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## The influence of selected demographic and biographical characteristics on the level of cultural intelligence among mid-level managers of home health care systems in the United States

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**THE INFLUENCE OF SELECTED DEMOGRAPHIC AND  
BIOGRAPHICAL CHARACTERISTICS ON THE LEVEL OF CULTURAL  
INTELLIGENCE AMONG MID-LEVEL MANAGERS OF HOME  
HEALTH CARE SYSTEMS IN THE UNITED STATES**

A Dissertation

Submitted to the Graduate Faculty of the  
Louisiana State University and  
Agricultural and Mechanical College  
in partial fulfillment of the  
requirements for the degree of  
Doctor of Philosophy

in

The School of Human Resource Education  
and Workforce Development

by

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May 2011

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## **DEDICATION**

This dissertation is dedicated to Elizaty Hall, Ricardo Washington, and Germaine Williams, three people who, unknowingly have inspired me and transformed who I am. Because of these remarkable individuals, I have a clearer appreciation of the interconnectedness of humanity and a deeper sense of the significance of individual value. We all have gifts and talents that are unique to us as individuals. The value we add to this world is dependent on how well we, as individuals, make daily use of those gifts and how well we value others for their gifts and talents.

Elizaty Hall taught me that strength comes from within. Other's opinions or perceptions are unimportant. What matters most in life is perseverance and continual pursuit in serving of our God-given purpose even in the face of adversity. Elizaty had a difficult life and never knew the profound impact she made on my life. Her struggles are a reminder that life is never easy and our ability to touch others come in the most unusual and, often painful, times. Never give up!

Ricardo showed me that everyone has unique, individual gifts that are just right for each one of us. I learned from Ricardo that my gifts are no better than others, just different. He showed me that everyone brings value to this world in a unique way. Being able to see the value in others is most important. Unfortunately, fear or bias towards others prevents us from seeing that unique value. Working with Ricardo opened my eyes (and mind) to the way I frame the decisions and judgments I make of others. I realized I needed to explore my mental models and better understand the bases on which I judge others.

Working with Ricardo also included spending time with Germaine. They were always together. Germaine taught me how to find joy in anything: always smiling and laughing. When

times are hard, stay positive and look on the bright side. Enjoy the challenges and you will enjoy the journey.

To close, this dissertation is dedicated to these three unspoken heroes who have played a key role in defining my passion: understanding and appreciating the value of each individual person in this world. When we are able to see each other's value, we tap into a powerful new appreciation for people that can be the impetus for us to motivate and encourage others to achieve dreams never imagined. Being able to see the value in others first requires an understanding of who we are and how our cultural experiences shape the way we think of others. This doctoral study is my first step in exploring 'cultural intelligence' and how this unique form of intelligence can be used to help understand how we think about others. Thank you again to Elizaty, Ricardo, and Germaine for shaping and molding me. I am forever grateful.

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The strength to complete this experience was solely divine. I cannot take personal credit. Prayer guided me and God's extraordinary power enabled me to make this a reality. My husband, Greg patiently endured this dissertation and sacrificed countless weekends, evenings, hunting seasons, and holidays for me. While I was researching or writing, he spent countless hours at the park or playing in the front yard with our children. He prepared and hosted many meals alone while I worked feverishly at Highland Coffees. Spending over 80% of our marriage in school, he has loved and encouraged me through the experience! His unselfish commitment to me surpasses anything I could ever imagine. His support through this dissertation has shown me how to place a value on true love.

My mother, Ann, put her life on hold for me to finish this dissertation. She put aside everything to make sure my children were cared for, food was in the pantry, clothes were clean, presents were bought, and most importantly, to make sure my children were loved in my absence. Encouraging me when I didn't have the strength to move on, pushing me to do my best, and calming me down when anxiety struck, she is a gentle giant and I will NEVER know how to repay her for her support.

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## **ABSTRACT**

Disparities exist in health care quality among racial and ethnic minority groups. Minority Americans receive lower quality health care than non-minorities even after adjustment for insurance status and income. A leading cause of these disparities is the biases and prejudices of health care providers. The primary purpose of this study was to determine if a relationship exists between levels of cultural intelligence (CQ) and selected demographic and biographical characteristics among mid-level managers of home health care systems throughout the United States. This research provides an understanding of factors influencing cultural intelligence among site directors in home health care.

An examination of selected characteristics to determine their relationship with CQ revealed 13 variables related to overall cultural intelligence levels. International experience presented the strongest relationship with cultural intelligence, a finding consistent with prior literature. Regional variation was found between cultural intelligence levels of site directors in the East South Central division and the West South Central, South Atlantic, and Pacific divisions. Three clinical specialty areas including case management, general nursing practice, and nurse executive also related to cultural intelligence.

Results found five models existed that explain a significant portion of the variance in each of four subscales and overall cultural intelligence levels. Characteristics that positively related in multiple models included prior international work experience and duration of international work and non-work experience. Prior clinical experience in general nursing positively correlated to cultural intelligence in four of the models, and a negative relationship between the East South Central division and cultural intelligence existed in four models. These

results provide insight on antecedents of cultural intelligence and allow for greater understanding of cultural intelligence within the context of health care.

# **CHAPTER 1**

## **INTRODUCTION**

### **Rationale**

Health care is a common denominator among all Americans, affecting everyone at a personal level. Yet despite its personal impact, health care also systemically impacts the country. Guterman, Davis, Stremikis, and Drake (2010) note the three key issues impacting health care are cost, quality and access to care. In 2009, health care costs totaled approximately \$2.5 trillion in the United States, about \$8,160 per resident, the second most expensive per capita in the world (Centers for Medicare and Medicaid Services, 2008). National health expenditure data, as cited in Truffer et al. (2010), reveals overall health care spending accounted for 17.3% of GDP in 2009, rising 1.1% from 2008. This jump represented the largest one-year increase since the federal government began keeping track in 1960 (Truffer et al., 2010). While national health care spending has grown consistently faster than the economy, individual premiums have also risen faster than the rate of inflation forcing Americans to pay disproportionate out of pocket costs relative to their income (Connors & Gostin, 2010). Between 1999 and 2008, health insurance premiums rose 119%, compared to a 29% cumulative inflation growth and 34% cumulative wage growth (Henry J. Kaiser Family Foundation, 2009). Compounding the problem, future projections predict health care spending to top \$4.3 trillion, or \$13,100 per resident, accounting for 19.3% of GDP by 2019 (Truffer et al., 2010).

In addition to the rising costs, significant gaps in the current system prevent many individuals from having access to health care. In 2008, 46 million people were uninsured (representing 15% of the population) and 25 million people in the United States were underinsured (Connors & Gostin, 2010). In addition to challenges with lack of access, quality outcomes are also compromised. America ranks 37 out of 191 countries in health care system

performance, despite the extraordinary resources spent on health care (World Health Organization, 2000). The gross national per capita income in the United States is \$46,790, quadruple the global average of \$10,307. Yet the per capita health care costs in the United States are twice that of other industrialized countries (World Health Organization, 2000). Clearly, the United States lacks a health care system that is high quality, accessible, and affordable (Edwards, Jumper-Thurman, Plested, E.R., & Swanson, 2000). Unfortunately, racial and ethnic minorities are disproportionately impacted by the ills plaguing health care in the United States (Johnson, Saha, Abelaez, Beach, & Cooper, 2004). Health and health care are unevenly distributed in the United States, and minority Americans are likely to get less of both within the current system (Long, Chang, Ibrahim, & Asch, 2004).

In 2010, President Obama signed into law the Patient Protection and Affordable Care Act, a package of comprehensive health care reform legislation in an effort to overhaul the current health care system. Oberlander (2010) noted the legislation is considered the most drastic reform since the inception of Medicare and Medicaid. Connors and Gostin (2010) summarized the legislation as expanding health insurance coverage for an additional 32 million Americans, expanding Medicaid coverage, creating state-run health insurance exchanges, removing coverage barriers (including preexisting medical conditions and lifetime max benefit caps), and closing the Part D drug benefit coverage gap for elderly beneficiaries. Cutler (2010) noted the Act was also designed to modernize the delivery of health care services via innovation and improve the quality of health care. Designed to curtail spending, expand access, and improve quality, the Act has led to a “new national paradigm of near-universal health care coverage” (Hall, 2010, p.1176).

## **Racial and Ethnic Disparities in Health Care Quality**

While the reform legislation imposes a regulatory framework to address flaws in the current system, an overarching issue remains. Chin, Walters, Cook and Huang (2007) note that racial and ethnic minorities receive lower quality health care than white patients. Frequently referred to as racial and ethnic disparities, the term, disparities, refers to “differences in the quality of health care that are not due to access-related factors or clinical needs, preferences, or appropriateness of intervention” (Smedley, Stith, & Nelson, 2003, p.3).

Recognizing the significance and impact of racial and ethnic disparities on health care in United States, Congress mandated the National Health Disparities Report, an annual nationwide examination of disparities that identifies and tracks differences or gaps in health care. The 2009 Report results revealed African Americans receive poorer quality of care in 20 essential measures as compared to whites in 50% of the core measures, Hispanics 70%, Asians 30%, American Indians and Alaska Natives 45% (Agency for Health Care Research and Quality [AHRQ], 2009).

In the report, *Unequal Treatment: Confronting Racial/Ethnic Disparities in Health Care*, the Institute of Medicine identified over 175 studies documenting racial and ethnic disparities, even when analyses controlled for socioeconomic status, insurance status, site of care, stage of disease, co-morbidity, and age (Smedley et al., 2003). Findings revealed African Americans are less likely to receive appropriate cardiac medication or to undergo coronary artery bypass surgery, are less likely to receive dialysis and kidney transplantation, and likely to receive a lower quality of basic clinical services, including intensive care even when variations in factors including insurance status, income, age, co-morbid conditions and symptom expression are taken into account (Smedley et al., 2003).

The Institute of Medicine report has drawn significant attention to the issues of racial and ethnic disparity. One key contribution of the report is the integrated model of health care disparities. This model identifies the patient and system level factors contributing to racial and ethnic disparity (Smedley et al., 2003). In the model, patient input, which includes medical history and patient preferences, and data which includes physical examinations and diagnostic test results, are interpreted, subject to the health care provider's perception and knowledge of diagnostic alternatives. Following interpretation, an intervention is designed, often with uncertainty in regards to efficacy. Throughout the interpretation and intervention phase, certain factors shape the health care experience including social, economic and cultural influences such as financial incentives, institutional design, legal and environmental factors. Provider stereotyping and prejudice, both conscious and unconscious, shape the outcomes and the experience for a patient, often resulting in clinically disparate decisions. This integrated model highlights the personal discretion of providers (Smedley et al., 2003).

Root causes of racial and ethnic disparities may not be fully clear (Saha, Arbelaez, & Cooper, 2003). Kumanyika and Morssink (2006) suggested the issues are rooted in deeper, more complex societal issues and are part of a larger picture of disparities across social strata. They further noted that "Our national history regarding social disparities is shameful, stagnant, and revealing strong paradoxes between the lived reality of people in lower social strata and the expressed ethical ideals and moral values related to equity and opportunity" (p.441).

Disparities are likely to worsen as little progress has been made toward eliminating racial and ethnic disparities (American College of Physicians, 2004). Chin et al. (2004) noted "the United States still has a great distance to travel before racial and ethnic disparities in care can be eliminated, and relatively few projects have studied how to specifically reduce these differences" (p.19). If unaddressed, health care disparities will not only be difficult to eliminate, but will also

be magnified with the increase in the population of minority groups in the United States (Smith et al., 2007).

### **Role of Home Health Care in Addressing Quality Disparities**

Home health care is a unique segment of the health care system in that care is delivered in a residential environment as opposed to an institutional facility (Wolff, Meadow, Weiss, Boyd & Leff, 2008). Home health care provides care to individuals with acute illnesses, long term health conditions, permanent disabilities, or terminal illnesses (National Association of Home Care and Hospice, 2010). Additionally, home health care plays a role in managing HIV/AIDs, hospice, and pediatric patients, and patients at a distance between medical facilities, serving approximately 12 million patients annually (National Association of Home Care and Hospice, 2010). Wolff et al. (2008) found that Medicare home health patients are medically complex with substantial health needs.

Delivering health care in a patient's unique home environment allows home health care providers to capture data unavailable to other providers and may reveal other unique factors that influence disparities in quality. Encounters in home health care may play a role in addressing the issue of provider perceptions of clinical signs and symptoms presented in the integrated disparities model (Smedley et al., 2003). All Medicare-certified home health care providers are required to perform a comprehensive medical, social, and environmental assessment known as OASIS, the Outcome and Assessment Information Set (Wolff et al., 2008). The information collected by a home health care provider can then be used to assist physicians and other health care providers to better understand etiology and other factors influencing a patient's clinical symptoms. A more thorough understanding of a patient's health status provided by this additional information may positively influence the selection of appropriate, patient-centered clinical interventions.



## **The Role of Health Care Managers and Leaders**

An organization's will to change and ability to turn visions into reality within the current state of health care is important in addressing disparities (Tan, 2004). Dreachslin and Hobby (2008) contend that "disparities can be reduced through the focused and dedication action of leaders and organizations that excel in the context of diversity" (p.13). The leadership role of nurse managers who oversee clinicians is important in relation to their contributions to staff attitudes and relationships (McGuire and Kennerly, 2006). Clinicians rely on the manager's clinical expertise and leadership abilities (McGuire & Kennerly, 2006) for guidance and direction when caring for patients, highlighting the importance of leadership that influences and motivates others to work toward the goal of achieving high quality health care (Sellgren, Ekvall, Tomson, & Goran, 2006). Griffer and Perlis (2007) noted, "one of the biggest challenges in the 21<sup>st</sup>-century workplace is the increasingly global complexity that requires employees at all levels of an organization to function effectively in ever-changing multicultural settings and diverse situations" (p.28). Dreachslin and Hobby (2008) urge that minimizing racial and ethnic disparities requires leaders who "create an organizational context in which cultural competence is enabled, cultivated, and reinforced" (p.8).

## **Cultural Competence in Health Care**

The concept of cultural competence has emerged as an important strategy in addressing health care disparities (Saha, Beach, & Cooper, 2008). Betancourt, Green, Carrillo, and Park (2005) noted an overarching goal of cultural competence is to create a health care system and a workforce capable of delivering the highest quality care to every patient regardless of race, ethnicity, culture or language. While there is no single definition universally accepted for the term, several definitions have emerged (Betancourt, Green, Carrillo & Ananeh-Firempong, 2003; Johnson, Saha, Abelaez, Beach, & Cooper, 2004; Campinha-Bacote, 2002). Betancourt et al.

(2005) suggest that achieving cultural competence for health care professionals has overall positive implications for improving the quality of health care delivered to racial and minority groups. Hence, the movement toward cultural competence in health care has gained national attention (Betancourt et al., 2003).

### **Cultural Intelligence**

A relatively new concept known as cultural intelligence has emerged to better understand how individuals interact in culturally diverse settings (Thomas, 2006). A multi-dimensional construct, cultural intelligence (CQ) refers to an individual's capability to function and manage effectively in culturally diverse settings (Ang et al., 2007). The concept focuses on an individual's capabilities to grasp, reason, and behave effectively in culturally diverse contexts within the scope of four key dimensions: meta-cognitive, cognitive, motivational, and behavioral (Ang et al., 2007).

The first dimension, meta-cognitive cultural intelligence, refers to the mental processes that an individual uses to acquire and understand cultural knowledge, including knowledge of and control over thought processes relating to culture (Earley & Peterson, 2004). Earley, Ang, and Tan (2006) described those with high meta-cognitive cultural intelligence as being aware of others' cultural preferences, and also having the ability to question cultural assumptions and adjust their mental models both during and after interactions.

Cognitive cultural intelligence is the second dimension of CQ. It refers to the knowledge of norms, practices, and conventions in different cultures acquired from education and personal experiences (Earley & Mosakowski, 2004), including knowledge of economic, legal, and social systems of different cultures as well as cultural values. Earley and Peterson (2004) noted that a high level of cognitive cultural intelligence reveals an understanding of the similarities and differences across cultures.

A third dimension of CQ is motivation cultural intelligence. This construct reflects an individuals' capability to direct attention and energy toward learning about and functioning in situations characterized by cultural differences (Earley & Ang, 2003). Earley and Ang (2003) further describe individuals with high levels of motivational cultural intelligence as those who are intrinsically motivated to experience new and diverse cross-cultural experiences, enjoy interactions with people from different cultural backgrounds, and have a desire for mastery of situations involving cross-cultural experiences.

The final dimension is behavioral cultural intelligence, which reflects the capability to exhibit appropriate verbal and non-verbal actions when interacting with people from different cultures (Earley & Ang, 2003). Earley and Moskowski (2004) describe individuals with high levels of behavioral cultural intelligence as those who exhibit situationally appropriate behaviors based on their broad range of verbal and non-verbal capabilities, such as culturally appropriate words, tones, gestures, and facial expressions. Ang and Van Dyne (2008) note the union of these four dimensions, which represent different facets of cultural intelligence that may or may not correlate with one another, forms overall cultural intelligence.

Rooted in the domain of individual differences, cultural intelligence is defined as “a set of malleable, state-like abilities or capabilities that can be enhanced through experience, education, and training” (Ang & Van Dyne, 2008, p.10). Ang and Van Dyne (2008) further describe the nomological network of CQ, a model that describes the relationships between cultural intelligence and its antecedents, intervening constructs, as well as its outcomes. In the network, seven distal factors that are identified as antecedents of CQ include Big Five personality, core self-evaluation, ethnocentrism, need for closure, self-monitoring, demographics, and biographical information. Gelfand, Imai and Fehr (2008) describe the specific individual differences and situational factors related to the development of cultural

intelligence as need for control, openness to experience, language ability, and international experiences. While the concept is relatively new, CQ has shown promising results in predicting adjustment and performance outcomes in multicultural situations (Ang et al., 2007).

Cultural intelligence (CQ) is distinctive from the concept of cultural competence. Many cultural competency constructs have focused on one or two of the cultural intelligence dimensions, rarely have they all been considered simultaneously and never as a unified construct (Gelfand et al., 2008). Ang and Van Dyne (2008) further describe the distinction between the two constructs noting that CQ is parsimonious, focusing on a small number of facets at a higher level as opposed to a larger number of dimensions at a more specific level. They further describe CQ as coherent, capturing a unified theoretical framework for the fragmented cultural competency construct, as well as multidisciplinary given that the construct can be applied in a variety of disciplines.

Gelfand et al. (2008) urge caution that the significant contributions of cultural competence must not be overlooked. The two concepts, cultural intelligence and cultural competence, must not be viewed as competing or mutually exclusive (Gelfand et al., 2008). Rather, cultural intelligence may provide more insight into the construct of cultural competence. Linking cultural competencies to the extant literature on intelligence may open up a new realm of possible phenomena to further explore cultural adaptation (Gelfand et al., 2008).

### **Purpose Statement**

The primary purpose of this study was to determine the influence of selected demographic and biographical characteristics on the level of cultural intelligence among mid-level managers of home health care systems throughout the United States. There is no known research to date on cultural intelligence within home health care systems; therefore, this study sought to provide a better understanding of the factors influencing cultural intelligence among

mid-level managers within home health care. Site directors in home health care are mid-level managers who oversee front-line clinicians and play a role in the delivery of health care services at home. Site directors are also responsible for overall operational unit performance including personnel oversight and quality of clinical care delivery.

The majority of cultural intelligence research has occurred in global work settings. Very little research has been performed in the context of domestic, multicultural settings, particularly in health care. Smedley et al. (2003) suggest that disparities in the quality of health care among racial and ethnic minorities are influenced by biases and prejudices of health care providers, and the leaders and managers in health care can influence the behavior of health care providers. Deductively, a leader's ability to function effectively in culturally diverse situations may influence the biases and prejudices of his/her followers, many of whom are direct health care providers. Understanding the variables that impact how well a leader or manager functions in culturally diverse situation within the context of health care may play an intervening role in addressing racial and ethnic disparities in the quality of health care in this country. Thus, the opportunity to further explore application of the construct within the context of health care was promising.

### **Objectives of the Study**

The specific research objectives that guided this study are:

1. To describe the research participants on selected demographic and biographical characteristics:
  - a. Age
  - b. Gender
  - c. Race/Ethnicity
  - d. Educational level

- e. Professional work experience
  - f. International experience- work and non-work
  - g. Language acquisition
  - h. Hobbies and personal interests
  - i. Volunteerism
  - j. Tenure within the organization
  - k. Geographic location
  - l. Worksite demographics
2. To determine the levels of cultural intelligence as measured by the scales of the 20-item Cultural Intelligence Scale (CQS) - Self Report. This instrument includes a measure of the four subscales of cultural intelligence including:
- a. Cultural Intelligence-Strategy (meta-cognitive)
  - b. Cultural Intelligence-Knowledge (cognitive)
  - c. Cultural Intelligence-Motivational
  - d. Cultural Intelligence-Behavioral
3. Determine if a relationship exists between levels of cultural intelligence and selected demographic and biographical characteristics including:
- a. Age
  - b. Gender
  - c. Race/Ethnicity
  - d. Educational level
  - e. Professional work experience
  - f. International experience - work and non-work
  - g. Language acquisition

- h. Hobbies and personal interests
  - i. Volunteerism
  - j. Tenure within the organization
  - k. Geographic location
  - l. Worksite demographics
- 4. Determine if a model exists that explains a significant portion of the variance in each of the subscales of cultural intelligence as measured by the CQS-Self Report from the following selected characteristics:
  - a. Age
  - b. Gender
  - c. Race/Ethnicity
  - d. Educational level
  - e. Professional work experience
  - f. International experience - work and non-work
  - g. Language acquisition
  - h. Hobbies and personal interests
  - i. Volunteerism
  - j. Tenure within the organization
  - k. Geographic location
  - l. Worksite demographics

### **Definitions of Terms**

The terms used in the study are operationally defined in this section by the researcher.

*Racial and ethnic minority populations* are defined as American Indian and Alaska Native, Asian American, Black or African American, Hispanic or Latino, and Native Hawaiian and Other Pacific Islander, Multi-Racial (people having origins in 2 or more of the categories) (OMB Guidance on Aggregation and Allocation of Data on Race for Use in Civil Rights Monitoring and Enforcement, 2000).

*Site Director* is defined as a mid-level manager of a home health care system; responsible for the supervision and oversight of front-line clinicians and overall operational unit performance including administrative personnel oversight and quality of clinical care delivery.



## **CHAPTER 2**

### **REVIEW OF LITERATURE**

This chapter is a review of research on disparities in health care and related interventions in the literature designed to address the issues associated with these disparities. Commencing the review is an examination of the literature exploring disparities in health care from a historical perspective. A review of the literature with an emphasis on disparities in the quality of health care among racial and ethnic minority groups followed. The literature was also reviewed for system level factors contributing to disparities in quality. Finally, an examination of the literature on the interventions seeking to address these disparities was followed by a review of literature on cultural intelligence.

#### **Overview of Disparities in Health Care**

Disparities exist throughout the health care system: across all dimensions of health care quality, across all dimensions of access to care, across many levels and types of care, across many clinical conditions, across many health care settings, and within many vulnerable subpopulations (Agency for Healthcare Quality and Quality [AHRQ], 2009). Racial and ethnic minorities, defined as American Indian and Alaska Native, Asian, black or African American, Hispanic or Latino, and Native Hawaiian/Other Pacific Islander (OMB Guidance on Aggregation and Allocation of Data on Race for Use in Civil Rights Monitoring and Enforcement, 2000) are disproportionately impacted by disparities (American College of Physicians, 2004). Even after adjustment for insurance status and income, racial and ethnic minorities tend to have less access to health care and lower quality health care than non-minorities (American College of Physicians, 2004). Significant differences exist between the quality of health care people should receive and the quality of care they actually receive in the health care system as highlighted in the report, Crossing the Quality Chasm (Institute of Medicine [IOM], 2001). Health care quality

is described as the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge (Institute of Medicine [IOM], 2001). In its report, the IOM recommended a fundamental redesign of the current health care system based on six principles of quality: safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity.

The term ‘racial and ethnic disparities in health care quality’ contains several definitions in the literature. Franks and Fiscella (2008) describe disparities as “a mismatch between need and care associated with membership in one socially identifiable and disadvantaged group compared with their non-disadvantaged counterpart” (p.672). A widely referenced definition throughout the literature is “racial or ethnic differences in the quality of health care that are not due to access related factors or clinical needs, preferences, and appropriateness of intervention” (Smedley et al., 2003, p. 3).

Evidence that minority Americans do not fare as well as the majority population in the U.S. health care system is well documented (Long, Chang, Ibrahim, & Asch, 2004). Smedley et al. (2003) found that minorities often receive a lower quality of care than their white counterparts even when insurance and socioeconomic status, co-morbidities, stage of presentation, and other factors are taken into account.

### **Historical Perspective on Disparities**

Racial and ethnic disparities in health care are rooted in deeper, more complex societal issues (Kumanyika & Morssink, 2006) and are described as historic and contemporary inequities (Smedley et al., 2003). Franks and Fiscella (2008) noted the fundamental root causes of disparities are inadequate schools, limited access to health care, poverty, and segregation. Dreachslin and Hobby (2008) support this observation noting that racial and ethnic disparities in health outcomes are driven not only by organizational behavior but also by social factors beyond

the control of any single health care organization. The Jim Crow practices that segregated patients by race are an example of the impact of the historical inequities (Smith, 2005).

Kumanyika and Morssink (2006) suggest that health care disparities are part of a larger picture of disparities across social strata.

The systemic nature of disparities has prompted cynicism as to whether or not full elimination is possible (Dreachslin & Hobby, 2008). However, the literature references organization-level factors to address the issues associated with disparities in quality among racial and ethnic minority groups (Dreachslin & Hobby, 2008). Smedley et al. (2003) note that systemic stakeholder support is needed to overcome the historical legacy of disparities. Aaron and Chesley (2003) suggested that more work is needed to understand the root causes of disparities and how these relate to the root causes of quality problems.

### **Sources of Disparities in Health Care**

There are several models that seek to explain the nature of disparities within the health care system. Chen et al. (2007) designed a conceptual model depicting the interactions that occur while individuals go back and forth between being persons in the community and patients in a health care system. This model describes events that occur in both settings that affect processes of care and outcomes. The variable nature of access to care is dependent on the linkages between communities and health care systems. While the model suggests this linkage may improve access to care and improve health status, Chin et al. (2007) further advocate that community and health care organizations exist to serve the individual person/patient. Inclusive in the model is the notion that social norms, which include subtle forms of racism, are inherent in both environments. Consistent with the literature on the origins of disparity, the model suggests that interactions of patients with providers, health care organizations and the community occur with a wider political and economic environment. Hence, government as well as nongovernment

entities influence the health care system through the creation of standards and payment mechanisms (Chin et al., 2007).

A widely recognized view of disparities in the literature classifies the presence of disparities in health care quality in three distinct domains: health system level, care process variables, and patient level variables (Smedley et al., 2003). At the health system level, factors that disproportionately impact racial and ethnic minority groups include the complexity as well as the fragmentation of health care (Smedley et al., 2003). At the care process level the factors that contribute to disparate quality include communication between patients and providers; provider behavior including bias and stereotyping; and the impact of race/ethnicity on clinical decision making as well as clinical uncertainty due to poor communication (Smedley et al., 2003). At the patient level, a patient's behavior which may include refusal of services, poor adherence to treatment plans, or delays in seeking care, are also influencing factors (Smedley et al., 2003).

Building upon these three domains, Smedley et al. (2003) describe the integrated model of disparities, a conceptual model that identifies patient and system level factors contributing to disparities in quality among racial and ethnic minorities. In the model, patient input, including medical history and patient preferences, and data, including physical examinations and diagnostic test results, are interpreted, subject to the health care provider's perception and knowledge of diagnostic alternatives. Following interpretation, an intervention is designed, often with uncertainty with respect to efficacy. The model suggests certain factors shape the experiences during the interpretation and intervention phase including social, economic and cultural influences such as financial incentives, institutional design, legal and environmental factors. The model further describes that provider stereotyping and prejudice, both conscious

and unconscious, shape the outcome of the experience. Personal discretion at the provider level also plays a role in determining the care that patients receive (Smedley et al., 2003).

At the provider level, the relationship among physicians and patients is most prevalent in the literature. Ashton et al. (2003) suggest that disparities can emerge from the context of the patient-doctor interaction. King et al. (2008) support this idea, noting that a physician's understanding and interpretation of information obtained from patients, as well as basic assumptions about the patients themselves, may contribute to racial and ethnic disparities. They reason that doctors make inferences about the severity of a patient's condition, partly from information obtained from the patient. Therefore, if doctors have trouble understanding or communicating with a patient, their decisions may not be the same for patients with similar conditions (King et al., 2008). This reinforces the notion that a doctor's decision-making process is nested in clinical uncertainty (King, et al., 2008).

A 2001 Commonwealth Fund study (as cited in King et al., 2008) found that minority patients experienced poorer patient-provider communications with physicians than did non-minority patients. While 19% of all patients had one or more problems with communication with the physician, whites experienced them 16% of the time, compared with 23% for African Americans, 33% for Hispanics, and 27% for Asian Americans. These barriers influence patient's perceptions of physicians. Doescher, Saver, Franks and Fiscella (2000) also found that patients from racial and ethnic minority groups had less positive perceptions of their physicians than did non-minority patients. This is consistent with the findings of Saha, Arbelaez, and Cooper (2003) noting that barriers to the patient-physician relationship contribute to racial disparities in health care. While the patient and physician relationship is highlighted in the literature, it is important to note the integrated disparities model is inclusive of all health care

providers (Smedley et al., 2003). Deductively, the importance of patient-provider relationships at the care process level extends beyond the patient-physician relationship.

As suggested in the integrated disparities model, provider stereotyping is another component at the care process level (Smedley et al., 2003). Stereotyping is defined as “the process by which people use social categories (e.g. race, age) when acquiring, processing, and recalling information about others” (King, et al., 2008, p.245). Drawing upon social cognitive theory, King et al. (2008) suggests natural tendencies to stereotype may influence clinical decision-making. Smedley et al. (2003) further note that different treatments may be prescribed for different patients if providers have assumptions, either conscious or unconscious, about the patient.

Trust is an important element highlighted in the literature at the patient level (Doescher et al., 2000). As suggested, disparities are rooted in social inequities beyond the scope of the health care system. Minorities in general lack trust in the health care system (King et al., 2008). King et al. (2008) describe manifestations of mistrust include a patients’ weariness in accepting or following recommendations, undergoing invasive procedures or participating in clinical research. King et al. (2008) found that patients who do not trust their provider have other outcomes as well including lower satisfaction, poorer continuity of care, greater utilization, increased propensity to self medicate and a higher demand for referrals and diagnostics.

### **Interventions to Eliminate Racial and Ethnic Disparities in Health Care**

There is an urgency to develop specific solutions that identify effective interventions and implement them to address disparities in health care quality among racial and ethnic minority groups (Chin et al., 2007). Further supporting this sense of urgency for solutions, Long et al. (2004) note, “While studies documenting disparities are valuable, greater advancement will be made through analytic work that seeks to understand the disparities and through studies that

implement and test interventions” (p. 811). King et al. (2008) note there are no simple solutions, rather a multidisciplinary, multi-method stepwise approach will likely be required securing the support of leadership, developing incentives, generating awareness and communication in a way that does not alienate key stakeholders. This supports the need for system level interventions as noted by (Franks et al., 2008). Further definition of a comprehensive multi-level strategy includes attending to the needs of health care providers and their patients, to the conditions of health care settings in which care takes place, to the broader policies and practices of health systems, and to state and federal policies that govern the operation of health systems (Smedley et al., 2003). Franks and Fiscella (2008) suggested there is an opportunity for managed care organizations to play an intervening role in addressing disparities at the system level given their population based approach to health care. This reveals that managed care organizations, because of their experience in population-based management may be appropriately positioned to affect this level of change. Additionally, leadership at the system level is also needed to address the problem, specifically leaders who create an organizational context in which cultural competence is enabled, cultivated, and reinforced to address disparities (Dreachslin & Hobby, 2008).

Interventions at the care process and patient level are necessary given that greater social and cultural distance between providers and patients increases the potential for suboptimal encounters (Franks & Fiscella, 2008). Organizations are urged to leverage and adapt existing quality improvement (QI) infrastructure to address disparities (Moy, Dayton, and Clancy, 2005). Public reporting tools, including quality report cards can also be used to address disparities (Moy et al., 2005). The propensity for poor patient-provider relationships resulting from social and cultural distance suggests that interventions aimed at activating patients may be particularly beneficial for at-risk patients (Franks & Fiscella, 2008). Chin et al. (2007) further note that

empowerment programs can be used to encourage patients to be more active partners in their care.

Education and training interventions are also referenced in the literature. Specific recommendations from the report, *Unequal Treatment*, include culturally appropriate education programs for both patients and providers (Smedley et al., 2003). The report advocated provider education that trains health care providers on cross cultural interactions and patient education that focuses on minority patient's knowledge of how to access care and their ability to participate in clinical decision making (Smedley et al., 2003). Further references to provider education are also included in the literature. The Society of General Internal Medicine Health Disparities Task Force developed a curricula recommended for health professionals as a means of facilitating a commitment among health care providers to eliminate inequities in health care quality. Components of the curricula include examining and understanding attitudes, including mistrust, bias and stereotyping; gaining knowledge of the existence of health disparities and its causes; and acquiring skills to communicate cross culturally (Smith et al., 2007).

### **Cultural Competence**

The concept of cultural competence is referenced in the literature as a strategy to improve quality and eliminate racial and ethnic disparities in health care. An overarching goal of cultural competence is "to create a health care system and workforce that are capable of delivering the highest quality care to every patient regardless of race, ethnicity, culture, or language proficiency" (Betancourt et al., 2005, p. 499). Multiple definitions for the term are found in the literature. As cited in Jones, Cason and Bond (2004), one of the early definitions proposed cultural competence as "a set of congruent behaviors, attitudes and policies that come together in a system, agency, or amongst professionals and enables that system, agency or professionals to work effectively in cross cultural situations" (p.283). Another definition, cited in Johnson,



Saha, Arbelaez, Beach, and Cooper (2004) described the term as “the ability of health care providers and health care organizations to understand and respond effectively to the cultural and linguistic needs brought by patients to the health encounter” (p. 102). Campinha-Bacote (2002) described cultural competence as “an ongoing process, in which the health care providers continuously strive to achieve the ability to effectively work within the cultural context of the client,” (p. 181) inclusive of five constructs: cultural awareness, knowledge, skill, encounters and desire. Betancourt et al. (2003) suggested that cultural competence in health care includes understanding the importance of social and cultural influences on patients’ health beliefs and behaviors; considering how these factors interact at multiple levels of the health care delivery system; and devising interventions that take these issues into account to assure quality health care delivery to diverse patient populations. Betancourt et al. (2003) also outlined a framework for cultural competence including interventions at the organizational, structural and clinical level. Cultural competence at the system level is defined as “valuing diversity, having the capacity for cultural self assessment, being conscious of the dynamics inherent when cultures interact, having institutionalized cultural knowledge, and having developed adaptations to diversity” (Saha et al., 2008, p.1283).

The study of cultural competence has expanded in the literature over the past ten years, primarily driven by the insurgence of research demonstrating that racial and ethnic minority groups received lower quality care, even after accounting for differences in access to care (Betancourt et al., 2005). National standards for health care systems have been published commonly referred to as National Standards on Culturally and Linguistically Appropriate Services (CLAS). Additionally, the Medicare Advantage Organization National QAPI Project for 2003 was designed as a federal mandate targeted to increase cultural competency (Saha et al., 2008). The Accreditation Council of Graduate Medical Education’s (ACGME’s) has also

developed cultural competence standards for residency programs (Betancourt et al., 2005). Professional organizations, the American College of Health care Executives, the American Medical Association, and the Association of American Medical Colleges, have all created standards on cultural competence (LaVeist & Relosa, 2008).

While outcomes research on cultural competence interventions is sparse (Betancourt et al., 2005), cultural competency programs can be used to improve communication between patients and providers (Chin et al., 2007), an important component of delivering culturally sensitive care (Gertner et al., 2010). Gertner et al. (2010) further suggest that culturally sensitive care is essential to create the optimal patient-centered experience and to facilitate the delivery of high-quality, evidence-based services; achievement of positive treatment outcomes; and high patient/family satisfaction rates. LaVeist and Relosa (2008) support this idea, noting that improving the cultural competency of a health care organization increases the likelihood that staff can relate to an increasingly diverse patient population. It also minimizes miscommunication between patients and providers as sensitivity is heightened to individual patient values and beliefs. LaVeist and Relosa (2008) also suggest this leads to improved accuracy of diagnoses and interventions as well as better patient adherence to prescribed treatment regimens which ultimately results in greater patient satisfaction and a narrower gap of health disparities. Saha et al (2008) note that cultural competence, which began as a relatively focused set of principles defining cross cultural health care, has grown into a concept encompassing a broad array of topics relevant to racial and ethnic disparities in health care and Betancourt et al. (2005) expands on this, noting cultural competency encompasses all levels in health care: organizational, systemic, and clinical.

## **Key Stakeholders in Health Care System**

Citing that disparities are partly attributable to the cultural mismatch between health care professionals who provide care and the patients they serve, Jones et al. (2004) note that a significant challenge facing health care this century is assisting an essentially homogeneous group of health care professionals to meet the special needs of a culturally diverse society. Implicit in the literature on disparities in health care quality is the significant role played by the health care workforce. DiCiccio-Bloom and Cohen (2003) suggest that while all providers within the health care system play a role in minimizing disparities in health care quality, nurses play a key role in health care. Nurses constitute the largest group of health care providers who can potentially deliver culturally competent care to large populations of diverse patients, and home health care nurses are of particular importance (DiCiccio-Bloom & Cohen, 2003).

Home care nurses serve as gatekeepers of a patient's health care, practicing in settings where the diverse contexts of patients' homes are thriving contexts for health and illness experiences (DiCiccio-Bloom & Cohen, 2003). Despite the significance of the role and the setting within which home care nurses deliver health care, DiCiccio-Bloom and Cohen (2003) suggest the lack of culturally competent care actually being delivered in the home care encounter. While the lack of cultural competence among home care nurses can be attributed to many variables, DiCiccio-Bloom and Cohen (2003), further suggest that home care nurses and their supervisors need to develop their skills for delivering culturally competent health care. This suggests the need for targeting mid level managers, more specifically, nurse managers who supervise home health care clinicians in this research project.

## **Cultural Intelligence**

Understanding why some individuals function more effectively in culturally diverse situations than others is becoming increasingly important (Ang & Van Dyne, 2008). The

concept of cultural intelligence (CQ) has emerged in response to this need. Cultural intelligence refers to an individual's capability to function and manage effectively in culturally diverse settings (Ang et al., 2007).

### **Intelligence Constructs**

Earley and Ang (2003) note the concept of CQ is anchored in the theoretical construct of intelligence, which has been historically difficult to define. Early research narrowly defined the term intelligence as the ability to grasp concepts and solve problems in academic settings (Ang et al., 2007); however, Ang and Van Dyne (2008) note that "intelligence may be displayed in places other than the classroom" (p.3). A more recent and generalized definition of intelligence has emerged as "the ability to grasp and reason correctly with abstractions (concepts) and solve problems" (Schmidt & Hunter, 2000, p.3) as cited in Ang and Van Dyne (2008).

At the construct level, several concepts of intelligence exist that focus on specific content domains (Ang & Van Dyne, 2008) including social, emotional, successful and cultural intelligence. Social intelligence refers to one's ability to interact and get along with and relate to others (Thomas, 2006), with specific reference to an individual's fund of knowledge about the social world (Brislin, Worthley, and MacNab, 2006). Emotional intelligence is defined as the ability of people to perceive the emotional states of others and to regulate one's own emotional state (Thomas, 2006), including, among other things, self-awareness, impulse control, self-efficacy, empathy and social deftness (Brislin et al., 2006). Sternberg and Grigorenko (2006) note that successful intelligence refers to the ability to achieve what one seeks in life, within one's sociocultural context, through a combination of adapting to, shaping, and selecting environments, by a mix of analytical, creative, and practical abilities. This construct of intelligence theory is defined within a given culture, as Sternberg and Grigorenko (2006) note. However, they also note its relevance across cultures because in any environment, an individual

must possess the above mentioned capabilities in order to achieve one's goals within the sociocultural context (Sternberg & Grigorenko, 2006).

The concept of cultural intelligence positions the locus of intelligence at the interaction between the individual and the environment (Earley & Ang, 2003). More specifically, Earley and Ang (2003) suggest that CQ represents a form of intelligence that is a function of the interaction of the intra-individual cognitive mental abilities and motivation, with an individual's specific environmental context, such that individuals with cultural intelligence adapt performances to culturally specific behaviors demanded or required of the cultural values and beliefs of the specific environment.

Thomas (2006) notes that a common attribute among social, emotional, successful, and cultural intelligence is the idea that intelligence is inherently multidimensional, including behavioral as well as cognitive components. The key distinction among these intelligence constructs is the cultural context. The constructs of social, emotional, and successful intelligence are products of and limited to the culture in which they were developed. Thomas (2006) observed what is considered intelligent in one culture may be very different from what is intelligent in another culture; thus making it difficult to understand individual cross cultural interactions. Further, while these constructs of intelligence may be meaningful in one setting, they may not apply in another cultural setting (Thomas, 2006). Brislin et al. (2006) suggests that social and emotional intelligence are culturally charged. Given the logic of this premise, it is likely that successful intelligence can be considered culturally charged as well.

### **Definition and Constructs of Cultural Intelligence**

The concept of CQ has evolved over the past ten years and several definitions have been chronicled in the literature. Earley & Ang (2003) defined cultural intelligence as "a person's capability to adapt effectively to new cultural contexts" (p.59) while Thomas and Inkson (2003)

cited that cultural intelligence involves understanding the fundamentals of intercultural interaction, developing a mindful approach to those interactions, and building adaptive skills as well as a repertoire of behavior to be effective in different intercultural situations. A varying definition suggested that cultural intelligence is “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” (Earley & Mosakowski, 2004, p.1). In another work, the term CQ refers to a person’s capability to gather, interpret, and act upon different cues to function effectively across cultural settings (Earley & Peterson, 2004). Cultural Intelligence was also cited as “a person’s capability for successful adaptation to new cultural settings, that is for unfamiliar settings attributable to cultural context” (Earley, Ang, & Tan, 2006, p.5). Most recently, a new definition has been suggested that refers to cultural intelligence as “a system of interacting knowledge and skills, linked by cultural meta-cognition, that allows people to adapt to, select, and shape the cultural aspects of their environment (Thomas et al., 2008, p.127). A definition that aligns closely with the general definition of intelligence as “the ability to grasp and reason correctly with abstractions (concepts) and solve problems” (Schmidt & Hunter, 2000, p.3) is the definition of CQ as an individual’s capability to function and manage effectively in culturally diverse settings (Ang et al., 2007).

### **Constituent Elements of Cultural Intelligence**

While the original conceptual framework of cultural intelligence included cognitive, motivational, and behavioral elements (Earley & Ang, 2003), Thomas (2006) described an alternate conceptualization featuring three components of CQ including knowledge, mindfulness, and behavioral ability. The concept of mindfulness is a central element that integrates other facets of knowledge and behavioral capability (Thomas, 2006). Adopting Earley & Ang’s (2003), definition of CQ, Thomas observes one’s ability to generate appropriate behavior in a

new cultural setting is only one of part of the system of interacting abilities. Implicit in the model is one's initial ability to adapt in order to shape the context of a cross cultural interaction. Following the adaptation, one can decide on or construct appropriate behavior (Thomas, 2006).

A development model is also suggested, based upon the three above mentioned components (Thomas, 2006). The model proposed that CQ exists on a continuum that develops over time, and individuals pass through five different stages of development in their level of CQ (Thomas, 2006). Citing that the development of CQ is not a linear process, Thomas (2006) notes the development process requires knowledge, mindfulness and as well as behavioral ability to navigate the continuum. The first stage is the reactivity to external stimuli, which occurs when an individual mindlessly follows one's own cultural rules and norms. The model suggests that a common theme among individuals in this stage is the lack of awareness of cultural differences (Thomas, 2006). The second stage involves the recognition of other cultural norms and motivation to learn more about them. Individuals experience a newfound awareness of the surrounding multicultural setting as mindfulness and experience manifest (Thomas, 2006). Interests are raised and an individual typically wants to learn more. In this stage, individuals typically seek simple rules of thumb to guide their behavior to sort through the complexity of the cultural environment (Thomas, 2006).

The third stage of development involves the accommodation of other cultural norms and rules in one's own mind (Thomas, 2006). In this stage, individuals develop a deeper understanding of cultural variation while also recognizing appropriate behavioral responses to different cultural situations (Thomas, 2006). Individuals at this stage know what to say and do in a variety of cultural situations. The fourth stage, the assimilation of diverse cultural norms into alternative behaviors, involves individuals developing a repertoire of behaviors from which they can choose depending on the specific cultural situation. Individuals typically experiment with

new behavior in this stage (Thomas, 2006). Typically, individuals function in a number of different cultures almost effortlessly and with no more stress than if they were in their home culture, feeling at home almost anywhere. The fifth stage involves individuals proactively engaging in cultural behavior based on recognition of changing cues that others do not perceive (Thomas, 2006). In this stage, individuals have the ability to sense changes in cultural context, sometimes even before members of the other culture. They seem to intuitively know what behaviors are required in given situations and know how to execute them effectively. Thomas (2006) notes that individuals at this stage of development may be rare (Thomas D. C., 2006).

The literature widely references another CQ framework. The four factor framework includes meta-cognitive, cognitive, motivational, and behavioral constructs (Earley & Peterson, 2004). Meta-cognitive CQ refers to the level of conscious cultural awareness during a cross-cultural interaction and is operationally defined as the capability for consciousness during intercultural interactions (Earley et al., 2006). Earley et al. (2006) suggests that meta-cognitive cultural intelligence reflects the mental processes that an individual uses to acquire and understand cultural knowledge, including knowledge of and control over thought processes relating to culture. Each person has a complex set of memories, thoughts, ways of thinking, and feelings, referred to by Earley et al. (2003), as a psychological fingerprint. Often referred to in the field of psychology as ‘self concept’, this view of self, which is organized hierarchically, helps to understand new experiences (Earley & Ang, 2003).

In addition, an individual’s fingerprint consists of varied role identities (Earley et al., 2006). The strength of these identities is influenced by multiple factors, one of which is an individual’s cultural background and experiences (Earley et al., 2006). Brislin et al. (2006) note that those with high metacognitive cultural intelligence are aware of others’ cultural preferences, and also have the ability to question cultural assumptions and adjust their mental models during



and after interactions. Earley et al. (2006) found that those who have a powerfully intertwined set of identities to which they are strongly committed may experience problems adjusting to new cultures. This illustrates the importance of meta-cognitive CQ, which reflects the processes individuals use to acquire and understand cultural knowledge (Ang & Van Dyne, 2008).

While it is important to know and understand one's own self-concept, a certain level of cognitive flexibility is critical to cultural intelligence since new cultural situations require a continual reshaping and adaptation of self-concept to understand a new setting (Earley & Ang, 2003). Cognitive CQ, which refers to one's level of general knowledge and knowledge of structures about culture (Ang et al., 2006), is operationally defined as knowledge of norms, practices, and conventions in different cultural settings (Van Dyne, Ang, and Koh, 2008). Typically acquired from educational and personal experiences, cognitive CQ reflects one's level of knowledge of economic, legal, and social systems of different cultures and subcultures (Earley & Mosakowski, 2004). Earley and Ang (2003) note a high level of cognitive cultural intelligence reveals an understanding of the similarities and differences across cultures. In addition to the cultural knowledge, Ang and Van Dyne (2008) suggest that cognitive CQ also includes one's knowledge of him/herself embedded in the cultural context of the environment. Implicit in the concept of CQ, cognitive CQ is significant because an individual's knowledge directly influences one's thoughts and behaviors (Ang & Van Dyne, 2008).

Motivation, the third component of CQ, refers to the magnitude and direction of energy applied toward learning about and functioning in cross cultural situations (Earley & Ang, 2003). Van Dyne et al. (2008) define motivation cultural intelligence as the capability to direct attention and energy toward learning and functioning in intercultural situations. Earley et al. (2006) note the motivational aspect of cultural intelligence illustrates a person's energy and willingness to persevere in the face of difficulty and possible failure.

A return to the theory of self-concept is important to understand the motivational element of CQ. According to Erez and Earley's Cultural Self-Representation Theory, as cited in Earley et al., (2003), an individual's actions are guided by three central self-motives including self-enhancement, self-efficacy, and consistency. Self enhancement is affected by opportunities in the environment and by how we interpret such opportunities (Earley et al., 2006). Earley et al. (2006) note the critical aspect of self-enhancement to cultural intelligence is that an individual's personal view of the world biases the interpretations of surrounding events as people tend to focus on information consistent with one's own view of the world, remember information that prompts greater self fulfillment, and discount conflicting or irrelevant information.

Self-efficacy, a second facet of motivational CQ, refers to "a judgment of one's capability to accomplish a certain level of performance," according to psychologist Albert Bandura (Earley et al., 2006, p.29). People tend to avoid tasks and situations they believe exceed their capabilities; therefore, efficacy judgments promote the choice of situations and tasks with high likelihood of success and eliminate the choice of tasks that exceed one's capabilities (Earley et al., 2006). An individual's level of self efficacy plays an important role in cultural intelligence because it affects one's sense of confidence for discourse in a new, culturally diverse setting (Earley & Ang, 2003).

A final aspect of motivation is consistency, which refers to a desire for individuals to maintain coherence and consistency in their experiences and cognitions (Earley & Ang, 2003). Self-consistency, which helps people attach current experiences to past ones, has two parts (Earley et al., 2006). First, it means that individuals construct memories in line with previous ones. Secondly, people direct their actions so they are consistent with their values, beliefs, and norms (Earley et al., 2006). Strong self-consistency has negative implications for cultural intelligence because individuals who have a strong motive for consistency may have difficulty

adjusting to new, diverse situations. Earley et al. (2006) note this is likely attributed to the strong desire to keep things as similar as possible to what is considered familiar.

The final component in the CQ conceptual framework is behavior. Ang and Van Dyne (2008) note this component focuses on what individuals do, in particular, one's overt actions, versus what is thought or felt. Considered the capability to exhibit appropriate verbal and nonverbal actions when interacting with people from different culture, behavioral cultural intelligence is often referred to as the action component of cultural intelligence (Ang et al., 2006). Earley et al. (2006) notes that behavioral CQ is based upon one's capability to develop skills and personal abilities. This is highly relevant when one must acquire new behaviors appropriate for a new culture. Earley et al. (2006) suggests an appropriate reflection for understanding the behavioral component of CQ asks the question, "Can I do the right thing?" Ang et al. (2007) notes individuals with high levels of behavioral cultural intelligence exhibit situationally-appropriate behaviors based on their broad range of verbal and non-verbal capabilities, such as culturally appropriate words, tones, gestures, and facial expressions.

Although these four dimensions represent different facets of cultural intelligence, the union of such capabilities forms overall cultural intelligence (Ang & Van Dyne, 2008). Integrating the four facets, the concept of cultural intelligence requires having the knowledge and the wherewithal to persevere through difficult multicultural situations, and having a repertoire of appropriate behavioral responses needed for a situation. Individual differences, which include abilities or capabilities, personalities, and interests, serve as the framework for the concept of cultural intelligence (Ang & Van Dyne, 2008). Ang and Van Dyne (2008) further note that cultural intelligence, by definition, aligns with the category of abilities defined as "those personal characteristics that relate to the capability to perform the behavior of interest" (p.8). Therefore, it is conceptualized as a specific individual difference construct capable of variation and evolution

over time (Ang & Van Dyne, 2008). Considered a malleable, state-like difference, Ang and Van Dyne (2008) suggest CQ can be enhanced through experience, education and training.

### **Nomological Network – Heuristic Level Model**

The four factor model of cultural intelligence is positioned within a nomological network grounded in the broader domain of individual differences (Soon et al., 2008). Ang et al., (2008) propose a nomological network describing four major relationships to understand the role of cultural intelligence in reference to individual effectiveness (See Figure 1.1). First, distal individual trait-like differences relate indirectly to individual effectiveness through state-like individual differences on the four factors of CQ. These include Big Five personality traits, core self-evaluation, ethnocentrism, need for closure, self-monitoring, demographics, and biographical information. Second, intervening variables, including cross-cultural communication, apprehension, anxiety, uncertainty, and participation in cultural activities, are affected by the four factors of CQ. Third, other possible correlates may be involved in predicting individual outcomes in cross cultural situations including general mental ability (IQ), social, emotional or practical intelligence. Fourth, the strength of situational factors could affect the relationship between CQ and individual outcomes. Ang et al, (2008) suggest in strong situations where the task environment is well structured and clues for task performance exist, CQ is likely to play a more reduced role; conversely, in weak situations, individuals may have to rely much more on their CQ as a guide for action (Ang & Van Dyne, Conceptualization of Cultural Intelligence, 2008).

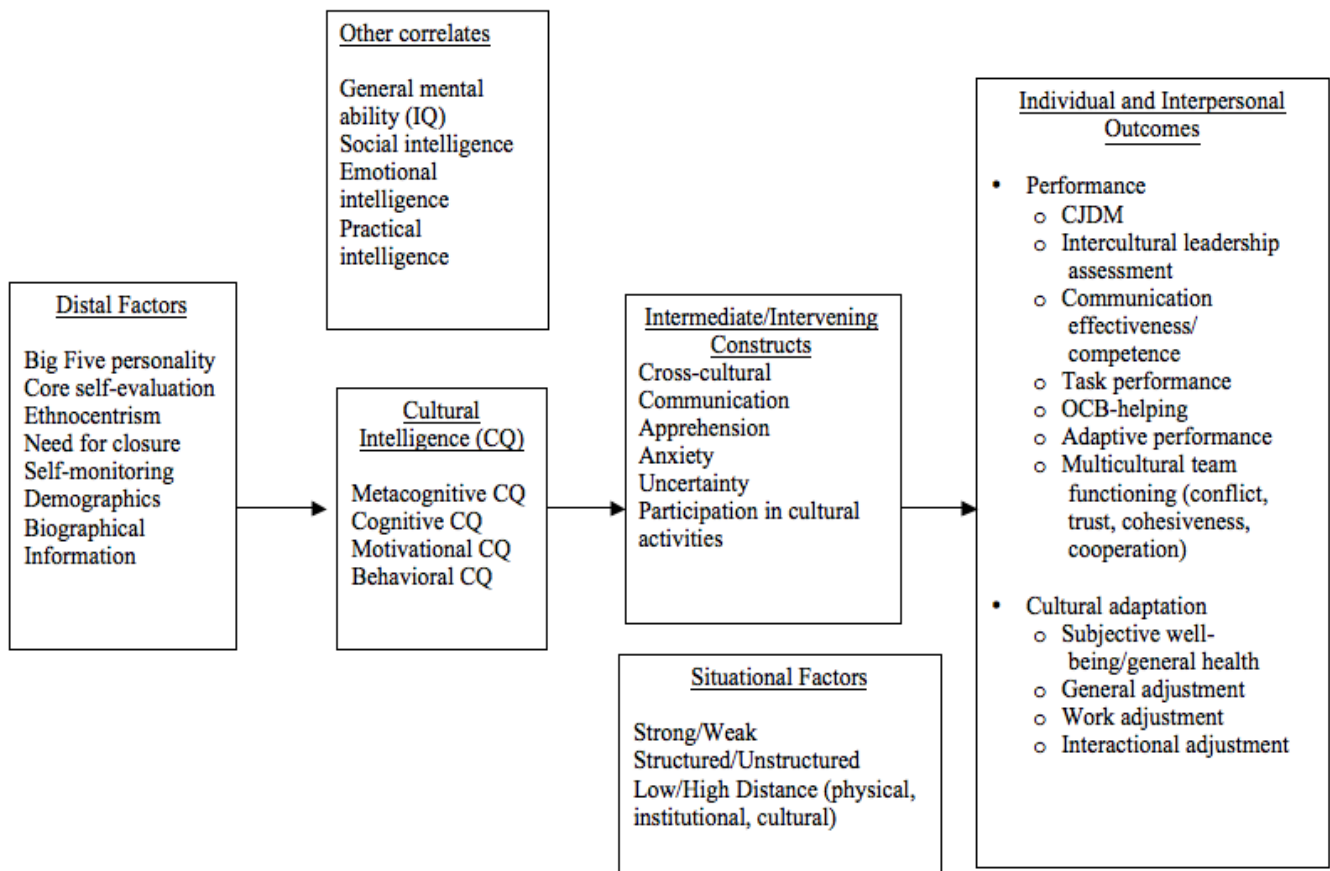


Figure 1.1 The Nomological Network of Cultural Intelligence. Adapted from “Conceptualization of Cultural Intelligence: Definition, Distinctiveness, and Nomological Network,” In S. Ang & L. Van Dyne, (Eds.), *Handbook of Cultural Intelligence: Theory, Measurement and Applications*. (p. 11).

**Figure 1.1 The Nomological Network of Cultural Intelligence**

## **Correlates of Cultural Intelligence**

Equally important to understanding the concept of cultural intelligence is an understanding of its correlates and/or antecedents (Shannon & Begley, 2008). Ang et al., (2006) examined a model of personality characteristics as predictors of cultural intelligence. Study variables included personality characteristics, the Big Five personality factors (extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience), and the four factors of cultural intelligence (cognitive, meta-cognitive, motivational, and behavioral). Controlling for variables including age, gender, and years of experience in interacting with people from other cultures, Ang et al. (2006) found that relationships exist between the Big Five personality factors and the four-factor model of CQ. Conscientious was related to metacognitive CQ; agreeableness was related to behavioral CQ but emotional stability was negatively related to behavioral CQ; extraversion was linked to cognitive, motivational, and behavioral CQ. Openness to experience was related to all four factors of CQ (Ang et al., 2006). The significance of this study is the linkage of personality with the concept of cultural intelligence. The Big Five personality traits are known to be strong predictors of work behavior (Ang et al., 2006); thus, this research may be used to further understand what personality traits are predictors of CQ and to further the develop the CQ nomological framework.

An unrelated study examined individual differences, including language acquisition, international work experience, and diversity of social contact, as predictors of cultural intelligence (Shannon & Begley, 2008). The study also included a confirmatory factor analysis on the four factor model and a measure of CQ using self versus peer ratings. Confirmatory factor analysis demonstrated a good fit of the data to a four-factor correlated model when compared with five alternative models (Shannon & Begley, 2008). Shannon and Begley (2008) found that self-rated CQ was positively and significantly related to peer-rated CQ. Language

acquisition related to cognitive CQ and international work experience positively related to motivational CQ. Overall self-reported CQ was positively related to language acquisition and international work experience. Diversity of social contact was unrelated to self-reported CQ. However, for peer-reported CQ, international work experience and diversity of social contacts both showed positive relationships (Shannon & Begley, 2008).

International exposure as a predictor of cultural intelligence was also studied (Tarique & Takeuchi, 2008). The study focused on the number of travel experiences related to the four constructs of cultural intelligence as well as moderating impact of the length of travel experiences. Variables in the study included length as well as number of international non-work experiences, four factors of cultural intelligence, age and gender. Tarique and Takeuchi (2008) found a positive correlation among the number of international non-work experiences and all four facets of cultural intelligence. Length of international non-work experiences also positively correlated with both metacognitive and cognitive CQ respectively. Gender positively correlated and age negatively correlated with all four constructs of CQ. In sum, findings suggest international experiences are related to cultural intelligence levels and that the number of those experiences influence all factors of cultural intelligence.

Higher order skills that may be able to boost cultural intelligence were the focus of another study (Brislin et al., 2006). These skills include expectation for misunderstanding, confusion acceptance, and manipulation awareness. Expectation for misunderstanding refers to a situation when an individual begins to expect that specific events and behaviors in a new cultural context will be encountered that will not be immediately understood. Brislin et al., (2006) note that individuals who expect that a misunderstanding may occur can be more prepared, as opposed to individuals who are caught off guard may not be as prepared.

Another higher order skill explored by Brislin et al. (2006) is confusion acceptance. This refers to one's willingness to accept not knowing, which allows one to lower situational expectations, reducing levels of stress during cross cultural interactions. Lowered stress may result in being able to calmly and more fully take in the dynamics of a situation as well as being able to better evaluate a situation to help move toward recognition, respect, and reconciliation (Brislin et al., 2006). As with the expectation for misunderstanding, individuals who fundamentally understand and accept that a confused state may occur have a higher probability of performing successful cross cultural interactions.

Brislin et al. (2006) suggests a third higher order skill, manipulation awareness. The term, manipulation awareness, infers that not all cross-cultural encounters are cooperative (Brislin et al., 2006). Culturally intelligent individuals must be aware of these situations and deploy certain tactics such as deception to gain an advantage. Brislin et al. (2006) further suggest that people must not only be aware of these realities but also know how to recognize the difference between a natural, cultural nuance and a contrived circumstance with ulterior motives. Collectively, the three skills enable an individual to become effective interacting in cross cultural environments (Brislin et al., 2006).

Triandis (2006) identified another attribute in the realm of CQ which is referred to as the habit of suspending judgment until enough information becomes available. An individual who is culturally intelligent suspends judgment until information becomes available beyond the ethnicity of the other person because personality attributes such as idiocentrism-allocentrism need to be considered as cross cultural relationships are developed (Triandis, 2006). Citing the importance of considerable information about cultural differences in thought patterns, Triandis (2006) notes that within culture there are individuals who are either idiocentric, (think, feel and behave similar to people in individualist cultures) or allocentric (similar to people in



collectivistic cultures). Individuals who are culturally intelligent avoid jumping to conclusions and making inferences from limited information, but rather collect considerable information before making a judgment that the other person is likely to be idio- or allocentric. Culturally intelligent individuals must also look for current behavior in different situations to identify the probable location of the other person on the allocentric-idiocentric continuum (Triandis, 2006). Suggested in the literature is that culturally intelligent individuals pay special attention to a situation while also noting the other person's behavior (Triandis, 2006). Given that individuals within idiocentric cultures vary from individuals within allocentric cultures, it is important to pay attention to situations so that accurate assessments can be made (Triandis, 2006). Earley and Mosakowski (2004) note human actions, including gestures and speech patterns, are subject to broad range of interpretations and these misinterpretations can serve as a catalyst for misunderstandings and uncooperative experiences in cross cultural experiences. This suggests that suspending judgment and actively seeking cues to current behavior may be effective in interactions in multicultural settings.

### **Outcomes of Cultural Intelligence**

A review of the literature revealed that cultural intelligence influences individual, team, and organizational performance (Ang & Van Dyne, 2008). A study exploring the relationship of the motivational CQ and realistic previews (work, general, and interaction adjustment) to cross cultural adjustment was conducted (Templer, Tay, & Chandrasekar, 2006). Templer et al. (2006) found motivational CQ was significantly correlated with work, general, and interaction adjustment. Motivational CQ was also significantly related to realistic living conditions preview as well as previous international assignment. Findings also suggest that individuals who are both motivated to explore and experience diverse cultures and more confident in their abilities to adapt to new cultural environments adjust better to work, life, and social demands in foreign

assignments. It follows that motivational CQ may be a critical attribute for facilitating adjustment to new cultural settings.

### **Assessment and Measurement of Cultural Intelligence**

The assessment of cultural intelligence is important for individuals for several reasons. Understanding one's level of cultural intelligence serves as a starting point and a foundation for further learning and assists in understanding what aspects of cultural intelligence need to be developed (Earley et al., 2006). Deductively, assessment of cultural intelligence should assist in stimulating individual change and help to facilitate long term individual growth.

The measurement of CQ has evolved as the breadth of knowledge surrounding the concept has expanded. Non-psychometric methods of assessing cultural intelligence are referenced in the literature including assessment centers or clinical assessments using observation and/or interviews (Ng & Earley, 2006). Thomas (2006) further advocates the use of the assessment center citing the behavioral component of CQ merits a comprehensive assessment with a performance dimension. A mixed method assessment, supported in the literature (Hoon Lee & Templer, 2003), suggests the most effective method combines multiple measures and multiple methods of data collection. The rationale beyond the use of this method is that no one method is effective in providing data on all aspects of an individual's CQ.

Reliable and valid methods are needed for measuring CQ (Hoon Lee & Templer, 2003). A 54 item self-assessment, based on the original three factor model of cultural intelligence was developed by researchers Linn Van Dyne and Soon Ang (Earley et al, 2006). However, no known reliability and validity measures for this specific instrument are referenced in the literature.

There is however, a 20 item validated instrument developed by Ang and colleagues (Ang, Van Dyne, Koh, & Ng, 2004). The instrument, based on the four factor CQ model, consists of a

self-report and an observer report as well as a shortened version of the scale. Appendix A contains a copy of the instrument, Cultural Intelligence Scale (CQS) Self-Report.

The instrument has been validated using multiple studies. Analysis of the 20-item four factor structure in comparison with five plausible, alternate models was performed using a confirmatory factor analysis in two separate studies. In two different studies, results demonstrated the four factor structure had the best fit when compared to five alternative models (Ang et al., 2007; Shannon & Begley, 2008). Stability of the four factor structure was also tested using two separate non overlapping samples. Structural equation modeling (SEM) analysis revealed a good fit of the data to the four-factor model (Van Dyne, Ang, & Koh, 2008).

To assess the stability of the instrument over time, a subset of the respondents in the above-mentioned study completed the instrument four months following the initial administration (Ang et al, 2007). Using a confirmatory factor analysis and an augmented covariance matrix as input to account for time wise correlated errors, results revealed the four factor model held across the two time periods providing evidence of instrument reliability. Ang et al. (2007) revealed changes in factor means for cognitive and behavioral cultural intelligence during the four month lapse; however, meta-cognitive and motivational cultural intelligence did not change significantly. Ang et al. (2007) expected this change as the respondents were studying cultural values and participating in experiential role-playing exercises during the time lapse between the test and the re-test. Results suggest the means of the factors may change over time given that cultural intelligence is a malleable capability influenced over time by cultural exposure, training, as well as other experiences (Ang et al., 2007).

To assess the generalizability of the instrument, two separate studies were compared: one study performed in the US and the other performed in Singapore (Ang et al., 2007). Using sequential tests of model invariance, Ang et al. (2007) compared the two studies using three

different models. Model A (four factor with loadings freely estimated across samples) demonstrated good fit while model B (four factors with loadings forced to be invariant) and model C (four factors with factor covariances forced to be invariant) did not. Findings of the studies suggest the four factor model holds across countries (Ang et al., 2007).

Research also assessed the generalizability of the instrument across methods, using self report and observer report ratings (Van Dyne et al., 2008). Multitrait multi-method techniques (MTMM) were applied to assess validity using multiple assessors. Van Dyne et al. (2008) found that reliability coefficients were highest and validity coefficients between self and peer ratings for all four factors of cultural intelligence were significantly different from zero and higher than other values in the analysis, providing evidence of convergent and discriminant validity respectively.

In addition to using MTMM, the researchers also examined the relationships with CFA, using the correlated trait-correlated method (CTCM). A comparison of three alternate models was performed including: Model A-two method, five trait model; Model B-two method only model; Model C- trait only model. Results revealed Model A was a better fit than the two alternative models (Van Dyne et al, 2008). Additionally, the largest component of the observed variance was attributed to traits as opposed to methods or random error. This provides further evidence for the convergent and discriminant validity of the CQS (Van Dyne et al, 2008).

Ang et al. (2007) examined the discriminant validity of the four factors of CQ relative to cognitive ability, EQ, cultural judgment and decision making, interactional adjustment, and mental well being using a confirmatory factor analysis. Results demonstrated a good fit for the nine factor model (Ang et al., 2007). Additionally, over and above demographic characteristics, cognitive ability, and EQ, the incremental validity of the four factors of CQ was assessed in predicting cultural judgment and decision making, interactional adjustment, and mental well

being. Results revealed the incremental validity of the four factors of CQ, over and above demographic characteristics, cognitive ability and EQ in predicting cultural judgment and decision making, interactional adjustment, and well-being (Van Dyne et al., 2008).

Metacognitive and cognitive CQ increased explained variance for cultural judgment and decision making, over and above the effects of demographic characteristics, cognitive ability and EQ (Van Dyne et al, 2008). Additionally, motivational and behavioral CQ increased explained variance in interactional adjustment above and beyond demographic characteristics, cognitive ability and EQ (Van Dyne et al., 2008). Finally, results revealed that motivational and behavioral CQ increased explained variance in mental well-being, above and beyond demographics, cognitive ability, and EQ (Van Dyne et al, 2008).

Results in the literature suggest the CQS instrument has a clear, robust, and meaningful four-factor structure that is stable across samples, time, countries, and methods (self-report vs. peer report) (Van Dyne et al., 2008). Further, findings support the discriminant validity of the instrument when compared to cognitive ability, EQ, CJDM, interactional adjustment, and mental well-being. Findings also reveal the incremental validity of the instrument in predicting cultural judgment and decision-making, adjustment, and mental well-being (Van Dyne et al., 2008).

### **Significance of Cultural Intelligence**

Learning to cross cultural boundaries is becoming an organizational imperative as greater diversity in the workforce demography is forcing individuals to work and interact regularly with those who have different cultural or ethnic backgrounds (Ang et al., 2006). Organizations are also experiencing a cultural phenomenon as the boundary-less labor force emerges. This new dynamic is driving an increasing interest in how culture impacts management and organizational behavior (Oolders, Chernyshenko, & Stark, 2008) within organizations both locally and globally. Often individuals who are ill prepared to interact in diverse settings experience stress, frustration,

and culture shock. Confusion also results from clashes of intercultural differences (Brislin et al., 2006). Conversely, those with high levels of cultural intelligence may be better prepared for the multicultural experiences, reducing these confounding effects.

Thomas (2006) notes individuals with a higher level of cultural intelligence have a cognitively complex perception of their environment which arises with the enhanced ability to make connections between seemingly disparate pieces of information. Individuals with higher levels of CQ also describe people and events in terms of many different characteristics. With the ability to see the various links among diverse characteristics, individuals can visualize a coherent pattern in a cultural situation without knowing what the final picture might look like, enabling individuals to execute more effectively in cross cultural interactions (Thomas, 2006).

Culturally intelligent individuals can also see past the stereotypes that a superficial understanding of cultural differences generates (Thomas & Inkson, 2003). This is attributed to the realization that knowledge of a culture is valuable only in the appropriate context of the religious, philosophical, and historical issues of a culture. For example, the Muslim groups in Iraq including the Kurds, Shia, and Sunnis, share a significant amount of cultural background. However, knowing the history of their interactions over the centuries helps to understand the values, attitudes, and beliefs that underlie their behavior toward one another and the outside world (Thomas, 2006). An understanding of the underlying contextual history prompts less stereotyping which, in turn, assists in more effective cultural interaction.

Cultural intelligence skills not only allow for greater cross-cultural respect but also serve as a catalyst for greater reconciliation and adaptation (Brislin et al., 2006). Triandis (2006) notes that learning to put oneself often in the shoes of other cultures can develop a healthy criticism of the norms of one's own culture as well as an open-minded willingness to see the other culture the way the so-called natives see it. This is important given that success or lack thereof when

adjusting to another culture depends upon one's behavior and the ability to establish cross cultural relationships (Brislin et al., 2006).

### **Limitations of Cultural Intelligence**

The concept has been criticized for its theoretical foundation. Considered to be “largely unintegrated with existing theory and research,” the concept has been cited for not considering the eco-cultural framework developed within the field of cross cultural psychology (Berry & Ward, 2006). The infancy of the concept is another limitation given the scant research on the nomological framework (Earley et al., 2006).

Another issue germane to both cultural intelligence as well as the broader study of culture is the claim of postmodernism bias (Hampden-Turner & Trompenaars, 2006). Cultural studies, including cultural intelligence, are said to be a form of postmodernism given that one central definition of culture is required in the course of study. The argument is that the world appears now through multiple perspectives, whereas having one central definition of culture can be considered an imposition of one dominant set of beliefs (Hampden-Turner & Trompenaars, 2006).

### **Future Research Implications**

Development of the concept of cultural intelligence is in its infancy (Earley et al., 2006) and many questions have yet to be answered. A greater understanding of the antecedents and consequences of CQ is needed (Gelfand et al, 2008). Ng and Earley (2006) have begun work in this field by developing a heuristic multilevel model of cultural intelligence as briefly mentioned earlier. The model, which presents CQ in a nomological network of antecedents, moderators, and outcomes, breaks down individual and situational variables. Components of the model are promising, yet further research is necessary. Additionally, an understanding of the processes

through which CQ is developed or through which CQ exerts its effects is also cited as absent in the literature (Gelfand et al., 2008).

Also relevant is the evaluation of the relationship of CQ to practical business problems (Thomas, 2006; Templar et al., 2006; Earley et al., 2004). Advancement of the concept depends on understanding the relationship of cultural intelligence to practical business challenges (Thomas, 2006). It is important to note that the situational variables mentioned above could likely be considered as practical business challenges as well. There are, however, many other challenges. For example, Templar et al.(2006) notes an important and relevant business challenge lies in the adjustment of expatriates to overseas assignments. Other areas include cross-cultural decision making, leadership in multicultural environments, and managing international careers (Thomas & Inkson, 2003). Another area of future research in relation to business challenges is the extension of CQ to higher level of analyses, including team or organizational level cultural intelligence (Moon, 2006).

Also cited in the literature is the need to establish the theoretical context that links measurements of CQ to psychological and behavioral processes (Thomas, 2006). Hence, the concept of cultural intelligence needs to be further tested with other facets of intelligence and related constructs in existing literature so that a theoretical context linking CQ with other behavioral processes can be established (Thomas, 2006).

Another area for further research involves exploring the use of cultural intelligence as a framework for intercultural training. A comprehensive framework of cultural adaptation has not yet been developed to guide training and pedagogical interventions (Earley & Peterson, 2004). At present, most training programs provide a cultural values awareness approach with culture-specific information or culture general features (Earley & Peterson, 2004). Therefore, Earley and Peterson (2004) advocate a cultural intelligence (CQ) approach, which refers to a



comprehensive training framework that uniquely identifies the specific capabilities of an individual based on a multi faceted model of cultural adaptation.

Much of the literature reviewed reveals that study of cultural intelligence marks progress in the evolution of globalization efforts. Although the concept has been largely studied in relationship to global cultural experiences, examination of the concept from an intercultural perspective has been limited.

### **Summary**

This chapter synthesized the bodies of related literature on disparities in health care and related interventions with a newly emerging concept known as cultural intelligence. A review of the literature on the disparities in health care revealed that disparities exist throughout the health care system (Agency for Healthcare Research and Quality [AHRQ], 2009) and disproportionately impact racial and ethnic minorities (Smedley et al., 2003). Smedley et al. (2003) further note that even after adjustment for insurance status and income, racial and ethnic minorities tend to have less access to health care and lower quality health care than minorities. While recent health care reform efforts aim to address these challenges, little progress has been made toward eliminating these disparities (Smedley et al., 2003). Of particular importance are the differences in the quality of health care provided to racial and ethnic minorities that are not due to access related factors or clinical needs, preferences, and appropriateness of intervention (Smedley et al., 2003). From a historical perspective, an examination of the literature suggests that racial and ethnic disparities are rooted in deeper, more complex societal issues (Kumanyika & Morssink, 2006) requiring further study to understand the root causes of the disparities (Aaron & Chesley, 2003). Several models have been designed to explain the nature of disparities within the health care system. Recognized in the literature is the presence of health care disparities within three domains: health system level, care process, and patient level (Smedley et al., 2003).

Building on this concept is the integrated model of disparity, which identifies patient and system level factors that contribute to disparities in quality among racial and ethnic minorities (Smedley et al., 2003). In the model, patient input, including medical history and patient preferences, and data, including physical examinations and diagnostic test results, are interpreted, subject to the health care provider's perception and knowledge of diagnostic alternatives. Following interpretation, an intervention is designed, often with uncertainty with respect to efficacy. Throughout the interpretation and intervention phase, certain factors shape the experience including social, economic and cultural influences such as financial incentives, institutional design, legal and environmental factors. Additionally, provider stereotyping and prejudice, both conscious and unconscious, shape the outcome of the experience. Hence, a cultural mismatch between health care providers and patients is partly attributable to the disparities within the current system. Of particular importance is the role of home health care nurses, who serve as gatekeepers of a patient's health care (DiCiccio-Bloom & Cohen, 2003).

An examination of the literature on the interventions seeking to address these disparities reveals that the concept of cultural competence is most widely referenced. The goal of cultural competence is to create a health care system and workforce that are capable of delivering the highest quality care to every patient regardless of race, ethnicity, culture, or language proficiency (Betancourt et al., 2005). While the concept of cultural competency has shown positive implications for improving the quality of health care delivered to racial and ethnic minority groups, a newly emerging concept known as cultural intelligence (CQ) may be valuable to further explore within the context of health care.

Cultural intelligence seeks to explain why some individuals function more effectively than others in culturally diverse situations (Ang & Van Dyne, 2008). Commonly defined as an individual's capability to function and manage effectively in culturally diverse settings (Ang et

al., 2007), the concept is most widely referenced in the literature as having a four factor framework including metacognitive, cognitive, motivational and behavioral constructs. Evolution of the literature on cultural intelligence revealed that a nomological network has been created to better understand the role of cultural intelligence in reference to individual effectiveness (Ang & Van Dyne, 2008). A twenty item four factor assessment instrument has been tested and proven valid and reliable in the literature (Ang et al., 2007). While the concept is relatively new, emerging within the last 20 years, much is to be learned about this concept that could pave the way for better understanding why some individuals deal more effectively than others with culturally diverse situations.

## **CHAPTER 3**

### **METHODOLOGY**

The primary purpose of this study was to determine the influence of selected demographic and biographical information on the level of cultural intelligence among mid level managers of home health care systems in the United States. Approval to conduct this study was obtained from the Louisiana State University Institutional Review Board (IRB # E5340) and the organization of interest. A copy of the IRB Exemption from Institutional Oversight is included in Appendix B. Discussed in this chapter are the following: population/ sample, data management, instrumentation, data collection, and data analyses utilized in the study. This was an exploratory correlational study examining selected demographic and biographical variables to determine their effectiveness in explaining cultural intelligence.

#### **Population and Sample**

The target population of this study was mid-level managers of home health care systems in the United States. The accessible population was comprised of full time home health care site directors within a national, publicly traded health care company operating in 46 states within the United States.

The researcher obtained a list from the company's human resource department identifying all employees in the accessible population and their respective email addresses. Data to populate the report list was extracted from PeopleSoft, the organization's enterprise human resources system. All members of the accessible population (100%) were included in the sample. A total of 484 agency site directors were members of the accessible population.

#### **Data Management**

Data for this study was collected from primary and secondary sources. Primary data was collected from site director respondents using a survey instrument. Further discussion is included

in the instrumentation section below. Secondary data was collected from internal databases within the organization. The selected demographic and biographical variables included in the study are discussed below.

### **Demographic Variables**

The demographic variables included in this research study were primarily extracted from prior studies conducted on cultural intelligence. Four domains of biographical and demographic variables were included in the study: site director demographics; site director biographical information; site director geographic location; and worksite demographics. A complete listing of the study variables included in the four domains is included Figure 3.1. Data for the two domains, site director demographics and site director biographical information, was collected using the survey instrument. Data for the additional domains, site director geographic location and worksite demographics, was collected from internal organizational data.

### **Cultural Intelligence Variables**

The Cultural Intelligence Scale (CQS) Self-Report is a twenty-item scale that measures the construct of cultural intelligence. This scale, which is divided into four subscales, is designed to measure the four factors of cultural intelligence: Strategy (meta-cognitive), Knowledge (cognitive), motivational and behavioral. Origins of the scale development began with the creation of the four factors of cultural intelligence. Researchers advanced the study of cultural intelligence by defining the four factor model (Ang & Van Dyne, 2008). Operational definitions for the four factors were developed based upon a review of intelligence and intercultural competency literature as well as data from one on one interviews with global

Domain	Variables	Descriptors
Site Director Demographics	Age	Age (in years)
	Gender	Male or female
	Race/Ethnicity	Race/Ethnicity categories
	Educational Level	Educational level
Site Director Biographical Information	Professional Work Experience	Prior work experience
		Duration of prior health care experience
		Prior health care experience in clinical specialty areas
		• Ambulatory Care Nursing
		• Cardiac Nursing
		• Case Management Nursing
		• College Health Nursing
		• Community Health Nursing
		• General Nursing Practice
		• Gerontological Nursing
		• High Risk Perinatal Nursing
		• Home Health Nursing
		• Informatics Nursing
		• Medical-Surgical Nursing
		• Nurse Executive
		• Nursing Professional Development
		• Pain Management
		• Pediatric Nursing
		• Perinatal Nursing
		• Psychiatric & Mental Health Nursing
		• School Nursing
		• Other
	International Experience	Prior international work experience
		Number of international non-work experiences
		Duration of international work experiences
		Prior international non-work experience
	Language Acquisition	Number of international work experiences
		Duration of international non-work experiences
		English as the native language
	Hobbies and Personal Interests	Proficiency in additional languages
		Reading
		Community Service
		Music
		Travel
		Sports/Fitness
		Movies
		Arts/Theater
		Other
		Volunteer activities
		Duration of volunteer activities
	Tenure within the organization	Organizational tenure
		Position tenure
Site Director Geographic Location	Region	Region 1: Northeast
		Region 2: Midwest
		Region 3: South
		Region 4: West
	Division	Division 1: New England
		Division 2: Mid-Atlantic
		Division 3: East North Central
		Division 4: West North Central
		Division 5: South Atlantic
		Division 6: East South Central
		Division 7: West South Central
		Division 8: Mountain
		Division 9: Pacific
	Rural/Urban Continuum	1. Metro areas of 1 million or more
		2. Metropolitan area of 250,000-1 million
		3. Metro areas of fewer than 250,000
		4. Urban population 20,000 or more, adjacent to metro area
		5. Urban population 20,000 or more, not adjacent to metro area
Worksite Demographics	Hire Type	6. Urban population 2,500-19,999, adjacent to metro area
		7. Urban population of 2,500-19,999, not adjacent to metro area
		8. Completely rural or less than 2,500, urban population, adjacent to metro area
		9. Completely rural or less than 2,500 urban, not adjacent to metro area
	Worksite Type	External or internal
		Acquisition or organic
	Workforce - racial composition	Percentage of minority employees per worksite
		Number of employees per worksite
		Average daily number of patients
	Workforce Size	
	Patient Census	

Figure 3.1 Domain Variables

executives (Van Dyne, Ang, & Koh, 2008). Recognizing the significance of strong psychometric measures to overall construct development, development of an item pool to measure the construct then followed. An initial pool of 53 items was developed. Items were assessed for clarity, readability, and definitional fidelity by a panel of experts (Van Dyne et al., 2008). A pool of 40 items, ten items per dimension, was retained. Items with high residuals, low factor loadings, small standard deviations and low item to total correlations were removed to further refine the pool to 20 items within the existing four factor model, resulting in a 20 item, four factor model (Ang, Van Dyne, Koh, & Ng, 2004). In a recent analysis, (Van Dyne et al., 2008) concluded “the four factor structure of CQ is meaningful and robust, stable across not only various samples but also across time, countries and methods of measurement”. Noted by the researchers as a “reliable and valid measure of CQ,” the 20 item CQS holds promise in both theoretical and practical application (Van Dyne et al., 2008). See Appendix A for a copy of the research instrument

### **Instrumentation**

A survey instrument was administered to the respondents containing two sections: demographic information and a measure of cultural intelligence levels. The first section included the CQS Self-Report instrument that was used to measure the respondent’s levels of cultural intelligence. The second section of the instrument was a researcher designed demographic survey which included questions on demographic and biographical information of the respondents. See Appendix F for a copy of the permission to use CQS Self-Report instrument.

### **Instrument Validation**

Content validity was established through a review by a panel of experts prior to survey administration. The review was targeted to assess the clarity of the directions and to determine any interpretational inconsistencies. The panel included six individuals: three of whom were

research professionals with expertise in measurement and survey design and three professionals with knowledge and expertise in the site director role. Modifications were made to the instrument based upon feedback of the panel members.

### **Data Collection**

The researcher collected internal data from the organization and survey data from the accessible population. The data collection time period for this research was January-February 2011. A detailed chronology of the data collection is presented below in Table 3.1. The survey was administered in accordance with Dillman's Tailored Design Method (Dillman, Smyth, & Christian, 2009). A pre-notice letter was sent out in advance informing the respondents of the upcoming survey (see Appendix D). An electronic mail message containing a cover letter and a link to the electronic survey was sent out to each respondent individually (see Appendix E). Included in the letter was an overview of the study outlining the importance of the request and why their participation is needed, the usefulness of the study, instructions on how to complete the study, a time estimate for completion of the study instrument, a statement about confidentiality, a statement about the LSU IRB, a statement about refusal to participate, and a closing with contact information. A copy of the survey is included in Appendix F.

Personalized thank you email messages were sent to each respondent. Replacement questionnaires were sent to non-respondents within two-four weeks following survey administration. An incentive plan was used to encourage participation in the survey. Incentives were offered to active respondents at days 8, 18, and 27 as follows: \$250, \$100, and \$75 gift cards respectively. An outline of the data collection chronology is found in Table 3.1



Table 3.1 Data Collection Chronology

Components	Description	Timeline
Data request	Official request to HR dept. for list of active home health site directors	5 days prior to survey distribution
Pre-notice letter distribution (Appendix D)	Advance introduction message from the CEO for home health site directors	5 days prior to survey distribution
Response to data request	HR provided researcher with list of active home health site directors	1 day prior to survey distribution
Electronic survey distribution (Appendix E and F)	Email to active site directors including the electronic survey.	Day 1
Replacement questionnaire distribution- 1 (Appendix G)	Email sent out to non-respondents including reminder message and survey link.	Day 3
Incentive Drawing 1 & Announcement	Random drawing for the (1) \$250 gift card. Personal email to active survey respondents including the winner.	Day 8
Replacement questionnaire distribution- 2 (Appendix H)	Email sent out to non-respondents including winner announcement and reminder message including survey link.	Day 9
Incentive Drawing 2 & Announcement	Random drawing for the (1) \$100 gift card. Personal email to active survey respondents including the winner.	Day 18
Replacement questionnaire distribution-3 (Appendix I)	Email sent out to non-respondents including reminder message and survey link.	Day 18
Announcement of Last Change Drawing- Replacement questionnaire distribution- 4 (Appendix J)	Email sent out to non-respondents including winner announcement and reminder message including survey link.	Day 20
Replacement questionnaire distribution-5 (Appendix K)	Email sent out to non-respondents including reminder message and survey link.	Day 22
Replacement questionnaire distribution- 6 (Appendix L)	Email sent out to non-respondents including reminder message and survey link.	Day 26
Incentive Drawing 3 & Announcement	Random drawing for the (1) \$75 gift card. Personal email announcement to active survey respondents including the winner.	Day 27
Replacement questionnaire- 7 (Appendix M)	Email sent out to non-respondents including reminder message and survey link.	Day 28
Final Contact: Replacement questionnaire- 8 (Appendix N)	Final email sent out to non-respondents including reminder message and survey link.	Day 28
Survey Close	Survey response data collection closed at 5pm CST. Final responses were collected and non-response rates tallied.	Day 28
Data request	Internal data request to HR dept re: respondent data. <ul style="list-style-type: none"> <li>• Site Director Geographic Location</li> <li>• Worksite Demographics</li> </ul>	Day 29
Thank you note	Active respondents received thank you notes immediately following survey completion.	Ongoing

## **Data Analysis**

Data collected in this study was analyzed as described below according to each research objective. The statistical package SPSS (Statistical Package for the Social Sciences) version 19.0 was used to run and analyze data. The procedures used to analyze the data collected in this study are outlined below.

### **Objective One**

The first objective was to describe the research participants on selected demographic and biographical characteristics:

- A. Age
- B. Gender
- C. Race/Ethnicity
- D. Educational level
- E. Professional work experience
- F. International experience- work and non-work
- G. Language acquisition
- H. Hobbies and personal interests
- I. Volunteerism
- J. Organizational tenure
- K. Geographic location
- L. Worksite demographics

This objective was descriptive; therefore, descriptive statistics were used to analyze the data. Means and standard deviations were used to analyze the data for this demographic information as appropriate for the level of measurement for each variable.

## **Objective Two**

The second objective was to determine the levels of cultural intelligence as measured by the scales of the 20-item Cultural Intelligence Scale (CQS) - Self Report:

- A. CQ- Strategy (meta-cognitive)
- B. CQ- Knowledge (cognitive)
- C. CQ-Motivation
- D. CQ- Behavior

This objective determined the cultural intelligence levels of the respondents as measured by their responses to the items on each of the four subscales of the CQS: 1) The CQ-Strategy subscale consisted of four statements that relate to the respondents' meta-cognitive capacity which refers to one's cultural consciousness and awareness when interacting with those from different cultures; 2) The CQ-Knowledge subscale consisted of six statements that assess the respondents' cultural knowledge of norms, practices and conventions in different cultural settings; 3) The CQ-Motivation subscale included five statements that assess an individual's capability to direct attention and energy towards cultural differences; 4) The CQ-Behavior subscale included five statements that assess the respondents' capability to exhibit appropriate verbal and nonverbal actions when interacting with people from different cultural backgrounds.

The responses were measured using a 7-point Likert-type scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). An index was created for each subscale to provide the mean of the respondents' scores on the items in the respective subscales. The respondents' overall cultural intelligence score was then calculated by computing a mean of the respondents' scores on each of statements. Means and standard deviations were used to analyze the resulting indexes and the overall cultural intelligence scores.

### **Objective Three**

The third objective was to determine if a relationship exists between levels of cultural intelligence and selected demographic and biographical characteristics including:

- A. Age
- B. Gender
- C. Race/Ethnicity
- D. Educational level
- E. Professional work experience
- F. International experience- work and non-work
- G. Language acquisition
- H. Hobbies and personal interests
- I. Volunteerism
- J. Organizational tenure
- K. Geographic location
- L. Worksite demographics

To meet this objective, data obtained from objectives one and two was correlated to determine if a relationship exists between the respective variables. First, Pearson's product moment correlation was used to determine if a relationship existed between the dependent variable (cultural intelligence) and the following independent (predictor) variables: age, duration of prior health care experience, duration of international work experience, number and duration of international non-work experiences, duration of volunteer activities, organizational tenure, position tenure, workforce size, workforce-racial composition, and patient census. Each variable was correlated with the cultural intelligence scores. The t-test procedure was used to determine if a relationship existed between the levels of cultural intelligence and the following independent

variables: gender, race / ethnicity, education level, prior health care experience in clinical specialty areas, international work and non-work experience, proficiency in additional languages, hobbies and personal interests, volunteer activity, hire type and site type. Analysis of variance (ANOVA) was used to determine if relationships existed between levels of cultural intelligence and geographic variables including region, division, and rural/urban continuum designations.

#### **Objective Four**

The fourth objective was to determine if a model existed that explained a significant portion of the variance in each of the subscales of cultural intelligence as measured by the CQS-Self Report from the following selected characteristics:

- A. Age
- B. Gender
- C. Race/Ethnicity
- D. Educational level
- E. Professional work experience
- F. International experience- work and non-work
- G. Language acquisition
- H. Hobbies and Personal Interests
- I. Volunteerism
- J. Organizational tenure
- K. Geographic location
- L. Worksite demographics

Multiple regression analysis was used to analyze if a model existed that explained a significant portion of the variance in overall cultural intelligence and each of the subscales, as measured by the CQS-Self Report from the above-mentioned variables. The analysis consisted

of five dependent variables including four CQS subscale scores and the overall CQS score. The independent (predictor) variables included age, gender, race/ethnicity, educational level, professional work experience, international experience, language acquisition, hobbies and personal interests, volunteerism, organizational tenure, geographic location, and worksite demographics.

## **CHAPTER 4**

### **RESULTS AND FINDINGS**

The primary purpose of this study was to determine the influence of selected demographic and biographical characteristics on the level of cultural intelligence among mid level managers of home health care systems in the United States. This was an exploratory correlational study examining selected demographic and biographical variables to determine their effectiveness in explaining cultural intelligence. Using Dillman's Tailored Design Method (Dillman et al., 2009), the survey data collection process included a pre-notice letter, an initial survey and cover letter, replacement surveys, and thank you notes. The sample included 484 active site directors. Among the 484 site directors invited to participate in the study, 62.8% (n=304) returned the survey instrument. The number of usable surveys (n=304) exceeded the minimum required usable sample size of 144 (Cochran, 1977). The findings and analyses of the study are presented in this chapter and are arranged by each research objective.

#### **Objective One**

The first objective was to describe the research participants on the following selected demographic and biographical characteristics:

##### **Age**

Respondents were asked to indicate their age in years. The mean age of the site directors was 47.59 years (SD = 8.14): the youngest age was 26 years and the oldest site director was 65 years of age. To further examine the data, ages of subjects were grouped into age ranges and the number of site directors in each age range was identified. The age ranges that were selected began at 30 years or less and progressed in 5-year increments until 61 years or more. The age category with the largest number of respondents was 46-50 (n=71, 23.6%). The age category

with the smallest number of subjects was 30 or less (n=5, 1.6%). The age distribution of the active site director respondents is provided in Table 4.1.

Table 4.1

**Age of Site Directors Employed by a Home Health Care System in the United States**

Age (in Years)	<i>n</i>	%
30 or Less	5	1.6
31-35	14	4.7
36-40	49	16.3
41-45	51	16.9
46-50	71	23.6
51-55	55	18.3
56-60	39	13.0
61 or More	17	5.6
Total	301	100.0

*Note.* Mean age= 47.59 years, SD = 8.14. Three participants failed to respond to the age item on the survey.

## Gender

Gender was another variable on which respondents were described for objective one. For the variable gender, the majority of respondents were female (n=285, 94.1%). Males accounted for 5.9% (n=18) of the sample. One participant did not report gender.

## Race/Ethnicity

Respondents were asked to check off the category of racial/ethnic group to which they belong. These groups included “American Indian/Alaska Native,” “Asian,” “Black/African American,” “Caucasian/White,” “Hispanic/Latino,” “Native Hawaiian/Other Pacific Islander,” “Multi-Racial,” and “Other (please specify).” The majority (n = 279 or 92.1%) of respondents



indicated they were Caucasian/White. Two racial/ethnic groups had the second largest number of respondents and included American Indian/Alaska Native (n=7, 2.3%) and Black/African American (n=7, 2.3%). The results regarding racial/ethnic distribution are provided in Table 4.2.

Table 4.2  
Race/Ethnicity of Site Directors Employed by a Home Health Care System in the United States

Race/Ethnicity	<i>n</i>	%
Caucasian/ White	279	92.1
American Indian/Alaska Native	7	2.3
Black/ African American	7	2.3
Hispanic/ Latino	5	1.6
Asian	2	0.7
Other	2 <sup>a</sup>	0.7
Multi-Racial	1	0.3
Total	303	100.0

*Note.* One respondent failed to respond to the race/ethnicity item on the survey.

<sup>a</sup> Other response included Greek/Lebanese (n=1) and West Indian American/Black (n=1).

### **Educational Level**

Another variable on which respondents were described was the highest level of education completed. Respondents were asked to select the educational level that best describes their highest level of education completed from the categories of “Associate Degree,” “Baccalaureate Degree,” “Masters Degree,” “Doctoral Degree,” and “Other-please specify”. The largest number of respondents (n=162; 53.5%) indicated that their highest level of education completed was an Associate Degree. The second largest group (n=94; 31.0%) included those who reported a Baccalaureate Degree as the highest education level completed. Only two respondents (.7%) had

earned a doctoral degree. The distribution of highest level of education completed by the respondents is provided in Table 4.3.

Table 4.3  
Highest Level of Education Completed by Site Directors Employed by a Home Health Care System in the United States

Educational Level	<i>n</i>	%
Associate Degree	162	53.5
Baccalaureate Degree	94	31.0
Master's Degree	35	11.5
Doctoral Degree	2	0.7
Other Education	10 <sup>a</sup>	3.3
Total	303	100.0

*Note.* One respondent failed to respond to the level of education item on the survey.

<sup>a</sup> Other response included diploma (n=9) and nursing school (n=1).

## Professional Work Experience

### Prior Work Experience in Health Care

Respondents were asked to indicate whether or not they had prior experience in health care. The majority (n=301, 99.3%) of site directors reported prior work experience in health care. Response results are provided in Table 4.4.

### Duration of Prior Health Care Experience

A follow up item on the survey asked respondents who reported that they had prior health care experience to indicate the duration of prior work experience (in years). Among the 301 site directors reporting prior work experience in health care, 276 (91.7%) reported the duration of prior work experience in health care. The mean years of prior experience in health care for the site director participants was 21.98 years (SD =8.99) with a range of 1 to 43 years.

Table 4.4

Prior Work Experience in Health Care by Site Directors Employed by a Home Health Care System in the United States

Prior Health Care Work Experience	<i>n</i>	%
Yes	301	99.3
No	2	0.7
Total	303	100.0

*Note.* One participant failed to respond to the prior work experience item on the survey.

To further examine the data, experience of subjects were grouped into years of prior experience ranges and the number of site directors in experience range was identified. The years of prior experience ranges that were selected began at five years or less and progressed in five year increments until greater than 40 years. The experience category with the largest number of respondents was 16-20 years ( $n=69$ , 25.0%). The experience category with the smallest number of respondents was greater than 40 ( $n=3$ , 1.1%). The years of prior health care experience distribution of the active site director respondents is provided in Table 4.5.

#### **Prior Health Care Experience in Clinical Specialty Areas**

Respondents were also described based upon their experience in clinical specialty areas. Respondents were asked to check the clinical specialties in which they had experience from the categories of “Ambulatory Care Nursing,” “Cardiac Nursing,” “Case Management Nursing,” “College Health Nursing,” “Community Health Nursing,” “General Nursing Practice,” “Gerontological Nursing,” “High-Risk Perinatal Nursing,” “Home Health Nursing,” “Informatics Nursing,” “Medical-Surgical Nursing,” “Nurse Executive,” “Nursing Professional

Table 4.5

Years of Prior Work Experience in Health Care of Site Directors Employed by a Home Health Care System in the United States

Length (in Years)	<i>n</i>	%
≤ 5	8	2.9
6-10	18	6.5
11-15	45	16.3
16-20	69	25.0
21-25	49	17.8
26-30	37	13.4
31-35	31	11.2
36-40	16	5.8
> 40	3	1.1
Total	276 <sup>a</sup>	100.0

*Note.* Mean years of prior experience= 21.98 years, SD = 8.99. The minimum is 1 year and the maximum is 43 years.

<sup>a</sup> Of the participants who indicated that they had prior health care experience, 25 did not provide information regarding number of years of experience.

Development,” “Pain Management,” “Pediatric Nursing,” “Perinatal Nursing,” “Psychiatric & Mental Health Nursing,” “School Nursing,” and “Other (please specify).” Instructions were provided for respondents to check all that apply (Appendix F). Among site director respondents, home health (n=269, 88.5%) and medical surgical (n=207, 68.1%) were the two clinical specialty areas that were reported by the largest groups of respondents. Only 6 respondents (2.0%) reported prior experience in informatics nursing. The distribution for prior work experience in clinical specialty areas among site director respondents is presented in Table 4.6.

Table 4.6

Distribution of Prior Work Experience in Clinical Specialty Areas by Site Directors Employed by a Home Health Care System in the United States

Clinical Specialty Areas	<i>n</i>	%
Home Health Nursing	269	88.5
Medical- Surgical Nursing	207	68.1
General Nursing	137	45.1
Gerontological Nursing	112	36.8
Cardiac Nursing	97	31.9
Case Management Nursing	97	31.9
Other <sup>a</sup>	88	28.9
Community Health Nursing	84	27.6
Nurse Executive Nursing	70	23.0
Ambulatory Care Nursing	50	16.4
Pediatric Nursing	34	11.2
Pain Management Nursing	32	10.5
Psychiatric & Mental Health Nursing	31	10.2
Nursing Professional Development	29	9.5
Perinatal Nursing	22	7.2
High-Risk Perinatal Nursing	19	6.3
School Nursing	14	4.6
College Health	8	2.6
Informatics Nursing	6	2.0

<sup>a</sup>A complete list of all “Other” specialties is reported in Appendix O.

## **International Experience**

### **Prior International Work Experience**

Another variable on which respondents were described was prior international work experience. Respondents were asked specifically to "list the country(ies) where they had previously worked, followed by the duration (in months) in each country (i.e. Canada 12)". They were instructed to skip this question if they have only worked in the United States. Prior international work experience was reported by 4.9% of site directors (n=15). A listing of the countries reported for international work experience is presented in Table 4.7. Three respondents provided responses listing "United States" and one listed "Hawaii" as the country of prior international work experience. Given that instructions in the survey question directed respondents to skip the question if work was performed only in the United States, these four responses were excluded from the analysis.

### **Number of International Work Experiences**

All of the participants responding to this survey question (n=15, 4.9%) reported one international work experience.

### **Duration of International Work Experience**

Respondents were asked to "list the duration of the international work experience (in months) next to each country." examine the data, duration of international work experience was grouped into ranges and the number of site directors in each range was identified. The ranges that were selected began at less than 12 months and progressed in 12-month increments until greater than 48 months.

category with the largest number of respondents was less than 12 (n=6, 40.0%). The duration category with the smallest number of subjects was 37-48 (n=1, 6.7%).

Table 4.7  
Location of International Work Experiences of Site Directors Employed by a Home Health Care System in the United States

Country	<i>n</i>	%
Germany	2	13.3
Saudi Arabia	2	13.3
Romania	1	6.7
Philippines	1	6.7
Mexico	1	6.7
Italy	1	6.7
Cuba	1	6.7
Grand Cayman	1	6.7
Sweden	1	6.7
Europe	1	6.7
China	1	6.7
Brazil	1	6.7
Belgium	1	6.7
Total	15	100.0

The majority of respondents (n=10, 66.7%) reported international work experiences of 24 months or less. The distribution for the duration of international work experiences among site directors is presented in Table 4.8. Four respondents noted the term “years” after writing the

numeric length of experience. Therefore, the researcher converted the numeric years into months to recode the response accordingly.

Table 4.8

Duration of International Work Experience of Site Directors Employed by a Home Health Care System in the United States

Duration (in Months)	<i>n</i>	%
Less than 12	6	40.0
12-24	4	26.7
25-36	2	13.3
37-48	1	6.7
Greater than 48	2	13.3
Total	15	100.0

*Note.* Mean = 30.97, SD = 37.18. The minimum is 2 months and the maximum is 132 months.

### **Prior International Non-Work Experience**

Respondents were also asked to indicate prior international non-work experience. The survey item specifically asked: “Prior International NON-WORK experience. Please list the country(ies) where you have previously traveled, followed by the duration (in days) in each country (i.e. Canada 12). Examples of this may include but are not limited to short visits to a foreign country, a mission trip, a trip to study abroad. If you have not traveled outside of the United States, you may skip this question.” Of the survey respondents there were 138 respondents (45.4%) who reported prior international non-work experience.

### **Number of International Non-Work Experiences**

Another variable on which the respondents were described was the number of international non-work experiences. The mean number of international non-work experiences of the site director respondents was 3.30 (SD = 2.43) with a range of one to eleven. To further



examine the data, the number of international non-work experiences was grouped into ranges and the number of site directors in each range was identified. The ranges that were selected began at 1-2 experiences and progressed in increments of two until nine or more experiences. Of the 138 directors who reported prior international non-work experience, the majority of respondents (n=70, 50.7%) reported one to two international non-work experiences. The category with the smallest number of subjects was nine or more (n=3, 2.2%). The distribution for the number of international non-work experiences is presented in Table 4.9.

Table 4.9  
Number of International Non-Work Experiences of Site Directors Employed by a Home Health Care System in the United States

Number	<i>n</i>	%
1-2	70	50.7
3-5	41	29.7
6-8	24	17.4
≥ 9	3	2.2
Total	138	100.0

*Note.* Mean = 3.30, SD =2.43. The minimum is 1 and the maximum is 11 international non-work experiences.

### **Duration of International Non-Work Experience**

Another variable on which the respondents were described was the total duration of international non-work experiences. This variable sought to determine how much time the respondent's spent abroad exclusive of work experience. As stated above, respondents were also asked to identify on the survey the duration of each international non-work experience.

Some responses to the survey items required special consideration for coding purposes. First, although respondents were asked to provide the duration of experiences in days, seven respondents indicated the duration of experience in years, five respondents indicated the duration

in months and seven respondents indicated the duration of experience in weeks. To code these responses, the researcher converted the years, weeks and months respectively into day increments.

A second coding issue was the failure to commit to an exact number of days. One individual provided a response of “Mexico too many times to count days.” For this case, the researcher came to the conclusion that not enough information was available to intuitively identify the duration of the experience. Therefore, for this case, the duration on this experience was coded as “missing” and was excluded from the analysis. Another respondent provided the response of “Mexico 2-3 weeks at a time, disaster work Red Cross.” The researcher coded the duration of the prior experience at the midpoint between two and three weeks as 17.5 days. Another individual responded, “German-born, in country 3 years, back to visit 2 weeks.” The researcher interpreted this response to mean the respondent lived in Germany for three years at birth and returned subsequently for a 2 week period. Therefore, the duration of the prior experience was coded as 14 days, the length of the subsequent trip. Another individual responded as follows: “FRANCE 365+.” The researcher interpreted this response to mean the respondent’s prior international non-work experience in France was greater than 365 days; however, the amount of time exceeding 365 days was unknown. Therefore, the researcher coded the duration as 365 days.

Of the 138 respondents reporting international non-work experience, 120 respondents (86.9%) reported length of the respective international non-work experiences. The average length was 148.23 days (SD=330.60). The reported international non-work experiences ranged from a low of 1 day to a high of 1,820 days. To further examine the data, duration of international non-work experiences was grouped into ranges and the number of site directors in each range was identified. The ranges selected for duration began at ten days or less and

progressed in ten day increments until 181 days or more. The duration category with the largest number of respondents was ten days or less (n=34, 28.3%). The duration categories containing the smallest number of respondents were 121-140 days (n=1, 0.8%) and 141-160 days (n=1, 0.8%). The distribution of the total length of international non-work experiences of site director respondents is provided below in Table 4.10.

Table 4.10  
Total Duration of International Non-Work Experiences of Site Directors Employed by a Home Health Care System in the United States

Duration (in days)	<i>n</i>	%
$\leq 10$	34	28.3
11-20	16	13.3
21-40	23	19.2
41-60	12	10.0
61-80	5	4.2
81-100	6	5.0
101-120	3	2.5
121-140	1	.8
141-160	1	.8
161-180	3	2.5
$\geq 181$	16	13.3
Total	120	100.0

*Note.* Mean = 148.23, SD = 330.60. The minimum is 1 day and the maximum is 1,820 days.

## **Language Acquisition**

### **English as the Native Language**

Respondents were asked to indicate if English was their native language. The majority of respondents (n=295, 97.0%) indicated English as their native language. A subsequent survey question asked respondents to identify a native language other than English if the answer to the above-mentioned question was “no.” Seven of the respondents (2.3%) reported a native language other than English. The languages included Spanish (n=2), Swedish (n=1), Portuguese (n=1), German (n=1), Chinese (n=1), and Tagalog (n=1).

### **Proficiency in additional languages**

Respondents were also asked to indicate proficiency in any additional languages other than their native language. Of the total respondents (n=304), 22 site directors (7.2%) reported proficiency in an additional language. A follow up question asked respondents “to identify those languages of proficiency.” Responses from the site directors who reported proficiency in an additional language were as follows: Spanish (n=10), French (n=4), English (n=2) German (n=2), Pigeon (n=1) and French-Creole, Spanish (n=1). Two respondents reported proficiency in an additional language but failed to respond in identifying the specific language.

### **Hobbies and Personal Interests**

Respondents were asked to indicate their hobbies and personal interests. The survey item specifically asked respondents to “Please check if any of the following are hobbies or personal interests: Reading, Community Service, Music, Travel, Sports & Fitness, Movies, Arts & Theater, Other (please specify). Check all that apply.” The hobby reported most frequently among site director respondents was reading (n=236, 77.6%). The distribution for the hobbies and personal interests of site directors is presented in Table 4.11.

Table 4.11  
Hobbies and Personal Interests of Site Directors Employed by a Home Health Care System in the United States

Hobbies & Personal Interests	<i>n</i>	%
Reading	236	77.6
Travel	182	59.9
Music	180	59.2
Movies	158	52.0
Sports/Fitness	110	36.2
Community Service	102	33.6
Arts/Theater	92	30.3
Other	49 <sup>a</sup>	16.1

<sup>a</sup> A complete list of all “Other” hobbies and interests is reported in Appendix P.

## Volunteerism

### Volunteer Activities

Another variable on which the site director participants were described was volunteerism. Respondents were asked to indicate whether or not they participate in voluntary/community service activities on a routine, recurring basis. The majority of respondents (n=192, 63.8%) reported no participation in voluntary activities. Volunteer activity was reported by 109 respondents (36.2%). Three respondents (1.0%) failed to respond to the question.

### Duration of Volunteer Activities

A follow up question asked respondents to "indicate the approximate length of voluntary activity on a monthly basis (in hours)". Of the 109 respondents who reported participation in voluntary activities, 91 (83.4%) respondents reported the monthly frequency of volunteer activity. The mean number of monthly volunteer activity hours of the site directors was 8.05 (SD=8.07) with a range of 1-48 hours. To further examine the data, duration of volunteer activities was grouped into ranges and the number of site directors in each range was identified. The ranges selected for duration of volunteer activity began at eight hours per month or less and progressed in eight hour increments until greater than 35 hours per month. The duration category with the largest number of respondents was less than eight hours per month (n=62, 68.1%). The category of duration containing the smallest number of respondents was 27-35 hours per month (n=1, 1.1%). The distribution of the monthly participation in voluntary activities of site director respondents is provided below in Table 4.12.

Table 4.12  
Monthly Participation in Voluntary Activities of Site Directors Employed by a Home Health Care System in the United States

Hours (per month)	<i>n</i>	%
≤8	62	68.1
9-17	21	23.1
18-26	5	5.5
27-35	1	1.1
>35	2	2.2
Total	91	100.0

*Note.* Mean = 8.05, SD=8.07. The minimum is 1 hour and the maximum is 48 hours.

## Tenure within the Organization

### Organizational Tenure

Respondents were also described in terms of tenure of professional work experience within the organization. The mean organizational tenure of the site directors was 7.29 years (SD=6.24). The least amount of organizational tenure was less than one year and the greatest amount was 37 years. To further examine the data, years of organizational tenure of respondents were grouped into ranges and the number of site directors in each range was identified. The ranges that were selected began at six years or less and progressed in 6 year increments until 35 years or more. The organizational tenure category with the largest number of respondents was six years or less (n=186, 61.2%). The organizational tenure category of 28-34 years contained no respondents (n=0). The organizational tenure distribution for the active site director respondents is presented in Table 4.13.

Table 4.13  
Organizational Tenure of Site Directors Employed by a Home Health Care System in the United States

Tenure in years	<i>n</i>	%
≤ 6	186	61.2
7-13	73	24.0
14-20	36	11.8
21-27	6	2.0
28-34	0	0.0
≥35	3	1.0
Total	304	100.0

*Note.* Mean = 7.29, SD = 6.24. The minimum is less than 1 year and the maximum is 37 years.

## Position Tenure

Respondents were also described in terms of tenure of professional work experience within the site director position. The mean years of position tenure of the site director respondents was 4.36 years (SD=4.28). The least amount of position tenure held was less than one year, and the greatest amount of position tenure was 35 years. To further examine the data, years of position tenure of respondents were grouped into ranges and the number of site directors in each range was identified. The ranges that were selected began at six years or less and progressed in 6 year increments until 35 years or more. The category with the largest number of respondents was six years or less (n=261, 85.9%). The category of 28-34 years contained no respondents (n=0). The position tenure distribution for the active site director respondents is presented in Table 4.14.

Table 4.14  
Position Tenure of Site Directors Employed by a Home Health Care System in the United States

Tenure in years	<i>n</i>	%
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Tenure in years	<i>n</i>	%
≤6	261	85.9
7-13	27	8.9
14-20	14	4.6
21-27	1	.3
28-34	0	0
≥35	1	.3
Total	304	100

*Note.* Mean =4.36, SD 4.28. The minimum is 1 year and the maximum is 35 years.



## Geographic Location

Respondents were described by geographic location. Geographic location of the respondents included data at the region and division level as well as rural/urban population designations.

### Region

Respondents were described based upon their respective region, as designated by the US Census Bureau (Appendix Q). The four regions include Northeast, Midwest, South, and West. The Northeast region includes division one (New England) and division two (Mid-Atlantic). The Midwest region includes division three (East North Central) and division four (West North Central). The South region includes division five (South Atlantic), division six (East South Central), and division seven (West South Central). The West region included division eight (Mountain) and division nine (Pacific). The majority (n=232, 76.3%) of respondents were located in the South region. The distribution of the site director participants among regions is provided in Table 4.15.

Table 4.15  
Regional Distribution of Site Directors Employed by a Home Health Care System in the United States

Region	<i>n</i>	%
South	232	76.3
Midwest	29	9.5
West	26	8.6
Northeast	17	5.6
Total	304	100.0

### Division

Respondents were also described based upon their respective geographic division. The US Census Bureau designates nine divisions including: (1) New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut; (2) Mid-Atlantic: New York, Pennsylvania, and New Jersey; (3) East North Central: Wisconsin, Michigan, Illinois, Indiana, and Ohio; (4) West North Central: Missouri, North Dakota, South Dakota, Nebraska, Kansas, Minnesota, and Iowa; (5) South Atlantic: Delaware, Maryland, Washington D.C., Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida; (6) East South Central: Kentucky, Tennessee, Mississippi, and Alabama; (7) West South Central: Oklahoma, Texas, Arkansas, and Louisiana; (8) Mountain: Idaho, Montana, Wyoming, Nevada, Utah, Colorado, Arizona, and New Mexico; and (9) Pacific: Alaska, Washington, Oregon, California, and Hawaii. The division that had the largest number of study participants was the South Atlantic division (n=113, 37.2%). The distribution of the site director participants among divisions is provided in Table 4.16.

Table 4.16  
Divisional Distribution of Site Directors Employed by a Home Health Care System in the United States

Division	<i>n</i>	%
5 South Atlantic: DE, MD, DC, VA, WV, NC, SC, GA, FL	113	37.2
6 East South Central: KY, TN, MS, AL	93	30.6
7 West South Central: OK, TX, AR, LA	26	8.6
3 East North Central: WI, MI, IL, IN, OH	23	7.6
9 Pacific: AL, WA, OR, CA, HI	15	4.9
8 Mountain: ID, MT, WY, NV, UT, CO, AZ, NM	11	3.6

(table 4.16 cont'd)

2 Mid-Atlantic: NY, PA, NJ	10	3.3
1 New England: ME, NH, VT, MA, RI, CT	7	2.3
4 West North Central: MO, ND, SD, NE, KS, MN, IA	6	2.0
Total	304	100.0

### **Rural/ Urban Continuum**

Respondents were also described based upon the population size of their geographic location. Using the Rural Urban Continuum Code as designated by the United States Department of Agriculture, respondents were described in accordance with the nine code designations (USDA, 2004). These include: (1) Counties in metro areas of 1 million population or more; (2) Counties in metro areas of 250,000 to 1 million population; (3) Counties in metro areas of fewer than 250,000 population; (4) Urban population of 20,000 or more, adjacent to a metro area; (5) Urban population of 20,000 or more, not adjacent to a metro area; (6) Urban population of 2,500 to 19,999, adjacent to a metro area; (7) Urban population of 2,500 to 19,999, not adjacent to a metro area; (8) Completely rural or less than 2,500 urban population, adjacent to a metro area; and (9) Completely rural or less than 2,500 urban population, not adjacent to a metro area. The rural urban continuum that had the largest number of study participants was the Rural Urban Continuum-1: Metro areas of 1 million or more (n=99, 32.6%). The rural urban continuum that had the smallest number of respondents was the Rural Urban Continuum-5: Urban population 20,000 or more, not adjacent to metro area (n=2, 0.7%). The distribution of site director participants by rural urban continuum is provided in Table 4.17.

## Worksite Demographics

Respondents were also described on several worksite demographics that included hire type (internal or external hire); worksite type (acquired or organic entity); workforce-racial composition (percentage of minority and majority employees at the worksite); workforce-size (number of employees); and patient census (average daily number of patients).

### Hire Type

Respondents were described on their entry into the site director role. More specifically, the respondents were classified as being hired internally into the site director role or hired from an external source. For this variable, the majority of respondents were hired from sources internal to the organization (n=164, 53.9%). Respondents hired from external sources into the site director role accounted for 46.1% of the sample (n=140).

Table 4.17  
Distribution of Site Directors Employed by a Home Health Care System in the United States – Rural/Urban Population Size

Rural Urban Continuum Code	<i>n</i>	%
1- Counties in metro areas of 1 mill or more	99	32.6
2- Counties in metro area of 250,000 - 1 mill	70	23.0
3- Counties in metro areas of fewer than 250,000	48	15.8
6- Urban pop of 2,500 - 19,999, adj. to metro area	32	10.5
4- Urban pop 20,000 or more, adj. to metro area	23	7.6
7- Urban pop of 2,500 - 19,999, not adj. to metro area	17	5.6
8- Completely rural or less than 2,500 urban pop, adj. to metro area	7	2.3
9- Completely rural or less than 2,500 urban, not adj. to metro area	6	2.0
5- Urban pop 20,000 or more, not adj. to metro area	2	.7
Total	304	100.0

## **Worksite Type**

Another selected variable on which the respondents were described was whether or not the site was an acquired entity. The researcher reviewed internal data that denoted the acquisition locations for the respondents. A site that had been purchased or acquired from another entity was considered ‘acquired’ by the company. A site that was launched from within the company was considered ‘organic’ for this study. For this variable, the majority 55.6% (n=169) of the respondents manage worksites that are acquired entities and 44.4% (n=135) of the respondents manage worksites that are organic entities.

## **Workforce-Racial Composition**

The racial and ethnic composition of the worksites where the site directors were employed was also described using internal data from the organization’s human resources department. The data provided to the researcher included the number of employees and was further categorized by the employee’s racial and ethnic group. Racial and ethnic groups included “African American/Black,” “American Indian/ Alaska Native,” “Asian,” “Caucasian/White,” “Hispanic/Latino,” “Multi-Racial,” and “Native Hawaiian/Other Pacific Islander.” The researcher computed the percentage of employees among each racial and ethnic group for each worksite. The data is presented in the tables 4.18-4.25 below.

### African American/Black Employees

The mean percentage of African American / Black employees among the worksites was 9.70 (SD= 12.19) with a range from 0.00 to 82.93%. To further examine the data, the percentage of African American/Black employees among worksites was grouped into ranges and the number of site directors in each range was identified. The ranges selected for the percentage of African American/Black employees among worksites began at 20% or less and progressed in 20 percentage point increments until 80.01 percent or greater. The category with the largest

number of respondents was 20.00% or less (n=299, 98.4%). The categories of 40.01-60.00 % (n=0, 0.0%) and 60.01-80.00 % contained no respondents. The distribution of the percentage of African American/Black employees among worksites is presented in Table 4.18.

Table 4.18  
Distribution of African American/Black Employees among Worksites

% Black/African American Employees	<i>n</i>	%
$\leq 20.00$	299	98.4
20.01 – 40.00	4	1.3
40.01 – 60.00	0	0.0
60.01 – 80.00	0	0.0
$\geq 80.01$	1	0.3
Total	304	100.0

*Note.* Mean=9.70, SD=12.19. The minimum is 0.00% and the maximum is 82.93%.

#### American Indian / Alaska Native Employees

The mean percentage of American Indian / Alaska Native employees among the worksites is .40 (SD=1.63) with a range from 0.00-13.64%. Further, 277 sites (91.1%) had no American Indian/Alaska Native employees. To further examine the data, the percentage of American Indian/Alaska Native employees among worksites was grouped into ranges and the number of site directors in each range was identified. The ranges selected for the percentage of American Indian/Alaska Native employees among worksites began at three percent or less and progressed in three percentage point increments until 9.01 percent or greater. The category with

the largest number of respondents was three percent or less (n=290, 95.4%). The categories with the smallest number of respondents were 6.01 to 9.00% (n=3, 1.0%) and 9.01% or greater (n=3, 1.0%). The distribution of the percentage of American Indian/Alaska Native employees among worksites is presented in Table 4.19.

Table 4.19  
Distribution of American Indian/Alaska Native Employees among Worksites

% American Indian / Alaska Native Employees	<i>n</i>	%
≤3.00	290	95.4
3.01 – 6.00	8	2.6
6.01 – 9.00	3	1.0
≥ 9.01	3	1.0
Total	304	100.0

*Note.* Mean=.40, SD=1.63. The minimum is 0.00% and the maximum is 13.64%.

### Asian Employees

The mean percentage of Asian employees among the worksites is 2.21(SD=4.15) with a range from 0.00 to 23.53%. Further, 200 sites (65.8%) had no Asian employees. To further examine the data, the percentage of Asian employees among worksites was grouped into ranges and the number of site directors in each range was identified. The ranges selected for the percentage of Asian employees among worksites began at three percent or less and progressed in three percentage point increments until 9.01 percent or greater. The category with the largest number of respondents was three percent or less (n=225, 74.0%). The category with the smallest number of respondents was 6.01 to 9.00% (n=20, 6.6%). The distribution of the percentage of Asian employees among worksites is presented in Table 4.20.

Table 4.20  
Distribution of Asian Employees among Worksites

% Asian Employees	<i>n</i>	%
$\leq 3.00$	225	74.0
3.01 – 6.00	36	11.8
6.01 – 9.00	20	6.6
$\geq 9.01$	23	7.6
Total	304	100.0

*Note.* Mean=2.21, SD=4.15. The minimum is 0.00% and the maximum is 23.53%.

#### Caucasian/White Employees

The mean percentage of Caucasian/White employees among the worksites is 84.95(SD=14.12) with a range from 29.40-100.00%. Further, 58 sites (19.1%) were comprised of 100.0% Caucasian/White employees. To further examine the data, the percentage of Caucasian/White employees among worksites was grouped into ranges and the number of site directors in each range was identified. The ranges selected for the percentage of Caucasian/White employees among worksites began at 20.00% or less and progressed in 20 percentage point increments until 80.01 % or greater. The category with the largest number of respondents was 80.01 % or greater (n=209, 68.8%). The category of 20.00% or less contained no respondents. The distribution of the percentage of Caucasian/White employees among worksites is presented in Table 4.21.



Table 4.21

Distribution of Caucasian/White Employees among Worksites

<u>% Caucasian/White Employees</u>	<u><i>n</i></u>	<u>%</u>
$\leq 20.00$	0	0.0
20.01 – 40.00	4	1.3
40.01 – 60.00	19	6.3
60.01 – 80.00	72	23.7
$\geq 80.01$	209	68.7
Total	304	100.0

*Note.* Mean=84.95, SD=14.12. The minimum is 29.41% and the maximum is 100.00%.

Hispanic/Latino Employees

The mean percentage of Hispanic/Latino employees is 2.04(SD= 5.63) with a range from 0.00-50.98%. Of the worksites included in the study, 225 had no Hispanic/Latino employees. To further examine the data, the percentage of Hispanic/Latino employees among worksites was grouped into ranges and the number of site directors in each range was identified. The ranges selected for the percentage of Hispanic/Latino employees among worksites began at 20.00% or less and progressed in 20 percentage point increments until 80.01% or greater. The category with the largest number of respondents was 20.00% or less (n=300, 98.7%). The categories of 60.01-80.00% and greater than or equal to 80.01% contained no respondents. The distribution of the percentage of Hispanic/Latino employees among worksites is presented in Table 4.22.

Multi-Racial Employees

The mean percentage of Multi-Racial employees is .96(SD=2.40) with a range from 1.00-18.18%. Further, 242 sites (79.6 %) had no Multi-Racial employees. To further examine the data, the percentage of Multi-Racial employees among worksites was grouped into ranges and

Table 4.22

Distribution of Hispanic/Latino Employees among Worksites

<u>% Hispanic / Latino Employees</u>	<i>n</i>	%
$\leq 20.00$	300	98.7
20.01 – 40.00	2	0.7
40.01 – 60.00	2	0.7
60.01 – 80.00	0	0.0
$\geq 80.01$	0	0.0
Total	304	100.0

*Note.* Mean=2.04, SD=5.63. The minimum is 0.00% and the maximum is 50.98%.

the number of site directors in each range was identified. The ranges selected for the percentage of Multi-Racial employees among worksites began at three percent or less and progressed in three percentage point increments until 9.01 percent or greater. The category with the largest number of respondents was three percent or less (n=266, 87.5%). The category with the smallest number of respondents was 6.01-9.00% (n=7, 2.3%). The distribution of the percentage of Multi-Racial employees among worksites is presented in Table 4.23.

Native Hawaiian / Other Pacific Islander Employees

The mean percentage of Native Hawaiian/ Other Pacific Islander employees is .20 (SD=.88) with a range from 0.00 to 6.67%. Further, 286 sites (94.1 %) had no Native Hawaiian/Other Pacific Islander employees. To further examine the data, the percentage of Native Hawaiian / Other Pacific Islander employees among worksites was grouped into ranges and the number of site directors in each range was identified. The ranges selected for the percentage of Native Hawaiian / Other Pacific Islander employees among worksites began at

Table 4.23

## Distribution of Multi-Racial Employees among Worksites

% Multi-Racial Employees	<i>n</i>	%
$\leq 3.00$	266	87.5
3.01 – 6.00	20	6.6
6.01 – 9.00	11	3.6
$\geq 9.01$	7	2.3
Total	304	100

*Note.* Mean=.96, SD=2.40. The minimum is 0.00% and the maximum is 18.18%.

three percent or less and progressed in three percentage point increments until 9.01 percent or greater. The category with the largest number of respondents was three percent or less ( $n=294$ , 96.7%). The category of 9.01 percent or greater contained no respondents. The category with the smallest percentage of respondents was 6.01-9.00 ( $n=1$ , .3%). The distribution of the percentage of Native Hawaiian / Other Pacific Islander employees among worksites is presented in Table 4.24.

Table 4.24

## Distribution of Native Hawaiian/Other Pacific Islander Employees among Worksites

% Multi-Racial Employees	<i>n</i>	%
$\leq 3.00$	294	96.7
3.01 – 6.00	9	3.0
6.01 – 9.00	1	0.3
$\geq 9.01$	0	0.0
Total	304	100

*Note.* Mean=.20, SD=.88. The minimum is 0.00% and the maximum is 6.67%.

To further describe the workforce, the researcher also aggregated the racial and ethnic groups according to percentage majority (Caucasian/White) and percentage minority (Non-white). To accomplish this, the researcher coded the racial and ethnic groups according to the percentage of majority and minority employees. Minority employees were defined as employees in the following categories: “African American / Black,” “American Indian / Alaska Native,” “Asian,” “Hispanic/Latino,” “Multi-Racial,” and “Native Hawaiian / Other Pacific Islander.” Employees in this category were assigned a designated code of “1” in the statistical analysis. “Caucasian / White” employees were assigned a code of “2.” The employees were described according to minority and majority percentage representations in the workplace. The mean percentage of minority employees was 15.50 (SD=15.07) a range of 0.00-85.37%. To further examine the data, percentage of minority employees were grouped into ranges and the number of site directors in each range was identified. The ranges that were selected began at 20% or less and progressed in 20% increments until 80.01% or more. The majority of sites were comprised of 20.00% or less minority employees (n=213, 70.1%). The category with the smallest number of respondents was 80.01% or more (n=1, 0.3%). The percentage of minority employees among worksites of the responding site directors is described in Table 4.25.

### **Workforce size**

Internal data from the organization’s human resources department was used to describe the number of employees per worksite. The data included all active employees. The mean number of employees per worksite was 31.07 (SD=41.98). To further examine the data, the number of employees per worksite was grouped into ranges and the number of site directors in each range was identified. The ranges selected for the number of employees per worksite began at 20 or less and progressed in 20 point increments until 101 employees or greater. The category with the largest number of respondents was 21-40 (n=132, 43.4%). The categories with the

Table 4.25

Percentage of Minority Employees Under the Supervision of Responding Site Directors  
Employed by a Home Health Care System in the United States

% of Minority Employees	<i>n</i>	%
≤ 20	213	70.1
20.01-40.00	69	22.7
40.01-60.00	17	5.6
60.01-80.00	4	1.3
≥ 80.01	1	.3
Total	304	100.0

*Note.* Mean=15.50, SD=15.07. The minimum is 0.00% and the maximum is 85.37%.

smallest number of respondents included 81-100 (n=2, 0.7%) and 101 or greater (n=2, 0.7%).

The majority of worksites were comprised of 40 employees or less (n=241, 79.2%). The distribution of the number of employees among worksites is presented in Table 4.26.

#### **Patient Census (Average Daily Number of Patients)**

The respondents were described based upon the average number of patients served by their worksite during the previous six month period. Internal data was provided to the researcher that included a six month average daily patient census for the site director respondents. The mean number of patients served under the direction of the respondents was 143.08 (SD=103.38) with a range of 0-609 patients. To further examine the data, the number of patients was grouped into ranges and the number of site directors in each range was identified. The ranges that were selected began at less than or equal to 100 patients and progressed in increments of 100 until 601 patients or larger. The majority of respondents maintained an average patient count of 200 or less (n=238, 78.3%).

Table 4.26

Size of Workforce for Responding Site Directors Employed by a Home Health Care System in the United States

Number of Employees per Worksite	<i>n</i>	%
≤ 20	109	35.8
21-40	132	43.4
41-60	46	15.1
61-80	13	4.3
81-100	2	0.7
≥101	2	0.7
Total	304	100.0

*Note.* Mean=31.07, SD=41.98. The minimum is 1 employee and the maximum is 705 employees.

The distribution of average patient counts of site director respondents is presented in Table 4.27.

Table 4.27

Average Patient Count of Site Director Participants

Daily Average Number of Patients	<i>n</i>	%
≤ 100	118	38.8
101-200	120	39.5
201-300	40	13.2
301-400	17	5.6
401-500	7	2.3
501-600	1	0.3
≥ 601	1	0.3
Total	304	100.0

*Note.* Mean=143.08, SD=103.38. The minimum is 0 patients and the maximum is 609 patients.

## **Objective Two**

The second objective was to determine the levels of cultural intelligence as measured by the scales of the 20-item Cultural Intelligence Scale (CQS) - Self Report, an instrument that measures the four subscales of cultural intelligence and the overall level of cultural intelligence. This objective determined the cultural intelligence levels of the respondents as measured by their responses to the items on each of the four subscales of the CQS. The CQ-Strategy (Meta-cognitive) subscale consisted of four statements. The CQ-Knowledge (Cognitive) subscale consisted of six statements. The CQ-Motivation subscale included five statements, and the CQ-Behavior subscale included five statements.

Responses were measured using a 7-point Likert-type scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). There is no known interpretive scale for the CQS-Self Report instrument in the literature. However, Earley et al. (2006) provided an interpretive scale in a prior version of the CQS-self assessment. The scale contains three categories for overall cultural intelligence including excellent overall CQ, average overall CQ, and need to develop overall CQ. The research grouped the scores into these three categories as follows: 1-2(need to develop overall CQ); 3-5(average overall CQ); 6-7 (excellent overall CQ). The Earley et al. (2006) also contained an interpretive scale for the subscales of cultural intelligence. The scale contains three categories for each subscale of cultural intelligence including excellent, moderate, and red alert. The researcher grouped the scores into these three categories as follows: 1-2 (red alert); 3-5 (moderate);and 6-7 (excellent).

The items with the highest scores included: "I enjoy interacting with people from different cultures" (M = 5.77, SD 1.25) and "I am conscious of the cultural knowledge I use when interacting with people from different cultural backgrounds" (M = 5.69, SD =1.21). Scores on both items are in the average overall CQ category. The items with the lowest scores

included: “I know the rules (e.g., vocabulary, grammar) of other languages” (M = 2.87, SD = 1.47) and “I know the legal and economic systems of other cultures” (M = 3.21, SD = 1.45).

Scores on both items are in the red alert category. The mean and standard deviation of each item in the cultural intelligence scale (CQS) is presented in Table 4.28.

Table 4.28  
Mean Item Scores on the Cultural Intelligence Scale (CQS) of Site Director Participants

Item	Mean <sup>a</sup>	SD
<b>CQ-Strategy (Meta-cognitive)</b>		
1. I am conscious of the cultural knowledge I use when interacting with people from different cultural backgrounds.	5.69	1.21
2. I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.	5.47	1.21
3. I am conscious of the cultural knowledge I apply to cross-cultural interactions.	5.46	1.18
4. I check the accuracy of my cultural knowledge as I interact with people from different cultures.	5.09	1.34
<b>CQ-Knowledge (Cognitive)</b>		
5. I know the arts and crafts of other cultures.	3.38	1.36
3. I know the cultural values and religious beliefs of other cultures.	3.70	1.46
4. I know the marriage systems of other cultures.	3.33	1.41
6. I know the rules for expressing non-verbal behaviors in other cultures.	3.29	1.51
1. I know the legal and economic systems of other cultures.	3.21	1.45
2. I know the rules (e.g., vocabulary, grammar) of other languages.	2.87	1.47
<b>CQ-Motivation</b>		
1. I enjoy interacting with people from different cultures.	5.77	1.25
2. I am confident that I can socialize with locals in a culture that is unfamiliar to me.	5.27	1.40
3. I am sure I can deal with the stresses of adjusting to a culture that is new to me.	5.23	1.35
5. I am confident that I can get accustomed to the shopping conditions in a different culture.	4.76	1.61
4. I enjoy living in cultures that are unfamiliar to me.	4.19	1.67
<b>CQ-Behavior</b>		
3. I vary the rate of my speaking when a cross-cultural situation requires it.	4.79	1.49
4. I change my nonverbal behavior when a cross-cultural situation requires it.	4.79	1.48
5. I alter my facial expressions when a cross-cultural interaction requires it.	4.61	1.57
2. I use pause and silence differently to suit different cross-cultural situations.	4.53	1.53
1. I change my verbal behavior (e.g., accent, tone) when a cross-cultural interaction requires it.	4.40	1.74

Note. The interpretive scale for the subscales contains three categories including excellent (6-7), moderate (3-5), and red alert (1-2).

<sup>a</sup> Response based on 7 point Likert-type scale with values of 1 (strongly disagree) to 7 (strongly agree).



An index was created for each subscale of the Cultural Intelligence Scale (CQS) to provide the mean of the respondents' scores on the items in the respective subscales. The subscale with the highest mean score was CQS-Strategy ( $M = 5.43$ ,  $SD=1.10$ ), and the subscale with the lowest mean score was CQS-Knowledge ( $M = 3.30$ ,  $SD=1.29$ ). The means and standard deviations for each subscale of the Cultural Intelligence Scale (CQS) are presented along with the overall scale in Table 4.29.

Table 4.29  
Cultural Intelligence Scale (CQS) Scores of Site Director Participants

Scale	Mean <sup>a</sup>	SD
CQS-Strategy (Meta-cognitive)	5.43	1.10
CQS-Knowledge (Cognitive)	3.30	1.29
CQS-Motivation	5.05	1.26
CQS-Behavior	4.62	1.39
CQS-Overall	4.60	0.93

*Note.*  $n = 304$ .

<sup>a</sup> Responses based on 7 point Likert-type scale with values of 1 (strongly disagree) to 7 (strongly agree).

### **Cultural Intelligence - Strategy (Meta-cognitive)**

The respondents were described based upon their score on the Cultural Intelligence-Strategy subscale of the Cultural Intelligence Scale (CQS). The mean score on the CQS-Strategy subscale was ( $M = 5.43$ ,  $SD = 1.10$ ) with a range of one to seven. To further examine the data, scores of the respondents were grouped into ranges and the number of site directors in each range was identified. The score ranges that were selected began at less than or equal to two and progressed in increments of one until greater than or equal to 6.01. The category with the largest

number of respondents was 5.01-6.00 (n=120, 39.5%). The distribution for the mean of Cultural Intelligence-Strategy scores is presented in Table 4.30.

Table 4.30  
Distribution of Cultural Intelligence Scale (CQS)- Strategy Subscale Scores of Site Directors Employed by a Home Health Care System in the United States

Score	<i>n</i>	%
$\leq 2.00$	4	1.3
2.01 – 3.00	8	2.6
3.01 – 4.00	23	7.6
4.01 – 5.00	75	24.7
5.01 – 6.00	120	39.5
$\geq 6.01$	74	24.3
Total	304	100.0

*Note.* Mean=5.43, SD=1.10. The minimum score is 1.0 and the maximum score is 7.0.

<sup>a</sup> Responses based on 7 point Likert-type scale with values of 1 (strongly disagree) to 7 (strongly agree).

### **Cultural Intelligence-Knowledge (Cognitive)**

The respondents were also described based upon their score on the Cultural Intelligence-Knowledge subscale of the Cultural Intelligence Scale (CQS). The mean score on the CQS-Knowledge subscale was 3.30 (SD = 1.29) with a range of one to seven. To further examine the data, scores of the respondents were grouped into ranges and the number of site directors in each range was identified. The score ranges that were selected began at less than or equal to two and progressed in increments of one until greater than or equal to 6.01. The category with the largest number of respondents was 3.01-4.00 (n=82, 27.0%). The distribution for the mean of Cultural Intelligence-Knowledge scores is presented in Table 4.31.

Table 4.31

Distribution of Cultural Intelligence Scale (CQS)- Knowledge Subscale Scores of Site Directors Employed by a Home Health Care System in the United States

Score	<i>n</i> <sup>a</sup>	%
≤ 2.00	63	20.7
2.01 – 3.00	80	26.3
3.01 – 4.00	82	27.0
4.01 – 5.00	54	17.8
5.01 – 6.00	18	5.9
≥ 6.01	7	2.3
Total	304	100.0

*Note.* Mean=3.30, SD=1.29. The minimum score is 1.0 and the maximum score is 7.

<sup>a</sup> Responses based on 7 point Likert-type scale with values of 1 (strongly disagree) to 7 (strongly agree).

### Cultural Intelligence - Motivation

The respondents were also described based upon their score on the Cultural Intelligence-Motivation subscale of the Cultural Intelligence Scale (CQS). The mean score on the Cultural Intelligence-Motivation subscale was 5.05 (SD = 1.26) with a range of one to seven. To further examine the data, scores of the respondents were grouped into ranges and the number of site directors in each range was identified. The score ranges that were selected began at less than or equal to two and progressed in increments of one until greater than or equal to 6.01. The category with the largest number of respondents was 5.01-6.00 (n=88, 28.9%). The distribution for the mean of Cultural Intelligence-Motivation scores is presented in Table 4.32.

Table 4.32

Distribution of Cultural Intelligence Scale (CQS)- Motivation Subscale Scores of Site Directors Employed by a Home Health Care System in the United States

Score	<i>n</i>	%
$\leq 2.00$	6	1.9
2.01 – 3.00	19	6.3
3.01 – 4.00	44	14.5
4.01 – 5.00	79	26.0
5.01 – 6.00	88	28.9
$\geq 6.01$	68	22.4
Total	304	100.0

*Note.* Mean=5.05, SD=1.26. The minimum score is 1.0 and the maximum score is 7.0.

<sup>a</sup> Responses based on 7 point Likert-type scale with values of 1 (strongly disagree) to 7 (strongly agree).

### Cultural Intelligence - Behavior

The respondents were also described based upon their score on the Cultural Intelligence-Behavior subscale of the Cultural Intelligence Scale (CQS). The mean score on the CQS-Behavior subscale was 4.62 (SD = 1.39) with a range of one to seven. To further examine the data, scores of the respondents were grouped into ranges and the number of site directors in each range was identified. The score ranges that were selected began at less than or equal to two and progressed in increments of one until greater than or equal to 6.01. The category with the largest number of respondents was 4.01-5.00 (n=93, 30.6%). The distribution for the mean of Cultural Intelligence-Behavior scores is presented in Table 4.33.

Table 4.33

Distribution of Cultural Intelligence Scale (CQS)-Behavior Scores of Site Directors Employed by a Home Health Care System in the United States

Score	<i>n</i> <sup>a</sup>	%
≤ 2.00	24	7.8
2.01 – 3.00	19	6.3
3.01 – 4.00	58	19.1
4.01 – 5.00	93	30.6
5.01 – 6.00	80	26.3
≥ 6.01	30	9.9
Total	304	100.0

*Note.* Mean=4.62, SD=1.39. The minimum score is 1.0 and the maximum score is 7.0.

<sup>a</sup> Responses based on 7 point Likert-type scale with values of 1 (strongly disagree) to 7 (strongly agree).

### Cultural Intelligence - Overall

To further summarize the information regarding cultural intelligence, an overall mean cultural intelligence score was computed as the mean of the 20 items. The overall mean for the respondents was 4.60 (SD=.94) ranging from 1.61 to 6.92. To further examine the data, scores of the respondents were grouped into ranges and the number of site directors in each range was identified. The score ranges that were selected began at less than or equal to two and progressed in increments of one until greater than or equal to 6.01. The category with greatest number of respondents was the 4.00-5.00 (n=115, 37.8%). The distribution for the overall mean of Cultural Intelligence Scale (CQS) scores is presented in Table 4.34.

Table 4.34

Distribution of Overall Mean of Cultural Intelligence Scale (CQS) Scores of Site Director Participants Employed at a Home Health System in the United States.

Score	<i>n</i> <sup>a</sup>	%
≤ 2.00	2	0.7
2.01 – 3.00	12	3.9
3.01 – 4.00	68	22.4
4.01 – 5.00	115	37.8
5.01 – 6.00	90	29.6
≥ 6.01	17	5.6
Total	304	100.0

*Note.* Mean=4.60, SD=.94. The minimum score is 1.61 and the maximum score is 6.92.

<sup>a</sup> Responses based on 7 point Likert-type scale with values of 1 (strongly disagree) to 7 (strongly agree).

### **Objective Three**

The third objective was to determine if a relationship exists between levels of cultural intelligence and selected demographic and biographical characteristics among site director study participants.

An a priori significance level of <.05 was used to determine if the independent variables were statistically significant. Of the variables compared, 13 variables were found to be statistically significant as they were not independent of the variable, cultural intelligence. They were as follows: prior health care experience in clinical specialty areas including case management, general nursing, and nurse executive; prior international work and non-work experience; number of international non-work experiences; duration of international work experiences; duration of international non-work experiences; proficiency in an additional

language; hobby-arts/theater; organizational tenure; geographic location- division; and workforce- racial composition.

The results for the other variables examined were not significant, indicating these were not related to the variable, cultural intelligence. They included age; gender; race/ethnicity; educational level; duration of prior professional health care experience; prior professional health care experience in clinical specialties including ambulatory care, cardiac nursing, community health nursing, gerontological nursing, high-risk perinatal, home health nursing, medical-surgical nursing, nursing professional development, pain management, pediatric nursing, perinatal nursing, psychiatric and mental health nursing, and school nursing; proficiency in additional languages; volunteer activities; duration of volunteer activities; hobbies and personal interests including reading, community service, music, travel, sports/fitness, and movies; position tenure; geographic location: region and rural/urban continuum; hire type; worksite type; workforce size; and patient census size.

Seven variables were excluded from the correlational analyses for various reasons. Variables with an insufficient number of site directors in a response category ( $n < 10$ ) were not included in the correlational analyses. This resulted in the removal of four independent variables from the analyses including: prior work experience in health care ( $n=2$ ); prior clinical specialty in college health nursing ( $n=8$ ); prior clinical specialty in informatics nursing ( $n=6$ ); and English as a native language ( $n=9$ ). Two additional variables were excluded from the analysis: prior clinical specialty category of 'Other'; hobby/personal interest category of 'Other'. One final variable not included in the analyses was the number of international work experiences. This variable was excluded because the responses did not exceed more than one international work experience per respondent.

Data analysis used to accomplish the third objective consisted of the Pearson Product Moment correlation, the Independent t test, and the Oneway Analysis of Variance (ANOVA). For those variables measured on an interval or higher measurement scale, the Pearson Product Moment correlation was used. These variables included age, duration of prior health care experience, number and duration of international non-work experiences, duration of international work experience, duration of volunteer activities, organizational tenure, position tenure, workforce size, workforce- racial composition, and patient census.

For interpretation of correlation coefficients, Davis's set of descriptors was used (Davis, 1971). The coefficients and their descriptions are as follows:

<u>Coefficient</u>	<u>Description</u>
.70 or higher	Very strong association
.50 to .69	Substantial association
.30 to .49	Moderate association
.10 to .29	Low association
.01 to .09	Negligible association

The Independent t test was used to determine if differences existed between the cultural intelligence levels and the means of different groups of subjects based on selected demographic and biographical variables. These variables include gender, race/ethnicity, educational level, prior health care experience in clinical specialty areas, international work and non-work experience, proficiency in additional languages, hobbies and personal interests, volunteer activity, hire type, and site type.

For those variables that the researcher sought to compare the means of three or more groups of respondents, the Oneway Analysis of Variance (ANOVA) was used. These variables



included geographic location- region, division, and rural / urban continuum designations. A discussion of the thirteen statistically significant variables is presented below.

### **Prior Health Care Experience in Clinical Specialty: Case Management**

One variable for which a significant difference was found between cultural intelligence levels of site directors was prior clinical specialty in case management nursing ( $t_{(302)} = 2.58$ ,  $p = .01$ ). Using the independent t-test procedure, an analysis was conducted to determine if a relationship existed between cultural intelligence levels and the clinical specialty area of case management. Levene's test for equality of variances was used to test whether homogeneity of the variance existed. Levene's test showed the following results ( $F = .934$ ,  $p = .34$ ). Given that the test was found not to be significant, the pooled variance estimate was then used. The nature of the relationship between the two variables is such that the site directors who reported prior clinical specialty in case management ( $M = 4.80$ ,  $SD = .89$ ) tended to have higher levels of cultural intelligence than site directors not reporting experience in case management ( $M = 4.50$ ,  $SD = .94$ ). Table 4.35 presents the analysis on the clinical specialty areas and their statistical relevance.

### **Prior Health Care Experience in Clinical Specialty: General Nursing**

Another variable for which a significant difference was found among cultural intelligence levels was prior clinical health care experience in general nursing ( $t_{(302)} = 3.51$ ,  $p < .01$ ). The Independent t-test procedure was also used to determine if a relationship existed between cultural intelligence levels and the clinical specialty area of general nursing. Levene's test for equality of variances was used to test whether homogeneity of the variance existed. Levene's test showed the following results ( $F = .942$ ,  $p = .33$ ). Given that the test was found not to be significant, the pooled variance estimate was then used. The nature of the difference between the two variables

Table 4.35

Comparison of Cultural Intelligence Levels of Site Directors Employed by a Home Health Care System in the United States by Clinical Specialty Areas

Clinical Specialties	Group	n	M	SD	t	df	p
Nurse Executive	Nurse Executive No Nurse Executive	70 234	4.95 4.49	.94 .91	3.70	110.20	<.01
General Nursing Practice	General Nursing Practice No General Nursing Practice	137 167	4.80 4.43	.87 .96	3.51	302	<.01
Case Management Nursing	Case Management Nursing No Case Management Nursing	97 207	4.80 4.50	.89 .94	2.58	302	.01
Ambulatory Care	Ambulatory Care No Ambulatory Care	50 254	4.73 4.57	.97 .93	1.05	302	.30
Cardiac Nursing	Cardiac Nursing No Cardiac Nursing	97 207	4.72 4.54	.93 .93	1.56	302	.12
Community Health Nursing	Community Health Nursing No Community Health Nursing	84 220	4.74 4.55	.90 .95	1.61	302	.11
Gerontological Nursing	Gerontological Nursing No Gerontological Nursing	112 192	4.70 4.54	.92 .94	1.49	302	.14
High Risk Perinatal	High Risk Perinatal No High Risk Perinatal	19 285	4.61 4.60	.87 .94	.06	302	.95
Home Health Nursing	Home Health Nursing No Home Health Nursing	269 35	4.62 4.45	.92 1.07	.97	302	.33
Medical Surgical Nursing	Medical Surgical Nursing No Medical Surgical Nursing	207 97	4.63 4.52	.95 .90	.95	302	.35
Nursing Professional Development	Nursing Professional Development No Nursing Professional Development	29 275	4.70 4.59	1.07 .92	.612	302	.54
Pain Management Nursing	Pain Management Nursing No Pain Management Nursing	32 272	4.88 4.57	.92 .93	1.80	302	.07
Pediatric Nursing	Pediatric Nursing No Pediatric Nursing	34 270	4.55 4.60	.95 .94	-.30	302	.76
Perinatal Nursing	Perinatal Nursing No Perinatal Nursing	22 282	4.47 4.61	.92 .94	-.68	302	.50
Psychiatric and Mental Health Nursing	Psychiatric & Mental Health Nursing No Psychiatric & Mental Health Nursing	31 273	4.89 4.57	1.05 .92	1.85	302	.07
School Nursing	School Nursing No School Nursing	14 290	4.75 4.59	.84 .94	.60	302	.55

is such that the site directors who reported prior clinical specialty in general nursing ( $M=4.80$ ,  $SD=.87$ ) tended to have higher levels of cultural intelligence than site directors not reporting experience in general nursing ( $M=4.43$ ,  $SD=.96$ ) (see Table 4.35).

#### **Prior Health Care Experience in Clinical Specialty: Nurse Executive**

Statistically significant differences also existed in cultural intelligence levels by the clinical specialty area of nurse executive ( $t_{(110.20)}=3.63$ ,  $p<.01$ ). An independent t test procedure was used, and Levene's test for equality of variances was performed to test whether homogeneity of the variance existed. Levene's test showed the following results ( $F=.196$ ,  $p=.66$ ); therefore, the test was found not to be significant. The pooled variance estimate was used. Significant differences were found in the cultural intelligence levels between the respondents reporting nurse executive experience ( $M=4.95$ ,  $SD=.94$ ) and those not reporting prior nurse executive experience ( $M=4.49$ ,  $SD=.91$ ) (see Table 4.35).

#### **Prior International Work Experience**

An analysis was conducted to determine if a relationship existed between cultural intelligence levels among site directors and prior international work experience. An independent t-test was performed to determine if a relationship existed between these two variables, and Levene's test for equality of variances was used to test whether homogeneity of the variance existed. Levene's test showed the following results ( $F=.065$ ,  $p=.80$ ). Therefore, the test was not found to be significant. The pooled variance estimate was then used. Respondents reporting prior international work experience were found to have significantly different cultural intelligence levels ( $t_{(301)}=-3.58$ ,  $p<.01$ ). The nature of the difference was such that respondents reporting prior international work experience had higher overall cultural intelligence scores

(M=5.43, SD= .94) than respondents who did not report prior international work experience (M=4.56, SD=.92) (see Table 4.36).

Table 4.36

Comparison of Cultural Intelligence Levels of Site Directors Employed by a Home Health Care System in the United States

Variable	Group	N	M	SD	t	df	p
Prior international work experience	Int'l Work Experience	15	5.43	.94	-3.58	302	<.01
	No Int'l Work Experience	289	4.56	.92			
Proficiency in additional language	Proficiency in addt'l language	22	5.18	.85	-3.07	301	<.01
	No proficiency in addt'l language	281	4.55	.93			
Prior international non-work experience	Int'l Non-Work Experience	138	4.75	.89	2.63	302	.01
	No Int'l Non-Work Experience	166	4.47	.96			
Race/Ethnicity	Majority	279	4.57	.91	-1.70	301	.09
	Minority	24	4.91	1.20			
Educational Level	Bachelor's and below	266	4.58	.89	-.92	41.33	.36
	Master's and above	37	4.77	1.24			
Hire Type	Internal	164	4.56	.90	.84	302	.40
	External	140	4.65	.97			
Site Type	Organic	135	4.65	.86	-.87	302	.40
	Acquired	169	4.56	.99			
Volunteer Activity	Volunteer activity	109	4.65	.95	-.73	299	.46
	No volunteer activity	192	4.57	.94			
Gender	Male	18	4.73	.89	-.63	301	.53
	Female	285	4.59	.94			

### Prior International Non-Work Experience

Another variable for which a significant difference was found among levels of cultural intelligence was prior international non-work experience of respondents. An independent t-test was performed to determine if a relationship existed between cultural intelligence levels and prior international non-work experience. Levene's test for equality of variances was used to test whether homogeneity of the variance existed. Levene's test showed the following results (F=.840, p= .36); the test was not found to be significant. The pooled variance estimate was then

used. Results revealed respondents with prior international non-work experience had a composite mean score of 4.75 (SD= .89), and respondents without prior international non-work experience had a composite mean score of 4.47 (SD=.96) ( $t_{(302)} = 2.63$ ,  $p = .01$ ). Therefore, respondents reporting prior international non-work experience were found to have significantly higher cultural intelligence levels than those not reporting international non-work experience (see Table 4.36).

### Number of International Non-Work Experiences

The number of international non-work experiences was found to have a low association with overall levels of cultural intelligence. Using Pearson's Product Moment Correlation, the calculated coefficient between the number of international non-work experiences and cultural intelligence levels was  $r = .18$  ( $p < .01$ ). While results of the analysis were statistically significant, a low positive association (Davis, 1971) was found to exist between the number of international non-work experiences and overall cultural intelligence levels. For descriptive purposes, the results of Pearson's Product Moment Correlation analysis performed are presented in Table 4.37.

Table 4.37  
Relationship Between Selected Demographic / Biographical Variables and Cultural Intelligence Levels Among Site Director Participants

Demographic & Biographical Variables	n	r <sup>a</sup>	p <sup>b</sup>
Number of international non-work experiences	304	.18	<.01
Organizational tenure	304	-.17	<.01
Workforce- racial composition	304	-.15	.01
Duration of international work experience	15	.62	.01
Duration of international non-work experiences	120	.22	.02
Position tenure	304	-.11	.06
Patient census	304	-.11	.07
Duration of prior work experience in health care	304	.07	.23
Workforce- size	304	.07	.23
Age	301	.06	.35
Duration of volunteer activities	91	.09	.39

<sup>a</sup> Pearson's Product Moment Correlation Coefficient.

<sup>b</sup> Two Tailed Alpha.

### **Duration of International Work Experience**

Statistically significant differences also existed between cultural intelligence and the length of international work experiences. Using the Pearson Product Moment correlation, the calculated coefficient between length of international work experiences (in months) and cultural intelligence was  $r = .62$  ( $p = .01$ ). This indicates a substantial association between the length of international work experiences and cultural intelligence. The length of international work experiences were found to be statistically significant as related to respondents' cultural intelligence levels (see Table 4.37).

### **Duration of International Non-Work Experience**

Similar to the findings for the above-mentioned variable, number of international non-work experiences, the overall length of international non-work experiences (in days) was also found to have a low association. Pearson's Product Moment Correlation was used to determine if a relationship existed. The calculated coefficient between total length of international non-work experience and cultural intelligence was  $r = .22$  ( $p = .02$ ). The nature of the relationship between these two variables is such that a low positive association exists between the total length of international non-work experience and cultural intelligence levels (see Table 4.37). Site directors with greater lengths of international non-work experience tended to have higher overall levels of cultural intelligence.

### **Proficiency in Additional Languages**

An analysis was also conducted to determine if a relationship existed between cultural intelligence levels and proficiency in additional languages among respondents. To determine if a relationship existed between cultural intelligence and proficiency in additional languages, an independent t-test was performed. Levene's test for equality of variances was used to test

whether homogeneity of the variance existed. Levene's test showed the following results ( $F=.400$ ,  $p=.53$ ). Therefore, the test was not found to be significant. The pooled variance estimate was then used. Respondents with proficiency in additional languages were found to have significantly different cultural intelligence levels ( $t_{(301)}= 3.07$ ,  $p < .01$ ). The nature of the difference between these two variables was such that respondents with proficiency in additional languages had higher levels of cultural intelligence ( $M=5.18$ ,  $SD=.85$ ) than did respondents not reporting proficiency in additional languages ( $M= 4.55$ ,  $SD=.93$ ) (See Table 4.36).

### **Hobby: Arts/Theater**

Arts and theater as a hobby was another variable on which a significant difference was found in the levels of cultural intelligence. The Independent t-test was used to determine if a relationship existed between cultural intelligence levels and the hobby/personal interest of arts and theater. Levene's test for equality of variances was used to test whether homogeneity of the variance existed. Levene's test showed the following results ( $F= 1.450$ ,  $p=.23$ ); the test was found not to be significant. The pooled variance estimate was then used. A statistically significant difference was found in the cultural intelligence levels between the respondents reporting arts and theater as a hobby when compared to those who did not report arts and theater as a hobby ( $t_{(302)}= 2.75$ ,  $p < .01$ ). The nature of the relationship between the variables is such that respondents reporting arts and theater as a hobby had higher levels of cultural intelligence ( $M=4.82$ ,  $SD=.88$ ), than did respondents not reporting arts and theater as a hobby ( $M= 4.50$ ,  $SD=.94$ ) (see Table 4.38).

The relationship between the six remaining hobbies / personal interests and the cultural intelligence levels of respondents was assessed using the Independent t-test. Results showed there were significant differences at the  $p < .05$  level for the hobby / personal interest area of arts

and theater. No significant differences existed at the  $p < .05$  level for the remaining six hobby / personal interest areas including: reading, community service, music, travel, sports and fitness, and movies. For descriptive purposes, the independent t test results for hobbies and personal interest variables are presented in Table 4.38.

Table 4.38  
Comparison of Cultural Intelligence Levels of Site Directors Employed by a Home Health Care System in the United States by Hobbies and Personal Interests

Hobbies	Group	N	M	SD	t	df	p
Arts/Theater	Arts/Theater	92	4.82	.88	2.75	302	<.01
	No Arts/Theater	212	4.50	.94			
Community Service	Community Service	102	4.74	.91	1.94	302	.05
	No Community Service	202	4.52	.94			
Reading	Reading	236	4.65	.94	1.85	302	.07
	No Reading	68	4.41	.90			
Travel	Travel	182	4.67	.90	1.54	302	.13
	No Travel	122	4.50	.98			
Sports/Fitness	Sports/Fitness	110	4.68	.97	1.08	302	.28
	No Sports/Fitness	194	4.56	.91			
Movies	Movies	158	4.57	.89	.55	302	.59
	No Movies	146	4.63	.98			
Music	Music	180	4.60	.94	.10	302	.93
	No Music	124	4.59	.93			



## **Organizational Tenure**

A statistically significant difference was found between levels of cultural intelligence and organizational tenure of site directors. Using Pearson's Product Moment correlation, the calculated coefficient between organizational tenure and cultural intelligence was  $r = -.17$  ( $p < .01$ ), indicating a low negative relationship. The association was such that site directors with more years of tenure within the organization tended to have lower cultural intelligence scores (see Table 4.37).

## **Workforce- Racial Composition**

The percentage of Caucasian/White (majority) employees was also associated with overall levels of cultural intelligence. Using Pearson's Product Moment correlation, the calculated coefficient between the two variables was  $r = -.15$  ( $p = .01$ ). A low negative association was found between the percentage of Caucasian/white employees and the overall level of cultural intelligence among respondents. The association was such that site directors with a larger percentage of Caucasian/White employees within the organization tended to have lower cultural intelligence scores (see Table 4.37).

## **Division**

Differences also existed among levels of cultural intelligence and the division of the respondent. An analysis of variance (ANOVA) was performed to determine if significant differences existed in cultural intelligence levels among the site directors based upon their geographic division. The nature of this data was such that two of the division designations represented in the study had frequencies that were not adequate to use as separate variables of investigation. Therefore, two designated divisions were removed from analysis. These included New England ( $n = 7$ ) and West North Central ( $n = 6$ ). The division groups included in the

analysis were as follows: Mid-Atlantic; East North Central; South Atlantic; East South Central; West South Central; Mountain; and Pacific.

Mean cultural intelligence levels of site directors were compared among seven division groups and listed in descending order in Table 4.39. For descriptive purposes, Table 4.39 provides the overall cultural intelligence levels for site directors by division. For the sample of 290 respondents, the minimum overall cultural intelligence level was 1.61 and the maximum overall cultural intelligence level was 6.92. The Pacific division had the highest mean levels 5.05 (SD =.82) and the East South Central division had the lowest mean levels 4.26 (SD =.93).

Table 4.39  
Overall Cultural Intelligence Scores for Respondents' by Geographic Division

Division	n	Mean	SD	Min.	Max.
Pacific: AL, WA, OR, CA, HI	15	5.05	.82	3.80	6.58
Mid-Atlantic: NY, PA, NJ	10	4.99	.97	3.89	6.62
West South Central: OK, TX, AR, LA	26	4.98	1.08	3.00	6.92
South Atlantic: DE, MD, DC, VA, WV, NC, SC, GA, FL	113	4.69	.87	2.57	6.67
East North Central: WI, MI, IL, IN, OH	23	4.61	.79	2.71	5.90
Mountain: ID, MT, WY, NV, UT, CO, AZ, NM	11	4.37	1.21	1.61	6.00
East South Central: KY, TN, MS, AL	93	4.26	.93	1.69	6.28
Total	291	4.60	.95	1.61	6.92

*Note.*  $F_{6,284} = 4.039$ ,  $p < .01$ .

Analysis of variance test results revealed a significant F value, indicating at least one significance difference existed among the seven groups, ( $F_{6,284} = 4.039$ ,  $p < .01$ ). Table 4.40 presents the information regarding the significant division finding.

Table 4.40

Analysis of Variance for Respondents' Overall Cultural Intelligence Levels by Division

	df	Mean Square	F	p
Between Groups	6	3.41	4.039	<.01
Within Groups	284	.84		
Total	290			

*Note.* n=290.

Tukey's post hoc multiple comparison test was used to follow up on the significant  $F$  value to determine specifically which groups were different. The comparison revealed the following: Overall cultural intelligence levels of the site directors in the East South Central division were significantly different than those in the South Atlantic, West South Central and Pacific division. The multiple comparisons for the geographic divisions are shown in Appendix R.

Analysis of variance (ANOVA) was also performed to determine if significant differences existed in cultural intelligence levels among the site directors based upon geographic region. Overall, the group means of cultural intelligence levels of the regions ranged from 4.55 to 4.96. The Northeast region had the highest mean score of 4.96 ( $SD = .80$ ) and the West region recorded the second highest mean score of 4.76 ( $SD = 1.04$ ). The south region group had the lowest mean of 4.55 ( $SD = .95$ ). The findings are presented in Table 4.41.

Using the ANOVA procedure, the overall mean cultural intelligence levels were compared statistically among the four regional groups. Results of the ANOVA reveal no statistically significant difference exists among the four regional groups ( $F_{3,300} = 1.331$ ,  $p = .26$ ) (see Table 4.42).

Table 4.41

Analysis of Variance of Overall Cultural Intelligence Levels of Site Directors by Geographic Region

Region	n	M	SD	Std Error	Min.	Max
Northeast	17	4.96	.80	.19	3.89	6.62
Midwest	29	4.61	.76	.14	2.71	5.90
South	232	4.55	.95	.06	1.69	6.92
West	26	4.76	1.04	.20	1.61	6.58
Total	304	4.60	.93	.05	1.61	6.92

Note. n = 304

Table 4.42

Analysis of Variance for Respondents' Overall Cultural Intelligence Levels by Region

	df	Mean Square	F	p
Between Groups	3	1.16	1.331	.26
Within Groups	300	.87		
Total	303			

Note. n = 304.

Analysis of variance (ANOVA) was also performed to determine if significant differences existed in cultural intelligence levels among the site directors based upon rural/urban continuum. The nature of this data was such that three of the rural urban population designations represented in the study had frequencies that were not adequate to use as separate variables of investigation. Therefore, the nine designated categories were re-grouped into four categories: metro; urban: 20,000 or more; urban; 2,500-19,999; and completely rural. For descriptive purposes Table 4.43 provides the overall cultural intelligence levels for site directors by rural/urban continuum designation.

Table 4.43

Overall Cultural intelligence Scores for Respondent's by Rural/Urban Continuum

Categories	n	Mean	SD
Metropolitan	217	4.65	.91
Urban: 20,000+	25	4.54	1.04
Urban: 2,500 -19,999	49	4.43	1.03
Completely Rural	13	4.53	.85
Total	304	4.60	.94

Analysis of variance test results did not reveal a significant F value among the four groups, ( $F_{3,300} = .811$ ,  $p = .49$ ). Table 4.44 presents the information regarding the rural/urban continuum finding.

Table 4.44

Analysis of Variance of Overall Cultural Intelligence Levels by Site Respondents of Rural Urban Continuum Code Designations

	df	Mean Square	F	p
Between Groups	3	.71	.811	.49
Within Groups	300	.88		
Total	303			

Note.  $n = 304$ .

### **Objective Four**

The fourth objective was to determine if a model exists that explains a significant portion of the variance in each of the subscales and the overall score of cultural intelligence as measured by the Cultural Intelligence scale (CQS)-Self Report. The four key domains of selected demographic and biographical independent variables and their coding for the analysis were as follows:

**Site Director Demographics:**

- a. Age – (This was measured as a continuous variable);
- b. Gender - (These were coded as female = 0 and male = 1);
- c. Race/Ethnicity - (These were coded as majority = 0 and minority=1);
- d. Educational level - (These were coded as bachelor's and below = 0 and master's and above = 1);

**Site Director Biographical Information:**

- e. Professional work experience
  - i. Prior work experience in health care – (These were coded as no = 0 and yes = 1);
  - ii. Duration of prior health care experience – (This was measured as a continuous variable);
  - iii. Prior health care experience in clinical specialty areas – (These were coded as no specialty area = 0 and specialty area = 1);
- f. International experience
  - iv. Prior international work experience – (These were coded as no international work experience = 0 and international work experience = 1);
  - v. Prior international non-work experience – (These were coded as no international non work experience = 0 and international non work experience = 1);
  - vi. Number of international work experiences – (This was measured as a continuous variable);

- vii. Number of international non-work experiences - (This was measured as a continuous variable);
- viii. Duration of international work experience - (This was measured as a continuous variable);
- ix. Duration of international non-work experience - (This was measured as a continuous variable);
- g. Language acquisition
  - x. English as the native language – (These were coded as no = 1 and yes = 2);
  - xi. Proficiency in additional languages - (These were coded as no = 0 and yes = 1);
  - h. Hobbies and Personal Interests – (These were coded as no = 1 and yes = 2);
  - xii. Hobby: Reading
  - xiii. Hobby: Community Service
  - xiv. Hobby: Music
  - xv. Hobby: Travel
  - xvi. Hobby: Sports
  - xvii. Hobby: Movies
  - xviii. Hobby: Arts/Theater
  - xix. Hobby: Other
    - i. Volunteerism
    - xx. Volunteer activities - (These were coded as no = 0 and yes = 1);

- xxi. Duration of volunteer activities - (This was measured as a continuous variable);
- j. Tenure within the organization
- xxii. Organizational tenure - (This was measured as a continuous variable);
- xxiii. Position tenure - (This was measured as a continuous variable);

**Site Director Geographic Location:**

- k. Region – ( These were coded as no = 0 and yes = 1);
- xxiv. Region 1: Northeast
- xxv. Region 2: Midwest
- xxvi. Region 3: South
- xxvii. Region 4: West
- l. Division - ( These were coded as no = 0 and yes = 1);
- xxviii. Division 1: New England
- xxix. Division 2: Mid Atlantic
- xxx. Division 3: East North Central
- xxxi. Division 4: West North Central
- xxxii. Division 5: South Atlantic
- xxxiii. Division 6: East South Central
- xxxiv. Division 7: West South Central
- xxxv. Division 8: Mountain
- xxxvi. Division 9: Pacific
- m. Rural/Urban Continuum - ( These were coded as no = 0 and yes = 1);
- xxxvii. Metro areas of 1 million or more



- xxxviii. Metro areas of 250,000 – 1 million
- xxxix. Metro areas of fewer than 250,000
  - xl. Urban population 20,000 or more, adjacent to metro area
  - xli. Urban population 20,000 or more, not adjacent to metro area
  - xl.ii. Urban population of 2,500 – 19,999, adjacent to metro area
  - xl.iii. Urban population of 2,500 – 19,999, not adjacent to metro area
  - xl.iv. Completely rural or less than 2,500 urban population, adjacent to metro area
  - xl.v. Completely rural or less than 2,500 urban, not adjacent to metro area

**Worksite Demographics:**

- n. Worksite demographics
  - xlvi. Hire Type - external, internal – (These were coded as external = 1 and internal = 2);
  - xl.ii. Worksite Type - acquisition, organic - (These were coded as acquisition = 1 and organic = 2);
  - xl.viii. Workforce - racial composition: majority - (This was measured as a continuous variable.);
  - xl.ix. Workforce – size - (This was measured by the number of employees in the site director’s office or under their direction).
- 1. Patient census - (This was measured by the average daily patient census of the site director’s Care Center);

To accomplish this objective multiple regression analyses were performed. This was accomplished using the Cultural Intelligence Scale (CQS) Self- Report variables, “CQS-

Strategy”, “CQS- Motivation”, “CQS- Knowledge”, and “CQS- Behavior” and “CQS-Overall” as the dependent variables. The demographic and biographical variables were treated as independent variables and stepwise entry of the variables was used due to the exploratory nature of the study. In this regression equation variables were added that increased the explained variance by 1% percent or more as long as the overall regression equation remained significant.

In conducting the multiple regression analysis, eight of the original variables to be treated as independent variables were categorical in nature and had to be prepared as dichotomous variables in preparation for entry into the analysis. These variables included race/ethnicity, educational level, prior health care experience in clinical specialty areas, hobbies and personal interests, region, division, and rural/urban continuum. Gender was also a categorical variable, but since it is naturally dichotomous, it did not need to be restructured.

The first of these variables was race/ethnicity of the respondent. The nature of this data was such that each of the minority groups in the study had frequencies that were not adequate to use as separate variables of investigation. The largest groups were African-American (n=7, 2.3%) and American Indian/Alaska Native (n=7, 2.3%) which represented only 14 (4.6%) of the respondents. Therefore, the restructured dichotomous variable was established as the respondent was either Caucasian/White (majority) or not Caucasian/White (minority), and it was in this format that the variable, race/ethnicity, was entered into the analysis.

The categorical variable, educational level, was measured in five categories of response. However, similarly to the variable, race/ethnicity, the responses in the categories were judged by the researcher to be inadequate to use as separate independent variables in the analysis; therefore, a dichotomous variable specified as having a bachelor’s degree or below or having a master’s degree or higher was established as the variable used for entry in the analysis.

The categorical variable, prior health care experience in clinical specialty areas, was measured in 19 categories of response. Two response categories had frequencies that were not adequate to use as separate variables of investigation. These included nursing informatics (n=6) and college health nursing (n=8). Additionally, the final clinical specialty category entitled ‘Other’ was removed from the analysis as the data was not categorical. The remaining sixteen categories were established as separate dichotomous variables. Each of these 16 dichotomous variables were entered into the regression analyses.

The categorical variable hobbies and personal interests was measured in eight categories of response. Seven of these categories were established as separate dichotomous variables. The additional category of “other” was excluded from the regression analyses. Each of these seven dichotomous variables was entered into the regression analyses.

The variable, region, was measured in four categories of response. Each of the four response categories was established as a separate dichotomous variable. For example, each respondent was classified as residing in one of the regions or not residing in one of the regions. Each of these four dichotomous variables was then entered into the regression analysis.

The categorical variable, division, was measured in eight categories of response. Six of these categories were established as separate dichotomous variables. Two categories were not adequate to use as separate independent variables in the analysis due to response size. These included the New England (n=7, 2.3%) and West North Central (n=6, 2.0%) divisions. The six dichotomous variables were then entered into the regression analyses.

The variable, rural/urban continuum, was measured in nine categories of response. However, similar to the variable, race/ethnicity, the nature of this data was such that each of the rural urban population designations represented in the study had frequencies that were not

adequate to use as separate variables of investigation. Three categories contained less than ten responses. These included the following: (5) Urban population 20,000 or more, not adjacent to metro area (n=2, .7%); (8) Completely rural or less than 2,500 urban population, adjacent to metro area (n=7, 2.3%); and (9) Completely rural or less than 2,500 urban, not adjacent to metro area (n=6, 2.0%). The nine designated categories were re-grouped into four categories: metro; urban: 20,000 or more; urban: 2,500-19,999; and completely rural. Each of these categories was established as a separate dichotomous variable. The four dichotomous variables were entered into the regression analyses.

Additionally the variable workforce racial composition, which included eight response categories, was prepared for entry into the analysis. Similar to the first variable, race/ethnicity, the response categories were judged to be too small to effectively include each of them in the analysis. Therefore, a restructured variable was established to describe the percentage of majority (White) employees at the worksite. A separate variable was established to describe the percentage of minority (Non-white) employees at the worksite. The variable, workforce- racial: majority, was entered into the regression analysis as an independent variable.

The variable, prior work experience in health care, was not included in the regression models given the response size of the categories. When asked to indicate whether or not they had prior experience in health care, the majority of site directors (n=301, 99%) reported prior experience in health care. Another variable not included in the model was 'number of international work experiences'. This was excluded because no respondent reported more than one international work experience.

Another variable, which was not included in the regression models due to response size, was 'English as the native language'. When asked on the survey to indicate if English was their

native language, the majority of respondents (n=295, 97%) indicated English as their native language. In sum, the above-mentioned variables were not included in the model due to the sample size of the response categories.

In preparation for the multiple regression analysis, variables were loaded into the statistical software. Five regression analyses were then performed using each of the Cultural Intelligence (CQ) subscales and the overall CQ measurement as the Dependent Variable.

### **Cultural Intelligence-Strategy (Meta-Cognitive)**

The first CQ scale examined was the Strategy subscale. For descriptive purposes, two-way correlations between factors used as independent variables in the regression (selected biographical and demographic variables) and the CQS- Strategy (from the scales of the CQS-Self Report) are presented in Table 4.45. The correlation coefficients were classified using Davis' (1971) descriptors for interpretation of correlation strength (.00 - .09 = negligible association; .10-.29 = low association; .30 - .49 = moderate association; .50 - .60 = substantial association; .70 or higher = very strong association.) The variables presenting the strongest correlation in the analysis include percentage of Caucasian/White employees; prior international work experience; geographic location: East South Central division; prior health care experience in general nursing practice; proficiency in additional languages, and duration of international work experience. The correlation coefficients and significance levels for the regression analysis are also presented in Table 4.45.

After examination of the bivariate correlations between the meta-cognitive subscale and each of the variables used as predictors in the analysis, the researcher examined the data for the presence of excess levels of multi-collinearity among the independent variables.

Table 4.45

Relationship Between Selected Demographic and Biographic Predictor Measures and Cultural Intelligence-Strategy Levels of Site Directors Employed by a Home Health Care System in the United States

Variable	r	p	Descriptor
Percentage of Caucasian/White employees	-.166	.002	low
Prior international work experience	.165	.002	low
Division 6: East South Central	-.158	.003	low
Prior health care experience in general nursing practice	.155	.004	low
Proficiency in additional languages	.153	.004	low
Duration of international work experience	.149	.005	low
Division 8: Mountain	-.140	.008	low
Hobby: Reading	.117	.022	low
Organizational tenure	-.114	.024	low
Number of international non-work experiences	.114	.025	low
Prior health care experience in home health nursing	.109	.030	low
Prior health care experience as a nurse executive	.095	.050	low
Duration of international non-work experience	.095	.050	low
Race Category	.095	.051	low
Prior international non-work experience	.094	.052	negligible
Region 2: Midwest	.092	.056	negligible
Division 7: West South Central	.086	.069	negligible
Division 3: East North Central	.085	.071	negligible
Duration of prior health care experience	.084	.073	negligible
Prior health care experience in pediatric nursing	-.083	.076	negligible
Division 9: Pacific	.080	.084	negligible
Urban: 2,500 - 19,999	-.074	.102	negligible
Prior health care experience in cardiac nursing	.070	.113	negligible
Prior health care experience in pain management	.070	.113	negligible
Division 5: South Atlantic	.065	.132	negligible
Workforce size	.064	.134	negligible
Urban: 20,000 or more	.062	.142	negligible
Prior health care experience in ambulatory care	.061	.146	negligible
Worksite type	.057	.162	negligible
Average patient census	-.055	.171	negligible

(table 4.45 cont'd)

Prior health care experience in community health nursing	.051	.189	negligible
Hobby: Arts and Theater	.049	.202	negligible
Prior health care experience in gerontological nursing	.047	.211	negligible
Position Tenure	-.044	.223	negligible
Hobby: Sports	.044	.225	negligible
Region 3: South	-.041	.238	negligible
Prior health care experience in case management nursing	.036	.268	negligible
Region 4: West	-.034	.278	negligible
Prior health care experience in perinatal nursing	-.033	.284	negligible
Hobby: Travel	.032	.292	negligible
Prior work experience in health care	-.032	.293	negligible
Metropolitan	.031	.297	negligible
Volunteer Activities	-.029	.311	negligible
Prior health care experience in psychiatric & mental health nursing	.026	.329	negligible
Division 2: Mid Atlantic	-.025	.332	negligible
Hobby: Movies	-.024	.340	negligible
Age	.023	.344	negligible
Education level	-.023	.348	negligible
Prior health care experience in medical-surgical nursing	.022	.353	negligible
Duration of volunteer activities	-.021	.361	negligible
Rural	-.019	.372	negligible
Hobby: Community Service	.019	.373	negligible
Gender	.017	.383	negligible
Prior health care experience in school nursing	.015	.397	negligible
Hire type	-.014	.404	negligible
Hobby: Music	.007	.451	negligible
Prior health care experience in nursing professional development	.004	.470	negligible
Prior health care experience in high-risk perinatal nursing	.002	.485	negligible
Region 1: Northeast	-.001	.496	negligible

*Note.*  $n=299$ .

To accomplish this, the tolerance and variance inflation factor measurements were used.

Small tolerance values (and thus large VIF values because  $VIF = 1/\text{tolerance}$ ) denote high

collinearity and the common cutoff threshold is a tolerance value of .10 which corresponds to a VIF value of 10 (Hair et al., 2005). Tolerance values in this analysis ranged from a low of .917 to a high of 1.000 and the corresponding VIF values ranged from 1.000 to 1.091. Therefore, no excess levels of multicollinearity were evident in the analysis.

Table 4.46 presents the results of the multiple regression analysis utilizing Cultural Intelligence-Strategy as the dependent variable. The variables explained a significant portion of the variance ( $F_{(7,291)}=6.80, p < 0.01$ ). The variable which entered the regression model first was the percentage of Caucasian /white employees explaining 2.8% of the variance. Six additional variables explained an additional 11.3% of the variance. Those variables included: prior international work experience; prior health care experience in general nursing practice, pediatric nursing and home health nursing; and geographic locations: Mountain and East South Central division.

Site directors with prior international work experience tended to have higher levels of meta-cognitive cultural intelligence. Additionally, respondents with prior health care experience in home health and general nursing tended to have higher meta-cognitive cultural intelligence levels. Conversely, those with prior experience in pediatric nursing tended to have lower meta-cognitive cultural intelligence levels. Individuals in the mountain region as well as those in the east south central region tended to have lower meta-cognitive cultural intelligence levels and site directors with a greater percentage of majority (White) employees also tended to have lower meta-cognitive cultural intelligence levels.



Table 4.46

Multiple Regression Analysis of Cultural Intelligence-Strategy Levels as Measured by the Cultural Intelligence Scale (CQS) Self-Report and Selected Demographic and Biographical Variables of Site Directors Employed by a Home Health Care System in the United States

## ANOVA

Model	df	Mean Square	F	P
Regression	7	7.30	6.800	< 0.01
Residual	291	1.07		
Total	298			

Note. n = 299.

## Model summary

Variables	R <sup>2</sup> Cumulative	R <sup>2</sup> Change	F Change	Sig F Change	Coefficients Beta
Percentage of Caucasian/White (majority) employees	.028	.028	8.425	.004	-.147
Prior international work experience	.055	.028	8.632	.004	.175
Prior health care experience in general nursing	.079	.024	7.735	.006	.135
Division 8: Mountain	.099	.020	6.504	.011	-.162
Prior health care experience in pediatric nursing	.114	.015	4.825	.029	-.125
Division 6: East South Central	.128	.015	4.889	.028	-.133
Prior health care experience in home health nursing	.141	.012	4.127	.043	.112

Excluded Variables	t	p
Proficiency in additional languages	1.533	.126
Organizational tenure	-1.528	.127
Hobby: Reading	1.526	.128
Duration of international non-work experience	1.345	.180
Hobby: Sports	1.321	.187
Division 3: East North Central	1.280	.202
Region 2: Midwest	1.205	.229
Prior health care experience as a nurse executive	1.114	.266
Division 2: Mid Atlantic	-1.114	.266
Worksite type	1.067	.287
Prior health care experience in ambulatory care	1.042	.298
Prior health care experience in case management nursing	-1.028	.305
Average patient census	-.932	.352
Division 5: South Atlantic	-.895	.372
Urban: 20,000 or more	.867	.387
Prior international non-work experience	.815	.416
Prior health care experience in medical-surgical nursing	-.784	.433
Prior health care experience in pain management	.766	.444
Duration of international work experience	.659	.510
Workforce size	.625	.532
Division 7: West South Central	.617	.538
Prior health care experience in cardiac nursing	.588	.557
Race Category	.580	.563
Age	-.576	.565
Number of international non-work experiences	.558	.577
Region 3: South	-.519	.604
Prior health care experience in perinatal nursing	-.519	.604
Metropolitan	-.491	.624
Hobby: Arts and Theater	.474	.636
Gender	.470	.639
Education level categories	-.455	.650
Region1: Northeast	-.414	.679
Duration of prior health care experience	-.410	.682

(table 4.46 cont'd)

Hobby: Music	-.310	.757
Hobby: Community Service	.303	.762
Region 4: West	-.210	.833
Division 9: Pacific	.210	.833
(Table continued)		
Duration of volunteer activities	.206	.837
Prior health care experience in school nursing	.199	.843
Position tenure	-.162	.871
Volunteer activities	-.151	.880
Prior health care experience in psychiatric & mental health nursing	.139	.890
Prior health care experience in high-risk perinatal nursing	-.115	.908
Prior health care experience in gerontological nursing	.114	.909
Prior health care experience in community health nursing	-.082	.935
Hire type	.062	.950
Rural	-.060	.952
Prior health care experience in nursing professional development	.054	.957
Prior work experience in health care	.052	.958
Hobby: Travel	-.040	.968
Urban: 2,500 - 19,999	-.028	.977
Hobby: Movies	-.013	.990

### **Cultural Intelligence-Knowledge (Cognitive)**

The second CQ subscale examined the cognitive subscale of cultural intelligence. For descriptive purposes, two-way correlations between factors used as independent variables in the regression (selected biographical and demographic variables) and the CQS- Cognitive (from the scales of the CQS-Self Report) are presented in Table 4.47. The correlation coefficients were classified using Davis' (1971) descriptors for interpretation of correlation strength (.00 - .09 = negligible association; .10-.29 = low association; .30 - .49 = moderate association; .50 - .60 = substantial association; .70 or higher = very strong association.) The variables presenting the

strongest correlation in the analysis include duration of international work experience; hobby: reading; prior health care experience as a nurse executive, prior international work experience, and prior health care experience in gerontological nursing.

**Table 4.47**  
**Relationship Between Selected Demographic and Biographic Predictor Measures and Cultural Intelligence-Knowledge Levels of Site Directors Employed by a Home Health Care System in the United States**

Variable	r	p	Descriptor
Duration of international work experience	.196	<.001	low
Hobby: Reading	.189	.001	low
Prior health care experience as a nurse executive	.150	.005	low
Prior international work experience	.137	.009	low
Prior health care experience in gerontological nursing	.137	.009	low
Race category of site directors (majority or minority)	.133	.011	low
Proficiency in additional languages	.130	.012	low
Region 4: West	.126	.014	low
Hobby: Arts and Theater	.124	.016	low
Organizational tenure	-.122	.017	low
Division 9: Pacific	.117	.022	low
Prior work experience in health care	-.115	.023	low
Number of international non-work experiences	.109	.030	low
Division 6: East South Central	-.108	.031	low
Division 2: Mid Atlantic	.108	.031	low
Region 1: Northeast	.107	.033	low
Hobby: Community Service	.105	.036	low
Duration of volunteer activities	.099	.043	low
Percentage of Caucasian/White (majority) employees	-.096	.049	low
Division 7: West South Central	.095	.050	low
Region 3: South	-.091	.058	low
Education level of site directors	.090	.059	low
Workforce size	.090	.060	low
Hobby: Sports	.087	.066	negligible
Prior health care experience in psychiatric & mental health nursing	.087	.067	negligible
Prior health care experience in general nursing practice	.087	.067	negligible

(table 4.47 cont'd)

Prior health care experience in medical-surgical nursing	.085	.070	negligible
Rural	.080	.085	negligible
Region 2: Midwest	-.070	.113	negligible
Duration of international non-work experience	.068	.119	negligible
Prior health care experience in pain management	.068	.121	negligible
Hobby: Music	.065	.133	negligible
Prior health care experience in perinatal nursing	-.059	.153	negligible
Prior health care experience in case management nursing	.058	.158	negligible
Division 8: Mountain	.055	.171	negligible
Division 3: East North Central	-.054	.174	negligible
Position tenure	-.054	.175	negligible
Prior health care experience in cardiac nursing	.043	.228	negligible
Average patient census	-.041	.241	negligible
Prior health care experience in home health nursing	-.041	.241	negligible
Age	.040	.245	negligible
Gender	.039	.248	negligible
Hobby: Movies	-.037	.261	negligible
Hobby: Travel	-.035	.271	negligible
Prior health care experience in pediatric nursing	.035	.273	negligible
Prior health care experience in school nursing	-.034	.279	negligible
Prior health care experience in nursing professional development	.033	.286	negligible
Division 5: South Atlantic	-.032	.291	negligible
Volunteer Activities	.029	.307	negligible
Urban: 2,500 - 19,999	-.028	.312	negligible
Hire type	-.027	.318	negligible
Prior health care experience in community health nursing	.020	.362	negligible
Urban: 20,000 or more	-.019	.370	negligible
Worksite type	-.018	.380	negligible
Prior health care experience in high-risk perinatal nursing	.015	.400	negligible
Prior health care experience in ambulatory care nursing	.009	.440	negligible
Duration of prior health care experience	-.007	.451	negligible
Metropolitan	-.001	.491	negligible

Note.  $n=299$ .

After examination of the bivariate correlations between the Cultural Intelligence-Knowledge scale and each of the variables used as predictors in the analysis, the researcher examined the data for the presence of excess levels of multicollinearity among the independent variables. To accomplish this, the tolerance and variance inflation factor measurements were used. Small tolerance values (and thus large VIF values because  $VIF = 1/\text{tolerance}$ ) denote high collinearity and the common cutoff threshold is a tolerance value of .10 which corresponds to a VIF value of 10 (Hair et al., 2005). Tolerance values in this analysis ranged from a low of .944 to a high of 1.000 and the corresponding VIF values ranged from 1.000 to 1.059. Therefore, no excess levels of multicollinearity were evident in the analysis.

The variables in this model also explained a significant portion of the variance in cognitive cultural intelligence ( $F_{(5,293)} = 7.531, p < .01$ ). Five variables explained 11.4% of the variance in cognitive cultural intelligence levels of site directors. The variable that entered the regression model first was duration of international work experience, explaining 3.8% of the variance in cognitive cultural intelligence levels. The remaining four variables in this model, which included hobby: reading; organizational tenure; geographic location: Mid-Atlantic division; and workforce size, explained a combined 7.6% of the variance (see Table 4.48). Results reveal that individuals with a greater duration of international work experiences tended to have higher cognitive cultural intelligence levels; those who reported reading as a hobby also tended to have higher cognitive cultural intelligence levels. Additionally, site directors with larger workforces tended to have higher cognitive cultural intelligence levels, as did those living in the Mid-Atlantic division. Conversely, respondents with longer lengths of service in the organization (organizational tenure) tended to have lower cognitive cultural intelligence levels.

Table 4.48

Multiple Regression Analysis of Cultural Intelligence-Cognitive Levels as Measured by the Cultural Intelligence Scale (CQS) Self-Report and Selected Demographic and Biographical Variables of Site Directors Employed by a Home Health Care System in the United States

## ANOVA

Model	df	Mean Square	F	p
Regression	5	11.12	7.531	< .01
Residual	293	1.50		
Total	298			

Notes. n = 299.

## Model summary

Variables	R <sup>2</sup> Cumulative	R <sup>2</sup> Change	F Change	Sig F Change	Coefficients Beta
Duration of international work experience	.038	.038	11.827	.001	.182
Hobby: Reading	.069	.030	9.652	.002	.181
Organizational Tenure	.083	.014	4.633	.032	-.162
Division 2: Mid-Atlantic	.100	.017	5.421	.021	.123
Workforce size	.114	.014	4.698	.031	.121

## Variables not in the equation

Excluded Variables	t	p
Region 4: West	1.953	.052
Race Category	1.946	.053
Percentage of Caucasian/White (majority) employees	-1.798	.073
Duration of volunteer activities	1.789	.075
Proficiency in additional languages	1.744	.082
Division 9: Pacific	1.739	.083
Division 7: West South Central	1.723	.086
Prior health care experience as a nurse executive	1.629	.104

(table 4.48 cont'd)

Hobby: Sports	1.617	.107
Hobby: Community Service	1.552	.122
Education Level Categories	1.529	.127
Prior work experience in health care	-1.471	.142
Rural	1.442	.150
Prior health care experience in psychiatric and mental health nursing	1.386	.167
Prior health care experience in gerontological nursing	1.353	.177
Region 2: Midwest	-1.322	.187
Hobby: Arts and Theater	1.321	.187
Prior health care experience in perinatal nursing	-1.298	.195
Prior international non-work experience	1.217	.225
Division 6: East South Central	-1.048	.295
Division 3: East North Central	-1.005	.316
Prior health care experience in home health nursing	-.996	.320
Duration of international non-work experience	.971	.332
Prior health care experience in high-risk perinatal nursing	-.924	.356
Number of international non-work experiences	.917	.360
Division 8: Mountain	.914	.362
Hobby: Music	.894	.372
Metropolitan	-.859	.391
Average patient census	-.854	.394
Prior health care experience in medical-surgical nursing	.854	.394
Hobby: Travel	-.838	.403
Gender	.782	.435
Prior health care experience in pain management	.733	.464
Volunteer Activities	.668	.505
Worksite type	-.645	.519
Urban: 2,500 - 19,999	.608	.543
Duration of prior health care experience	-.525	.600
Region 3: South	-.505	.614
Urban: 20,000 or more	-.472	.637
Hobby: Movies	-.433	.666
Division 5: South Atlantic	-.415	.678



(table 4.48 cont'd)

Prior health care experience in pediatric nursing	.396	.692
Region 1: Northeast	.385	.700
Position Tenure	.264	.792
Prior health care experience in school nursing	-.225	.822
Prior international work experience	-.221	.825
Prior health care experience in nursing professional development	.204	.839
Prior health care experience in cardiac nursing	-.182	.856
Prior health care experience in case management nursing	-.178	.859
Prior health care experience in general nursing practice	.146	.884
Age	.144	.886
Hire type	-.070	.945
Prior health care experience in ambulatory care	-.055	.956
Prior health care experience in community health nursing	.051	.960

### **Cultural Intelligence- Motivation**

The third CQ scale examined was the Motivation subscale. For descriptive purposes, two-way correlations between factors used as independent variables in the regression (selected biographical and demographic variables) and the CQS- Motivation (from the scales of the CQS-Self Report) are presented in Table 4.49. The correlation coefficients were classified using Davis' (1971) descriptors for interpretation of correlation strength (.00 - .09 = negligible association; .10-.29 = low association; .30 - .49 = moderate association; .50 - .60 = substantial association; .70 or higher = very strong association.) The variables presenting the strongest correlation in the analysis include duration of international non-work experience; geographic location: East South Central division; number of international non-work experiences; prior international work experience: and duration of international work experience; The correlation coefficients and significance levels for the regression analysis are also presented in Table 4.49.

Table 4.49

Relationship Between Selected Demographic and Biographic Predictor Measures and Cultural Intelligence-Motivation Levels of Site Directors Employed by a Home Health Care System in the United States

Variable	R	p	Descriptor
Duration of international non-work experience	.229	<.001	low
Division 6: East South Central	-.208	<.001	low
Number of international non-work experiences	.193	<.001	low
Prior international work experience	.190	<.001	low
Duration of international work experience	.186	.001	low
Hobby: Arts and Theater	.185	.001	low
Hobby: Travel	.185	.001	low
Prior health care experience as a nurse executive	.180	.001	low
Metropolitan	.180	.001	low
Prior health care experience in general nursing practice	.166	.002	low
Urban: 2,500 - 19,999	-.155	.004	low
Prior health care experience in case management nursing	.154	.004	low
Prior international non-work experience	.145	.006	low
Division 9: Pacific	.144	.006	low
Organizational tenure	-.142	.007	low
Prior health care experience in psychiatric and mental health nursing	.139	.008	low
Hobby: Community Service	.120	.019	low
Prior health care experience in pain management	.118	.021	low
Region 1: Northeast	.115	.023	low
Division 2: Mid Atlantic	.101	.041	low
Position Tenure	-.098	.045	low
Proficiency in additional languages	.095	.050	low
Division 7: West South Central	.094	.052	low
Duration of volunteer activities	.089	.062	negligible
Region 3: South	-.084	.073	negligible
Prior health care experience in community health nursing	.082	.079	negligible
Rural	-.080	.084	negligible
Region 4: West	.075	.098	negligible

(table 4.49 cont'd)

Division 5: South Atlantic	.071	.112	negligible
Education Level Categories	.069	.118	negligible
Average patient census	-.068	.120	negligible
Prior health care experience in cardiac nursing	.065	.131	negligible
Workforce size	.061	.146	negligible
Prior health care experience in home health nursing	.059	.155	negligible
Hobby: Sports	.058	.160	negligible
Hire type	-.057	.162	negligible
Prior health care experience in medical-surgical nursing	.056	.167	negligible
Division 8: Mountain	-.052	.187	negligible
Volunteer Activities	.050	.195	negligible
Prior health care experience in high-risk perinatal nursing	.044	.224	negligible
Prior health care experience in pediatric nursing	-.042	.237	negligible
Percentage of Caucasian/White (majority) employees	-.041	.240	negligible
Worksite type	.039	.249	negligible
Prior health care experience in nursing professional development	.036	.266	negligible
Race Category	.032	.292	negligible
Hobby: Movies	.031	.294	negligible
Urban: 20,000 or more	-.029	.308	negligible
Division 3: East North Central	-.027	.320	negligible
Region 2: Midwest	-.027	.323	negligible
Prior work experience in health care	.024	.343	negligible
Prior health care experience in perinatal nursing	-.023	.344	negligible
Hobby: Music	-.022	.349	negligible
Hobby: Reading	.022	.352	negligible
Prior health care experience in gerontological nursing	.019	.370	negligible
Duration of prior health care experience	.015	.400	negligible
Age	.014	.406	negligible
Prior health care experience in school nursing	.013	.411	negligible
Prior health care experience in ambulatory care	.013	.413	negligible
Gender	-.010	.429	negligible

*Note.* n=299.

After examination of the bivariate correlations between the Cultural Intelligence-Motivation scale and each of the variables used as predictors in the analysis, the researcher examined the data for the presence of excess levels of multicollinearity among the independent variables. To accomplish this, the tolerance and variance inflation factor measurements were used. Small tolerance values (and thus large VIF values because  $VIF = 1/\text{tolerance}$ ) denote high collinearity and the common cutoff threshold is a tolerance value of .10 which corresponds to a VIF value of 10 (Hair et al., 2005). Tolerance values in this analysis ranged from a low of .866 to a high of 1.000 and the corresponding VIF values ranged from 1.000 to 1.156. Therefore, no excess levels of multicollinearity were evident in the analysis.

The variables explained a significant portion of the variance in Cultural Intelligence-Motivation ( $F_{(8,290)} = 9.119, p < 0.1$ ). In the model, eight variables explained 20.1% of the variance on motivation cultural intelligence levels of site directors. Duration of international non-work experience was the first variable to enter the regression model, and it explained 5.2% of the variance in motivation cultural intelligence. Seven additional variables entered the model including geographic location: Mountain and East South Central divisions; prior health care experience in general nursing practice; prior international work experience; hobbies: travel and arts/theater; and geographic location - rural/urban continuum: Metropolitan. These variables explained a combined 14.9% of the variance (see Table 4.50).

The nature of the association was such that individuals with prior international work experience, those with greater lengths of international non-work experience, as well as those with prior clinical experience in general nursing practice tended to have higher levels of motivation cultural intelligence. Site directors whose hobbies included arts and theater or travel

also tended to have higher levels of cultural intelligence. However, respondents residing in the Mountain and East South Central divisions tended to have lower motivation cultural intelligence levels. Conversely, those residing in metropolitan areas tended to have higher motivation cultural intelligence levels.

Table 4.50  
Multiple Regression Analysis of Cultural Intelligence-Motivation Levels as Measured by the Cultural Intelligence Scale (CQS) Self-Report and Selected Demographic and Biographical Variables of Site Directors Employed by a Home Health Care System in the United States  
ANOVA

Model	df	Mean Square	F	p
Regression	8	11.84	9.119	<.01
Residual	290	1.30		
Total	298			

Notes. n=299.

Model summary

Variables	R <sup>2</sup> Cumulative	R <sup>2</sup> Change	F Change	Sig F Change	Coefficients Beta
Duration of international work experience	.052	.052	16.412	<.001	.219
Division 6: East South Central	.092	.039	12.845	<.001	-.133
Prior health care experience in general nursing	.119	.027	9.071	.003	.131
Prior international work experience	.140	.021	7.242	.008	.152
Hobby: Travel	.160	.020	7.105	.008	.122
Metropolitan	.176	.016	5.597	.019	.126
Division 8: Mountain	.190	.014	4.992	.026	-.129
Hobby: Arts/Theater	.201	.011	3.953	.048	.112

## Variables not in the equation

Excluded Variables	t	p
Age	-1.913	.057
Duration of prior health care experience	-1.814	.071
Prior health care experience as a nurse executive	1.707	.089
Hobby: Music	-1.647	.101
Region 2: Midwest	-1.637	.103
Prior health care experience in pain management	1.593	.112
Prior health care experience in psychiatric and mental health nursing	1.493	.137
Division 3: East North Central	-1.467	.143
Hobby: Sports	1.417	.158
Hobby: Community Service	1.375	.170
Division 2: Mid Atlantic	1.344	.180
Region 1: Northeast	1.192	.234
Prior health care experience in pediatric nursing	-1.146	.253
Organizational tenure	-1.075	.283
Division 7: West South Central	1.014	.312
Duration of volunteer activities	.983	.326
Duration of international work experience	.951	.342
Workforce size	.871	.384
Percentage of Caucasian/White (majority) employees	.754	.451
Volunteer Activities	.727	.468
Prior health care experience in home health nursing	.675	.500
Average patient census	-.652	.515
Prior health care experience in perinatal nursing	-.614	.540
Division 9: Pacific	.600	.549
Region 4: West	.600	.549
Hobby: Reading	-.483	.630
Region 3: South	.471	.638
Prior health care experience in case management nursing	.455	.649
Prior health care experience in ambulatory care	-.446	.656
Rural	-.384	.701
Prior health care experience in school nursing	.368	.713
Hire type	-.353	.724
Prior health care experience in gerontological nursing	-.309	.758

(table 4.50 cont'd)

Prior work experience in health care	.296	.768
Division 5: South Atlantic	-.261	.795
Urban: 20,000 or more	.231	.818
Prior health care experience in high-risk perinatal nursing	.199	.842
Prior health care experience in medical-surgical nursing	-.198	.843
Worksite type	.197	.844
Prior health care experience in cardiac nursing	-.195	.845
Education level	-.195	.846
Position tenure	-.170	.865
Prior international non-work experience	.132	.895
Race category	.126	.900
Urban: 2,500 - 19,999	.068	.946
Number of international non-work experiences	-.057	.955
Hobby: Movies	-.054	.957
Gender	.043	.965
Prior health care experience in nursing professional development	.039	.969
Proficiency in additional languages	-.012	.991

### Cultural Intelligence- Behavior

The fourth CQ scale examined was the Behavior subscale. For descriptive purposes, two-way correlations between factors used as independent variables in the regression (selected biographical and demographic variables) and the CQS- Behavior (from the scales of the CQS- Self Report) are presented in Table 4.51. The correlation coefficients were classified using Davis' (1971) descriptors for interpretation of correlation strength (.00 - .09 = negligible association; .10-.29 = low association; .30 - .49 = moderate association; .50 - .60 = substantial association; .70 or higher = very strong association.) The variables presenting the strongest correlation in the analysis include geographic location: East South Central division; prior clinical experience in general nursing, case management, and as a nurse executive; and duration of

international work experience. The correlation coefficients and significance levels for the regression analysis are also presented in Table 4.51.

Table 4.51  
Relationship Between Selected Demographic and Biographic Predictor Measures and Cultural Intelligence-Behavior Levels of Site Directors Employed by a Home Health Care System in the United States

Variable	r	p	Descriptor
Division 6: East South Central	-.245	<.001	low
Prior health care experience as a nurse executive	.189	.001	low
Prior health care experience in case management nursing	.176	.001	low
Prior health care experience in general nursing practice	.173	.001	low
Duration of international work experience	.163	.002	low
Average patient census	-.151	.004	low
Number of international non-work experiences	.137	.009	low
Percentage of Caucasian/White (majority) employees	-.136	.009	low
Proficiency in additional languages	.136	.009	low
Organizational tenure	-.130	.012	low
Prior international non-work experience	.128	.013	low
Hobby: Arts and Theater	.121	.018	low
Duration of prior health care experience	.120	.019	low
Position Tenure	-.119	.020	low
Prior international work experience	.117	.021	low
Prior health care experience in community health nursing	.115	.024	low
Division 5: South Atlantic	.108	.031	low
Duration of international non-work experience	.104	.036	low
Division 7: West South Central	.102	.039	low
Prior health care experience in school nursing	.101	.041	low
Prior health care experience in cardiac nursing	.097	.047	low
Prior health care experience in ambulatory care	.093	.053	low
Hobby: Travel	.090	.060	low
Age	.082	.079	negligible
Hobby: Community Service	.079	.087	negligible
Region 3: South	-.077	.092	negligible
Worksite type	.075	.097	negligible
Region 1: Northeast	.074	.100	negligible
Volunteer Activities	.065	.132	negligible
Prior health care experience in psychiatric and mental health nursing	.059	.155	negligible
Race Category	.058	.160	negligible



(table 4.51 cont'd)

Duration of volunteer activities	.058	.161	negligible
Gender	.057	.163	negligible
Education level	.055	.169	negligible
Hobby: Movies	-.054	.176	negligible
Prior health care experience in pain management	.051	.188	negligible
Urban: 20,000 or more	-.051	.189	negligible
Prior health care experience in gerontological nursing	.047	.211	negligible
Division 9: Pacific	.043	.228	negligible
Prior health care experience in home health nursing	.043	.229	negligible
Division 2: Mid Atlantic	.040	.246	negligible
Metropolitan	.040	.248	negligible
Prior work experience in health care	-.039	.253	negligible
Region 2: Midwest	.038	.258	negligible
Hire type	-.035	.275	negligible
Hobby: Music	-.034	.280	negligible
Rural	-.031	.296	negligible
Prior health care experience in nursing professional development	.027	.322	negligible
Division 8: Mountain	-.022	.352	negligible
Prior health care experience in pediatric nursing	.022	.354	negligible
Prior health care experience in high-risk perinatal nursing	-.021	.360	negligible
Region 4: West	.018	.378	negligible
(Table continued)			
Division 3: East North Central	.018	.380	negligible
Hobby: Sports	.013	.411	negligible
Workforce size	-.007	.449	negligible
Urban: 2,500 - 19,999	.007	.455	negligible
Prior health care experience in perinatal nursing	-.006	.461	negligible
Prior health care experience in medical-surgical nursing	-.002	.485	negligible
Hobby: Reading	-.001	.492	negligible

Note. n=299.

After examination of the bivariate correlations between the behavioral cultural intelligence subscale and each of the variables used as predictors in the analysis, the researcher examined the data for the presence of excess levels of multicollinearity among the independent variables. To accomplish this, the tolerance and variance inflation factor measurements were

used. Small tolerance values (and thus large VIF values because  $VIF = 1/\text{tolerance}$ ) denote high collinearity and the common cutoff threshold is a tolerance value of .10 which corresponds to a VIF value of 10 (Hair et al., 2005). Tolerance values in this analysis ranged from a low of .908 to a high of 1.000 and the corresponding VIF values ranged from 1.000 to 1.101. Therefore, no excess levels of multicollinearity were evident in the analysis.

The variables explained a significant portion of the variance in behavioral cultural intelligence ( $F_{(5, 293)} = 8.636, p < .01$ ). Results of the multiple regression analysis included an explained variance of 12.8% with five variables entering the model. The variable that entered the regression model first was geographic location: East South Central division. Four additional variables followed: prior clinical experience in general nursing practice and experience as a nurse executive, duration of international work experience, and average patient census (see Table 4.52). Prior health care experience in general nursing and as a nurse executive tended to be associated with higher levels of behavioral cultural intelligence; conversely, those residing in the East South Central division tended to have lower behavioral cultural intelligence levels. Respondents with longer durations of international work experience and those with a larger patient census also tended to have higher behavioral cultural intelligence levels.

Table 4.52

Multiple Regression Analysis of Cultural Intelligence-Behavior Levels as Measured by the Cultural Intelligence Scale (CQS) Self-Report and Selected Demographic and Biographical Variables of Site Directors Employed by a Home Health Care System in the United States  
ANOVA

Model	Df	Mean Square	F	P
Regression	5	14.44	8.636	<.01
Residual	293	1.70		
Total	298			

Note. n = 299.

#### Model Summary

Variables	R <sup>2</sup> Cumulative	R <sup>2</sup> Change	F Change	Sig F Change	Coefficients Beta
Division 6: East South Central	.060	.060	18.959	<.001	-.205
Prior health care experience as a nurse executive	.087	.027	8.876	.003	.105
Prior health care experience in general nursing practice	.104	.017	5.591	.019	.134
Duration of international work experience	.117	.013	4.180	.042	.115
Average patient Census	.128	.012	3.880	.050	-.110

#### Variables not in the equation

Variable	t	p
Percentage of Caucasian/White (majority) employees	-1.736	.084
Prior international non-work experience	1.652	.100
Volunteer Activities	1.597	.111
Prior health care experience in school nursing	1.452	.148
Duration of international non-work experience	1.431	.153
Position Tenure	-1.384	.168

(table 4.52 cont'd)

Division 8: Mountain	-1.293	.197
Prior health care experience in community health nursing	1.271	.205
Prior health care experience in high-risk perinatal nursing	-1.241	.216
Duration of volunteer activities	1.239	.216
Proficiency in additional languages	1.218	.224
Region 4: West	-1.215	.225
Division 7: West South Central	1.205	.229
Prior health care experience in case management nursing	1.199	.232
Gender	1.196	.233
Number of international non-work experiences	1.196	.233
Hobby: Community Service	1.151	.251
Urban: 2,500 - 19,999	1.146	.253
Hobby: Music	-1.114	.266
Prior health care experience in ambulatory care	1.066	.287
Prior health care experience in medical-surgical nursing	-.961	.338
Hobby: Movies	-.886	.376
Duration of prior health care experience	.842	.400
Region 3: South	.839	.402
Organizational tenure	-.807	.420
Division 3: East North Central	-.720	.472
Hobby: Reading	-.685	.494
Prior health care experience in cardiac nursing	.654	.513
Region 1: Northeast	.648	.517
Hobby: Arts and Theater	.621	.535
Hobby: Travel	.591	.555
Worksite type	.551	.582
Urban: 20,000 or more	-.543	.588
Prior health care experience in home health nursing	.532	.595
Prior work experience in health care	-.513	.608
Race Category	.474	.636
Hire type	.461	.645
Rural	-.422	.673
Metropolitan	-.415	.678
Division 9: Pacific	-.405	.686

(table 4.52 cont'd)

Prior health care experience in psychiatric and mental health nursing	.402	.688
Region 2: Midwest	-.388	.699
Prior international work experience	.372	.710
Hobby: Sports	.369	.713
Division 2: Mid Atlantic	.368	.713
Prior health care experience in perinatal nursing	-.364	.716
Workforce size	.313	.754
Prior health care experience in pain management	.311	.756
Prior health care experience in gerontological nursing	-.288	.774
Prior health care experience in nursing professional development	-.202	.840
Education Level Categories	-.097	.923
Age	-.062	.951
Prior health care experience in pediatric nursing	-.026	.980
Division 5: South Atlantic	-.019	.985

## Cultural Intelligence- Overall

Lastly, the overall CQS score was examined. For descriptive purposes, two-way correlations between factors used as independent variables in the regression (selected biographical and demographic variables) and overall CQS (from the scales of the CQS-Self Report) are presented in Table 4.53. The correlation coefficients were classified using Davis' (1971) descriptors for interpretation of correlation strength (.00 - .09 = negligible association; .10-.29 = low association; .30 - .49 = moderate association; .50 - .60 = substantial association; .70 or higher = very strong association.) The variables presenting the strongest correlation in the analysis include geographic location: East South Central division; duration of international work experience; prior health care experience in general nursing and as a nurse executive; as well as prior international work experience. The correlation coefficients and significance levels for the regression analysis are also presented in Table 4.53.

Table 4.53

Relationship Between Selected Demographic and Biographic Predictor Measures and Overall Cultural Intelligence Levels of Site Directors Employed by a Home Health Care System in the United States

Variable	r	p	Descriptor
Division 6: East South Central	-.242	<.001	low
Duration of international work experience	.232	<.001	low
Prior health care experience as a nurse executive	.208	<.001	low
Prior international work experience	.202	<.001	low
Prior health care experience in general nursing practice	.194	<.001	low
Number of international non-work experiences	.185	.001	low
Proficiency in additional languages	.170	.002	low
Organizational tenure	-.170	.002	low
Duration of international non-work experience	.166	.002	low
Hobby: Arts and Theater	.162	.002	low
Prior international non-work experience	.151	.004	low
Prior health care experience in case management nursing	.146	.006	low
Percentage of Caucasian/White (majority) employees	-.145	.006	low
Division 9: Pacific	.127	.014	low
Division 7: West South Central	.126	.015	low
Hobby: Community Service	.110	.029	low
Average patient census	-.108	.031	low
Position tenure	-.108	.032	low
Hobby: Reading	.105	.034	low
Prior health care experience in psychiatric and mental health nursing	.105	.035	low
Race Category	.105	.035	low
Prior health care experience in pain management	.102	.039	low
Region 1: Northeast	.102	.039	low
Region 3: South	-.099	.043	low
Prior health care experience in cardiac nursing	.093	.055	low
Hobby: Travel	.092	.056	low
Prior health care experience in community health nursing	.091	.058	low
Prior health care experience in gerontological nursing	.084	.074	negligible
Metropolitan	.083	.076	negligible
Urban: 2,500 - 19,999	-.081	.082	negligible

(table 4.53 cont'd)

Duration of volunteer activities	.078	.088	negligible
Division 2: Mid Atlantic	.078	.091	negligible
Division 5: South Atlantic	.071	.110	negligible
Duration of prior health care experience	.071	.111	negligible
Education Level Categories	.067	.123	negligible
Workforce size	.067	.123	negligible
Hobby: Sports	.067	.126	negligible
Region 4: West	.065	.133	negligible
Prior health care experience in ambulatory care	.059	.153	negligible
Age	.055	.172	negligible
Prior work experience in health care	-.055	.173	negligible
Prior health care experience in home health nursing	.054	.178	negligible
Prior health care experience in medical-surgical nursing	.053	.179	negligible
Worksite type	.051	.187	negligible
Division 8: Mountain	-.048	.206	negligible
Hire type	-.045	.218	negligible
Volunteer Activities	.042	.235	negligible
Prior health care experience in perinatal nursing	-.040	.247	negligible
Gender	.036	.268	negligible
Prior health care experience in nursing professional development	.034	.277	negligible
Prior health care experience in school nursing	.034	.278	negligible
Hobby: Movies	-.029	.310	negligible
Prior health care experience in pediatric nursing	-.018	.376	negligible
Urban: 20,000 or more	-.017	.387	negligible
Rural	-.017	.388	negligible
Region 2: Midwest	.008	.445	negligible
Hobby: Music	.004	.471	negligible
Division 3: East North Central	.004	.473	negligible
Prior health care experience in high-risk perinatal nursing	.003	.481	negligible

*Note.* n=299.

After examination of the bivariate correlations between the Cultural Intelligence-Overall scale and each of the variables used as predictors in the analysis, the researcher examined the

data for the presence of excess levels of multicollinearity among the independent variables. To accomplish this, the tolerance and variance inflation factor measurements were used. Small tolerance values (and thus large VIF values because  $VIF = 1/\text{tolerance}$ ) denote high collinearity and the common cutoff threshold is a tolerance value of .10 which corresponds to a VIF value of 10 (Hair et al., 2005). Tolerance values in this analysis ranged from a low of .985 to a high of 1.000 and the corresponding VIF values ranged from 1.000 to 1.027. Therefore, no excess levels of multicollinearity were evident in the analysis.

The variables explained a significant portion of the variance in overall cultural intelligence ( $F_{(5, 293)} = 11.819, p < .01$ ). Results of the multiple regression analysis included an explained variance of 16.8% with five variables entering the model (see Table 4.54). The variable that entered the regression model first was geographic location: East South Central division. Two additional variables followed: duration of international work experience and prior health care experience in general nursing practice. Duration of international non-work experience and organizational tenure also entered the model. Respondents with prior clinical experience in general nursing tended to be associated with higher levels of overall cultural intelligence; conversely, those residing in the East South Central division tended to have lower overall cultural intelligence levels. Respondents with more years of organizational tenure also tended to have lower levels of cultural intelligence than others. Respondents with longer durations of international work and non-work experience tended to have higher overall cultural intelligence levels.



Table 4.54

Multiple Regression Analysis of Overall Cultural Intelligence Levels as Measured by the Cultural Intelligence Scale (CQS) Self-Report and Selected Demographic and Biographical Variables of Site Directors Employed by a Home Health Care System in the United States

## ANOVA

Model	df	Mean Square	F	p
Regression	5	8.90	11.819	<.01
Residual	293	.75		
Total	298			

Note. n = 299.

## Model Summary

Variables	R <sup>2</sup> Cumulative	R <sup>2</sup> Change	F Change	Sig F Change	Coefficients Beta
Division: East South Central	.058	.058	18.441	<.001	-.195
Duration of international work experience	.105	.046	15.229	<.001	.189
Prior health care experience in general nursing practice	.131	.027	9.035	.003	.166
Duration of international non-work experience	.152	.021	7.323	.007	.140
Organizational tenure	.168	.016	5.483	.020	-.126

## Variables not in the equation

Variable	t	p
Prior health care experience as a nurse executive	1.825	.069
Percentage of Caucasian/White (majority) employees	-1.788	.075
Hobby: Community Service	1.656	.099
Division 8: Mountain	-1.646	.101
Proficiency in additional languages	1.536	.126
Workforce size	1.475	.141

(table 4.54 cont'd)

Hobby: Arts and Theater	1.471	.142
Duration of volunteer activities	1.453	.147
Division 7: West South Central	1.402	.162
Prior international non-work experience	1.383	.168
Region 1: Northeast	1.377	.170
Hobby: Sports	1.355	.176
Division 2: Mid Atlantic	1.246	.214
Prior health care experience in pain management	1.229	.220
Hobby: Reading	1.208	.228
Prior work experience in health care	-1.192	.234
Volunteer activities	1.144	.253
Race category	1.090	.277
Number of international non-work experiences	1.016	.310
Prior international work experience	1.011	.313
Prior health care experience in psychiatric and mental health nursing	.893	.372
Prior health care experience in community health nursing	.890	.374
Division 9: Pacific	.879	.380
Gender	.789	.431
Division 3: East North Central	-.785	.433
Division 5: South Atlantic	-.759	.449
Prior health care experience in pediatric nursing	-.749	.454
Region 2: Midwest	-.742	.459
Prior health care experience in home health nursing	.721	.472
Hobby: Music	-.705	.481
Prior health care experience in perinatal nursing	-.677	.499
Hobby: Travel	.662	.509
Average patient census	-.656	.512
Prior health care experience in high-risk perinatal nursing	-.619	.537
Prior health care experience in gerontological nursing	.598	.550
Education level categories	.471	.638
Prior health care experience in cardiac nursing	.470	.639
Region 4: West	-.462	.644
Age	-.458	.647
Urban: 20,000 or more	-.449	.653

(table 4.54 cont'd)

Prior health care experience in ambulatory care	.439	.661
Prior health care experience in case management nursing	.405	.686
Hobby: Movies	-.403	.687
Prior health care experience in school nursing	.324	.746
Position tenure	-.293	.769
Metropolitan	.241	.810
Hire type	.213	.831
Prior health care experience in nursing professional development	-.206	.837
Worksite type	-.198	.843
Region 3: South	.188	.851
Duration of prior health care experience	.088	.930
Urban: 2,500 - 19,999	.072	.943
Rural	-.052	.959
Prior health care experience in medical-surgical nursing	-.001	.999

## **CHAPTER 5**

### **SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS**

#### **Purpose and Specific Objectives**

The primary purpose of this study was to determine the influence of selected demographic and biographical characteristics on the level of cultural intelligence among mid level managers of home health care systems throughout the United States. The dependent variable of this study was cultural intelligence as measured by the Cultural Intelligence Scale (CQS) – Self Report.

With this stated, the following specific objectives were formulated to guide this research study:

1. To describe the research participants on selected demographic and biographical characteristics.
2. To determine the levels of cultural intelligence as measured by the scales of the 20-item Cultural Intelligence Scale (CQS) - Self Report. This instrument includes a measure of the four sub-scales of cultural intelligence.
3. To determine if a relationship exists between levels of cultural intelligence and selected demographic and biographical characteristics.
4. To determine if a model exists that explains a significant portion of the variance in overall cultural intelligence and each of the subscales of cultural intelligence as measured by the CQS-Self Report from selected demographic and biographical characteristics.

#### **Population and Sample**

The target population of this study was mid level managers of home health care systems in the United States. The accessible population was comprised of full time home health care site

directors within a national, publicly traded health care company operating in 46 states within the United States. The sample population was defined as 100% of the accessible population. Thus, there were a total of 484 home health site directors included in the sample for this study. The number of usable surveys (n=304) exceeded the minimum required usable sample was 144 (Cochran, 1977). Permission to conduct this study was requested and granted from the Louisiana State University Institutional Review Board (IRB # E5340) as well as the organization of interest.

### **Procedures**

Data collection for this study consisted of a survey instrument and internal organizational data. The specific variables selected were based on a review of related literature. The instrument used to collect data contained a section of demographic information and a measure of cultural intelligence levels. The first section contained the CQS Self-Report, a validated instrument designed to measure the respondent's levels of cultural intelligence (Appendix A). The second section of the instrument was a researcher designed demographic survey, which included questions on demographic and biographical information. A total of six individuals, which included three individual with expertise in survey design and research and three individuals with knowledge and expertise in the site director role, were consulted to develop the instrument. The individuals examined the instrument to determine interpretational inconsistencies and to assess clarity of the directions. Modifications were made based on the feedback of the individuals.

The survey was administered in accordance with Dillman's Tailored Design Method (Dillman et al., 2009). A pre-notice letter was sent out in advance informing the respondents of the upcoming survey (see Appendix D). An electronic mail message containing a cover letter

and a link to the electronic survey was sent out to each respondent individually (see Appendix E). Included in the letter was an overview of the study outlining the importance of the request and why their participation is needed, the usefulness of the study, instructions on how to complete the study, a time estimate for completion of the study instrument, a statement about confidentiality, a statement about the LSU IRB, a statement about refusal to participate, and a closing with contact information. A copy of the survey is included in Appendix F.

Personalized thank you email messages were sent to each respondent. Replacement questionnaires were sent to non-respondents within two-four weeks following survey administration. Additionally, an incentive plan was used to encourage participation in the survey. Incentives were offered to active respondents at days 8, 18, and 27.

### **Methodology**

The first and second study objectives were descriptive and were analyzed using descriptive statistics. Frequencies and percentages were measured for variables that were measured on a categorical scale (nominal or ordinal). Means and standard deviations were used to analyze the data that were measured on an interval or higher level measurement scales.

Data analysis used to accomplish the third objective included the Pearson Product Moment correlation, the Independent t test, and the Oneway Analysis of Variance (ANOVA). For the variables measured on an interval or higher level measurement scales, the Pearson Product Moment correlation was used. For variables measured on an interval or higher level and with whom the researcher sought to compare the means of two different groups of subjects, the Independent t test was used. The Oneway Analysis of Variance (ANOVA) was used to compare the means of three or more groups of subjects. An a priori significance level of  $<.05$  was used to determine if the independent variables were statistically significant.

Multiple regression analysis was used to accomplish the fourth objective of the study. The analysis consisted of five dependent variables including four CQS subscale scores and the overall CQS score. The independent (predictor) variables included age, gender, race/ethnicity, educational level, professional work experience, international experience, language acquisition, hobbies and personal interests, volunteerism, tenure within the organization, geographic location, and worksite demographics. The independent variables were entered as either continuous variables or binary coded variables as appropriate. An a priori significance level of  $<.05$  was used to determine if the independent variables were statistically significant.

### **Summary of Findings**

The major findings of this study are discussed by objective.

#### **Objective One**

This objective was to describe site directors employed at a home health system in the United States on selected demographic and biographical characteristics.

##### **Site Director Demographics**

Of the respondents, there were more females ( $n=285$ , 94.1%) than males ( $n=18$ , 5.9%). The average age of the respondents was 47.59 years ( $SD=8.14$ ). The majority of the study respondents were Caucasian/white ( $n=279$ , 92.1%). The majority of site directors reported an Associate degree as the highest level of education ( $n=162$ , 53.5%) Only two site directors reported having a doctoral degree (.7%).

##### **Site Director Biographical Information**

The majority of site directors ( $n=301$ , 99.3%) reported prior work experience in health care with an average tenure of more than 20 years ( $M= 21.98$ ,  $SD =8.99$ ). The most prevalent

clinical specialty areas of prior health care experience among site directors were home health nursing (n=269, 88.5%) and medical-surgical nursing (n=207, 68.1%).

Prior international work experience was reported by 4.9% of site directors (n=15); however, none of these respondents reported more than one international work experience. Less than half of the respondents (n=138, 45.4%) reported prior international non-work experience. Of these 138 directors, 70 (50.7%) respondents reported one to two international non-work experiences. In terms of language proficiency, the majority of respondents (n=295, 97.0%) indicated English as their native language. Further, 22 site directors (7.2%) reported proficiency in an additional language.

Respondents were asked about preferences in hobbies and personal interests. The hobby reported most frequently among site director respondents was reading (n=236, 77.6%). Travel was the second most prevalent hobby (n=182, 59.9%) among respondents. Volunteer activity among respondents was also captured, with less than half of the site directors reporting routine volunteer services activity (n=109, 36.2%). The respondents were also described on their tenure within the organization. Organizational tenure for the majority of respondents (n=186, 61.2%) was six years or less. The average organizational tenure among respondents was 7.29 (SD=6.24) years. The average tenure of respondents in the site director role was 4.36 years (SD=4.275) with the majority of respondents reporting 6 years or less of tenure (n=261, 85.9%) in the role.

### **Site Director Geographic Location**

The majority of respondents resided in the South region (n=232, 76.3%). In terms of geographic divisions, the South Atlantic division represented the largest number of respondents (n=113, 37.2%) of the nine designated divisions. In addition to region and division geographic descriptions, the site directors were also described based on the rural/urban population



designation of their location. Of the nine rural/urban population designations, 32.6% of the respondents (n=99) were based in metro areas with populations of 1 million or more. This represented the largest category of respondents among the rural/urban continuum categories. 23% of the respondents (n=70) were based in metro areas with populations of 250,000 – 1 million.

### **Worksite Demographics**

Site directors were described on worksite demographics including hire type (internal or external hire); worksite type (acquired or organic entity); workforce- racial composition (percentage of minority and majority employees at the worksite); workforce size (number of employees); and patient census. Entry into the site director role was most common from internal candidates (n=164, 53.9%). In terms of the site type, the majority of the respondents managed worksites that were acquired entities (n=169, 55.6%) versus organic entities.

Racial composition of the worksites revealed the mean percentage of minority employees among the respondent's worksites was 15.50% (SD=15.07). The majority of sites were comprised of 20 % or less minority employees (n=213, 70.1%). In terms of workforce size, the average number of employees per worksite was 31.07 employees (SD=41.98). Most worksites were comprised of 40 or less employees (n=241, 79.3%). The mean number of patients served under the direction of the respondents was 143.08 (SD=103.38). The majority of respondents maintained an average patient census of 200 or less (n=238, 78.3%).

### **Objective Two**

The second objective was to determine the levels of cultural intelligence as measured by the four subscales of the 20-item Cultural Intelligence Scale (CQS)-Self Report: CQ-Strategy (meta-cognitive); CQ-Knowledge (cognitive); CQ-Motivation; CQ-Behavior and overall CQ.

The mean overall score on the CQS among respondents was 4.60 (SD=.93), ranging from a low of 1.61 to a high of 6.92. The subscale on which the respondents had the highest mean score was CQS-Strategy (M= 5.43, SD=1.10). The lowest mean scores among respondents was on the CQS-Knowledge (M= 3.30, SD=1.29) subscale. The mean score for the CQS-Motivation subscale was 5.05 (SD=1.26) and the mean score for the CQS-Behavior subscale was 4.62 (SD=1.39).

### **Objective Three**

This objective sought to determine if a relationship existed between levels of cultural intelligence and selected demographic and biographical characteristics among site director study participants. Data analysis used to accomplish the third objective consisted of the Pearson Product Moment correlation, the Independent t test, and the Oneway Analysis of Variance (ANOVA). For interpretation of correlation coefficients, Davis's set of descriptors was used (Davis, 1971). Of the specific variables compared, 13 variables were found to be statistically significant as they were not independent of the variable, cultural intelligence.

#### **Prior clinical specialties: case management; general nursing; and nurse executive**

A significant difference was also found between cultural intelligence levels of site directors and prior clinical specialty experience in case management nursing ( $t_{(302)} = 2.58, p = .01$ ). Site directors who reported prior experience in case management (M=4.80, SD=.89) tended to have higher levels of cultural intelligence than site directors not reporting experience in case management (M=4.50, SD =.94). Additionally, site directors who reported prior clinical specialty in general nursing (M=4.80, SD=.87) tended to have higher levels of cultural intelligence than site directors not reporting experience in general nursing (M=4.43, SD =.96) ( $t_{(302)} = 3.51, p < .01$ ).

Statistically significant differences also existed between cultural intelligence levels and prior experience in the clinical specialty area of nurse executive ( $t_{(110,20)} = 3.70, p < .01$ ).

Significant differences were found in the cultural intelligence levels between the respondents reporting nurse executive experience ( $M=4.95, SD=.94$ ) and those not reporting prior nurse executive experience ( $M=4.49, SD=.91$ ).

### **International Work Experience**

Respondents reporting prior international work experience were found to have significantly different cultural intelligence levels ( $t_{(301)} = -3.58, p < .01$ ). Respondents reporting prior international work experience had higher overall cultural intelligence scores ( $M=5.43, SD=.94$ ) than respondents who did not report prior international work experience ( $M=4.56, SD=.92$ ). Statistically significant differences also existed between cultural intelligence and the duration of international work experiences. The calculated coefficient between length of international work experiences (in months) and cultural intelligence was  $r = .62$  ( $p = .01$ ), which indicated a substantial association between the duration of international work experiences and cultural intelligence.

### **International non-work experience**

Respondents with prior international non-work experience had a composite mean score of 4.75 ( $SD=.89$ ), and respondents without prior international non-work experience had a composite mean score of 4.47 ( $SD=.96$ ) ( $t_{(302)} = -2.63, p = .01$ ). Therefore, respondents reporting prior international non-work experience were found to have significantly different cultural intelligence levels than those not reporting international non-work experience.

### **Number of international non-work experiences**

The number of international non-work experiences was associated with overall levels of cultural intelligence. The calculated coefficient between the number of international non-work experiences and cultural intelligence levels was  $r = .18$  ( $p < .01$ ). A low positive association was found to exist between the number of international non-work experiences and overall cultural intelligence levels.

### **Duration of International Non-Work Experiences**

The overall length of international non-work experiences (in days) was also found to have a low association with cultural intelligence. The calculated coefficient between duration of international non-work experience and cultural intelligence was  $r = .22$  ( $p = .02$ ). Proficiency in additional languages

Respondents with proficiency in additional languages were found to have significantly different cultural intelligence levels ( $t_{(301)} = -3.07$ ,  $p < .01$ ). The nature of the relationship between these two variables was such that respondents with proficiency in additional languages had higher levels of cultural intelligence ( $M = 5.18$ ,  $SD = .85$ ) than did respondents not reporting proficiency in additional languages ( $M = 4.55$ ,  $SD = .93$ ).

### **Organizational Tenure**

A statistically significant difference was found between levels of cultural intelligence and organizational tenure of site directors. Using Pearson's Product Moment correlation, the calculated coefficient between organizational tenure and cultural intelligence was  $r = -.17$  ( $p < .01$ ), indicating a low negative relationship. The association was such that site directors with more years of tenure within the organization tended to have lower cultural intelligence scores. Differences also existed among levels of cultural intelligence and the division of the

respondents. Analysis of variance test results revealed a significant F value, indicating at least one significance difference existed among the seven groups, ( $F_{6,284} = 4.039$ ,  $p < .01$ ). Statistically significant differences in cultural intelligence were found between respondents in the East South Central division ( $M=4.26$ ,  $SD=.93$ ) and those in the South Atlantic ( $M=4.69$ ,  $SD=.87$ ), Pacific ( $M=5.05$ ,  $SD=.82$ ) as well as the West South Central division ( $M=4.98$ ,  $SD=.97$ ).

### **Workforce- racial composition**

The percentage of Caucasian/white (majority) employees was also associated with overall levels of cultural intelligence. The calculated coefficient between the two variables was  $r=-.15$  ( $p=.01$ ). Therefore, a low negative association was found between the percentage of Caucasian/white employees and the overall level of cultural intelligence among respondents. AT

### **Objective Four**

Findings for objective four are based on five separate multiple regression analyses. The first model included meta-cognitive cultural intelligence as the dependent variable, the second included cognitive cultural intelligence as the dependent variable. The third and fourth model included motivation and behavioral cultural intelligence as the dependent variables respectively. The final model included overall cultural intelligence as the dependent variable. All of the models explained a significant portion of the variance in cultural intelligence levels among respondents.

### **Meta-cognitive Cultural Intelligence**

For the first regression analysis, meta-cognitive cultural intelligence was the dependent variable. The variables explained a significant portion of the variance in meta-cognitive cultural intelligence ( $F_{(7,291)}=6.800$ ,  $p < 0.01$ ). The variable which entered the regression model first was percentage of Caucasian /white employees explaining 2.8% of the variance. Six additional

variables explained an additional 11.3% of the variance. Those variables included: prior international work experience; prior health care experience in clinical specialty areas - general nursing practice, pediatric nursing and home health nursing; geographic location: Mountain and East South Central division.

Site directors with prior international work experience tended to have higher levels of meta-cognitive cultural intelligence. Additionally, respondents with prior clinical experience in home health and general nursing tended to have higher meta-cognitive cultural intelligence levels. Conversely, those with prior experience in pediatric nursing tended to have lower meta-cognitive cultural intelligence levels. Individuals in the mountain division as well as those in the east south central division tended to have lower meta-cognitive cultural intelligence levels and site directors with a greater percentage of majority (White) employees also tended to have lower meta-cognitive cultural intelligence levels.

### **Cognitive Cultural Intelligence**

For the second regression model, cognitive cultural intelligence was the dependent variable. The variables in this model also explained a significant portion of the variance in cognitive cultural intelligence ( $F_{(5,293)} = 7.531, p < .01$ ). Five variables explained 11.4% of the variance in cognitive cultural intelligence levels of site directors. The variable that entered the regression model first was duration of international work experience, explaining 3.8% of the variance in cognitive cultural intelligence levels. The remaining four variables in this model, hobby: reading, organizational tenure, geographic location: Mid-Atlantic division; and workforce size, explained a combined 7.6% of the variance. Results reveal that individuals with a greater duration of international work experiences tended to have higher cognitive cultural intelligence levels; those who reported reading as a hobby also tended to have higher cognitive

cultural intelligence levels. Additionally, site directors with larger workforces tended to have higher cognitive cultural intelligence levels, as did those living in the Mid-Atlantic division. Conversely, respondents with longer lengths of service in the organization (organizational tenure) tended to have lower cognitive cultural intelligence levels.

### **Motivation Cultural Intelligence**

For the third regression model, motivation cultural intelligence was the dependent variable. The variables explained a significant portion of the variance in motivation cultural intelligence ( $F_{(8,290)} = 9.119, p < 0.1$ ). In the model, eight variables explained 20.1% of the variance on motivation cultural intelligence levels of site directors. The duration of international non-work experiences was the first variable to enter the regression model, and it explained 5.2% of the variance in motivation cultural intelligence. Seven additional variables entered the model including geographic location: Mountain and East South Central divisions; prior health care experience in general nursing practice; prior international work experience; hobbies: travel and arts/theater; and geographic location - rural/urban continuum: Metropolitan. These variables explained a combined 14.9% of the variance. In summary, individuals with prior international work experience, those with greater lengths of international non-work experience, as well as those with prior clinical experience in general nursing practice tended to have higher levels of motivation cultural intelligence. Site directors whose hobbies included arts and theater or travel also tended to have higher levels of cultural intelligence. However, respondents residing in the Mountain or East South Central divisions tended to have lower motivation cultural intelligence levels. Conversely, those residing in metropolitan areas tended to have higher motivation cultural intelligence levels.

### **Behavioral Cultural Intelligence**

Behavioral cultural intelligence was the dependent variable for the fourth regression model. The variables explained a significant portion of the variance in behavioral cultural intelligence ( $F_{(5, 293)} = 8.636, p < .01$ ). Results of the multiple regression analysis included an explained variance of 12.8% with five variables entering the model. The variable that entered the regression model first was the geographic location: East South Central division. Four additional variables followed: prior clinical experience in general nursing practice and experience as a nurse executive; duration of international work experience, and average patient census. Prior clinical experience in general nursing and as a nurse executive tended to be associated with higher levels of behavioral cultural intelligence; conversely, those residing in the East South Central division tended to have lower behavioral cultural intelligence levels. Respondents with longer durations of international work experience and those with a larger patient census also tended to have higher behavioral cultural intelligence levels.

### **Overall Cultural Intelligence**

Overall cultural intelligence was the dependent variable for the final regression analysis. The variables explained a significant portion of the variance in overall cultural intelligence ( $F_{(5, 293)} = 11.819, p < .01$ ). In the model, five variables explained 16.8% of the variance of overall cultural intelligence levels. The variable that entered the regression model first was geographic location - East South Central division, followed by duration of international work experience. The remaining three variables in this model, prior health care experience in general nursing; duration of international non-work experience, and organizational tenure explained a combined 6.4% of the variance.



Individuals with greater lengths of international experience (work and non-work) as well as those with prior clinical experience in general nursing tended to have higher levels of overall cultural intelligence. Those residing in the East South Central division tended to have lower levels of overall cultural intelligence and those with greater lengths of service within the organization (organizational tenure) also tended to have lower levels of overall cultural intelligence.

### **Conclusions, Implications and Recommendations**

#### **Conclusion One**

There was a relationship between cultural intelligence and thirteen of the selected demographic and biographical variables. International work and non-work experiences; number of international non-work experiences; duration of international work and non-work experiences; organizational tenure; racial composition of the workforce; prior health care experience in case management, general nursing, and nurse executive; proficiency in additional languages; geographic location: division; and hobby preference of arts/theater were all statistically significant at the  $p < .05$  level. Three variables positively correlated to cultural intelligence according to Davis' descriptors (Davis, 1971). Duration of international work experience was a significant predictor of cultural intelligence ( $r=.62$ ,  $p < .01$ ). The number of international non-work experiences ( $r=.18$ ,  $p < .01$ ) and duration of international non-work experiences ( $r=.22$ ,  $p=.02$ ) also positively correlated with cultural intelligence. Organizational tenure ( $r=-.17$ ,  $p < .01$ ) and the percentage of Caucasian/Whites in the workforce (workforce- racial composition) ( $r=-.15$ ,  $p=.01$ ) negatively correlated with cultural intelligence.

Further study of the relationships between the statistically significant variables identified in this study and cultural intelligence is in order. Absent international work experience, which

demonstrated the highest correlational strength in the study, the strength of the correlations among the four other variables (duration and number of international non-work experiences, organizational tenure, and workforce-racial composition) was generally low. Additionally, little is known about the relational strength of the remaining statistically significant variables and cultural intelligence other than the group mean scores. Examining the ‘black box’ of cultural intelligence antecedents (Gelfand et al., 2008) as a follow up to this study would further the body of existing knowledge on CQ.

The researcher recommends further qualitative study on the statistically significant variables identified in the study. Predictor variables and cultural intelligence tend to be reciprocal in nature, causing a “proverbial CQ chicken-and-egg question” (Gelfand et.al, 2008). Therefore, a focus group of study respondents with the highest levels of cultural intelligence is recommended to examine the specific influence of these variables on cultural intelligence. One outcome of the focus group would be to describe the nature of the relationships between cultural intelligence and the antecedents studied in this research to better understand their symbiotic nature. Qualitative research supplementing quantitative analyses is supported as imperative for future research (Gelfand et al., 2008).

The focus group could also provide insight on the nature of the relationships between these variables. Gelfand et al. (2008) noted that many individual and situational factors have been related to cultural intelligence; however the nature of the relationships between the variables and cultural intelligence has not yet been fully explored. Insight from the focus group could be used for further study on relationships that may exist between predictor variables. This research is important not only to further the body of knowledge on cultural intelligence but also for application within the context of health care.

Given the cross-cultural nature of the health care system, interactions between individuals from different cultures will continue to become more prevalent. High quality health care depends on health care providers being able to interact effectively with an increasingly diverse patient population.

## **Conclusion Two**

International experience is related to cultural intelligence. Prior international work experience was statistically significant ( $t_{(301)}=-3.58, p<.01$ ). Respondents reporting prior international work experience ( $M=5.43, SD=.94$ ) had higher overall cultural intelligence scores than respondents not reporting prior international work experience ( $M=4.56, SD=.92$ ). This is consistent with prior findings where international work experience predicted overall cultural intelligence levels ( $\beta=0.19, p<0.01$ ) (Shannon & Begley, 2008).

Additionally, prior international non-work experience ( $t_{(302)}=-2.63, p=.01$ ) related to cultural intelligence. Respondents reporting prior international non-work experience had higher levels of cultural intelligence ( $M=4.75, SD=.89$ ) than other respondents ( $M=4.47, SD=.96$ ). Additionally, respondents with a greater number of international non-work experiences tended to have higher levels of cultural intelligence than other respondents ( $r=.18, p<.01$ ). This finding is consistent with previous research that associated the number of international non-work experiences with cultural intelligence (Tarique & Takeuchi, 2008). There are, however, two important distinctions to note between the current study and the existing research. First, prior research analyzed the relationship between the number of international non-work experiences and the four facets of cultural intelligence (metacognitive, cognitive, motivation, and behavioral). This is distinctive from the current study, which analyzed the number of international non-work experiences and the overall level of cultural intelligence. That study's

results also revealed a positive correlation existed among these four facets. An important distinction can be made between the correlational strength of these findings and prior research. Tarique and Takeuchi (2008) revealed moderate to substantial associations with the four scales of cultural intelligence; however, this study's findings reveal a low positive association.

The duration of international work experiences ( $r=.62$ ,  $p=.01$ ) and non-work experiences ( $r=.22$ ,  $p=.02$ ) related to cultural intelligence, a finding consistent with prior research. Tarique and Takeuchi (2006) found the length of international non-work experiences moderated the relationship between the number of experiences and metacognitive and motivational cultural intelligence.

In sum, all of the international experience variables which were able to be analyzed were statistically significant. Given the strength of the relationship between the international experience domain and cultural intelligence, the researcher recommends that hiring decisions should give priority to individuals with prior international experience. Additionally, prior international experience should be included as a desired qualification for the site director role as international experiences can influence behavior and the capability to display appropriate and generally expected actions across multicultural contexts (Tarique & Takeuchi, 2008).

Leveraging innovative technology to aid in teaching individuals how to interact effectively with others from different cultures also presents a unique opportunity. Gaining international experience can be challenging for some individuals. Therefore, the researcher also recommends the organization invest in advanced learning modules including simulations that offer live immersive international experiences in a virtual environment (Siegel, 2010).

Interacting appropriately in the context of multicultural experiences is becoming more important as home health care providers must care for patients, regardless of race and ethnicity.

Targeting potential site directors with prior international experience may increase the cultural capital of the workforce, enhancing the organizations' ability to deliver health care in cross cultural situations.

### **Conclusion Three**

There is a relationship between selected clinical specialty areas in health care and cultural intelligence. Prior experience in three clinical specialty areas including case management, general nursing, and nurse executive related to cultural intelligence. Respondents with prior clinical specialty experience in case management ( $M=4.80$ ,  $SD=.89$ ) had higher levels of cultural intelligence than those not reporting experience in case management ( $M=4.50$ ,  $SD=.94$ ) ( $t_{(302)}=2.58$ ,  $p=.01$ ). Additionally, those with prior experience in general nursing ( $M=4.80$ ,  $SD=.87$ ) also had higher levels of cultural intelligence than other respondents ( $M=4.43$ ,  $SD=.96$ ) ( $t_{(302)}=3.51$ ,  $p<.01$ ), and those with prior health care experience as a nurse executive ( $M=4.95$ ,  $SD=.94$ ) had higher levels of cultural intelligence than other respondents ( $M=4.49$ ;  $SD=.91$ ) ( $t_{(110.20)}=3.63$ ,  $p<.01$ ).

No other known research exists on the relationship between prior health care experience in clinical specialties and cultural intelligence. Therefore, the researcher recommends future studies focused specifically on the relationship between these three areas and cultural intelligence with a broader scope of respondents from multiple sectors of health care. The nature of the individual relationships of these three clinical specialty areas and cultural intelligence may hold valuable insight into cultural intelligence among health care professionals.

### **Conclusion Four**

Regional variation exists in the site directors' levels of cultural intelligence. Statistically significant differences in cultural intelligence existed between respondents in the East South

Central division ( $M=4.26$ ,  $SD=.93$ ) and those in the South Atlantic ( $M=4.69$ ,  $SD=.87$ ), Pacific ( $M=5.05$ ,  $SD=.82$ ) as well as the West South Central division ( $M=4.98$ ,  $SD=.97$ ) ( $F_{(6,284)}=3.207$ ,  $p < .01$ ).

The researcher is not currently aware of any studies on regional variations in cultural intelligence levels. Therefore, the researcher recommends specific qualitative study to examine the reasons for the contrasting levels of cultural intelligence between the East South Central region and the other three regions mentioned above. A focus group of respondents with the highest scores from each region could be used to compare and contrast the regional differences in order to identify the source of the variations in CQ levels.

### **Conclusion Five**

There is a relationship between arts and theater as a hobby preference and cultural intelligence. Respondents with arts and theater as a hobby preference had higher CQ ( $M=4.82$ ,  $SD=.88$ ) than those not indicating arts and theater as a hobby preference ( $M=4.50$ ,  $SD=.94$ ) ( $t_{(302)}=2.75$ ,  $p = .01$ ). The preference of arts and theater may be inclusive within a broader personality trait, openness to experience, that has previously been studied with CQ. Individuals defined as being imaginative, creative, cultured, original, broad-minded, intelligent, and artistically sensitive have openness to experience (McCraw, 1996). Intuitively, an individual whose hobbies include arts and theater is likely to be defined with the same or similar characteristics as those characterizing one who has openness to experience. Intuitively, there may be a relationship between the preference of arts and theater and the personality trait, openness to experience.

Openness to experience is the only Big Five personality trait significantly related to all four aspects of cultural intelligence (Ang et al., 2006). Therefore, the statistical significance of

the hobby preference of arts and theater may uncover a relationship between openness to experience and cultural intelligence within the context of health care that has relevance noteworthy of future exploration. Bhawuk, Sakuda, and Munusamy (2008) note it is natural for all of us to be socialized to value our own cultural practices over others, suggesting that ethnocentrism exists within each of us. Given the dynamic nature of health care and the diversity of patients cared for within health care, the researcher recommends future research studies on the influence of openness to experience as an individual difference in a health care specific setting.

### **Conclusion Six**

There was no relationship between age of respondents and cultural intelligence. Findings in this study revealed that age of study respondents was not associated with cultural intelligence levels ( $r=.06$ ,  $p=.35$ ). While age was not statistically significant in this study, a contextual review of the variable presents an interesting addition to the current body of cultural intelligence literature.

Many studies on cultural intelligence have been performed in a university setting which typically yields student samples. While this is not the case with all studies on cultural intelligence, there are a number of studies with student samples. In this study, the mean age of study respondents was 47.59 years old with 58.8% of the respondents ranging from 41 to 55 years of age. Mean cultural intelligence levels for the respondents were as follows: meta-cognitive ( $M=5.43$ ,  $SD = 1.1$ ); cognitive ( $M=3.30$ ,  $SD=1.29$ ); motivation ( $M=5.05$ ,  $SD = 1.26$ ); behavioral ( $M=4.62$ ,  $SD=1.39$ ); and overall ( $M=4.60$ ,  $SD=.94$ ).

In a separate study on cultural intelligence that examined the relationship of selected antecedents (e.g.: language skill, international work experience, and diversity of social contact),

Shannon and Begley (2008) examined 245 respondents whose mean age was 24.38 years old (SD=6.1). Results revealed the mean cultural intelligence levels of the respondents were: meta-cognitive (M=4.74, SD=.48); cognitive (3.65, SD=1.31); motivation (M=4.69; SD=1.52) and behavioral (M=4.34, SD=1.43).

A study on cultural intelligence that examined the relationship between international non-work experiences and cultural intelligence was done by Tarique and Takeuchi (2008). Study results showed that international non-work experiences correlated with all four subscales of cultural intelligence. While the average age of respondents was 25 (SD=5.6), the variable was entered as a control in the study given the sample was comprised of university students. The results of the study were as follows: meta-cognitive (M=4.74, SD=.48); cognitive (M=3.65, SD=1.31); motivation (M=4.69, SD=1.52); and behavioral (M= 4.34, SD=1.43).

Another study examined cultural intelligence as a mediator between openness to experience and performance (Oolders, Chernyshenko, and Stark, 2008). Included in the sample were first and second year undergraduate students. In that study the mean age of the participants was 24 years old (SD=7). The cultural intelligence levels of that studies respondents were as follows: meta-cognitive (M=3.51, SD=.62); cognitive (M=2.71, SD=.70); motivation (M=3.85, SD=.67) and behavioral (M=3.58, SD=.57).

While age, in and of itself, in the individual studies mentioned above has not demonstrated significance, it is interesting to note that the mean cultural intelligence levels of the samples are generally lower than those of the sample population in this study. Intuitively, one possible explanation is that the current study sample includes older business professionals within a given age range, while respondents in the other studies include are primarily students at the



university level within a given age range. Therefore, the researcher recommends that future studies of cultural intelligence examine broader audiences with wider age ranges.

### **Conclusion Seven**

The majority of study participants were Caucasian/White (92.1%) reporting their ethnic group was “Caucasian/White.” Several possible explanations for the substantial representation of the Caucasian/White ethnic group among study respondents may exist. First, the response rate among site directors representing other racial and ethnic groups may be low. Given that 37.2% of the sample population did not respond to the survey, the racial and ethnic composition of the non-respondents is unknown based on the data provided by the organization. A second possible explanation is that the number of minorities employed in the site director role within the organization may be low. If this is the case, this may explain the under representation of minority respondents in the study.

This finding may have important implications for the organization; therefore the researcher recommends that management review existing data on the racial composition of site directors within the organization. An analysis of the racial and ethnic composition of home health site directors within the organization would provide clarity on the substantial representation of Caucasian/White respondents in the study.

If the data reveals lack of representation among racial and ethnic minorities in the site director role, the researcher further recommends the management team perform a qualitative research study to explore reasons why minorities do not hold more presence in the site director role. A study using focus groups could also be used to obtain valuable information from minority site directors and qualified minority applicants regarding perceptions of their experiences within the initial recruiting period. Information could be gathered from existing minority site directors

regarding their training and general onboarding within the organization. Talent acquisition staff and diversity steering committees could then use findings from such a data collection in strategic planning efforts to establish more effective recruitment functions to attract minorities into the site director role, and the organization as a whole.

The racial and ethnic composition of the site director role and the organization, as a whole, should ideally reflect the diverse groups of people living in the United States today. According to the United States Census Bureau (2004), growth in minority groups in the United States is on the rise. In 2000, racial and ethnic minority groups represented approximately 30% of the US population and by 2050, these groups are projected to account for almost half of the US population. Therefore, it is important for stakeholders within the health care system to mirror the racial and ethnic composition of the country when possible both now and in the future.

### **Conclusion Eight**

Meta-cognitive cultural intelligence was higher than all other cultural intelligence levels among respondents ( $M=5.43$ ,  $SD=1.10$ ). This is significant because the personality trait of conscientiousness positively relates to meta-cognitive cultural intelligence (Ang et al., 2006). Those who are high in conscientious are characterized as dependable, efficient, and industrious and generally perform better at work than others (Barrick and Mount, 1991). Therefore, the researcher recommends that management study the relationship between cultural intelligence and job performance levels of site directors. This could be accomplished by analyzing site directors' performance evaluations in relationship to their cultural intelligence levels. This will provide insight into job performance and cultural intelligence, a relationship with no formal exploration to date within the organization.

## **Conclusion Nine**

A model exists that explains a significant portion of the variance in overall cultural intelligence and the four subscales. This conclusion is based upon the findings of the five regression models shown in chapter four. Statistical significance was found in all five models; therefore, selected demographic and biographic variables explained a significant portion of the variance in cultural intelligence levels. Results revealed that duration of international work and non-work experience as well as prior international work experience positively related to cultural intelligence levels in multiple models. Additionally, prior clinical experience in general nursing positively correlated to cultural intelligence in four of the models. Finally, a negative relationship between the East South Central division and cultural intelligence levels existed in four of the models.

What this research sought to accomplish was a better understanding of the factors that influence cultural intelligence among site directors in home health care. In addition to the conclusions discussed above, another valuable finding of the study is a better understanding of the unique nature of cultural intelligence. The concept is dynamic and malleable within the context of individual differences and presents much opportunity within the context of intercultural exchanges in health care. Despite its relevance to effective intercultural interactions, the antecedents of cultural intelligence are complex and multi-faceted (Gelfand, Imai, and Fehr, 2008).

Attention must also be given to further understand cultural intelligence within the specific context of health care. This needs to be done in conjunction with existing research on cultural competency in health care, not at the expense of other constructs. As suggested in the literature, cultural intelligence theory must be integrated with other constructs in cultural competency

(Gelfand et al., 2008). Further research is needed to understand the relationships among cultural competencies and cultural intelligence. Given the multi-faceted and complex nature of cultural intelligence, the researcher recommends that cultural intelligence be further explored in relation to other intelligence constructs in an effort to better understand how they can be leveraged for the greater good of health care delivery. In sum, care must be taken not to discredit related work performed on understanding intercultural effectiveness (Gelfand et al., 2008).

The value of cultural intelligence in health care is not immediate. The emergence of cultural intelligence in health care is cultural and will evolve over time and the pace of the evolution is dependent upon the emphasis given to this new form of intelligence within health care. Strong interdisciplinary research and passionate leaders who understand the importance of facilitating effective intercultural experiences among patients and providers armed with the concept of cultural intelligence can be a force to combat disparities in health care quality among racial and ethnic minorities. Results of this study allow for a greater understanding of cultural intelligence within the context of home health care. Additionally, these results provide insight on the antecedents of cultural intelligence within the context of health care and lay the foundation for future models that foster the development of CQ within health care.

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## **APPENDIX A**

### **CULTURAL INTELLIGENCE SCALE (CQS)- SELF REPORT**

### The 20-item four factor CQS (the CQ Scale)

		Strongly DISAGREE						Strongly AGREE
<b>CQ-Strategy:</b>								
MC1	I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.	1	2	3	4	5	6	7
MC2	I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.	1	2	3	4	5	6	7
MC3	I am conscious of the cultural knowledge I apply to cross-cultural interactions.	1	2	3	4	5	6	7
MC4	I check the accuracy of my cultural knowledge as I interact with people from different cultures.	1	2	3	4	5	6	7
<b>CQ-Knowledge:</b>								
COG1	I know the legal and economic systems of other cultures.	1	2	3	4	5	6	7
COG2	I know the rules (e.g., vocabulary, grammar) of other languages.	1	2	3	4	5	6	7
COG3	I know the cultural values and religious beliefs of other cultures.	1	2	3	4	5	6	7
COG4	I know the marriage systems of other cultures.	1	2	3	4	5	6	7
COG5	I know the arts and crafts of other cultures.	1	2	3	4	5	6	7
COG6	I know the rules for expressing non-verbal behaviors in other cultures.	1	2	3	4	5	6	7
<b>CQ-Motivation:</b>								
MOT1	I enjoy interacting with people from different cultures.	1	2	3	4	5	6	7
MOT2	I am confident that I can socialize with locals in a culture that is unfamiliar to me	1	2	3	4	5	6	7
MOT3	I am sure I can deal with the stresses of adjusting to a culture that is new to me.	1	2	3	4	5	6	7
MOT4	I enjoy living in cultures that are unfamiliar to me.	1	2	3	4	5	6	7
MOT5	I am confident that I can get used to the shopping conditions in a different culture.	1	2	3	4	5	6	7
<b>CQ-Behavior:</b>								
BEH1	I change my verbal behavior (e.g., accent, tone) when a cross-cultural interaction requires it.	1	2	3	4	5	6	7
BEH2	I use pause and silence differently to suit different cross-cultural situations.	1	2	3	4	5	6	7
BEH3	I vary the rate of my speaking when a cross-cultural situation requires it.	1	2	3	4	5	6	7
BEH4	I change my non-verbal behavior when a cross-cultural situation requires it.	1	2	3	4	5	6	7
BEH5	I alter my facial expressions when a cross-cultural interaction requires it.	1	2	3	4	5	6	7

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Note: Use of this scale is granted to academic researchers for research purposes only. For information on using the scale for purposes other than academic research (e.g., consultants and non-academic organizations), please send an email to [cquery@culturalq.com](mailto:cquery@culturalq.com).

For additional information see Ang, S., Van Dyne, L., Koh, C.K.S., Ng, K.Y., Templer, K.J., Tay, C., & Chandrasekar, N.A. (2007). Cultural intelligence: Its measurement and effects on cultural judgment and decision making, cultural adaptation, and task performance. *Management and Organization Review*, 3, 335-371.

## **APPENDIX B**

### **PERMISSION TO INCLUDE CQS COPYRIGHT INSTRUMENT**

Van Dyne, Linn <vandyne@bus.msu.edu>  
to Martha Williams <mwill62@tigers.lsu.edu>  
cc"davelivermore@sbcglobal.net" <davelivermore@sbcglobal.net>  
date Mon, Jan 17, 2011 at 3:00 PM  
subjectRE: Permission to include CQS in dissertation  
mailed-bybus.msu.edu

Hello Martha,

Thank you for your interest in CQ. We make the scale freely available to faculty for academic research so you have my permission to use it in your dissertation.

If you reproduce the scale in the appendix of your dissertation, it is essential that you include the following copyright information

© Cultural Intelligence Center 2005. Used by permission of Cultural Intelligence Center.  
Note. Use of this scale granted to academic researchers for research purposes only.  
For information on using the scale for purposes other than academic research (e.g., consultants and non-academic organizations), please send an email to [cquery@culturalq.com](mailto:cquery@culturalq.com)

Best wishes

**Linn**

## **APPENDIX C**

### **INSTITUTIONAL REVIEW BOARD- EXEMPTION FROM INSTITUTIONAL OVERSIGHT (E5340)**

## Application for Exemption from Institutional Oversight

Unless qualified as meeting the specific criteria for exemption from Institutional Review Board (IRB) oversight, ALL LSU research/ projects using living humans as subjects, or samples, or data obtained from humans, directly or indirectly, with or without their consent, must be approved or exempted in advance by the LSU IRB. This Form helps the PI determine if a project may be exempted, and is used to request an exemption.



Institutional Review Board  
Dr. Robert Mathews, Chair  
131 David Boyd Hall  
Baton Rouge, LA 70803  
P: 225.578.8692  
F: 225.578.6792  
irb@lsu.edu  
lsu.edu/irb

-- Applicant, Please fill out the application in its entirety and include the completed application as well as parts A-E, listed below, when submitting to the IRB. Once the application is completed, please submit two copies of the completed application to the IRB Office or to a member of the Human Subjects Screening Committee. Members of this committee can be found at <http://www.lsu.edu/screeningmembers.shtml>

-- A Complete Application Includes All of the Following:

(A) Two copies of this completed form and two copies of part B thru E.

(B) A brief project description (adequate to evaluate risks to subjects and to explain your responses to Parts 1&2)

(C) Copies of all Instruments to be used.

\*If this proposal is part of a grant proposal, include a copy of the proposal and all recruitment material.

(D) The consent form that you will use in the study (see part 3 for more information.)

(E) Certificate of Completion of Human Subjects Protection Training for all personnel involved in the project, including students who are involved with testing or handling data, unless already on file with the IRB. Training link: (<http://phrp.nihtraining.com/users/login.php>.)

(F) IRB Security of Data Agreement: (<http://www.lsu.edu/irb/IRB%20Security%20of%20Data.pdf>)

1) Principal Investigator: Martha Stuart Williams

Rank: Student

Dept: HREWD

Ph: 225-767-9095

E-mail: mwill62@lsu.edu

2) Co Investigator(s): please include department, rank, phone and e-mail for each

Michael F. Burnett, Professor  
School of Human Resource Education and Workforce Development

IRB# E5340

LSU Proposal #



Complete Application



Human Subjects Training

3) Project Title:

The influence of selected demographic and biographical characteristics on the level of cultural intelligence among mid level managers of home health care systems throughout the United States

Study Exempted By:

Dr. Robert C. Mathews, Chairman  
Institutional Review Board  
Louisiana State University  
203 B-1 David Boyd Hall  
225-578-8692 | [www.lsu.edu/irb](http://www.lsu.edu/irb)  
Exemption Expires: 12-13-2013

4) Proposal? (yes or no) ☒ N

If Yes, LSU Proposal Number

Also, if YES, either



This application completely matches the scope of work in the grant

OR



More IRB Applications will be filed later

5) Subject pool (e.g. Psychology students) Middle level managers in home health care

\*Circle any "vulnerable populations" to be used: (children <18; the mentally impaired, pregnant women, the aged, other). Projects with incarcerated persons cannot be exempted.

6) PI Signature

Date

11/18/10

(no per signatures)

\*\* I certify my responses are accurate and complete. If the project scope or design is later changes, I will resubmit for review. I will obtain written approval from the Authorized Representative of all non-LSU institutions in which the study is conducted. I also understand that it is my responsibility to maintain copies of all consent forms at LSU for three years after completion of the study. If I leave LSU before that time the consent forms should be preserved in the Departmental Office.

Screening Committee Action: Exempted ☒ Not Exempted ☐ Category/Paragraph 2

Reviewer

Mathews

Signature

Date

12/14/10



**Study Exempted By:**  
 Dr. Robert C. Mathews, Chairman  
 Institutional Review Board  
 Louisiana State University  
 203 B-1 David Boyd Hall  
 225-578-8692 | www.lsu.edu/irb  
 Exemption Expires: 12-13-2013

Face Sheet

**Investigators:** The following investigators are available for questions about this study, Monday – Friday, 8:00 a.m. – 4:30 p.m.  
 Martha Stuart Williams, Doctoral Student (225) 615-4516  
 Dr. Michael F. Burnett, Professor (225) 578-5748

**Purpose of the Study:** The primary purpose of this study is to determine the influence of selected demographic and biographical characteristics on the level of cultural intelligence among mid level managers of home health care systems throughout the United States. This is a study for a dissertation in the School of Human Resource Education and Workforce Development.

**Subject Inclusion:** Full time home health care site directors within a national, publicly traded healthcare company operating in 42 states within the United States in the winter of 2010.

**Study Procedures:** The subjects will spend approximately 15 minutes completing the questionnaire including selected demographic and biographical data and an assessment of cultural intelligence.

**Benefits:** The study may yield important importation about predictors of cultural intelligence in the home health care setting.

**Risks:** The only study risk is the inadvertent release of participation status. Every effort will be made to maintain the anonymity regarding individual responses. Confidentiality of the study records will be maintained with files being kept in secure cabinets to which only the investigators have access.

**Right to Refuse:** Subjects may choose not to participate as this is a voluntary involvement.

**Privacy:** Results of the study may be published, but no names or identifying information will be included in the publication. Subject identity will remain confidential unless disclosure is required by law.

**Consent:** I have read and understand the above description of this study and all questions have been answered. I may direct additional questions regarding study specifics to the investigators. If I have questions about subjects' rights or other concerns, I can contact Robert C. Mathews, Institutional Review Board, (225) 578-8692. I agree to participate in the study described and my participation serves as giving consent.

**INSTRUCTIONS:**

Please read the directions in each of following sections and complete the survey questions as indicated. Specific directions are provided for each section. Your responses will be kept confidential.

## **APPENDIX D**

### **PRE-NOTIFICATION MEMO EMAIL**

January 7, 2011

Happy New Year! In the next few days, you will receive an email request to fill out a brief questionnaire for an important research project. The project focuses on cultural intelligence among directors in home health. You may be wondering what cultural intelligence means. Quite simply, it refers to a person's ability to function and manage effectively in a culturally diverse setting. The concept of cultural intelligence is relatively new, so this study will help identify what factors may influence or contribute to an individual's level of cultural intelligence.

I support this research project, and I encourage you to take a few minutes to complete the survey. To date, no known research on cultural intelligence exists within home health, which means we have an opportunity to be the first company to participate in this innovative study.

I am writing in advance of the study because we have found that many of you like to know ahead of time that you will be contacted to complete surveys like this. Your responses will be kept confidential and will only be released as summaries- no individual answers will be identified.

Thank you in advance for your participation. With your input, this research project can be a success.

Thank you again,

Bill

**APPENDIX E**  
**SURVEY COVER LETTER**

January 12, 2011

Good afternoon,

As a member of the Executive Leadership Team here at Amedisys, I am conducting a study in conjunction with Louisiana State University. I am writing to ask for your participation in the study. The study focuses on the concept of cultural intelligence, a newly emerging concept that may be relevant in health care. The term, 'Cultural Intelligence' refers to a person's ability to function and manage effectively in a culturally diverse setting. Research has shown that cultural competence is important in the delivery of health care; however, little research has been conducted on the concept of cultural intelligence within health care. To date, no known research exists on cultural intelligence within home health.

The study will attempt to identify demographic and biographical factors that influence the levels of cultural intelligence among directors in home health. As a director, your input in this study is vital. In order that the results truly represent the site directors within home health, it is important that you complete the questionnaire.

Here are a few important points about the questionnaire:

- Responses will be kept confidential and will only be released as summaries in which no individual answers can be identified.
- Time required to complete the questionnaire is approximately 15 minutes.
- Completion and return of the questionnaire is your indication of consent to voluntarily participate in this research.

Click here to take the electronic survey or copy this web address into your browser: [survey link] .

As a token of my appreciation, completion of the survey will qualify you to participate in a drawing to win a **\$250 gift card**. If you have any questions or concerns about the study, please contact me at (225) 615-4516 or (225) 299-3522 or my co-researcher, Dr. Michael F. Burnett at (225) 578-5748.

Thank you in advance for your support and participation.

Regards,  
Martha

**APPENDIX F**

**SURVEY OF CULTURAL INTELLIGENCE**

### Face Sheet

Investigators:	The following investigators are available for questions about this study, Monday – Friday, 8:00 a.m. – 4:30 p.m. Martha Stuart Williams, Doctoral Student (225) 615-4516 Dr. Michael F. Burnett, Professor (225) 578-5748
Purpose of the Study:	The primary purpose of this study is to determine the influence of selected demographic and biographical characteristics on the level of cultural intelligence among mid level managers of home health care systems throughout the United States. This is a study for a dissertation in the School of Human Resource Education and Workforce Development.
Subject Inclusion:	Full time home health care site directors within a national, publicly traded health care company operating in 46 states within the United States in 2011.
Study Procedures:	The subjects will spend approximately 15 minutes completing the questionnaire including selected demographic and biographical data and an assessment of cultural intelligence.
Benefits:	The study may yield important importation about predictors of cultural intelligence in the home health care setting.
Risks:	The only study risk is the inadvertent release of participation status. Every effort will be made to maintain the anonymity regarding individual responses. Confidentiality of the study records will be maintained with files being kept in secure cabinets to which only the investigators have access.
Right to Refuse:	Subjects may choose not to participate as this is a voluntary involvement.
Privacy:	Results of the study may be published, but no names or identifying information will be included in the publication. Subject identity will remain confidential unless disclosure is required by law.
Consent:	I have read and understand the above description of this study and all questions have been answered. I may direct additional questions regarding study specifics to the investigators. If I have questions about subjects' rights or other concerns, I can contact Robert C. Mathews, Institutional Review Board, (225) 578-8692. I agree to participate in the study described and my participation serves as giving consent.

**INSTRUCTIONS:** Please read the directions in each of following sections and complete the survey questions as indicated. Specific directions are provided for each section. Your responses will be kept confidential.

### Part 1- Cultural Intelligence Scale (CQS)- Self Report

Directions: The following statements are about interactions in culturally diverse interactions. Read each statement and select the response that best describes your capabilities. Select the answer that BEST describes you AS YOU REALLY ARE (1=strongly disagree; 7=strongly agree).

Questionnaire Item	Strongly DISAGREE					Strongly AGREE	
	1	2	3	4	5	6	7
I am conscious of the cultural knowledge I used when interacting with people with different cultural backgrounds.							
I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.							
I am conscious of the cultural knowledge I apply to cross-cultural interactions.							
I check the accuracy of my cultural knowledge as I interact with people from different cultures.							
I know the legal and economic systems of other cultures.							
I know the rules (e.g., vocabulary, grammar) of other languages.							
I know the cultural values and religious beliefs of other cultures.							
I know the marriage systems of other cultures.							
I know the arts and crafts of other cultures.							
I know the rules for expressing nonverbal behaviors in other cultures.							
I enjoy interacting with people from different cultures.							
I am confident that I can socialize with locals in a culture that is unfamiliar to me.							
I am sure I can deal with the stresses of adjusting to a culture that is new to me.							
I enjoy living in cultures that are unfamiliar to me.							
I am confident I can get accustomed to the shopping conditions in a different culture.							
I change my verbal behavior (e.g., accent, tone) when a cross-cultural interaction requires it.							
I use pause and silence differently to suit different cross-cultural situations.							
I vary the rate of my speaking when a cross-cultural situation requires it.							
I change my nonverbal behavior when a cross-cultural situation requires it.							
I alter my facial expressions when a cross-cultural interaction requires it.							



## Section 2- Demographic and Biographical Data

Directions: In this section, you will be asked to provide personal and professional information. Please read the following items and mark your responses to the questions.

1. **Age :** Enter your age in years at your last birthday.
2. **Gender:** Please choose your gender- male or female.
3. **Race/Ethnicity:** Please select the most appropriate response category: American Indian/Alaska Native, Asian, Black/African American, Caucasian/White, Hispanic/Latino, Native Hawaiian/Other Pacific Islander, Multi-racial, Other (please specify).
4. **Educational level:** Please select the educational level that best describes your highest level of education completed.
  - Associate
  - Baccalaureate
  - Master's
  - Doctorate
  - Other- please specify

### 5. Professional work experience:

Do you have prior work experience in health care? Yes/No (If no, then skip to question 6)

- a. If yes, please indicate the duration/tenure of your professional work experience in health care (in years).
- b. If yes, please check the clinical specialties in which you have experience. Check all that apply.
  - a) Ambulatory Care Nursing
  - b) Cardiac Nursing
  - c) Case Management Nursing
  - d) College Health Nursing
  - e) Community Health Nursing
  - f) General Nursing Practice
  - g) Gerontological Nursing
  - h) High-Risk Perinatal Nursing
  - i) Home Health Nursing
  - j) Informatics Nursing
  - k) Medical-Surgical Nursing
  - l) Nurse Executive
  - m) Nursing Professional Development
  - n) Pain Management
  - o) Pediatric Nursing
  - p) Perinatal Nursing
  - q) Psychiatric & Mental Health Nursing
  - r) School Nursing
  - s) Other (please specify)

**International experience:** This question has two parts.

### 6. Prior international work experience:

- a. Please list the country(ies) where you have previously worked followed by the duration (in months) in each country (i.e.: Canada12). If you have only worked in the United States, you may skip this question.

### 7. Prior international non-work experience:

- a. Please list the country(ies) where you have previously worked followed by the duration (in days) in each country (i.e.: Canada12). If you have only worked in the United States, you may skip this question. Examples of this may include but are not limited to short visits to a foreign country, a mission trip, a trip to study abroad. If you have not traveled outside of the United States, you may skip this question.

**Language Acquisition:**

8. Is English your native language? Yes or No.
  - a. If no, please identify your native language.
9. Do you know any additional languages at a proficient level? Yes or No.
  - a. If yes, please identify those languages.

**Hobbies / Personal Interests:**

10. Please check if any of the following are hobbies/personal interests: Check all that apply.
  - Reading
  - Community Service
  - Music
  - Travel
  - Sports/Fitness
  - Movies
  - Arts/Theater
  - Other: please specify.

**Volunteerism:**

11. Do you participate on a routine, recurring basis in any activities of voluntary/community service?  
Yes or No
  - a. If yes, approximately how many hours per month?

Many thanks for participating in this study. Your responses are crucial in determining how cultural intelligence is influenced in home health care.

## **APPENDIX G**

### **SURVEY FOLLOW UP: REPLACEMENT QUESTIONNAIRE 1**

REMINDER: Survey Opportunity- You could win \$250!

January 14, 2011

Don't miss your chance to win a **\$250 gift card**! Complete the survey by **Wednesday, January 19, 2011** and you will be automatically entered to win the \$250 gift card.

The drawing will be held on Thursday, January 20, 2011.

Click here to take the electronic survey or copy this web address into your browser:[[Hyperlink](#)].

**Study Overview:**

- Focuses on the concept of cultural intelligence, a newly emerging concept that may be relevant in health care.
- Cultural Intelligence refers to a person's ability to function and manage effectively in a culturally diverse setting.
- Little research has been conducted on the concept of cultural intelligence within health care.
- To date, no known research exists on cultural intelligence within home health.
- Study will attempt to identify demographic and biographical factors that influence the levels of cultural intelligence among directors in home health.
- Your input in this study is vital.

**Questionnaire:**

- Responses will be kept confidential and will only be released as summaries in which no individual answers can be identified.
- Time required to complete the questionnaire is approximately 15 minutes.
- Completion and return of the questionnaire is your indication of consent to voluntarily participate in this research.

If you have any questions or concerns, please contact me at (225) 615-4516 or (225) 299-3522 or my co-researcher, Dr. Michael F. Burnett at (225) 578-5748.

Thank you for your time, have a nice weekend, and good luck in the drawing!

Regards,

Martha

## **APPENDIX H**

### **SURVEY FOLLOW UP: REPLACEMENT QUESTIONNAIRE 2**

REMINDER: Survey Opportunity- It's not too late to win!

January 20, 2011

Congratulations to [Name]- he/she has won the \$250 gift card for completing the survey on cultural intelligence. Here's the **good news-** There's still time to win! A **second chance drawing** will be held for a **\$100 gift card**. Complete the survey by **Monday, January 24** will be eligible for the 2<sup>nd</sup> drawing.

Click here to take the electronic survey or copy this web address into your browser: [Hyperlink].

**Study Overview:**

- Focuses on the concept of cultural intelligence, a newly emerging concept that may be relevant in health care.
- Cultural Intelligence refers to a person's ability to function and manage effectively in a culturally diverse setting.
- Little research has been conducted on the concept of cultural intelligence within health care.
- To date, no known research exists on cultural intelligence within home health.
- Study will attempt to identify demographic and biographical factors that influence the levels of cultural intelligence among directors in home health.
- Your input in this study is vital.

**Questionnaire:**

- Responses will be kept confidential and will only be released as summaries in which no individual answers can be identified.
- Time required to complete the questionnaire is approximately 15 minutes.
- Completion and return of the questionnaire is your indication of consent to voluntarily participate in this research.

If you have any questions or concerns, please contact me at (225) 615-4516 or (225) 299-3522 or my co-researcher, Dr. Michael F. Burnett at (225) 578-5748.

Thank you again for your time, and good luck in the drawing!

## **APPENDIX I**

### **SURVEY FOLLOW UP: REPLACEMENT QUESTIONNAIRE 3**

REMINDER: Survey - You can still win \$75!

January 29, 2011

Congratulations to [Name], winner of the \$100 gift card for completing the survey on cultural intelligence.

Hurry, don't miss your last chance to win! A **last chance drawing** will be held for a **\$75 gift card**. Complete the survey by **4 pm Friday, February 4<sup>th</sup>** and you will be eligible for the drawing.

Click here to take the electronic survey or copy this web address into your browser: [Hyperlink].

**Study Overview:**

- Focuses on the concept of cultural intelligence, a newly emerging concept that may be relevant in health care.
- Cultural Intelligence refers to a person's ability to function and manage effectively in a culturally diverse setting.
- Little research has been conducted on the concept of cultural intelligence within health care.
- To date, no known research exists on cultural intelligence within home health.
- Study will attempt to identify demographic and biographical factors that influence the levels of cultural intelligence among directors in home health.
- Your input in this study is vital.

**Questionnaire:**

- Responses will be kept confidential and will only be released as summaries in which no individual answers can be identified.
- Time required to complete the questionnaire is approximately 15 minutes.
- Completion and return of the questionnaire is your indication of consent to voluntarily participate in this research.

If you have any questions or concerns, please contact me at (225) 615-4516 or (225) 299-3522 or my co-researcher, Dr. Michael F. Burnett at (225) 578-5748.

Thank you kindly for your time, and good luck in the **LAST CHANCE** drawing



## **APPENDIX J**

### **SURVEY FOLLOW UP: REPLACEMENT QUESTIONNAIRE 4**

Survey Opportunity: **You could win \$75!**

January 31, 2011

Hurry- Only five days left until the **last chance drawing** for a **\$75 gift card!** Complete the survey and you will be automatically entered into the drawing.

Click here to take the electronic survey or copy this web address into your browser: [Hyperlink].

**Study Overview:**

- Focuses on the concept of cultural intelligence, a newly emerging concept that may be relevant in health care.
- Cultural Intelligence refers to a person's ability to function and manage effectively in a culturally diverse setting.
- Little research has been conducted on the concept of cultural intelligence within health care.
- To date, no known research exists on cultural intelligence within home health.
- Study will attempt to identify demographic and biographical factors that influence the levels of cultural intelligence among directors in home health.
- Your input in this study is vital.

**Questionnaire:**

- Responses will be kept confidential and will only be released as summaries in which no individual answers can be identified.
- Time required to complete the questionnaire is approximately 15 minutes.
- Completion and return of the questionnaire is your indication of consent to voluntarily participate in this research.

If you have any questions or concerns, please contact me at (225) 615-4516 or (225) 299-3522 or my co-researcher, Dr. Michael F. Burnett at (225) 578-5748.

Have a great day!

Regards,

Martha

## **APPENDIX K**

### **SURVEY FOLLOW UP: REPLACEMENT QUESTIONNAIRE 5**

REMINDER: Survey Opportunity- You could win \$75!

February 2, 2011

Three days left until the **last chance drawing** for a **\$75 gift card!** Complete the survey and you will be automatically entered into the drawing.

Click here to take the electronic survey or copy this web address into your browser:[Hyperlink] .

**Study Overview:**

- Focuses on the concept of cultural intelligence, a newly emerging concept that may be relevant in health care.
- Cultural Intelligence refers to a person's ability to function and manage effectively in a culturally diverse setting.
- Little research has been conducted on the concept of cultural intelligence within health care.
- To date, no known research exists on cultural intelligence within home health.
- Study will attempt to identify demographic and biographical factors that influence the levels of cultural intelligence among directors in home health.
- Your input in this study is vital.

**Questionnaire:**

- Responses will be kept confidential and will only be released as summaries in which no individual answers can be identified.
- Time required to complete the questionnaire is approximately 15 minutes.
- Completion and return of the questionnaire is your indication of consent to voluntarily participate in this research.

If you have any questions or concerns, please contact me at (225) 615-4516 or (225) 299-3522 or my co-researcher, Dr. Michael F. Burnett at (225) 578-5748.

Thank you for your time, have a great weekend, and good luck in the drawing!

Regards,

Martha

## **APPENDIX L**

### **SURVEY FOLLOW UP: REPLACEMENT QUESTIONNAIRE 6**

REMINDER: Survey Opportunity- You can win \$75!

February 6, 2011

Tomorrow is the **last chance drawing** for a **\$75 gift card!** Complete the cultural intelligence survey and you will be automatically entered into the drawing.

Click here to take the electronic survey or copy this web address into your browser:[Hyperlink] .

**Study Overview:**

- Focuses on the concept of cultural intelligence, a newly emerging concept that may be relevant in health care.
- Cultural Intelligence refers to a person's ability to function and manage effectively in a culturally diverse setting.
- Little research has been conducted on the concept of cultural intelligence within health care.
- To date, no known research exists on cultural intelligence within home health.
- Study will attempt to identify demographic and biographical factors that influence the levels of cultural intelligence among directors in home health.
- Your input in this study is vital.

**Questionnaire:**

- Responses will be kept confidential and will only be released as summaries in which no individual answers can be identified.
- Time required to complete the questionnaire is approximately 15 minutes.
- Completion and return of the questionnaire is your indication of consent to voluntarily participate in this research.

If you have any questions or concerns, please contact me at (225) 615-4516 or (225) 299-3522 or my co-researcher, Dr. Michael F. Burnett at (225) 578-5748.

Thank you in advance for your support.

Regards,

Martha

## **APPENDIX M**

### **SURVEY FOLLOW UP: REPLACEMENT QUESTIONNAIRE 7**

REMINDER: Last Day to Participate!

February 8, 2011

Congratulations to [Name], winner of the \$75 gift card for participating in the survey.

A friendly reminder: Today is the **last day** to participate in the study on cultural intelligence. I urge you to please consider participating in the study.

Click here to take the electronic survey or copy this web address into your browser: [Hyperlink].

**Study Overview:**

- Focuses on the concept of cultural intelligence, a newly emerging concept that may be relevant in health care.
- Cultural Intelligence refers to a person's ability to function and manage effectively in a culturally diverse setting.
- Little research has been conducted on the concept of cultural intelligence within health care.
- To date, no known research exists on cultural intelligence within home health.
- Study will attempt to identify demographic and biographical factors that influence the levels of cultural intelligence among directors in home health.
- Your input in this study is vital.

**Questionnaire:**

- Responses will be kept confidential and will only be released as summaries in which no individual answers can be identified.
- Time required to complete the questionnaire is approximately 15 minutes.
- Completion and return of the questionnaire is your indication of consent to voluntarily participate in this research.

The study closes today at **Tuesday, February 8,** at 5pm CST. If you have any questions or concerns, please contact me at (225) 615-4516 or (225) 299-3522 or my co-researcher, Dr. Michael F. Burnett at (225) 578-5748.

Thank you kindly for your time.



## **APPENDIX N**

### **SURVEY FOLLOW UP: REPLACEMENT QUESTIONNAIRE 8**

**REMINDER: Survey Opportunity- Last Day to Participate**

February 8, 2011

A friendly reminder: Only **1 hour** left to participate in the study on cultural intelligence. Please consider participating in the study.

Click here to take the electronic survey or copy this web address into your browser: [Hyperlink].

**Study Overview:**

- Focuses on the concept of cultural intelligence, a newly emerging concept that may be relevant in health care.
- Cultural Intelligence refers to a person's ability to function and manage effectively in a culturally diverse setting.
- Little research has been conducted on the concept of cultural intelligence within health care.
- To date, no known research exists on cultural intelligence within home health.
- Study will attempt to identify demographic and biographical factors that influence the levels of cultural intelligence among directors in home health.
- Your input in this study is vital.

**Questionnaire:**

- Responses will be kept confidential and will only be released as summaries in which no individual answers can be identified.
- Time required to complete the questionnaire is approximately 15 minutes.
- Completion and return of the questionnaire is your indication of consent to voluntarily participate in this research.

The study closes today at **5pm CST**. If you have any questions or concerns, please contact me at (225) 615-4516 or (225) 299-3522 or my co-researcher, Dr. Michael F. Burnett at (225) 578-5748.

Thank you in advance for your time.

**APPENDIX O**

**CLINICAL SPECIALTIES- LIST OF ‘OTHER’**

# CLINICAL SPECIALTIES- LIST OF 'OTHER'

Other Specialty	N	%
Hospice / Palliative Care	15	17.2
Other <sup>a</sup>	14	16.1
Emergency Nursing	11	12.6
Intensive / Critical Care	11	12.6
Oncology	8	9.2
Operating Room / Surgery	6	6.9
Infusion / Dialysis	5	5.7
Labor / Delivery	5	5.7
Correctional Facility Nursing	3	3.4
Long term / Skilled Nursing Care	3	3.4
Orthopedics	2	2.3
Anesthesia	1	1.1
Total	87 <sup>b</sup>	100

<sup>a</sup> Other response included medically fragile, special needs adults and peds (n=1), acute physical rehabilitation (n=1), adult day care (n=1), family planning associated with health department (n=1), burn unit (n=1), non nurse health care experience (n=1), nurse educator (n=1), education of nurses (n=1), nurse managers (n=1), government (n=1), disease management (n=1), psych and substance abuse with BHS degree (n=1), employee health (n=1), flight nursing (n=1).

<sup>b</sup> 1 respondent marked 'other' but did not provide a description.

## **APPENDIX P**

### **HOBBIES AND PERSONAL INTERESTS- LIST OF ‘OTHER’**

# HOBBIES AND PERSONAL INTERESTS- LIST OF 'OTHER'

Other	n	%
Gardening	8	16.3
Other <sup>a</sup>	7	14.3
Needlework / Sewing	4	8.2
Pottery / Painting	4	8.2
Animals / Rodeo	3	6.1
Boating / Fishing	3	6.1
Camping	3	6.1
Crafts	3	6.1
Biking / Motorcycle Riding	2	4.1
Church Activities	2	4.1
Cooking	2	4.1
Dancing	2	4.1
Outdoor Recreation	2	4.1
Photography	2	4.1
Quilting	2	4.1
Total	49	100

<sup>a</sup> Other response included yoga (n=1), writing (n=1), shopping/ spending time with my family (n=1), scrapbooks (n=1), Native American studies (n=1), I like to go to a mall and watch people interact (n=1), golf/ crocheting (n=1).

## **APPENDIX Q**

### **U.S. CENSUS BUREAU REGIONS AND DIVISIONS**

## **U.S. CENSUS BUREAU REGIONS AND DIVISIONS**

**The U.S. Census Bureau designates four geographic regions including:**

1. Northeast
2. Midwest
3. South
4. West

**The U.S. Census Bureau designates nine geographic divisions including:**

1. New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut
2. Mid-Atlantic: New York, Pennsylvania, and New Jersey
3. East North Central: Wisconsin, Michigan, Illinois, Indiana, and Ohio
4. West North Central: Missouri, North Dakota, South Dakota, Nebraska, Kansas, Minnesota, and Iowa
5. South Atlantic: Delaware, Maryland, Washington D.C., Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida
6. East South Central: Kentucky, Tennessee, Mississippi, and Alabama
7. West South Central: Oklahoma, Texas, Arkansas, and Louisiana
8. Mountain: Idaho, Montana, Wyoming, Nevada, Utah, Colorado, Arizona, and New Mexico
9. Pacific: Alaska, Washington, Oregon, California, and Hawaii.



**APPENDIX R**  
**COMPARISON OF CULTURAL INTELLIGENCE LEVELS**

**Comparison of Cultural Intelligence Levels  
Among Site Directors by Geographic Division**

(I) Division	(J) Division	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Mid-Atlantic	East North Central	.37886	.34793	.931	-.6544	1.4121
	South Atlantic	.30344	.30305	.953	-.5965	1.2034
	East South Central	.72945	.30568	.208	-.1783	1.6372
	West South Central	.00715	.34179	1.000	-1.0078	1.0221
	Mountain	.62011	.40134	.717	-.5717	1.8119
	Pacific	-.05792	.37499	1.000	-1.1715	1.0557
East North Central	Mid-Atlantic	-.37886	.34793	.931	-1.4121	.6544
	South Atlantic	-.07542	.21012	1.000	-.6994	.5485
	East South Central	.35059	.21390	.657	-.2846	.9858
	West South Central	-.37171	.26293	.794	-1.1525	.4091
	Mountain	.24125	.33672	.992	-.7587	1.2412
	Pacific	-.43678	.30484	.784	-1.3420	.4685
South Atlantic	Mid-Atlantic	-.30344	.30305	.953	-1.2034	.5965
	East North Central	.07542	.21012	1.000	-.5485	.6994
	East South Central	.42601 <sup>*</sup>	.12860	.018	.0441	.8079
	West South Central	-.29629	.19979	.755	-.8896	.2970
	Mountain	.31667	.29012	.930	-.5449	1.1782
	Pacific	-.36136	.25242	.784	-1.1109	.3882
East South Central	Mid-Atlantic	-.72945	.30568	.208	-1.6372	.1783
	East North Central	-.35059	.21390	.657	-.9858	.2846
	South Atlantic	-.42601 <sup>*</sup>	.12860	.018	-.8079	-.0441
	West South Central	-.72230 <sup>*</sup>	.20377	.008	-1.3274	-.1172
	Mountain	-.10934	.29287	1.000	-.9790	.7604
	Pacific	-.78737 <sup>*</sup>	.25558	.036	-1.5463	-.0284

(table cont'd)

West South Central	Mid-Atlantic	-.00715	.34179	1.000	-1.0221	1.0078
	East North Central	.37171	.26293	.794	-.4091	1.1525
	South Atlantic	.29629	.19979	.755	-.2970	.8896
	East South Central	.72230*	.20377	.008	.1172	1.3274
	Mountain	.61297	.33038	.512	-.3681	1.5941
	Pacific	-.06506	.29782	1.000	-.9495	.8193
Mountain	Mid-Atlantic	-.62011	.40134	.717	-1.8119	.5717
	East North Central	-.24125	.33672	.992	-1.2412	.7587
	South Atlantic	-.31667	.29012	.930	-1.1782	.5449
	East South Central	.10934	.29287	1.000	-.7604	.9790
	West South Central	-.61297	.33038	.512	-1.5941	.3681
	Pacific	-.67803	.36462	.509	-1.7608	.4047
Pacific	Mid-Atlantic	.05792	.37499	1.000	-1.0557	1.1715
	East North Central	.43678	.30484	.784	-.4685	1.3420
	South Atlantic	.36136	.25242	.784	-.3882	1.1109
	East South Central	.78737*	.25558	.036	.0284	1.5463
	West South Central	.06506	.29782	1.000	-.8193	.9495
	Mountain	.67803	.36462	.509	-.4047	1.7608

## VITA

Martha Stuart Williams was born in Alexandria, Louisiana, on January 23, 1972, to the late Herman Allen Stuart Sr. and Alice Ann Downs. She graduated from Bolton High School in 1991 and received a Bachelor of Arts degree, majoring in political science, in 1995, from Louisiana State University. While working in the private sector, Ms. Williams returned to her alma mater and received her Master of Arts degree in public administration in 1999.

She returned to the University in 2003, entering the doctoral program in the School of Human Resource Education and Workforce Development. From 2003 – 2005, she served as a research assistant at the University in the School of Human Resource Education and Workforce Development. In 2005, she joined Amedisys Inc., a home health and hospice company, supporting the CEO on long term strategic initiatives. In 2007, while continuing her studies at the University, she accepted a leadership role within the organization as the Vice President of Talent Management. In that same year, she completed a Master of Science degree in the School of Human Resource Education and Workforce Development.

Ms. Williams accepted a new role as Senior Vice President of Strategic Initiatives in 2009. In this role, she serves on the executive leadership team and is responsible for the design of the company's strategic plan. She also advises the Chairman and CEO on policy and strategy.

She currently serves on the advisory board for Women Business Leaders in Healthcare and is active in numerous community organizations. She and her husband, Gregory Williams, have four children, Ella Elizabeth Williams, Henderson Mercer Williams, Mary-Mayes Calvert Williams, and Crawford Downs Williams. They reside in Baton Rouge, Louisiana.