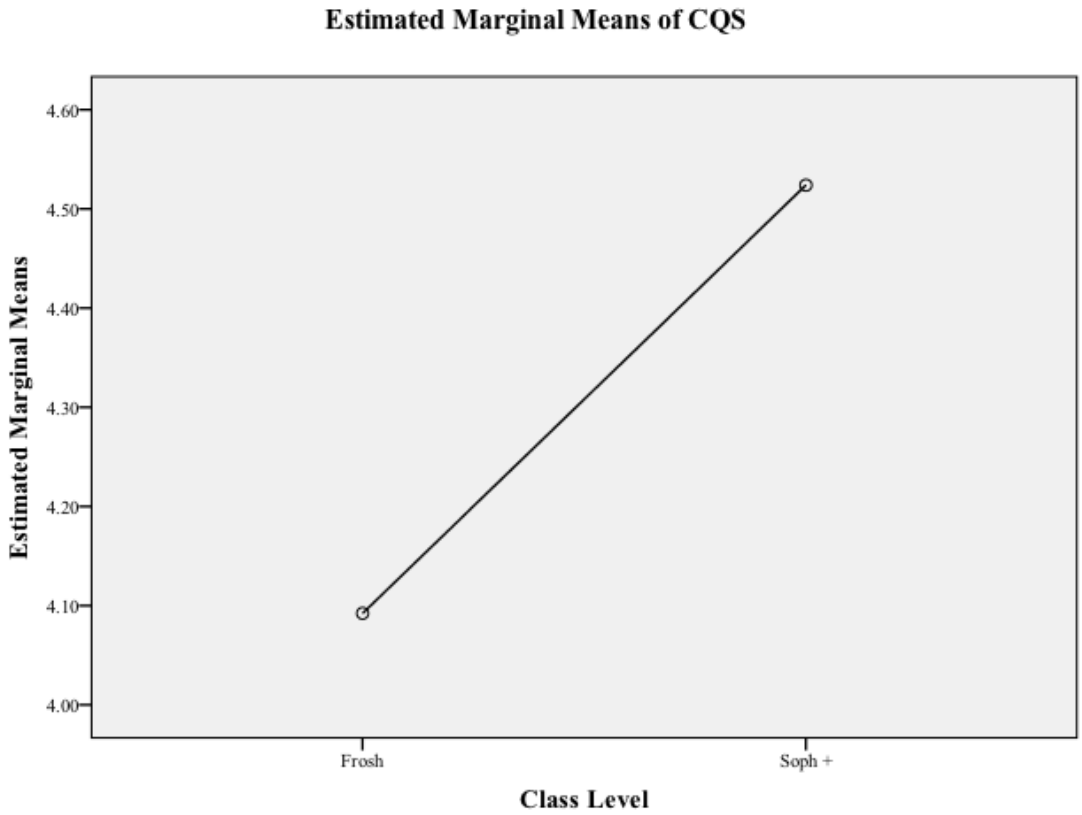
Note. DV = Cultural Intelligence Scores.

Table 4.6

Range, Minimum, Maximum, Mean and Standard Deviation for Cultural Intelligence, by Group

Class Level	*n*	Range	Minimum	Maximum	Mean	Std. Deviation
Freshman	41	3.70	2.05	5.75	4.0889	1.10996
Sophomore	75	5.75	1.25	7.00	4.2840	1.22976

Figure 4.1. Plot of Mean Differences for Cultural Intelligence Scores by Class Level.



Research Question Two Findings

Research question two asked: Are there significant differences between students with and without cultural exposure on cultural intelligence scores? It was hypothesized that students who have moderate or high cultural exposure levels would have

significantly higher cultural intelligence scores than students who have minimal or no cultural exposure. A 2 x 4 factorial ANOVA was conducted, and the results supported the hypothesis. The univariate main effect of cultural exposure was significant, F (3, 108) = 8.545, $p < .001$, partial eta squared = .192. There was a significant mean difference in cultural intelligence scores depending on cultural exposure level (none, minimal, moderate, and high). Approximately 19% of the variance in cultural intelligence scores was explained by exposure level (none, minimal, moderate and high).

Since the univariate main effect of exposure was significant, post hoc analyses were conducted (see Table 4.6). As predicted, participants with a high level of cultural exposure had significantly higher levels of cultural intelligence (M = 5.2824; SD = .93) than those with no cultural exposure (M = 3.6792; SD = 1.24), Tukey's HSD = 1.6032, $p < .001$, minimal cultural exposure (M = 3.8325; SD = 1.12), Tukey's HSD = 1.4498, $p < .001$, and moderate exposure (M = 4.400; SD = 1.05), Tukey's HSD = .8824, p = .030. Descriptive statistics for cultural intelligence by exposure level are provided in Table 4.7 and a plot of the mean differences is provided in Figure 4.2. Based on this information, the null hypothesis was rejected in favor of the alternative hypothesis that individuals with high levels of cultural exposure had higher cultural intelligence scores than individuals with lower cultural exposure.

Table 4.7

Multiple Comparison Summary for Post Hoc Analyses for Exposure

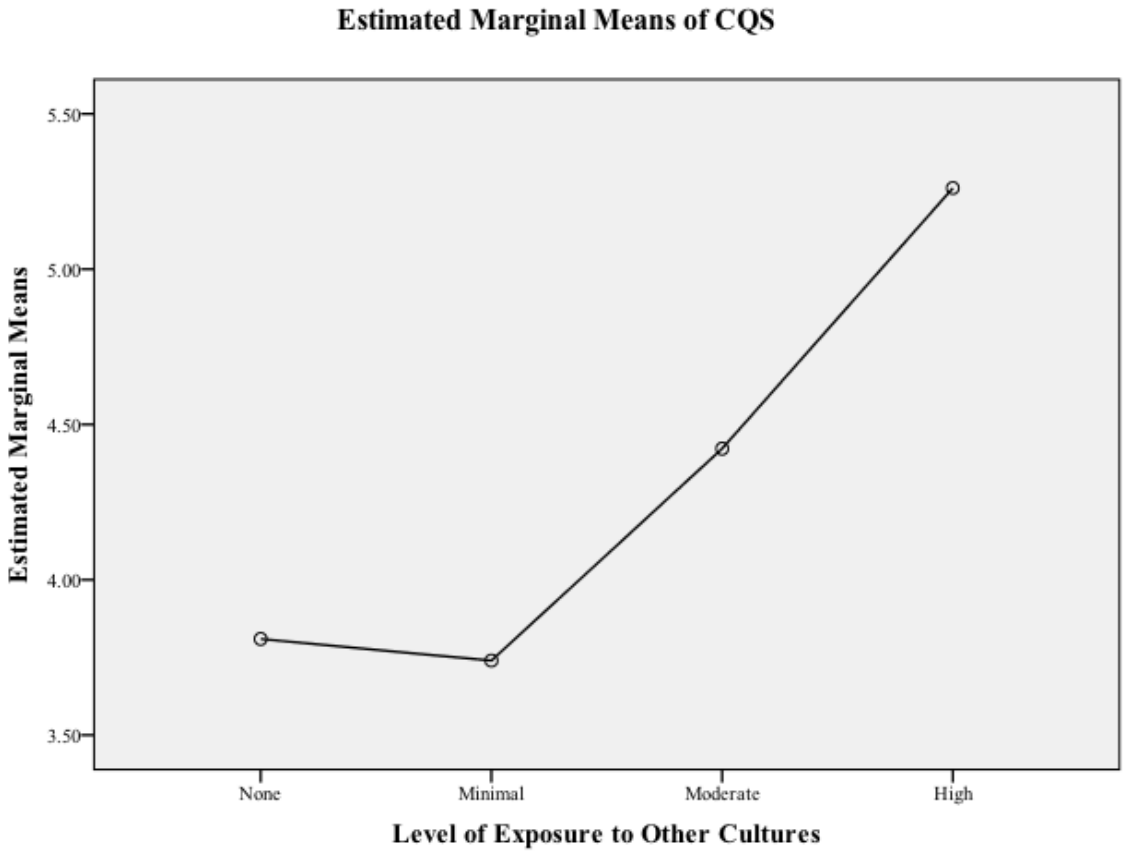
Exposure	Exposure-Comparison	Mean Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
None	Minimal	-0.1534	0.34750	0.971	-1.0602	0.7534
	Moderate	-0.7208	0.35726	0.188	-1.6531	0.2114
	High	-1.6032*	0.40679	0.001	-2.6647	-0.5417
Minimal	None	0.1534	0.34750	0.971	-0.7534	1.0602
	Moderate	-.5675	0.23321	0.077	-1.1760	-0.0411
	High	-1.4498*	0.30369	0.000	-2.423	-0.6573
Moderate	None	0.7208	0.35726	0.188	-.2114	1.6531
	Minimal	.5675	0.23321	0.077	0.0411	1.1760
	High	-.8824*	0.31481	0.030	-1.7038	-0.0609
High	None	1.6032*	0.40679	0.001	0.5417	2.6647
	Minimal	1.4498*	0.30369	0.000	0.6573	2.2423
	Moderate	.8824*	0.31481	0.030	0.0609	1.7038

Table 4.8

Range, Minimum, Maximum, Mean and Standard Deviation for Cultural Intelligence by Group

Exposure	*n*	Range	Minimum	Maximum	Mean	Std. Deviation
None	12	3.95	2.05	6.00	3.6792	1.23297
Minimal	49	4.70	1.25	5.95	3.8325	1.11624
Moderate	38	4.70	1.65	6.35	4.4000	1.04726
High	17	3.00	4.00	7.00	5.2824	.92904

Figure 4.2. Plot of Mean Differences for Cultural Intelligence Scores by Exposure Level



Research Question Three Findings

Research question three asked: Is there an interaction between the levels of the two independent variables of the investigation—student's educational level (freshman, sophomore) and cultural exposure (none, minimal, moderate, high)—on the dependent variable of cultural intelligence scores? It was hypothesized that there would be a significant interaction between class level and cultural exposure level on cultural intelligence scores. A 2 x 4 ANOVA was conducted, and the results did not support the hypothesis. The interaction of class level and exposure level was not significant, F (3, 108) = .878, p = 0.455, partial eta squared = 0.024. The change in cultural intelligence scores based on exposure did not change depending on class level. Descriptive statistics

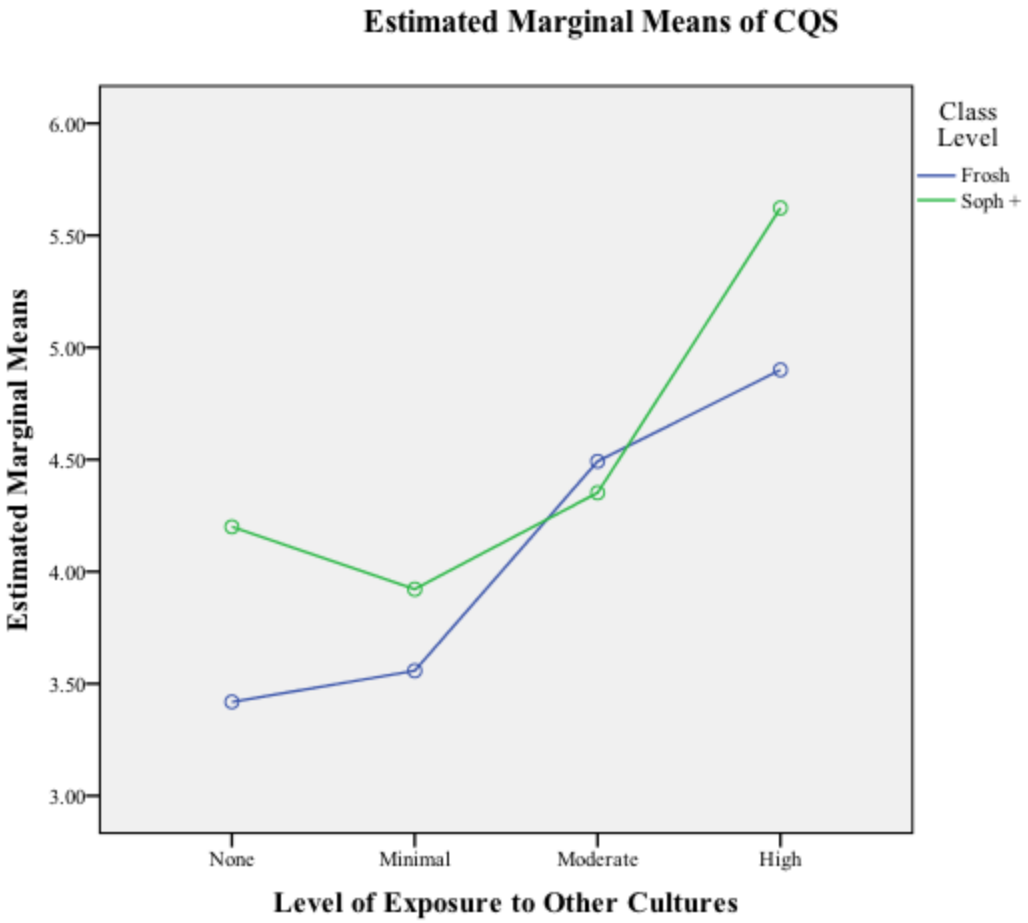
for cultural intelligence by group are provided in Table 4.8. A plot of the means, depending on exposure level and class level are provided in Figure 4.3. Based on this information, the null hypothesis that there was not a significant interaction between class level and exposure level was retained.

Table 4.9

Range, Minimum, Maximum, Mean and Standard Deviation for Cultural Intelligence, by Group

Exposure	Class Level	*N*	Range	Minimum	Maximum	Mean	Std. Deviation
None	Freshman	8	2.85	2.05	4.90	3.4187	1.00816
	Sophomore	4	3.70	2.30	6.00	4.200	1.63095
Minimal	Freshman	12	3.00	2.40	5.40	3.5579	0.95518
	Sophomore	37	4.70	1.25	5.95	3.9216	1.16157
Moderate	Freshman	13	3.40	2.35	5.75	4.4923	1.13832
	Sophomore	25	4.70	1.65	6.35	4.3520	1.01781
High	Freshman	8	1.5	4.05	5.55	4.9000	0.56379
	Sophomore	9	3.0	4.00	7.00	5.6222	1.08256

Figure 4.3. Plot of Mean Differences for Cultural Intelligence Scores by Class Level and Exposure Level



Additional Analyses

After review of the research results, the data were examined for a more accurate separation of the courses by class level. The purpose was to indentify courses that were predominately freshman and sophomore courses as well as to exclude those courses with mixed enrollment. It was determined that the Introduction to Business courses could be used alone to measure freshman students' CQS scores and the Case Studies in Business, Business Law, and Managerial Finance courses could be combined to measure the

sophomore students' CQS scores. First, the data were screened to remove sophomores in attendance in the Introduction to Business course and freshmen enrolled in any of the three upper level courses (Case Studies in Business, Business Law, and Managerial Finance). Using these courses only, the sample size was 66 participants including 30 freshmen from the Introduction to Business courses (3 sections) and 36 sophomores form the Case Studies in Business, Business Law and Managerial Finance courses

Just as in the main analysis, the data were screened by group for missing responses and outliers. Missing data were evaluated using frequencies, and univariate outliers were evaluated by transforming raw scores on the DV to z-scores and comparing the z-scores to a criterion of +/- 3.29, $p < .001$ (Tabachnik & Fidell, 2007). Tabachnik and Fidell (2007) suggested that scores that exceed this critical value are considered extreme and should not be included in the analysis; however, no outliers were identified in the current data set. The assumptions of normality and homogeneity of variance were checked for each group. Normality was evaluated using histograms and skewness statistics. The skewness statistic was divided by the standard error of skewness, and the resulting coefficient was compared to the critical value of +/- 3.29, $p < .001$. No variables exceeded the critical value, and therefore, the data were deemed normal. Homogeneity of variance was evaluated using Levene's test for equality of variances. Levene's test was not significant, $F(7, 58) = 1.039$, $p = .414$; thus the assumption of homogeneity of variance was met.

Research Question One Findings in Additional Analysis

Research question one asked: Are there significant differences between freshman and sophomore business students on cultural intelligence scores? It was hypothesized that

sophomore students would have significantly higher cultural intelligence scores than freshman students. A 2 x 4 factorial ANOVA was conducted, and the results of the additional analysis using only the Introduction to Business, Case Studies in Business, Business Law and the Managerial Finance courses did support the hypothesis. The univariate main effect of class level was significant, F (1, 58) = 7.120, p =.010, partial eta squared = .109. There was a significant mean difference in cultural intelligence scores between freshmen in Introduction to Business and sophomores in Case Studies in Business, Business Law, and Managerial Finance. The mean CQS score of sophomores was 4.2431 while the freshmen mean was 4.0315, resulting in a .2116 difference.

Research Question Two Findings in Additional Analysis

Research question two asked: Are there significant differences between students with and without cultural exposure on cultural intelligence scores? It was hypothesized that students who have moderate or high cultural exposure levels would have significantly higher cultural intelligence scores than students who have minimal or no cultural exposure. A 2 x 4 factorial ANOVA was conducted using freshmen in Introduction to Business and sophomores in Case Studies in Business, Business Law, and Managerial Finance, and the results supported the hypothesis. The univariate main effect of cultural exposure was significant, F (3, 58) = 8.007, $p < .001$, partial eta squared = .293. There was a significant mean difference in cultural intelligence scores depending on cultural exposure level (none, minimal, moderate, and high). Approximately 29% of the variance in cultural intelligence scores was explained by exposure level (none, minimal, moderate and high).

Because exposure has four levels, it is necessary to conduct follow-up tests for the significant main effects for cultural exposure using multiple comparisons. The largest difference in mean was 1.8071 between high exposure level and no exposure. The next largest mean difference was 1.6252 between high exposure level and minimal exposure level. Followed by the mean difference of 1.1435 between moderate exposure level and no exposure level and .9616 between moderate exposure level and minimal exposure level. The p values for tests of these differences were all less than .05. These results support the hypothesis that students with high or moderate levels of cultural exposure will have significantly higher levels of cultural intelligence than those with minimal or no cultural exposure.

Research Question Three Findings Additional Analysis

Research question three asked: Is there an interaction between the levels of the two independent variables of the investigation—student's educational level (freshman, sophomore) and cultural exposure (none, minimal, moderate, high)—on the dependent variable of cultural intelligence scores? It was hypothesized that there would be a significant interaction between class level and cultural exposure level on cultural intelligence scores. Using only the freshman students in Introduction to Business courses and the sophomore students in Case Studies in Business, Business Law, and Managerial Finance courses, a 2 x 4 ANOVA was conducted and the results did not support the hypothesis. The interaction of class level and exposure level was not significant, F (3, 58) = 2.555, p = .064, partial eta squared = 0.117. The change in cultural intelligence scores based on exposure did not change depending on class level.

Summary

Globalization has resulted in the need for not only competent leaders but also leaders who have high levels of cultural intelligence. A review of the recent literature on leadership revealed a paucity of empirical research demonstrating causes and contributors to cultural intelligence, especially in the educational setting (Haigh, 2002; Knight, 2007; Rivera, Jr., 2010). Research indicates that a lack of cultural intelligence in business can contribute to the deterioration of relationships and operating performance in cross-border activities (Earley and Ang, 2003). This makes cultural intelligence skills of leaders and business professionals necessary. The problem this study investigated is higher education's challenge in improving cultural intelligence among business graduates. The current investigation adds to the literature on the development of cultural intelligence in the educational setting.

The community college was chosen as the locale for this research because community colleges serve nearly half of the undergraduate students in the United States (AACSB, 2011). The most recent data found, from 2008, showed 1167 community colleges in the United States enrolling over 12 million students. These numbers alone support the importance of community colleges in educating the workforce. In addition, the demand for a community college education is on the rise as tuition prices continue to increase at four-year institutions (McClenney, 2005).

Community colleges serve many roles. Among those roles are preparing students for transfer to a four-year college, preparing students to enter the workforce, and providing community and workforce development activities. As a result, community colleges must provide opportunities that align with the needs of the workforce. It is

because of these dynamics that the cultural intelligence scores of business administration students are significant and under examination in this study.

Of the variables included in this study, cultural exposure was found to be significant in contributing to differences in the cultural intelligence scores of business administration students. That is, business administration students who reported greater cultural exposure had higher cultural intelligence scores. The implications of this finding are important and may lead to recommendations for augmented cultural exposure opportunities for college students. The other independent variable, class level, was not found to be significant in the main analysis, yet was significant in the additional analysis. That is, in the current research, although sophomore business administration students had higher cultural intelligences scores than freshman, the difference was not significant across all courses. Yet, when only the freshmen in the Introduction to Business courses and the sophomores in the Case Studies in Business, Business Law, and Managerial Finance courses were analyzed, the difference was significant. This finding suggests that a year in school may be important in determining cultural intelligence and that prior exposure may be most salient. Indeed, the interaction between class level and exposure was not significant, indicating that cultural exposure does not depend on class level in determining cultural intelligence scores. In sum, the results of this study provide additional support that cultural exposure can lead to increased cultural intelligence scores among business administration students.

In Chapter 5 a summary of the results of the analyses will be presented along with a discussion of the conclusions from the findings as well as implications for practice, limitations of the study and implications for future research.

Chapter 5: Summary and Conclusions

The concept of cultural intelligence (CQ) has been the focus of current research, and Ang, Van Dyne, Koh, Ng, Templer, Tay, & Chandrasekar (2007) noted that "given the newness and novelty of the construct, empirical research on cultural intelligence is sparse albeit growing" (p. 101). Still, according to Crowne (2008), limited information is available describing what leads to the increase of cultural intelligence and what adds to higher levels of cultural intelligence. It is also unclear whether the traditional business curriculum can improve or is improving cultural intelligence scores of students. The focus of this research was to determine if class level and/or cultural exposure would lead to differences in the cultural intelligence scores of business administration students.

A quantitative approach and a causal comparative (quasi-experiment) design were used to answer the research questions. The quantitative data were collected over a three-week period via a demographic questionnaire (see Appendix B) and the 20-factor Cultural Intelligence Scale (Van Dyne et al., 2008). A 2 x 4 ANOVA was conducted to evaluate the main and interaction effects of the independent variables (class level and cultural exposure) on the dependent variable (cultural intelligence scores). The participants were 116 business administration students from a community college. A 2 x 4 factorial ANOVA was used to examine and describe differences between the independent variables of class level (freshman, sophomore) and cultural exposure (none, minimal, moderate, high) on the dependent variable of cultural intelligence scores, as measured by the CQS.

The purpose of the study was to determine whether there were differences in class level on cultural intelligence scores and in prior cultural exposure on cultural intelligence

scores, and whether there was an interaction between class level and cultural exposure on cultural intelligence scores. It was hypothesized that sophomore students would have higher cultural intelligences scores, that students with greater cultural exposure would have higher cultural intelligence scores, and that there would be an interaction between class level and cultural exposure on cultural intelligence scores.

Review and Discussion of the Principal Conclusions of the Study

The results from the current investigation demonstrate that cultural exposure is a significant contributor to differences in cultural intelligence scores of business administration students. That is, business administration students who reported greater cultural exposure had significantly higher cultural intelligence scores. The other independent variable class level was not found to be significant in the main analysis. That is, in the current research although sophomores had higher CQS scores than freshman, this difference was not found to be significant. Yet, when only freshman students in Introduction to Business courses and sophomore students in Case Studies in Business, Business Law, and Managerial Finance were used in an additional analysis, the results were found to be significant. The interaction between class level and exposure was not significant in either analysis (main or additional), indicating that cultural exposure does not depend on class level in determining cultural intelligence scores. In sum, the results of this study provide additional support that class level and cultural exposure can lead to increased cultural intelligence score among business administration students.

Research Question One: Class Level and Cultural Intelligence Scores

The purpose of the first research question was to evaluate the difference that class level made on the overall cultural intelligence scores of business administration students.

It was predicted that sophomore students would have higher cultural intelligence scores. Although sophomores did have a higher overall CQS score than freshmen, this difference was not statistically significant. Therefore, the research hypothesis was not supported. As a result of this information, the null hypothesis (there were no significant differences in cultural intelligence scores, depending on class level) was retained.

An additional analysis was conducted using only freshman students in Introduction to Business courses and sophomore students in Case Studies in Business, Business Law, and Managerial Finance courses. The results of this analysis found a significant difference in CQS scores between class levels.

There has been limited research on cultural intelligence and its development during higher education experiences in a business program. To the researcher's knowledge, this investigation was the first to compare class levels on cultural intelligence scores at a community college. However, comparisons of this finding to related literatures may be made.

In a recent dissertation titled *Cultural intelligence: An examination of predictive relationships in a study abroad population* (Banning, 2011), degree level (undergraduate and graduate) was found to be a predictor of all four levels of cultural intelligence. The objective of Banning's study was to determine the extent that gender, degree level, major, and previous international travel experience could predict levels of cultural intelligence. The results suggested that graduate students scored significantly lower than undergraduate students on all measures of cultural intelligence. Although the results were in the opposite direction of those predicted, the author attributed the higher cultural intelligence scores of undergraduate students to the fact that they are on campus and are

provided more opportunities for cultural experience and travel abroad.

In the current investigation there were no significant class level differences between freshman and sophomore students in a community college until the sample was broken down to only freshmen in Introduction to Business courses and sophomores in Case Studies, Business Law, or Managerial Finance. This finding differs from Banning (2011); however, this may or may not be related to the school setting selected for this research. A community college is different from a tradition four-year college in many ways. Over 80% of all community college students are employed (AACSB, 2011) and a majority of them plan to use their degree to improve their career opportunities. Within the study of business administration, the need for high levels of cultural intelligence is undeniable for community college students entering the workforce after graduation. With business administration, community college students entering the workforce after graduating with a two-year degree, the need for high levels of cultural intelligence is undeniable. As can be seen, these students should be internationally aware because their success and that of the companies for which they will work will depend upon it. Simandiraki (2006) agreed that an education that lacks content about the global world and neglects the development of skills necessary to interrelate in a global society is deficient.

Although there is a paucity of empirical evidence on the efficacy of class level on cultural intelligence, an accumulation of research indicates higher education administrators have taken steps to improve efforts toward upgrading the cultural knowledge of students. It is presumed that as students progress further in their

educational careers, these steps will result in class level differences; however, the current results do not support this presumption.

According to Hser (2005) schools have begun to increase international activities, improve student and faculty exchanges, and revise mission statements and goals to involve a global perspective. Hser maintained that college mission statements should contain verbiage about improving intercultural knowledge and building global understanding. More recent strategies include the addition of international, multicultural, or global components and content to the curriculum (AACU, 2007). In the current research for this dissertation, sophomore business administration students had higher cultural intelligences scores than freshmen, but the difference was not significant. This, however, could be changed through the implementation of the class level strategies to improve cultural intelligence.

The intent of the current investigation was not to examine the impact of such strategies on cultural intelligence; however it could be hypothesized that the increase in exposure of such strategies over time would result in higher cultural intelligence. Earley and Peterson (2004) suggested that intercultural training be designed around the unique capabilities of an individual to adapt and respond in a new cultural setting reflected by the four facets of the cultural intelligence model. To deal with these limitations and supplement the current approach, Earley and Peterson (2004) introduced a new conceptual framework for intercultural training. Their approach identifies specific capabilities based on a model of cultural intelligence that portrays cultural intelligence traits as a relatively malleable collection of abilities that can be improved over time (Ang et al., 2007; Earley & Peterson, 2004). Although this research was conducted with

organizational training in mind, the same principles would apply to courses in higher education; however, additional research needs to be conducted on this topic.

Conclusions, discussions and implications. Although sophomores scored higher than freshmen on cultural intelligence scores, the mean difference was not significant. As the additional analysis supports, these findings do not imply that class level cannot contribute to improved cultural intelligence scores. The findings of both the main analysis and the additional analysis may lead to the future development of courses or activities to augment curriculum that may improve the cultural intelligence of students as they progress toward graduation. This is not a new idea. Thirty-five years ago, the American Assembly of Collegiate Schools of Business (AACSB) required that international content be integrated into curriculum for all accredited business schools (Tarleton, 1977). Likewise, in 1977, the American Council on Education reported, "every manager should know the basics of international business." Today, the renamed AACSB-International standards state:

> Curricular content must assume that program graduates are prepared to assume business and management careers as appropriate to the learning goals of the program. Contents of the learning experiences provided by programs should be both current and relevant to the needs of business and management positions. This implies, for example, that present day curricula will prepare graduates to operate in a business environment that is global in scope. (AACSB, 2011)

McMurtrie (2007) confirmed that American colleges feel they must educate students about cultures and economies outside the country's borders. Lehman (2009) suggested

that the main strategies to facilitate this education of interactional activities include the promotion of globally engaged faculty, more students studying abroad, and more classes incorporating international components.

The current research conducted in the main analysis for this dissertation found no significant differences in cultural intelligence scores between freshman and sophomore business administration students. It was expected that cultural intelligence scores would increase with class level (sophomore scores would be higher than freshman scores). This was not the case. The additional analysis found significant differences between freshman and sophomore CQS scores. If business administration students (possible future leaders) are not improving their cultural intelligence scores as they progress through each class level of higher education, perhaps the curriculum should be designed in a way that fosters this improvement.

There are many activities that could be included at the class level that may improve cultural intelligence scores as a student progresses through courses. These include:

- increase international or cultural content in the course,
- require an interaction with someone of a different culture,
- involve students in cultural events on campus,
- partner with a foreign institution, and
- integrate country or culture reports into courses.

To further support this conclusion, more research is needed to determine which class level activities will increase cultural intelligence scores. Additional research at all levels of higher education is also needed. It is necessary to determine if cultural intelligence

scores would increase over a four-year period versus the two-year period used in this research.

Research Question Two: Cultural Exposure and Cultural Intelligence Scores

The purpose of the second research question was to determine whether the amount of cultural exposure produced differences on the cultural intelligence scores of business administration students. It was hypothesized that students with greater cultural exposure would have higher cultural intelligence scores. The results of the analysis supported this prediction. That is, there was a significant mean difference in cultural intelligence scores depending on exposure level (none, minimal, moderate, high). Since the main effect of exposure was significant, post hoc analyses were conducted. It was found that participants with a high level of cultural exposure had higher levels of cultural intelligence than those with no cultural exposure, minimal cultural exposure, and moderate exposure. As a result, the null hypothesis was rejected in favor of the alternative hypothesis that individuals with high levels of cultural exposure had higher cultural intelligence scores than individuals with lower cultural exposure. The additional analysis using only freshmen in Introduction to Business courses and sophomores in Case Studies in Business, Business Law, and Managerial Finance agreed with these findings.

Regarding the descriptive analysis, 47% (55) of the participants chose a moderate or high cultural exposure level (interactions with people from other countries/cultures such as family members, friends, co-workers, and classmates). This indicates that increased exposure to family members, co-workers, friends, and others from another country or culture can improve cultural intelligence scores.

The findings of the research for this dissertation are similar to the findings from previous research that revealed early childhood exposure to international experiences and living in different countries or in a multicultural, bilingual family atmosphere may help develop an attitude of openness, flexibility, cross-cultural knowledge, and the ability to relate to differences in work and social settings (Dalton, Deal, & Leslie, 2002).
Also as presented in the literature review of this study, there is some relationship between cultural exposure and cultural intelligence (Crowne, 2008; Dalton, Deal, & Leslie, 2002; Ng & Earley, 2006; Shannon & Begley, 2008).

The current findings also corroborate other studies (Crowne, 2008; Shannon & Begley, 2008) that have confirmed that individuals can increase their cultural intelligence in several ways such as by travelling, working, living, or studying abroad as well as regularly interacting with people from other cultures and learning additional languages. Another aspect introduced by Ng & Earley (2006) suggested that cultural intelligence could be improved through increased contact with people from different cultures. Overall, prior research suggests that augmented exposure opportunities are related to higher cultural intelligence, and the current research adds to this literature.

Not all researchers find that individuals who have more exposure have greater cultural intelligence. For example, Crowne (2008) revealed that participants who had traveled abroad for employment or education were found to have higher levels of cultural intelligence, but other types of exposure, such as vacationing, did not increase the participant's level of cultural intelligence. The research for this dissertation did not inquire about the nature of the exposure, so the findings of this investigation do not corroborate Crowne's research.

Conclusions, discussions and implications. The finding that cultural exposure level is associated with variation in cultural intelligence scores of business administration students is valuable to higher education as administrators design course content and curriculum for future business leaders. As students who reported higher exposure rates had significantly higher cultural intelligence scores, strategies to augment exposure should be recommended. The finding that cultural exposure level is associated with variations in cultural intelligence scores supports the inclusion of exposure enrichment activities in higher education in order to increase cultural intelligence of their students. Examples could include:

- increase study abroad programs,
- offer international internships,
- recruit foreign students,
- partner with foreign universities,
- hold international festivals,
- organize international or multicultural extracurricular activities
- invite international organization to advisory positions,
- arrange an international business advisory board
- introduce seminars in cultural awareness, and
- increase foreign language requirements.

Among these strategies, the addition of seminars in cultural awareness would be economical and simple to incorporate into the curriculum, possibly as a webinar that would not add to student time demands and would reach both face-to-face and online students. Many institutions are already committed to holding regular cultural events, but

the challenge is to increase student attendance. Incorporating the planning and attending of such events into a class curriculum could prove beneficial. Additional research should be conducted to determine which exposure activities result in the greatest gains in cultural intelligence scores.

Research Question Three: The Interaction of Cultural Exposure and Class Level on Cultural Intelligence

The purpose of the third research question was to determine whether there was a significant interaction between the two independent variables, class level and cultural exposure, on the dependent variable cultural intelligence scores. It was hypothesized that there would be a significant interaction; however, the results showed no significant interaction. That is, when based on exposure, the change in cultural intelligence scores did not vary depending on class level. The results of the additional analysis were similar, finding no significant interaction. As there is no previous research on this topic, this finding should be considered preliminary and additional research should be conducted to determine if other empirical evidence can be obtained that does not find linkages between class level and exposure with regard to cultural intelligence.

Conclusions, discussion, and implications. As presented in the literature review of this study, most of earlier research on cultural intelligence has focused on expatriate assignments, performance levels of overseas employees, and cross-cultural team performance (Templer, Tay, & Chandrasekar, 2006; Van Dyne, Ang & Koh, 2008). Even though more attention is being devoted to understanding the impact of cultural knowledge in higher education, additional research needs to be conducted on the interaction effect of class level and cultural exposure on cultural intelligence scores of

business students. Although there was no interaction effect in the current investigation, incorporating the suggestions provided earlier for improving cultural intelligence at the class level may increase opportunities for cultural intelligence and then an interaction effect may be evidenced. In addition, as there are a high number of part-time, working students enrolled, community colleges must address the challenge of engaging these students in cultural exposure activities. Additional research should be conducted to verify this. Also, additional research using four-year institutions and more than two class levels may yield an interaction effect between class and exposure.

Overall Concluding Observations and Recommendations

In the current investigation cultural exposure was found to be significant in contributing to differences in the cultural intelligence scores of business administration students. Specifically, business administration students who reported greater cultural exposure had higher cultural intelligence scores, thus supporting earlier research on this topic (Crowne, 2008; Dalton, Deal, & Leslie, 2002; Ng & Earley, 2006; Shannon & Begley, 2008). The other independent variable, class level, was not found to be significant and did support the closest research on this topic comparing graduate and undergraduate college students (Banning, 2011). In sum, the results of this study provide additional support that cultural exposure can lead to increased cultural intelligence scores among freshman and sophomore business administration students at a community college.

The results of this study corroborate and add to the literature on education and cultural intelligence, and may suggest that institutions of higher learning should promote augmented cultural information and exposure. This quantitative study will add to the

literature on global leadership, cultural exposure, and cultural intelligence. Because significant differences were not found in cultural intelligence between class levels, strategies to foster more educational opportunities can be recommended. Cultural exposure level resulted in differences in cultural intelligence scores, indicating that additional opportunities for cultural exposure expansion should be made.

Limitations

One limitation of this study is that the measurement was based on a self-report survey. Using a self-report survey increases the risk of receiving false answers. A false answer might have been obtained if the respondents provided answers they felt the researcher wanted to receive. Another source of a false answer is the participant providing a response that is not an accurate description of his or her capabilities at that time. To overcome this limitation in future research, an additional measurement could be added where the instructor or advisor of the student would rate the student based on the instructor's or advisor's own observations.

A second limitation concerns the scope of the sample. This sample included freshman and sophomore level business administration students in the midwestern United States. As a consequence, the results of the current investigation may not generalize to other geographic locations or other class levels of students. Future research should consider additional class levels to determine if differences exist in higher class levels. In addition, only participants who were college students at one community college were invited to participate in the study; therefore it is unknown if the results generalize to students at four-year schools or to individuals who are not in college. It is currently unclear how community colleges and four-year institutions compare in this area. If there

are differences between freshmen and sophomores at four-year institutions and those at community colleges, this result could suggest a deficit in community college program offerings. In future research, the cultural intelligence scores of students could be compared across more and different types of institutions. Finally, as the study was conducted at an American community college, it is not known how these results would compare to other international educational experiences of students. Future research in different settings would be instructive on this matter

There were also limitations related to the study materials. All participants were required to read English in order to complete the surveys. Although students from other countries may have completed the survey, only data from U.S. residents was utilized. Additionally, the time required completing the CQS and the demographic survey was approximately 20 minutes. This might have deterred some participants from taking ample time to read each statement so as to respond with the best answer at that time. The instrumental use of a Likert scale for responses can lead to different interpretations regarding the gaps between each space on the scale. A suggestion to avoid this limitation in future research is to provide clear descriptions of the differences between each level in the Likert scale. Finally, as the independent variables were not manipulated, causality cannot be determined in the current investigation.

Operational Application of Findings

The importance of learning about different cultures is something that cannot be denied. Institutions of higher education should consider the advancement of cultural knowledge of all of their students, especially those who will be future global leaders. The results of the current investigation demonstrate that differences in self-rated quantity

of exposure to other cultures results in significant differences in cultural intelligence scores. As a consequence, strategies to augment cultural exposure, especially at the community college level should be implemented.

Within the college setting, international students and faculty can be utilized to improve the cultural intelligence of American students. Encouraging international students and faculty to communicate with U.S. students may result in mutually beneficial relationships for all groups. Such encouragement can be made through the development of international relation committees. Committees for curriculum advancement should also consider ways in which to increase cultural exposure (i.e., inviting international guest speakers, using technology to connect with people of different cultures, and presenting interviews with people from a different country).

Efforts to improve cultural intelligence as a student progresses thorough each class level in college should also be considered. Examples of practices that higher education can employ are: scheduling internationally-focused for-credit seminars, increasing foreign language requirements, adding more required international content to each course's curriculum, encouraging faculty to add international discussions to their courses, developing more required courses with a focus on international perspectives, and offering international internships for course credit. Finally, study abroad opportunities at the community college level should be implemented and funding for their participation explored.

This research supports the use of increased cultural exposure in higher education. The lack of significance of class level to cultural intelligence scores also provides insight that could be useful regarding the development of students as they take course work and

progress toward graduation. Business and other organizations have made it clear they need leaders who are prepared to work and lead in this global domain. As community colleges are invested in preparing students for adaptation in business, it is necessary to align community college programs with the requested needs of business and industry as it affects competitiveness of organizations (Pauley, 2001).

Implications for Future Research

The aim of this research was to provide a foundation for future studies on the topic of cultural intelligence in business and other students in higher education. The results of this study provided insight into several potential areas of further research. There are numerous reasons for analyzing cultural intelligence in higher education. The next step in research might be to assess longitudinal data within the business administration program at this community college to evaluate changes in cultural intelligence scores of students over time. Additional data could be collected from the students regarding newly created assignments to determine which assignments and/or experiences are found to be most meaningful.

Researchers who wish to advance the research presented by this study could use this same design at a four-year institution or study a different population of students. Other universities could replicate this study internationally. Another opportunity would be to use a pre-test–post-test experimental design with an international business program or management program to evaluate the efficacy of exposure strategies. The format of this research could be replicated at the same community college or another institution of higher education with the addition of an interview component or observation component. The interview would allow the researcher to collect more detailed information on how a

student functions in another culture, as well as how community colleges and four-year institutions compare in these constructs. An observation component could be added to this research. In this instance, the student would be observed during intercultural interactions.

Although demographic data were collected in this study, it was not used to determine differences in cultural intelligence across demographic samples. Furthermore, data were collected regarding students' previous experience living or visiting another culture. This data could be used as a variable in future studies. Finally, a future analysis could focus on the relationship between students' CQS scores and their success in business internships.

Summary

Recently, there has been an increase in attention to global leadership and cultural intelligence. The literature review demonstrated that there is a relationship between success in a global environment and high levels of cultural intelligence. Institutions of higher education should be concerned about the cultural intelligence of their students because they will be living and working in a global economy. Since cultural exposure was found to influence cultural intelligence scores, preparation of future leaders should include undergraduate work that changes thinking, reactions, and behaviors regarding different cultures (Earley & Ang 2003).

A community college was chosen as the locale for this research because community colleges serve to prepare students for a career. Students who want to enter the workforce upon graduation usually seek an associate in applied science (A.A.S.) degree, the community colleges' terminal degree. Students on this degree path are more likely to

take fewer general education courses than students at a four-year institution. In this instance, foreign languages probably will not be required. Besides degree paths, other tracks available at a community college include: transfer degree, certification, personal enrichment, workforce development, and remediation.

Community colleges enroll more part-time students (60%) than four-year colleges (26%) (AACSB, 2011). Over 80% of all community college students work while going to school (AACSB, 2011), and unlike four-year colleges, most community colleges do not offer student housing. This inhibits social interaction among students. The aforementioned facts contribute to the challenge of engaging community college students in extracurricular activities and cultural events.

Furthermore, the 1167 community colleges in the United States enroll more than 12 million students. These numbers alone support the importance of community colleges in educating the workforce. In addition, the demand for a community college education is on the rise as tuition continues to increase at four-year institutions (McClenney, 2005). As can be seen, community colleges serve many roles. Among those roles are preparing students for transfer to a four-year college, preparing students to enter the workforce, and providing community and workforce development activities.

With this added responsibility of preparing students for the workforce within a limited frame, community colleges must provide opportunities that align with the needs of the workforce. It is crucial that business administration students in community colleges receive adequate class-level cultural knowledge and increased cultural exposure opportunities if they are to be considered competitive in the marketplace.

In this age of increased globalization, the current study provides useful data to improve the cultural intelligence of students in higher education. Effective leadership and management programs will facilitate learning through experience and exposure to improve students' growth and development in cultural intelligence. Higher education should consider mandatory courses and activities that increase cultural knowledge and opportunities for increased cultural exposure to improve cultural intelligence scores of students. This, in turn, will improve the supply of global managers who can successfully manage and interact across various cultures.

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Appendix A

Developments in Cultural Intelligence

Source	Definition of CQ	Constituent Elements	Outcomes/Applications
Earley, 2002; Earley & Ang, 2003	"…a person's capability to adapt effectively to new cultural contexts."	Cognitive/Metacognitive Motivational Behavioral	Global assignments success Diversity assignment Training methods
Thomas & Inkson, 2003	"…involves understanding the fundamentals of intercultural interaction, developing a mindful approach to intercultural interactions, and finally building adaptive skills and a repertoire of behavior so that one is effective in different intercultural situations."	Knowledge Mindfulness Behavioral Skills	Cross-cultural decision-making Cross-cultural communication Multi-cultural teams International career
Earley & Mosakowski, 2004	"…a seemingly natural ability to interpret someone's unfamiliar and ambiguous gestures in just the way that person's compatriots and colleagues would, even to mirror them."	Cognitive Physical Emotional/Motivational	Appropriate behavior in new cultures
Earley & Peterson, 2004	"…reflects a person's capability to gather, interpret,	Metacognitive/Cognitive Motivation	Intercultural training Multinational teams

	and act upon thee radically different cues to function effectively across cultural settings or in a multicultural situation."	Behavior	
Earley, Ang & Tan, 2006	"…person's capability for successful adaptation to new cultural settings, unfamiliar settings attributable to cultural context."	Cultural, strategic Thinking Motivation Behavior	Diversity assignments Global work assignments Global teams Global leadership
Thomas, 2006	"…the ability to interact effectively with people who are culturally different."	Knowledge Mindfulness behavior	Development assessment
Ang, et al., 2007	"…an individual's capability to function and manage effectively in culturally diverse settings."	Cognitive Metacognitive Motivation Behavior	Cultural judgment and decision making Cultural adaptation and performance

(Thomas, 2008, p. 126)

Appendix B

Personal Data Form

1) Please state your age in terms of years. _____

2) What is the gender to which you identify? (Circle one)

a – Male b – Female

3) What is your race/ethnicity? Circle one response or complete the category "other."
a - African American or Black
b - American Indian/Alaska Native
c - Asian
d- Native Hawaiian or other Pacific Islander
e - Caucasian or White
f - Latino/Hispanic
g - Non-Resident Alien
h - Other, please respond here: _____

4) Country of citizenship: _____

5) Country of residence if different that country of citizenship:_____

6) Please state the major you are presently pursuing. _____

7) Please indicate your class level. (Circle one)

a – Freshman c- Junior
b – Sophomore d- Senior

Approximately how many **college credit hours** (fill out only one below) have you taken (include the courses you are taking now)? Circle one below.

a- 1-15 credit hours including the course(s) you are taking in now
b- 16-30 credit hours including the course(s) you are taking in now
c- 31-45 credit hours including the course(s) you are taking now
d- 46-60 credit hours including the course(s) you are taking now
e- e- 61+

If you are unsure about the approximate number of credit hours, approximately how many college courses have you taken, including the course(s) you are taking now?

_____

What is your expected graduation date (month/year)? _____

8) Is English your primary language? (Circle one)

Yes No

If no, specify your primary language _____

If English is your primary language, have you ever taken foreign language courses? (Circle one)

Yes No

If you have taken foreign language courses, please fill out chart below.

Foreign Language Studied	# of years studied	High School or College

If you have taken a foreign language in both high school and college, list them on separate rows.

9) Have you taken BUSN 207 – International Business at [redacted] or any other college? (circle one)

Yes No

If yes, but not at [redacted], please explain_____

10) Please indicate your level of international experience. Please use the table below to list the countries you have visited/lived in, the length of time spent in that country and the purpose of the visit (ie. vacation/business/school/mission).

Country	Length of Visit	Purpose of visit

11) How would you rate your level of exposure to other cultures (please select one box below)? Examples of exposure can include interacting with people from other countries/cultures including family members, friends, co-workers, classmates.

- None (No exposure)
- Minimal (a few exposures) explain: _____

_____

- Moderate experience (more than a few exposures) explain:_____

  _____

- High (extensive exposure) explain: _____

  _____

Did you answer all of the questions? Please take the time to look back over the survey and check that every question is answered. Thank you for your time.

Appendix C

Cultural Intelligence Survey

Read each statement and select the response that best describes your capabilities. Select the answer that BEST describes you AS YOU REALLY ARE RIGHT NOW (1 = strongly disagree; 7 = strongly agree)

Questionnaire Items

CQ-Metacognitive:

1. I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.
2. I am conscious of the cultural knowledge I apply to cross-cultural interactions.
3. I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.
4. I check the accuracy of my cultural knowledge as I interact with people from different cultures.

CQ-Cognitive:

5. I know the legal and economic systems of other cultures.
6. I know the values and religious beliefs of other cultures.
7 . I know the marriage systems of other cultures.
8. I know the arts and crafts of other cultures.
9. I know the rules (e.g., grammar) of other languages.
10. I know the rules for expressing non-verbal behaviors in other cultures.

CQ-Motivation:

11. I enjoy interacting with people from different cultures.
12. I enjoy living in cultures that are unfamiliar to me.
13. I am confident that I can socialize with locals in a culture that is unfamiliar to me.
14. I am confident that I can get accustomed to the shopping conditions in a different culture.
15. I am sure I can deal with the stresses of adjusting to a culture that is new to me.

CQ-Behavior:

16. I change my verbal behavior (e.g., accent, tone) when a cross-cultural interaction requires it.
17. I change my non-verbal behavior when a cross-cultural situation requires it.

18. I use pause and silence differently to suit different cross-cultural situations.
19. I vary the rate of my speaking when a cross-cultural situation requires it.
20. I alter my facial expressions when a cross-cultural interaction requires it.

Appendix D

Invitation & Survey Procedures

Dear Business Administration Student,

Hello, my name is Stacey Little and I am a doctoral student studying Global Leadership at Indiana Tech. The purpose of this e-mail is to invite you to participate in my doctoral research study *The Impact of Educational Levels and Cultural Exposure on Cultural Intelligence of Business Administration Community College Students.* The purpose of this study is to describe the difference that class level and cultural exposure have on cultural intelligence scores of business administration students.

Your contribution to this study is valuable as we seek information to improve the development of future global leaders. If you agree to participate in this study you will be asked to respond to a questionnaire. The survey will take you 15–20 minutes to complete. Your participation in this study is voluntary and will be kept confidential.

If you decide to take the survey keep in mind that there are no correct answers. Please choose the answer that you feel best describes you at the time you take the survey. If you have any questions regarding the study or the survey please contact either my supervising faculty member or me. Our contact information can be found below. Thank you for your participation in this study.

Supervising Faculty
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Appendix E

Informed Consent

Dear Business Administration Student,

I am a doctoral student in a Global Leadership program at Indiana Tech in Fort Wayne, Indiana. You are invited to participate in this study because you are enrolled in the Business Administration program at [redacted] Community College in [redacted]. This study will evaluate classroom learning experience and cultural exposure on Cultural Intelligence Scores.

Participation in this study will involve taking a Cultural Intelligence Survey known as the Cultural Intelligence Scale (CQS). Participation in this study will require approximately 20 minutes of your time. All information obtained from you will be kept confidential, and none of your responses on the CQS will be shared with any other individual or with your college.

By signing this letter you are agreeing to participate in this study. You are not required to participate. Even if you do agree to participate and then later change your mind, you may discontinue participation at any time. If you have any questions about this study, you can contact the supervising faculty member or me at any time. Our contact information is provided below.

The Institutional Review Board at Indiana Tech reserves the right to access all informed consent forms. All material from this study will be kept in a locked file cabinet in my home. Informed consent and any identifying information will be kept separate from the data (your responses on the CQS). Records indicating your participation in this study will be shredded after five years.

The results from this research will be published in my dissertation and may later be published in journal articles or other publications. The results of this study will be given to [redacted] Community College. You may request a copy of the findings of this study by stating so at the end of this form.

You have been provided with two copies of this form. Please sign them both, return one to me and keep the other for your records. If you have any questions about your rights as a participant you can contact the supervising faculty member or me. Again, if you would like a summary of the findings, please fill out the information below.

Sincerely,

Stacey Little

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Researcher
Stacey Little
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I state that I am over 18 years of age, in good physical health and wish to participate in a program of research conducted by Stacey Little at Indiana Tech, Fort Wayne, Indiana. I _____ give Stacey Little permission to use my research data her research. I understand that participation in this study is voluntary.

Printed Name Signature Date

Yes, please send me a copy of the summary of the findings.

Name – please print

Address

Appendix F

Permission for CQS

To: Dr. Linn Van Dyne
College of Business
Michigan State University

From: Stacey Little
PhD Candidate, Indiana Institute of Technology

Re: Permission to use existing instrument

October 25, 2011

Dear Dr. Van Dyne,

The purpose of this letter is to ask permission to use the Cultural Intelligence Scale (CQS) in my dissertation research. I have visited the Cultural Intelligence Center's website and have read the permission statement regarding academic research. I still wanted to inform you of my desire to use the scale to measure cultural intelligence of community college students in a business program and to seek your approval. Thank you for your time.

Sincerely,
Stacey Little