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Cultural Competence in Certified Registered Nurse Anesthetists

Martina Renee Steed
Walden University

Walden University

College of Health Sciences

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Martina Steed

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Review Committee
Dr. Diana Naser, Committee Chairperson, Health Services Faculty
Dr. Magdeline Aagard, Committee Member, Health Services Faculty
Dr. James Rohrer, University Reviewer, Health Services Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
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Abstract

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Martina Renee Steed

MSN, Southern Illinois University at Edwardsville, 1996

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Abstract

For several decades, the field of nursing has focused on the integration of cultural competence content into its prelicensure educational programs. Despite this focus, little is known about the cultural competence of nurses extending their education past initial licensure into an advanced practice nursing specialty, such as nurse anesthesia. Researchers in other fields have found that provider race and previous cultural competence training are associated with higher levels of cultural competence. This research, guided by the culture care diversity and universality theory, sought to determine the relationship between the two subscales, Cultural Awareness and Sensitivity (CAS) and the Cultural Competence Behavior (CCB) of the Cultural Competence Assessment (CCA) tool, and describe the relationships that exist between selected demographic variables and the total cultural competence scores for nurse anesthetists. One hundred and fifty-eight members of the American Association of Nurse Anesthetists participated in the study. The total CCA score for the population was 4.98 out of a potential total score of 7 (SD = .79). Mean scores were 5.64 (SD = .73) and 4.38 (SD = 1.19) for the CAS and CCB subscales, respectively. Hierarchical multiple regression analysis confirmed a positive relationship between post graduate diversity training and total CCA score (B = .28, $p < .05$). Identifying the cultural competence of this population and the characteristics that are associated with high levels of cultural competence could lead to better provider awareness of their own interactions and perceptions of patients and improved patient-centered care for patients in minority populations who are served by certified registered nurse anesthetists, resulting in positive social change.

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Chapter 1: Introduction

Background

Cultural competence in health care is defined as having the attitudes, knowledge, and skills necessary for providing quality care for a diverse population (Loftin, Hartin, Branson, & Reyes, 2013). Research has suggested that culturally competent health care delivery may enhance communication with patients, which in turn could increase patient trust of providers as well as compliance with prescribed treatments, address bias and prejudice as contributing factors in health disparities, and serve as a tool used to help insure social justice (Betancourt, Green, Carrillo, & Park, 2005; Brach & Faser, 2000; Clingerman, 2011; Smedley, Stith, & Nelson, 2003). Loftin et al. (2013) described the delivery of culturally competent nursing care as a critical component of the practice of nursing. Not only is it critical because of its association with positive health outcomes for patients, it is also critical because of the disparities in the racial and ethnic composition of the profession of nursing itself (Loftin, Newman, Gilden, Bond, & Dumas, 2013). Nursing constitutes the largest number of health care providers; however, in spite of its growing numbers, minorities only constitute 10% of registered nurses in the United States (Maier-Lorentz, 2008). Conversely, there is an increase in the number of minority and ethnically diverse patient populations (Taylor & Cohn, 2012). This disparity between numbers of minority nurses and minority patients suggests that cultural competence and its relation to patient-centered care should be a high priority for all specialties and every level of nursing. Knowledge of the characteristics and training surrounding the cultural competence of certified registered nurse anesthetists could

possibly lead to the identification of potential bias and unintentional discriminatory behaviors that can be ameliorated in this group and lead to positive social change in the form of better health care in surgical or pain management experiences for patients.

Diversity of the U.S. Population

Over the last 4 decades, the meaning of the word diversity in the United States has taken on expanded dimensions. When we speak about diversity, the definitions and categories seem endless. For the purposes of this research, the focus was diversity in terms of patient ethnic or racial group classification as opposed to categories such as gender or sexual orientation. Examination of census data dating back to 1990 demonstrated a steady increase in the percentages of minority populations (LaVeist, 2013). According to data collected from the census performed for the decade ending in 2010, the United States had a population of 307.8 million, of which 37% reported inclusion in a minority group (U.S. Census Bureau, 2011). The terms "majority-minority" and "minority-majority" have been used to describe states or congressional districts whose racial stratification includes a population comprised of less than 50% non-Hispanic Whites (U.S. Census Bureau, 2011).

For example, it has been estimated that the Hispanic population alone will command anywhere from 11% to 29% of the total United States population by the year 2050 (Taylor & Cohn, 2012). As a result of immigration, births, and deaths, current projections predict a representative minority population that will eventually overtake the White majority population (LaVeist, 2013). Hispanic and Asian immigration has been largely responsible for the United States arrival pattern seen over the last 40 years (Taylor

& Cohn, 2012). This change in the diversity of the population landscape brings an increased concern for unequal treatment and/or health disparities already present in the fabric of American public and private services. Healthy People, a tool released by the U. S. Department of Health and Human Services is a set of goals and objectives with 10 year target designed to guide health promotion and disease prevention in an attempt to improve the overall health of all of those living in the United States. One of the overarching goals of the Health People 2020 (2014) initiative is securing health equity and eliminating health disparities with the goal of improving the health of all groups.

The changing demographic profile of the United States population almost certainly ensures that all health care providers, without regard to license or specialty, will encounter an increased number of patients of various racial or ethnic groups. The increased patient load will also require a shift in provider focus that highlights patient-centered culturally sensitive care when appropriate. Certified registered nurse anesthetists are advanced practice nurses who have completed specialized graduate level training in the delivery of all types of anesthesia to patients across the life span (American Association of Nurse Anesthetists, 2014). These advanced practice nurses provide anesthesia care in all 50 states and in all types of settings. Due to a shortage of health care providers, implementation of the Patient Protection and Affordable Care Act of 2010 has thrust nurses with advanced training into primary care and specialty care provider roles that were once occupied solely by physicians (Institute Of Medicine, 2011). The expansion of the scope of practice for these providers increases the likelihood that the patient population for which they provide anesthesia services will become

increasingly ethnically and racially diverse. This shift in the system seems to stress the need for not only training practitioners with high levels of cultural competence who can provide patient-centered care, but that we also evaluate the attitudes and behaviors of those currently caring for patients at vulnerable times in their lives.

Cultural competence is dependent to some extent on the level to which an individual incorporates their own cultural diversity experience, awareness, and sensitivity into their own behaviors (Schim, Doorenbos, Miller, & Benkert, 2003). Personal cultural competence behaviors are developed as the result of exposure to and experience dealing with individuals from diverse groups, awareness of differences, and sensitivity as it relates to oneself or others (Schim et al., 2003). A review of the literature unveils a great deal of information related to the topic of cultural competence. The majority of the research found during an extensive review on cultural competence, as it relates to health care providers, to this point revolves around classroom and simulated instruction for undergraduate nursing students and medical students while in their respective training programs. A search related to measuring levels of cultural competence for advanced practice nurses of any specialty, specifically nurse anesthetists, yielded negligible results. This lack of research in the field represents a gap in the literature regarding the evidence that this group of health care providers possesses the skills and knowledge coupled with behaviors that are appropriate for delivering culturally competent care for patients. This study may help fill that gap.

Problem Statement

As the United States continues it progression towards a majority-minority population, in terms of racial and ethnic distribution, health care administrators and providers are obligated to recognize the various difference in the values, behaviors, and beliefs concerning health and communication requirements for their patient populations. Attention to these differences is critical given the fact that they may influence the provider's decision making related to the health care needs of the patient, the manner in which they interact with patients and care givers, and the quality of care rendered (Denboba, Bragdon, Epstein, Garthright, & Goldman, 1998; Einbinder & Shulman, 2000; Flores, 2000). Once newly certified advanced practice registered nurses enter into the workforce, there is no identified universal requirement for postgraduate cultural competence or sensitivity training and no apparent desire to measure levels of cultural competence for those currently providing care to patients in the clinical arena. While programs in nursing have begun to incorporate cultural competence training into their training requirements as a result of a mandate for a cultural competency core curriculum element in undergraduate and graduate registered nursing education by the American Association for Colleges of Nursing in 2008 and the National League for Nursing in 2009, and hospitals have included continuing education activities for hospital employed registered nurses, a review of the literature reveals the graduate advanced practice nursing specialties have given minimal or no attention to monitoring the cultural competence of their members once they graduate and are providing care to the general population (Mareno & Hart, 2014). There have been a few attempts to evaluate the

characteristics that seem to relate to cultural competence of groups of primary care nurse practitioners, midwives, as well as advanced practice oncology nurses, but no research was found to determine the characteristics associated with cultural competence in certified registered nurse anesthetists (Benkert, Templin, Schim, Doorenbos, & Bell, 2011; Castro & Ruiz, 2009; Matteliano & Street, 2012; Surrmond, Seeleman, Rupp, Goosen, & Stronks, 2010; Williamson & Harrison, 2010; Yeo, Phillips, Delengowski, Griffiths, & Purnell, 2011).

Certified registered nurse anesthetists provide anesthesia services in nearly every type of practice setting in which patients require surgical or pain management procedures in the country (AANA, 2014). According to the American Association of Nurse Anesthetists (AANA) website, certified registered nurse anesthetists safely provide over 34 million anesthetics to patients annually (AANA, 2014). They provide anesthesia services for two thirds of U.S. rural hospitals (Dulisse & Cromwell, 2010). These advanced practice nurses are involved in every aspect of the perioperative experience (Dulisse & Cromwell, 2010). They conduct preoperative interviews, obtain informed consent for the anesthesia to be provided to the patients, coordinate and provide a full range of intraoperative anesthesia and analgesia services, and provide post-operative care to include acute pain treatment and in some instances chronic pain management (AANA, 2014). Due to the breath of their participation in these patient care activities, it would seem prudent that research is needed that evaluates potential areas that could contribute to potential inequities in care. For example, research has clearly shown that there are disparities in the quality of pain care, a service frequently provided by certified registered

nurse anesthetists, received by minority patients and non-Hispanic White patients (Anderson, Green, & Payne, 2009). While research has been conducted on the patient-related variables that seem to correspond to the disparities in pain, minimal research has been done on provider-related variables that may help alleviate some of the problems (Anderson et al., 2009).

Bias among health care providers may exist independently as a contributing factor to health disparities resulting in discrimination in health care (Dovidio & Fiske, 2012). The nature of the clinical encounter between patient and physician may increase the chance that stereotypes, prejudice, or uncertainty may influence the care of the patient or decision making ability of a physician (van Ryn, 2002). The threat from provider bias, stereotyping, and prejudice should be considered as a potential barrier to patient-centered care for all health care providers, not merely physicians. Potential interventions to minimize these threats, like culturally appropriate care through appropriate culture competence training, may help to reduce disparities.

Due to the nature of their practices, advanced practice nurses may experience similar clinical encounters and therefore, may have a propensity to exhibit similar behaviors. For patients undergoing a surgical procedure, who are experiencing acute pain or those being treated for chronic pain, it is not unlikely that a certified registered nurse anesthetist may be the providing their care. As a result, provider self-awareness of actual personal cultural competence awareness and behavior versus potential egalitarian attitudes around race, ethnicity, and cultural differences may be an aid in ameliorating some of the provider contribution to the disparities present in health care. Up until this

point, research studies have primarily focused on evaluating the effectiveness of undergraduate cultural competence training programs for prelicensure registered nurses. There has been minimal research examining factors related to the cultural competence of registered nurses, physicians, physical therapists, pharmacists, and advanced practice nurses.

Once registered nurses enter into the workforce, many of them may have the option of seeking employment in a hospital setting which may require annual training in a variety of topics, including culturally appropriate care. The nurses who are required to attend these types of trainings are exposed to concepts surrounding cultural competence as a condition of continued employment. On the other hand, nurses who pursue advanced degrees may seek employment in areas that may not governed by this type of structure and may be left to rely on training that they received previously in their training programs. Literature was not found that a training requirement existed which would help ensure or document that advanced practice nurses are required to engage in some form of cultural training modules which may help insure that they are equipped with the tools to assist them in providing culturally appropriate care to all patients. This study may help fill a meaningful gap in the literature by providing data related to the current assessment of cultural awareness, knowledge, and behavior of practicing certified registered nurse anesthetists in an attempt to document the existing practices of those dealing with diverse patient populations. This data could also point the profession in a direction that it could take in the future by understanding the current factors that contribute to cultural competence in nurse anesthetists.

Purpose

The purpose of this descriptive cross-sectional nonexperimental exploratory quantitative research study was to assess the variables associated with cultural competence in certified registered nurse anesthetists using the Cultural Competence Assessment (CCA) tool. The study evaluated the congruency between provider behavior related to patient minority groups (Cultural Competence Behavior score) and their cultural awareness and sensitivity (Cultural Awareness and Sensitivity score). Previous work with the CCA tool in a group of athletic trainers working with a highly diverse client population showed that their behaviors associated with services provided for minority populations did not always demonstrate congruency with their cultural competence assessment score (Marra, Covassin, Shingles, Canady, & Mackowiak, 2010). While this work was not conducted with health care providers, considering the issues that exist with provider bias, I felt that the evaluation of the congruency with what health care providers say and what behaviors they actually exhibit warranted attention.

The results of the data analysis provided information related to the level of cultural competence for a group of practicing providers with varying demographic characteristics. The data provided foundational evidence regarding characteristics related to cultural competence for providers in the profession of nurse anesthesia. In particular, the independent variables of previous post graduate cultural competence training and practice setting were evaluated with respect to the dependent variable of cultural competence assessment score to identify possible relationships. Currently, no research has been found to identify the levels of cultural awareness and sensitivity or cultural

behavior of those practicing in the field. In order to determine the need for further training in cultural competence, change in the focus or method of the training, or the need for concentrated efforts to increase the diversity of the profession in an attempt to mirror the demographics of the general population, an initial evaluation of the cultural awareness, sensitivity, and behavior patterns of current providers was necessary. The CCA tool was used for this research project. This tool tests the domains of cultural diversity, cultural awareness, cultural sensitivity, and cultural behaviors (Loftin et al., 2013). It has been used to evaluate levels of cultural competence and examine variables associated with the cultural competence of service providers in a variety of health care fields and other disciplines (Marra et al., 2010; Schim, Doorenbos, & Borse, 2005).

Research Questions

The following research questions and corresponding hypotheses were developed to address the purpose of this study.

1. For certified registered nurse anesthetists, what is the relationship between mean score on the cultural behavior subscale and the mean score on the cultural awareness and sensitivity subscale of the Cultural Competence Assessment tool?

   $H_0$1: For certified registered nurse anesthetists, there is no relationship between the mean score on the cultural behavior subscale and mean score cultural awareness and sensitivity subscale of the Cultural Competence Assessment tool.

H_A1: For certified registered nurse anesthetists, there is a relationship between the mean score on the cultural behavior subscale and mean score on their cultural awareness and sensitivity subscale of the Cultural Competence Assessment tool.

2. For certified registered nurse anesthetists, what is the relationship between previous post graduate diversity training and the mean score on the Cultural Competence Assessment tool?

   H_02: For certified registered nurse anesthetists, there is no relationship between previous post graduate diversity training and the mean score on the Cultural Competence Assessment tool.

   H_A2: For certified registered nurse anesthetists, there is a relationship between previous post graduate diversity training and the mean score on the Cultural Competence Assessment tool.

3. For certified registered nurse anesthetists, what is the relationship between practice settings and the mean score on the Cultural Competence Assessment tool?

   H_03: For certified registered nurse anesthetists, there is no relationship between practice setting and the mean score on the Cultural Competence Assessment tool.

   H_A3: For certified registered nurse anesthetists, there is a relationship between practice setting and the mean score on the Cultural Competence Assessment tool.

Demographic information was collected and analyzed using descriptive statistics. The dependent variable for the study was cultural competence score which was calculated using the means of the scores of the cultural awareness and sensitivity subscale and the cultural behavioral subscale. The effect of the independent variables of post graduate diversity training and practice setting on the dependent variable cultural competence score were analyzed using hierarchical multiple regression analysis to determine any relationships while controlling for participant race/ethnicity, sex, and years of practice. An α level of 0.05 was used to determine significance.

Theoretical Framework

This research was foundationally bound by the culture care diversity and universality theory. A central theme in the profession of nursing is the concept of holistic delivery of care (Maier-Lorentz, 2008). The holistic definition of care requires that nurses focus on all of the needs of an individual patient (Maier-Lorentz, 2008). The categories of need include physical, psychosocial, social, emotional, and spiritual needs (Maier-Lorentz, 2008). In order for nurses to provide the type of care which centers on the individual needs and cultures of patients, they must account for cultural differences that exist (Maier-Lorentz, 2008).

Madeleine Leininger is credited with founding the discipline of transcultural nursing (Maier-Lorentz, 2008). Leininger's (2002) theory, the culture care diversity and universality theory, has made significant contributions to advancing transcultural nursing knowledge and has been used in the areas of research, education, and practice. Leininger describes the interwoven nature of cultural competent care delivery and the factors that

influence its delivery. Some of these influential factors include religion, politics, economics, worldview, environment, cultural values, history, language, and gender (Leininger, 2002). The purpose of Leininger's theory was to provide nurses with an explanation of the diverse factors that affect health as a means of highlighting the need for culturally congruent, safe, and meaningful care delivery to all patients (Leininger, 2002). I believe that this theory underscores the importance of delivering culturally appropriate care for all nurses, regardless of specialized training or practice setting. Moving away from the bedside and delivering care in a more sterile environment, such as an operating room, during a time of potential great distress for a patient, such as a surgical experience, may actually potentiate the need for higher culturally centered care.

Nature of the Study

For this study, an electronic survey was distributed to 2,995 certified or recertified registered nurse anesthetists practicing in seven states in order to assess their levels of cultural competence. These states are included in a region identified by the AANA, for the purposes of member representation, as Region II (AANA, 2014). I determined that choosing this population provided a balance between a group of states that has seen a change in population diversity demographics which should increase the likelihood of exposure to diverse groups and also included states that have seen little shift in population demographics.

The study population was selected randomly to help ensure inclusion of representative sample subgroups of certified and recertified registered nurse anesthetists. The main purpose of this study was to determine scores on the cultural competence

assessment and sensitivity scale, cultural behavior scale, as well as total cultural competence score for the certified registered nurse anesthetists, in this area of the country and to determine any relationship between the dependent variable of total cultural competence score and the independent variables of practice setting and post graduate diversity training. The data and results from this survey provided a more accurate picture of the cultural competence of the certified registered nurse anesthetists in this region by documenting their behaviors when dealing with patients of different cultural groups while simultaneously measuring and evaluating their cultural awareness and sensitivity. The results were analyzed by the IBM Statistical Package for Social Sciences v.21 (IBM SPSS Statistics). Analysis included the use of descriptive statistics to describe the population as well as hierarchical multiple regression analysis to examine relationships between cultural competence score and previous graduate diversity training and practice setting while controlling for participant ethnicity.

Operational Definitions

Cultural awareness: Provider knowledge about those areas of cultural expression in which groups tend to differ and those in which similarities are noted (Doorenbos, Schim, Benkert, & Borse, 2005).

Cultural competence: The demonstration of knowledge, attitudes, and behaviors based on diverse and relevant cultural experiences (Doorenbos et al., 2005).

Cultural competence behaviors: Observable outcomes of diversity experience, increased awareness, and refinement of sensitivity (Doorenbos et al., 2005).

Cultural sensitivity: Provider attitudes, values, beliefs, and personal insights (Doorenbos et al., 2005).

Assumptions

The main assumptions of this research were that the participants of this study understood the purpose of the study and answered the questions honestly. Since the instrument was delivered in an electronic format, it was assumed that members of the AANA were chosen randomly to reflect a representative sample of nurse anesthetists, had access to a computer with internet service, and had chosen to receive AANA correspondence by email and not the U.S. postal service. It was assumed that the sample was large enough to be representative to include a representative sample of nurse anesthetists providing anesthesia services in a variety of practice settings and in a variety of employment arrangements in the United States.

There was an assumption that the CCA tool accurately reflected the constructs for cultural competence in certified registered nurse anesthetists. It has been used, although infrequently, with research in advanced practice nurses; however, was not found to have been used in research with certified registered nurse anesthetists. It was also presumed that the instrument was appropriate for the educational level of the participants and that they were able operate a computer in order to participate in the research. After approval by the Walden University Institutional Review Board, the survey tool was delivered electronically via a service operated by the AANA Foundation, the research arm of the AANA, and it was assumed that the members freely participated without fear of lack of anonymity or retribution. It was also assumed that the number of minority patients

requiring anesthesia services has increased at the same rate as the population over the last 10 years and that these patients have had access to the services provided by the nurse anesthetists responding to the survey. The timeframe to complete the study was 14 days and it is assumed that this was long enough to collect a sufficient number of responses.

Limitations

The limitations of this study included (a) willingness of the participants to respond to the survey in the time frame allotted and (b) lack of generalizability due to the use of a single geographic area of the United States. A main limitation of this study revolved around the population chosen. Region II, as identified by the AANA, contains four states that have seen the greatest increase in the size of their in minority populations (Passel, Cohn, & Lopez, 2011). Due to the larger number of individuals identified by minority status in the general population of this region, these states could possibly also have the highest number of minority nurse anesthetists practicing. A potential bias exists if the number of minority nurse anesthetists surveyed in this region also high. Descriptive characteristics were collected in order to describe the population in an attempt to accurately interpret any correlation or lack thereof.

The survey tool was delivered by the professional organization to individuals who had agreed to have their email addresses included in mass email distributions. Although the research was not conducted by the AANA, but rather only distributed by the organization, participants could have felt threatened and potentially refused to answer the questions honestly. In order to try and alleviate this concern, assurance in the form of a cover letter, was given stating that this information would not be shared except in

aggregate form and complete anonymity was assured. My contact information was included in case the participants had any concerns or needed clarity.

Scope and Delimitations

The population for this study was intentionally chosen in an attempt to increase the likelihood of practitioner exposure to underrepresented or minority populations. The results may not accurately represent the level of cultural competence, behaviors, and cultural awareness and sensitivity of practicing Certified Registered Nurse Anesthetists (CRNAs) in other parts of the country due to unequal representation of minority groups in hospitals or surgery centers in states that have not seen significant increases in minority populations. Nurse anesthetists in the other parts or geographic regions of the country may not have similar patterns of exposure to patients in the same minority groups represented in AANA Region II. The generalizability of the results was potentially enhanced by the randomization of the population to include nurse anesthetists that were employed in a variety of practice settings in a region that contains some states that have undergone dramatic increases in minority populations and other states that have not seen this phenomenon. The response rate minimum was met which helped ensure generalizability.

Significance

The Patient Protection and Affordable Care Act of 2010 set goals and strategies aimed at reducing racial and ethnic disparities (Koh, Graham, & Glied, 2011). In addition to this legislative initiative, other organizations have focused on ways to combat the growing disparity gap that exists between the health care delivery of White and

Nonwhite individuals. A National Leadership Summit for Eliminating Racial and Ethnic Disparities in Health organized by the Health and Humans Services Office of Minority Health spurred the genesis of The National Partnership for Action to End Health Disparities (Koh et al., 2011). This group consists of engaged health care stake holders who drafted strategies for curbing and eliminating disparities. One of the goals of the organization included improved cultural and linguistic competency of the health care workforce (Koh et al., 2011). In 2011, the Department of Health and Human Services developed an action plan with the goal of reducing racial and ethnic disparities that included a strategy of reducing disparities in quality (Koh et al., 2011). The one significant focus of many of these national strategies is the role the health care provider plays in improving the current landscape of health care for racial and ethnic minority patients. This is relevant due to the possibility that providers are potentially the point of entry for patients into the vast health care system.

Many researchers have documented the potential role that health care providers have in the contribution to health care disparities. Health care providers who possess cultural competence have been seen as an important tool to improving patient outcomes and reducing health disparities; however, there has been little evidence that cultural competence training improves patient outcomes (Denoba et al., 1998; Lie, Lee-Rey, Gomez, Bereknyei, & Braddock, 2010). One of the issues seems to be that there is no evidence of where the community of providers falls on the spectrum of cultural competence. If providers lack a frame of reference for their own behavior, how will they determine the need to improve? Baseline documentation of cultural competence level

could signal the need for more training or different kinds of training in the issues surrounding cultural competency.

Evaluation of cultural awareness, sensitivity, and culturally competent behavior in health care providers does not appear widespread in the literature. Self-reported levels of cultural competence as they correlate to patient ratings of the patient-physician relationship and social responsibility have been the focus of study in the field of medicine and physical therapy respectively (Lee, Litwin, Cheng, & Harada, 2012; Paez, Allen, Beach, Carson, & Cooper, 2009). A study published in 2009 measured cultural competency and implicit bias in a multidisciplinary group of health care provider students that included pharmacy, nursing, and medical students (White-Means, Dong, Hufstader, & Brown, 2009).

In the field of nursing, measurement of cultural awareness of undergraduate nursing students has been seen as a way to evaluate curricula offerings and determine the effectiveness of teaching the concepts (Krainovich-Miller et al., 2008). Licensed registered nurses who working in various clinical and research settings have participated in studies measuring cultural competence levels using a variety of tools (Loftin et al., 2013). However, there has been little focus on measuring these concepts in communities of advanced practice nurses. Recently, culturally competent behaviors were measured in a group of nurse practitioners from underrepresented populations (Benkert et al., 2011). A review of the literature revealed that there are no known studies examining the cultural competence level of certified registered nurse anesthetists.

As stated previously, one of the primary responsibilities of certified registered nurse anesthetists is the alleviation of pain for patients during the surgical and post-operative period and labor experience. In some states, certified registered nurse anesthetists also manage the treatment for patients with chronic pain syndromes (AANA, 2014). Nurse anesthetists are the primary providers in many rural facilities (AANA, 2014). Evaluating the factors related to the nurse anesthetist's level of cultural competence could yield information to inform the providers about their cultural awareness and behaviors. Any incongruence that may affect patient care would warrant attention to the behavior of the nurse anesthetist and the potential need for diversity training. The results could advise educational programs, hospitals, and certifying bodies about the types of interventions that need to be investigated or put into practice in an effort to potentially lessen the burden of health care disparities for underrepresented groups of patients.

Currently no research on the topic of cultural competence and certified or recertified registered nurse anesthetists has been found. According to the AANA website, these health care providers serve as the primary anesthesia providers in rural America and provide anesthesia in every location where anesthesia is delivered, presumably to include underserved locations (AANA, 2014). Their exposure to racially and ethnically diverse populations theoretically could be magnified due to their primary roles in these geographic areas. This study was significant because it provided information that identifies how post graduate diversity training for nurse anesthetists is related to higher levels of cultural competence.

It has been well documented that disparities exist in the acute and chronic pain management for racially and ethnically diverse groups. Patient ethnicity has been shown to be a risk factor for the lack of adequate analgesic delivery in the emergency room as well as for the lack prescriptions written by physicians for opioids in patients with low back pain (Burgess et al., 2008; Todd, Samaroo, & Hoffman, 1993). Racial and ethnic disparities have also been found in the provision of epidural analgesia in Medicaid patients and in the incidence of patient requests for epidural analgesia in a predominately Latino population as well as a group of patients in an urban hospital in Chicago (Orejuela et al., 2012; Rust et al, 2004; Toledo et al., 2012).

The implications for positive social change revolve around increasing the awareness concerning any incongruence which exists between the cultural sensitivity and cultural behaviors among nurse anesthetists. Evidence of unintended biased behaviors, which are in conflict with cultural sensitivity along with their potential detrimental effects on the health outcomes of underrepresented populations, can blaze the trail for a change in the culture of the profession. This research could also be used as the basis for advancing post graduate continuing education to improve the care of underrepresented populations through the reduction of health care disparities.

Summary

Healthcare as a resource is tied to social justice, opportunity, and quality of life (Smedley et al., 2003). The Institute of Medicine's report*, Unequal Treatment: Confronting Racial and Ethnic Disparities in Healthcare* highlighted a plethora of evidence demonstrating the existence of racial and ethnic disparities related to health care

delivery in the United States (Smedley et al., 2003). Patients in underrepresented minority populations experience higher rates of disease and disability as well as decreased access to care when compared to the overall population (Loftin et al., 2013). These disparities exist in our health care system as a result of geography, underresourced providers, segregation, communication barriers, and the role of unconscious bias (Hasnain-Wynia & Beal, 2012). Due to their position in the system and control over resources, health care providers are in a unique position to help decrease the disparities gap present in health care and subsequent health outcomes between minority and majority populations. The presence of these disparities draws attention to providers as one of the major weaknesses in the system and an indicator of the overall status of the quality of care in the United States (Smedley et al., 2003). While the reasons for the disparities are multifactorial, research has shown that human service providers contribute to their development and their perpetuation (van Ryn & Fu, 2003). Many factors such as patient age, sex, diagnosis, sexual orientation, as well as race and ethnicity have been shown to influence a health care provider's beliefs as well as their expectations regarding a patient (van Ryn & Fu, 2003).

This research study focused on the behaviors, sensitivity, and awareness related to culturally diverse patient populations by certified registered nurse anesthetists. The purpose of the study was to determine congruency between the cultural sensitivity and awareness which could potentially be described as their explicit attitudes, and their behaviors which are potentially a reflection of their implicit attitudes related to diverse patient populations. Chapter 2 will provide a discussion of the theoretical framework and

models that guide this study as well as provide an extensive review of the literature related to cultural competence measurement in health care professionals. The lack of research surrounding cultural competence measurement in certified registered nurse anesthetists necessitates the inclusion of research examining these concepts in other health care providers such as pre-licensure students in nursing, registered nurses, other advanced practice nurses, as well as professionals such physicians, medical students, and pharmacists who attain similar levels of education and provide primary services to patients.

Chapter 2: Literature Review

Introduction

Nursing constitutes the largest number of health care providers (Auerbach, Staiger, Muench, & Buerhaus, 2013). The number of individuals joining the profession has continued to increase (Auerbach et al., 2013). In spite of the profession's growing numbers, the majority of its members are Caucasian and female with minorities only comprising 16.8% of the current workforce (U.S. Department of Health and Human Services, 2015). This demographic is not reflected in the general patient population. Racially and ethnically diverse populations have grown significantly in size and complexity during the period of 2000–2010 (Loftin et al., 2012).

The increase in minority populations is the result of worldwide migration, changes in demographic patterns, differing fertility rates, and an increase in the number of multiracial and multiethnic persons (Jeffreys, 2010). Logically speaking, this increase in the number of racially and ethnically diverse individuals in the general population will most likely mean an increase in the numbers of these individuals presenting as patients in need of health care services and treatments. Past research has shown that minority patients prefer minority providers and minority providers are more likely to practice their craft in areas that are more culturally diverse (Roberts, Warda, Garbutt, & Curry, 2014). This lack of congruence between the number of minority nurses and the number of minority patients suggests that the assessment of cultural competence of the existing groups of nurses not classified as minority providers should be a high priority in all areas of nursing.

Cultural competence has been described as a process that is sorted into a concept consisting of three dimensions: awareness, attitudes, and behaviors (Dudas, 2012). This process has been described as a fluid, dynamic process or journey that is evolutionary rather than acquired (Campinha-Bacote, 1999; Schim, Doorenbos, & Borse, 2006a). Instituting measures for insuring the culturally competent delivery of care have been seen at many levels. The American Association of Colleges of Nursing (AACN) set forth a national mandate in the form of document entitled, *Preparing a Culturally Competent Nursing Workforce* in 2006. The purpose of this initiative was to develop cultural competency information to be implemented into the didactic courses of baccalaureate nursing programs. Hospitals have also focused on increasing the cultural awareness and sensitivity of their nursing workforce (Majumdar, Browne, Roberts, & Carpio, 2004). Results of a study examining the effects of cultural sensitivity training on provider attitudes and patient outcomes published in 2004 demonstrated such things as an increase in cultural awareness and a decrease in close-mindedness (Majumdar, Browne, Roberts, & Carpio, 2004).

While baccalaureate programs in nursing have begun to incorporate cultural competence training for pre-licensure nurses and hospitals have included diversity training for licensed registered nurses, a review of the literature reveals a gap in that the advanced practice nursing specialty of nurse anesthesia has been given minimal or no attention to the topic of cultural competence. Researchers have measured cultural competence scores of baccalaureate nursing students, but the research evaluating levels of cultural competence in registered nurses or advanced practice nurses actually

participating in patient care is lacking. Reasons for this lack of research could include difficulty in accessing groups of nurses due to low membership in nursing organizations or other potential pools of subjects, lack of funding or interest in the topic, inability to recognize the importance of skills that improve provider cultural competence, or unwillingness to see the value of evaluating providers level cultural competence instead of the cultural competence of students in training programs.

In 2008, the Robert Wood Johnson Foundation partnered with the Institute of Medicine to assess the need for a transformation of the profession of nursing to meet the needs of a transformed health care system. The passage of the 2010 national health care legislation, The Patient Protection and Affordable Care Act, highlighted potential new demands on the health care community and its resources (Koh et al., 2011). As a result, the nursing community was seen as a valued partner in the quest to deliver quality care to the 32 million newly insured Americans. In 2011, the partnership published its work, *The Future of Nursing: Leading Change, Advancing Health.* This report highlighted the field of nursing's potentially substantial contributions within a redesigned health care system. The main recommendations included nurses practicing in full accordance with their training, nursing education that prepares them to deliver patient-centered, equitable, safe, high-quality care, and full partnership with physicians and other health care leaders in redesigning the nation's health care delivery system (IOM, 2011). The focus was on meeting the needs of a diverse population across their lifespan and nursing's role in care delivery (IOM, 2011). The idea of nurses practicing to the full extent of their educational preparation and training was directly aimed at advanced practice nurses and their

potential role in transforming the system. Certified registered nurse anesthetists are one group of advanced practice nurses. As the health care system evolves and research shows evidence of high quality care delivery by advanced practice nurses, patients from diverse backgrounds may choose to receive care from these nontraditional types of providers. This increase in patient utilization of advanced practice nurses highlights the need to ensure that the providers are equipped with the tools to deliver patient-centered culturally competent care.

Search Strategy

For this research, the literature review was performed using searches of peer-reviewed journals in selected databases. The databases searched included EBSCOhost, Pro Quest, MEDLINE, CINAHL, Google Scholar, Cochrane Database of Systematic Reviews, PUBMED, Scopus, and LWW Nursing and Health Professions Premier Collection for publications between January 1, 2005 and December 1, 2014. Quantitative and qualitative inquiries were included using the disciplines of nursing, advanced practice nursing, and nursing education. Studies from other health care professions were included as a means of evidencing the necessity of exploring cultural competence in nurse anesthetists. Search terms included *cultural competence and nursing, cultural competence measurement, Cultural Competence Assessment (CCA) instrument, health care outcomes, cultural competence and health care disparities, advanced practice nurses, cultural competence in certified registered nurse anesthetists, culture care and universality theory, dual process model, 3-D model of culturally congruent care,* and *disparities in pain management.*

Theoretical Framework

The Culture Care Diversity and Universality Theory

Madeleine Leininger is credited with founding the discipline of transcultural nursing (Leininger, 2002). Leininger (2002) recognized cultural awareness and competence as the nurse's obligation. Possessing a high level of cultural competence would provide a path by which a nurse acknowledged and respected cultural differences in an attempt to deliver universal care (Leininger, 2002). As a nurse delivering care to pediatric psychiatric patients, she became aware of her colleagues' lack of understanding related to cultural factors influencing behaviors of the children along with differences in response to treatment (Masters, 2012). After discussions with cultural anthropologist, Margaret Mead, Leininger began developing the links between anthropology and nursing (Masters, 2012).

The culture care diversity and universality theory originated out of Leininger's interests surrounding the interrelationship between the two disciplines of anthropology and nursing (Leininger, 2002). It has made significant contribution to the advancement of transcultural nursing knowledge and has been used in the areas of research, education, and practice (Leininger, 2002). This theory was the first to emphasize the need for a culturally competent nursing force (Maier-Lorentz, 2008). It is the only nursing theory that centers on holistic and comprehensive care of diverse cultures (Masters, 2010). A central theme in the profession of nursing is the concept of holistic delivery of care (Leininger, 2002). The holistic definition of care requires that the nurse focus on all of the needs of the individual patient in an effort to provide culturally congruent care for

diverse patient populations (Leininger, 2002). The categories of need are described as physical, psychosocial, social, emotional, and spiritual (Maier-Lorentz, 2008). Maier-Lorentz (2008) states that nurses providing care for patients from diverse populations they must account for the cultural differences that exist in order to provide care which centers on all of the needs of a patient.

Leininger (2002) described the interwoven nature of cultural competent care and the factors that influence its delivery. Some of these influential factors include religion, politics, economics, worldview, environment, cultural values, history, language, and gender (Leininger, 2002). This theory provides nurses with an explanation of the diverse factors that affect individual health in a manner that highlighted the need for culturally congruent, safe, and meaningful care delivery to all patients (Leininger, 2002). The establishment of many masters and doctoral nursing programs that prepared nurse educators in the fields of social science and transcultural nursing was in direct response to the work done in part by Leininger (DeSantis & Lipson, 2007). Nursing care guided by the culture care diversity and universality theory begins with provider cultural competence awareness and sensitivity as well as cultural competence behavior, the subscales measured by the instrument, the Cultural Competence Assessment Tool, used for my research (Masters, 2012).

Cultural Competence

A primary goal of achieving cultural competence is to enhance communication between health care providers and patients from diverse sociocultural backgrounds in an effort to improve the quality of health care delivered to these groups (Betancourt, 2004).

This can be done by the identification of disparities and the common barriers to care as well as identifying interventions to address these (Betancourt, Corbett, & Bondaryk, 2014). Common barriers include communication or language barriers, difficulty assessing or navigating the system, lack of patient-centered culturally competent care, and conscious and unconscious bias in clinical decision-making (Betancourt et al., 2014). Improving the cultural competence of all health care providers has been seen as one way to improve the disparities that exist for minority populations in health care (Weinick & Hasnain-Wynia, 2011). Complex interaction among many variables is responsible for disparities in health care and poorer health outcomes for minority patients (Betancourt et al., 2014). For the purposes of my research, the focus was on the provider level of cultural competence, awareness, sensitivity, and behaviors as potential contributing factors for leading to or perpetuating disparities in health care due to potential discrimination, bias, and stereotyping.

As a result of a Congressional mandate in 1999, a committee was formed within the Institute of Medicine to compile evidence and produce a report that identified and highlighted the differences in health care provided to minority and non-minority patients (Smedley et al., 2003). The committee was tasked with evaluating the extent of the disparities; locating potential patient, provider, and system sources; and finally, to provide recommendations (Smedley et al., 2003). Their review of the literature showed that race and ethnicity correlated with disparities among many groups, including African Americans, Hispanics, Native Americans, and Asian and Pacific Islanders (Smedley et al., 2003). Examples of disparities included things such as differences in treatment of

cardiac conditions and cancer between African Americans and Caucasians as well as analgesic administration for patients with bone fractures in African Americans when compared to Caucasian (Smedley et al., 2003). Quality of care was also found to be lower for minority patients (Smedley et al., 2003). Evidence showed that African American patients with congestive heart failure and pneumonia received poorer quality of care and that the differences were associated with increased mortality when compared to their Caucasian counterparts (Smedley et al., 2003).

While the majority of the research to this point has focused on groups other than advanced practice nurses, in the interest of delivering patient-centered care, the profession has an obligation to evaluate potential contributions by these nurses to poorer outcomes for patients in minority groups. Most certified registered nurse anesthetists, who at a minimum possess a master's degree, are involved in patient care activities, such as obtaining informed consent and providing labor or post-surgical analgesia, areas in which disparities in care are known to currently exist for minority populations. Education for nurses prepared at the graduate level should be coupled with the inclusion of cultural humility and reflexivity (Clark et al., 2011). Identifying the potential effects of prior diversity training along could improve these characteristics. The importance of examining the behaviors and attitudes should not be overstressed since there has been evidence suggesting that health care provider bias, stereotyping, and prejudice may contribute to the disparities in care and outcomes that exist for minority populations (Smedley et al., 2003).

Cultural Competence in Health Care

A systematic review by Beach et al.'s (2005) study found that evidence supported cultural competence training as a method of improving the knowledge of health care professionals, including nursing, and that there were also results to show that cultural competence training improves the attitudes and skills of health professionals. Since this type of education has been included in the training curricula of many of the health professions for quite some time, evidence of the existence of the cultural competence of practicing providers, post training, is considered to be essential to ensuring patient-centered care delivery (Beach et al., 2005). Schim, Doorenbos, and Borse (2005) examined the variables associated with cultural competence in 145 health care providers using the Cultural Competence Assessment tool, with a Likert scale response set. The study population included a variety of individuals working in an urban hospital settings in Ontario and Michigan (Schim et al., 2005). This group included nurses, clerical workers, nutritionists, therapists, physicians, and hospital administrators with varying levels of educational preparation (Schim et al., 2005). Although other disciplines were represented in the population, nurses accounted for the largest number of participants at 108 (Schim et al., 2005). The majority of the respondents, 118, were Caucasian (Schim et al., 2005). Mean scores on the subscales were calculated by summing the items and dividing by the number of items (Schim et al., 2005). Scores could range from a low of 1 to a high of 5, with a higher score indicating a higher level of cultural competence. The tool developers designated a score of > than 4.5 as an excellent mean score.

Regression analysis was conducted to identify the amount of variance attributed to each of eight independent variables--age, years of hospital experience, cultural competency training, educational attainment, number of diverse groups cared for in the last 12 months, self-identified race or ethnicity, discipline, and state or province--on each of the two subscales on the tool, cultural awareness (knowledge) and sensitivity (attitude) and the cultural competence behavior (Schim et al., 2005). The results of the analysis demonstrated that the two of the independent variables that were significantly associated with cultural awareness and sensitivity were prior cultural competency training and level of educational attainment (Schim et al., 2005). The independent variables that were significantly associated with cultural competent behavior were prior cultural competence training, higher educational attainment, and country (Schim et al., 2005). The results showed that higher total cultural competence scores in the target population were associated with education and training (Schim et al., 2005). This study found a relationship between greater levels of cultural competence and variables that could potentially be positively altered through some sort of intervention (Schim et al., 2005).

Cultural Competence in Registered Nurses

Despite the fact that a large amount of research was absent related to all the variables associated with cultural competence for health care providers, some research was found that was useful in evidencing the need for data in my target population. Certified registered nurse anesthetists are all registered nurses; therefore, the inclusion of research examining cultural competence measurement of registered nurses was vital to the foundation of my study. The National League for Nursing initiated the move for

inclusion of curricular content related to ethnic, racial, and cultural diversity in nursing education in 1983 (DeSantis & Lipson, 2007). Since that time, the inclusion of cultural competency training in the form of specialty focus, required coursework, models, immersion experiences, distance learning, or simulation have become common place in baccalaureate and graduate nursing programs (DeSantis & Lipson, 2007). Despite the inclusion of these concepts in educational programs, the lack of evaluation of level of cultural competence in licensed providers post-graduation can send mixed messages about the importance of achieving cultural competence (Betancourt, 2006). Identifying variables associated with increased cultural awareness and sensitivity or culturally appropriate behaviors may provide information for the development of targeted interventions to increase cultural competence.

Self- reported cultural competence has been measured in various groups of practicing registered nurses. Seright published a study in 2009 which evaluated the self-rating of cultural competency of nurses working in North Dakota, a state which was 90% Caucasian. Seright (2009) theorized that the state had a large number of American Indians living off the reservations in surrounding communities as well as many immigrants living in group settings that were not appropriately counted in the last census. Her goal was to use the results to start a dialogue with the parties of interest regarding the need for cultural competency education and training (Seright, 2009). The data from 179 responses were evaluated to determine how nurses participating in ongoing formalized diversity training scored themselves on the Inventory for Assessing the Process of Cultural Competence-Revised (IAPCC-R) scale (Seright, 2009). Seright (2009)

hypothesized that the participation in the ongoing training would result in higher self-rating. The study population included nurses from select acute care facilities in the state. Cultural diversity training in the workplace was the variable that the most positive influence on IAPCC-R scores (Seright, 2009). Frequent training was correlated with higher scores (Seright, 2009). Even though the majority of the nurses in this study, 85.5%, self-rated as less than culturally competent, many recognized their own limitations and indicated a desire to learn more (Seright, 2009).

In 2009, a mixed methods study was published that examined the cultural competence of public health nurses working in a U.S. public health department using the Cultural Competence Assessment tool as well as documented personal experiences and perceptions of culturally competent health care through open ended questions (Starr & Wallace, 2009). The purpose of this research was to determine the cultural competence of the public health nurses as a basis for planning and developing interventions to help ensure delivery of cultural competent care (Starr & Wallace, 2009). The population in this study was comprised of 31 registered nurses, the majority of which were Caucasian and educated at the bachelor's level (Starr & Wallace, 2009). The majority of the nurses in this study reported their level of cultural competence as somewhat competent to very competent, however their scores on the culturally competent behavior scale did not mirror this self-reported cultural competence (Starr & Wallace, 2009). The results did not identify variables that correlated with higher levels of cultural competence such as high levels of education. The authors theorized that this discrepancy could be due to the homogenous participant pool, more specifically the lack of a significant number of nurses

with a graduate or professional degree (Starr & Wallace, 2009). The responses of this small group were based on individual personal beliefs/thoughts related to cultural competence and not on a definition of cultural competence. Although the results provided some insight into the issues surrounding cultural competence in nursing they should not be seen as generalizable (Starr & Wallace, 2009). The literature seems to support a trend that identifies more cultural competence with higher levels of education and continued training.

Cultural competence has also become the focus of registered nurses in other countries as they identify that their society are increasingly multicultural and see the need for culturally competent nursing care delivery (Mahabeer, 2009). Nurses working in an outpatient setting in a large teaching facility in Canada were surveyed using the IAPCC-R. Fifty-eight nurses completed the survey (Mahabeer, 2009). The final results showed that the nurses lacked cultural proficiency but were motivated to improve their levels of cultural competence (Mahabeer, 2009).

Cultural Competence in Health Care Professionals with Graduate Degrees

Even though the target group for this study was certified or recertified registered nurse anesthetists, it seemed prudent to include research that had been performed using other groups of health care professionals who attained similar levels of education. The insights gathered from these groups along with the results from studies with advanced practice nurses provided support for the rationale for continued cultural competence training for those with higher levels of education, such as nurse anesthetists. The research conducted on cultural competence assessment of licensed health care providers

has examined many variables in an attempt to discover any relationships that may exist between provider cultural competence and other variables such as provider personal and professional characteristics, patient satisfaction, adherence to treatment regimens, and provider choice of practice environment.

Barriers to culturally competent care delivery can be found at many levels of the health care encounter. These barriers exist due to lack of diversity in the health care leadership and workforce; systems that are poorly designed to meet the needs of diverse populations of patients as well as poor communication between health care providers and patients of diverse backgrounds (Smedley et al., 2003). Studies conducted with health care providers have found that things such as non-verbal behavior, stereotype threat, bias, and provider high cognitive load effect may lead to disparities in health care for minority patients, biases in medical decision making and even poor health outcomes (Aronson, Burgess, Phelan & Juarex, 2013; Burgess, 2010; Levine & Ambady, 2013). It would seem intuitive that research is needed that identifies the potential barriers to health care equity for all patients as well as suggestions for minimizing the effects of the barriers through evaluation of all health care providers' behavior and awareness, not merely that of physicians.

Research has shown that provider motivation plays a role in their desire to offer culturally appropriate care (Paez, Allen, Carson, & Cooper, 2008). In a study published in 2008, researchers used a cross-sectional study model using the Cultural Competence Assessment tool to examine the cultural competence of 49 primary care providers and the 23 clinics in which they worked (Paez et al., 2008). Physicians and nurse practitioners

were included in the target population. Linear regression analysis was utilized to determine if cultural competence score varied by provider characteristic and clinic cultural characteristics (Paez et al., 2008). Multivariate linear regression was also used to analyze clinic and provider characteristics that were significantly related to provider cultural competence score (Paez et al., 2008). Significance was considered for a two sided p value < 0.05. The authors found that providers that they describe as having greater cultural motivation are more likely to practice in clinics with a higher percentage of Caucasian staff as well as those with more cultural training opportunities and culturally appropriate patient education material (Paez et al., 2008). They also found that more culturally appropriate behavior was associated with a higher percentage of Caucasian clinic staff as well as more patient education materials that we more culturally appropriate (Paez et al., 2008). The authors contemplate that enhancing provider and clinic cultural competence may be ways to reduce health care disparities.

Patient experiences with health care providers seem to be affected by provider self-reported level of cultural competence. Paez and colleagues (2009) collected information from 26 primary care physicians in 15 Baltimore practices and 126 low to middle income patients who utilized their services. The results of this survey described patient satisfaction with variables: medical visit, trust, perception of the physician's respect for them, and their participation in their care (Paez et al., 2009). The authors examined the relationship between patient rating of the variables listed and the physician self-reported cultural competence. Regression analysis showed significance relationships ($p < .05$) with physician motivation to learn about other cultures and patient identification

of physician facilitation and seeking/sharing of information. Overall, physician attitude and behavior were influential in fostering higher quality relationships with their patients.

Occupational therapists have identified the need to evaluate perceived cultural competence among practitioners. In a study published in 2009 in the *American Journal of Occupational Therapy*, a group examined perceived cultural competence in a sample of 477 occupational therapists using the CCA tool (Suarez-Balcazar et al., 2009). The researchers attempted to document relationships between perceived cultural competence and the variables of age, years of practice, working with diverse clients, prior cultural competence training, and attitudes related to cultural competence (Suarez-Balcazar et al., 2009). The results demonstrated that prior training and favorable attitudes towards cultural competence were positively correlated with self-reported level of cultural competence by practicing occupational therapists (Suarez-Balcazar et al., 2009).

The pharmacy community has also begun to explore the issues surrounding cultural competency in their educational programs, students, and practitioners. A cross sectional design survey design was used for a study published in 2012 in which the CCA tool was distributed to a group of pharmacists attending a continuing education conference in an attempt to examine the cultural competence of practicing pharmacists as well as the need for improving their cultural proficiency (Shah & Lonie, 2012). Of the 98 practicing pharmacists attending the conference and who were asked to participate, 64 completed and returned the survey. Results showed that the pharmacists had "moderately positive attitudes towards cultural awareness and sensitivity" (Shah & Lonie, 2012, p. 243). Key findings in the study included a high degree exposure to cultural diverse

populations for pharmacists practicing in New York City, the revelation that 75% of the pharmacists surveyed had no cultural diversity training, lack of resources to perform cultural assessments or learn about diverse populations, and the lack of a relationship between prior cultural competence training and cultural competence score (Shah & Lonie, 2012). The authors explain that the lack of relationship between any prior cultural competence training and cultural competence score potentially due to the fact that attendance in a continuing education program does not ensure the mastery of culturally competent behaviors, particularly since many of these modules do not contain active learning components (Shah & Lonie, 2012).

Cultural Competence in Advanced Practice Nurses

In response to the unprecedented racial/ethnic and social diversity in the United States and the recognition of the need to diversify the nursing workforce while preparing culturally competent graduate level nurses, the American Association of Colleges of Nursing developed cultural competencies and toolkit for master's and doctoral education (Clark et al., 2011). The six core competencies along with *The Essentials of Master's Education for Advanced Practice Nursing* and *The Essentials of Doctoral Education for Advanced Practice Nursing* provide the foundation for the inclusion of cultural competency concepts into the graduate curriculum (Clark et al., 2011). Interestingly, the only group of advanced practice nurses included in the advisory group responsible for drafting the competencies was the National Association of Pediatric Nurse Practitioners (Clark et al., 2011). This information has been distributed to nursing programs along with an emphasis on faculty readiness to reform the nursing educational system.

Although an extensive review of the literature failed to reveal any information related to cultural competence measurement and certified registered nurse anesthetists, a few recent studies were found that examined the topic of cultural competence in advanced practice nurses working in other specialties. While it is imperative that we educate our future generations of advanced practice nurses in the delivery of culturally competent care, there is most likely a need to evaluate the preparedness of those currently working with our patients.

Three years after the inclusion of cultural competency as a core curriculum standard in both undergraduate and graduate nursing programs, Mareno and Hart (2014) set out to compare the cultural awareness, knowledge, skills, and comfort of nurses with undergraduate and graduate degrees in nursing when dealing with diverse patient populations as well as the amount of training between the groups. The researchers distributed the Clinical Cultural Competency Questionnaire (CCCQ) which was designed to measure these variables in 2,000 nurses working in a southeastern state. Stratified sampling was used to ensure that a representative sample from each county in the state was included (Mareno & Hart, 2014). The final sample size was 374 after exclusion of individuals with doctoral degrees or those who did not answer the educational level question (Mareno & Hart, 2014). The results showed that nurses with undergraduate degrees scored lower on cultural knowledge than nurses with graduate education with no difference in scores on cultural awareness, skill, and comfort between the groups (Mareno & Hart, 2014). Neither group reported significant opportunities to participate in

cultural diversity training at their workplace or in professional continuing education (Mareno & Hart, 2014).

A qualitative study conducted in 2012 examined the ways that nurse practitioners in urban primary care practices contribute to the delivery of culturally competent care to diverse populations (Matteliano & Street, 2012). The investigator conducted interviews with and conducted observations of many different types of health care providers at three primary care facilities in inner city neighborhoods (Matteliano & Street, 2012). The key themes specifically identified in the nurse practitioner interviews were a holistic approach to care, development of partnerships with patients, enacting personalismo/established niches, adherence to professional standards, and culture brokering (Matteliano & Street, 2012). The authors concluded that personal characteristics and professional socialization impacted the provider "propensity and proficiency for culturally competent care" (Matteliano & Street, 2012, p. 433).

It has been shown that cultural competence can influence patient satisfaction in some Hispanic patients. Castro and Ruiz (2009) assessed the relationship between the cultural competence scores of nurse practitioners and measures of patient satisfaction in Latinas. The authors used the Inventory to Assess the Process of Cultural Competence among Healthcare Professionals (IAPCC) to document nurse practitioner cultural competence scores as well as the Patient Satisfaction Questionnaire and the Acculturation Rating Scale for Mexican Americans acculturation tool to determine patient satisfaction. The samples included 218 Latinas and 15 nurse practitioners. Characteristics of the sample evidenced that all of the nurse practitioners were female and the majority were of

Caucasian descent, able to speak Spanish, had previous cultural competence training, certified, had at least a master's degree, practiced in a setting where the population was primarily Latino, and had been working less than 10 years (Castro & Ruiz, 2009). The results of this study showed that greater Latina patient satisfaction was associated with nurse practitioners of Latina origin who were certified, had previous cultural competence training, spoke Spanish, and were master's level educationally prepared (Castro & Ruiz, 2009).

Critique of Methods

The lack of research involving advanced practice nurses and cultural competence necessitated the inclusion of a variety of studies involving other types of health care providers in this review. The studies involving registered nurses are of significance due to the fact that nurse anesthetists are all registered nurses. In the quantitative studies presented in this chapter, investigators used a few different of cultural competence inventories to examine characteristics of their target populations. The sample sizes for the survey research ranged from a low of 145 to a high of 374. Covariables examined in these studies included age, prior diversity training, highest level of educational attainment, provider race/ethnicity, cultural motivation, and discipline. In the studies where the investigators used the CCA tool, the dependent variable used was cultural competence assessment score. Descriptive analysis was used to determine participant characteristics and evaluation of regression assumptions. Regression analysis to determine the amount of variance accounted for by the independent variables. The research identified in this chapter provides data related to cultural competence and

registered nurses as well as other types of health care providers. Little information is known about groups of registered nurses with highly specialized graduate training and their level of cultural competence.

Summary and Conclusion

Certified registered nurse anesthetists work under many types of practice agreements in hospitals or as a part of some type of anesthesia group. They work in both urban and rural areas and are routinely either employed as a part of a group of anesthesia providers or as a solo practitioner and not part of the hospital's staff. Much like the group studied in the Mareno and Hart (2014) study, this arrangement may not require them to participate in any type of annual diversity competency training module required by the hospital as a part of their annual evaluation process and opportunities to participate in professional continuing education around diversity issues may be lacking. The lack of mandatory provider training and assessment exposes a potential deficit in knowledge required to provide culturally congruent care. In addition, the average age of the nurse anesthetist working today is 48.5 years and 40% have been practicing more than 17 years (Daugherty, Fonseca, Kumar, & Michaud, 2010). These two pieces of information suggest that practicing nurse anesthetists may not be required as a condition of employment to participate in annual diversity training or may have graduated from a nursing program before cultural competence didactic content was required as a part of their education.

The topic of cultural competence has been explored in other health care disciplines as well as in other groups of nurses. During this review, no literature was

found that examined the topic in certified registered nurse anesthetists. While researchers in other fields have demonstrated relationships between variables such as race and prior diversity training and cultural competence, no research was found examining the potential links between any variables and the cultural competence of nurse anesthetists. The field of nurse anesthesia, at least on the surface, has seemingly neglected to acknowledge the importance of ensuring that providers are delivering patient-centered care to all patients through identification of variables associated with cultural competence.

Chapter 3: Methodology

Introduction

The purpose of this study was to assess the variables associated with cultural competence in certified registered nurse anesthetists by an analysis of data collected after distribution to a randomized sample of the CCA tool developed by Schim and colleagues (Schim et al. 2003). This research sought to identify variables associated with a group of nurse anesthetists that were correlated with cultural competence score and also evaluate the congruency between the Cultural Awareness and Sensitivity and Cultural Competence Behavior subscales on the CCA. This tool is designed to evaluate provider behavior along with their cultural awareness and sensitivity in reference to patients belonging to minority groups. The independent variables for this study were previous post graduate diversity training and practice setting. The dependent variable for this study was the provider cultural competence assessment score, which was determined by adding the mean score of the cultural awareness and sensitivity subscale on the CCA with the mean score of the cultural behavioral subscale on the CCA tool and dividing by the total number of responses. The goal was to determine if relationships existed between the dependent and independent variables. This chapter will discuss in detail the research design, including population and sampling, as well as procedures for participant recruitment, participation, and data collection. A thorough discussion of both the instrument that was used, the CCA tool, and the operationalization of the constructs of cultural competence as defined by Schim et al. (2003) is also included, along with data collection and analysis procedures as well as any ethical considerations.

Research Design and Rationale

The study was quantitative, cross-sectional, exploratory, and descriptive in design. My goal was to evaluate cultural competence in certified registered nurse anesthetists and to identify any relationships that existed between post graduate diversity training or practice setting and cultural competence score. I chose a cross-sectional design because I was interested observing what naturally occurs in this population without directly interfering with it. My study was a one-time assessment of a group of certified registered nurse anesthetists who met the chosen inclusion criteria. My goal was to collect data in a systematic manner that is comparable and generalizable to the entire population of nurse anesthetists. The population consisted of nurse anesthetists with varying types of educational preparation who delivered anesthesia in a variety of practice settings and employment arrangements in 7 U. S. states. Prior to 1997, the minimum degree required for entry into the profession was a hospital certificate and many of those nurse anesthetists could still be practicing their craft today (AANA, 2014). Currently, the majority of graduates from accredited nurse anesthesia programs are educated at the master's level; however, in 2022, entry into practice will require education at the doctoral level (AANA, 2014). Some programs have already transitioned to the doctoral degree for entry level into practice (AANA, 2014). As a result, varying levels of educational preparation may exist in the population.

The CCA tool has shown promise as an instrument to be used in populations of individuals with a wide variety of educational levels and backgrounds (Schim et al., 2003). The results describe the demographic indicators that correlate with cultural

competence score. The tool, developed by Schim, Doorenbos, Miller, and Benkert in 2003, was randomly electronically distributed to 2,995 certified registered nurse anesthetists practicing in the United States. The intent of this research was to determine the mean cultural competence score, along with the mean scores on the cultural sensitivity and awareness and cultural behavior subscales of the CCA for certified nurse anesthetists. Descriptive analysis was conducted on the independent variables of race/ethnicity, sex, participation in post graduate diversity training, type of diversity training, primary employment arrangement, and years of practice as a nurse anesthetist to determine participant characteristics and evaluate assumptions for hierarchal regression analysis. The dependent variable for the study was cultural competence score which was calculated by summing the means of the two subscales, cultural awareness and sensitivity score and the cultural behavior score, and dividing by two (Starr & Wallace, 2009). The independent variables were type of practice setting and post graduate diversity training. The survey results represented a one-time measurement of the total cultural competence score of a given population of certified registered nurse anesthetists who agreed to participate in the survey.

The survey was delivered via email and managed by the AANA survey service, although there was no relationship between the researcher and the AANA (Appendix D). The survey was open for 14 days. This method of delivery was chosen due to the fact that over 90% of currently practicing certified registered nurse anesthetists are members of the AANA and the majority of those members have allowed their emails to be used in survey research (AANA, 2104). Due to this fact, I felt that a representative sample was

relatively easily accessible and that the results would be generalizable to the entire population of certified registered nurse anesthetists.

Population

Greater than 90% of all certified registered nurse anesthetists are voting members of their professional organization, the AANA (AANA, 2014). I believed that this large member participation in the professional organization increased the generalizability of the results. The population chosen for this study was randomly chosen sample of 2,995 certified and recertified registered nurse anesthetists practicing in a variety of employment arrangements. The area of the country chosen was identified as the states in Region II by the AANA and there are currently approximately 4,000 certified registered nurse anesthetists practicing in this region (AANA, 2014). The states in this region include: Georgia, Kentucky, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia. This population was chosen because of the data in the latest census report that showed an increase in numbers of individuals classified with minority status living in four of the states in this region (Passel et al., 2011). Four of the states have experienced the largest growth in the Hispanic population from 2000-2010. This fact could increase the chance of exposure to patients in this group (Passel et al., 2011). In the states of Tennessee, South Carolina, North Carolina, and Kentucky, the Latino population has more than doubled in size since 2000 (Passel, et al., 2011). Also during this time frame, the percentage of individuals living in these states and self-identifying as Black or African American has increased by a minimum of 100.7% in Virginia to a maximum of 165.6% in North Carolina (Rastogi, Johnson, Hoeffel, & Drewery, 2011). The increases

in minority numbers in these states could have increased the chance of provider exposure to patients with different racial and ethnic backgrounds. I believed that this target population provided a balance between states that have been shown to have increasing diversity and those that have not shown similar increases over the last decade.

Sampling and Sampling Procedures

The sample was randomly selected by the AANA survey service based on the selection criteria selected on the application (Appendix D). The member email addresses were chosen from a pool of the specified selection criteria that I chose on the application form. The sample was chosen by geographic location and membership type. The geographic location was identified as the state in which the member worked and the membership type was certified and recertified. Certified members are defined as those who have passed the certifying exam within the last 2 years and accounts for approximately 5,200 of the total membership nationally (AANA, 2014). The recertified group was approximately 31,600 members who are currently practicing anesthesia and passed the certifying exam over 2 years ago (AANA, 2014). Representatives of both of these groups were included. For the purposes of my research representation of the remaining 5,900 members, classified as students, were not included in the sample since I was only interested in certified or recertified members who are currently practicing in the field (AANA, 2014). The random selection was based on computer generated numbers with uniform distribution (AANA, 2014). Members were given the choice to opt-out of the survey and they were not included. The number of individuals that typically opt-out is around 1-3% (AANA, 2014). For this study, 5 of the 3,000 randomly selected

participants had selected the opt-out option and were not included in the final distribution list. The effect was that the survey was distributed to 2,995 members instead of 3,000. The inclusion criteria included:

- active membership status in the AANA
- certification as a certified registered nurse anesthetist by the National Board of Certification and Recertification and,
- currently practicing anesthesia in the states included in AANA Region II.

The SurveyMonkey (2015) sample size calculator was used to determine the sample size for the study. It was determined that a sample size of 156 was needed to ensure a .80 confidence level with a margin of error of .05% for a population of 3,000. The stated confidence and margin of error parameters have been used in previous work with nurses using the CCA tool (Schim et al., 2006b; Starr & Wallace, 2009).

Procedures for Recruitment, Participation, and Data Collection

The AANA offers survey services to help with delivery and management of email surveys for those interested in collecting data from AANA members (Appendix D). The email addresses are not distributed to researchers, but are held by the AANA. An electronically delivered survey was sent out to 2,995 certified registered nurse anesthetists who met the selected inclusion criteria. An information sheet accompanied the survey (Appendix A). This sheet advised the participant of the voluntary nature of the survey including details about participants' ability to withdraw at any time and the anticipated length of time for completion of the survey. Based on the work of others, it has previously been established that the survey would take around 20 minutes to

complete (Schim et al., 2005; Starr & Wallace, 2009). The time frame available for the participants to respond to the survey was 14 days from the initial invitation being sent. Participants were given the option of opting out of participation in the survey at the end of each survey invitation that was sent. A reminder email was sent on day 7. If the participant chose the opt-out option in the email, their email addresses were sent to an opt-out pool and they did not receive any subsequent survey requests from me (AANA, 2014). The purpose of the study was identified on the information sheet. Completion and submission of the completed survey constituted informed consent. The full service survey service included instrument input, two e-mails (one survey invitation, one reminder), and the data results were provided to me in Excel format with no identifiers.

Instrumentation and Operationalization of Constructs

The CCA tool used in this study was developed based on the 3-D model of culturally congruent care developed in 1999 (Appendix C). This model has been used in a variety of health care settings with a variety of health care providers which made it useful in this research. The model centers on a broad definition of culture and cultural diversity, not just the ethnicity of underrepresented groups (Shah & Lonie, 2012). The focus is on determining health care provider knowledge and behavior in the context of patient cultural beliefs and values (Shah & Lonie, 2012). Two strengths of this tool include assessment of a provider's actual behavior through self-reporting versus self-efficacy with respect to performing a behavior (Doorenbos et al., 2005; Schim et al., 2003; Schim et al., 2005; Paez et al., 2008). Permission to use this instrument was received from the original developer on March 31, 2014 (Appendix C).

The 3-D model of culturally congruent care was developed by Schim, Doorenbos, Benkert, and Miller (Schim et al., 2003). This model is based in the field of nursing and is influenced by the work of Madeleine Leininger (Schim et al., 2003). The 3-D model stresses that culturally congruent care is the result of the interconnection of the provider and the client (Schim, Doorenbos, Benkert, & Miller, 2007). For the purposes of this study, the provider level dimensions of the model were the focus. According to this model, there are four main constructs present at the health care provider level that are necessary for the delivery of culturally congruent care: cultural diversity, cultural awareness, cultural sensitivity, and cultural competence (Schim et al., 2007).

Cultural Competence Assessment Tool. The CCA tool consists of two subscales, the Cultural Awareness and Sensitivity (CAS) subscale and the Cultural Competence Behavior (CCB) subscale as well as 13 items from the Marlowe-Crowne Social Desirability Scale. This self-administered tool is composed of 25 questions organized on a seven-point Likert scale that assesses the four operationally defined constructs of cultural competent care: cultural diversity, cultural awareness, cultural sensitivity, and cultural competence (Schim et al., 2003). The scale progresses from 1 = strongly agree to 7 = strongly disagree (Schim et al., 2003). There was also one question that asked the participant to self-report their competency in working with people from different cultures (Schim et al., 2003). The mean score of all 25 questions (summed total of the questions divided by the number of questions answered) was calculated as the participant's total cultural competence score. The respondent's CAS score was measured with the first 11items. This scale was scored on a seven-point Likert response set of

strongly agree, agree, somewhat agree, neutral, somewhat disagree, disagree, and strongly disagree. The items in this scale identify the participant's cultural awareness based on their knowledge of the cultural beliefs and values of diverse groups (Starr & Wallace, 2009). The participant's CCB was measured on a 14-item subscale. This subscale was also scored on a seven-point Likert response set of always, very often, somewhat often, often, sometimes, a few times, and never. This scale reported the frequency with which the respondents institute culturally competent behaviors when doing things like removing barriers when caring for patients from culturally diverse backgrounds (Starr & Wallace, 2009). The instrument also included questions regarding demographic profile information to include ethnicity, sex, population of the area in which they practice, years of practice as a certified registered nurse anesthetist, practice setting, and previous diversity training information.

The idea was that the acquisition of the cultural competence four constructs by a health care provider was necessary but not sufficient for the delivery of culturally congruent care. The instrument provided a quantitative tool to measure the cultural competence constructs (Schim et al., 2007; Shen, 2014). It has been used to measure health care provider cultural awareness and sensitivity and cultural behaviors in a variety of projects using a variety of providers (Shen, 2014). This tool has demonstrated test-retest reliability and construct, content, and face validity (Doorenbos et al., 2005; Schim et al., 2003). The Cultural Competence Assessment tool has been used by providers in acute care areas as well as hospice workers with Cronbach alphas of .89 and .90 respectively (Doorenbos & Schim, 2004; Schim et al., 2005; Schim et al., 2006a). The

dependent variable for this study was mean total score on the CCA. The independent variables for this study included post graduate diversity training and practice setting. The dependent variable was continuous and the independent variables were categorical. Each of the variables was measured at the ordinal level (see Table 1).

Table 1

Variables

Variable	Measurement	Type	Options for each variable
Cultural Competence Score	Continuous/interval	Dependent	1 – 5; 1 = low level 5 = high level
Post Graduate Diversity Training	Categorical/nominal	Independent	Yes/No
Practice Setting	Categorical/nominal	Independent	Rural/Non rural
Race/ethnicity	Categorical/nominal	Control	Hispanic/Latino, White/Caucasian/European Black/African American, American Indian/Alaska Native, Asian, Native Hawaiian/Pacific Islander, Arab, American/Middle eastern, Other
Sex	Categorical/nominal	Control	Female/Male
Years of Practice	Continuous/ Ratio	Control	

Data Analysis Plan

In this section, I have presented the research questions and corresponding hypotheses that were developed to address the purpose of this study. Descriptive analysis, including measures of central tendency and spread was conducted on demographic data to determine population characteristics. Demographic information includes race/ethnicity, sex, years in practice, type of practice setting (rural, urban/non rural) and previous post graduate diversity training. The participant's total CCA score was calculated by using mean scores on the CCB subscale and the CAS subscale. The individual subscale means was calculated by summing the items in each of the two subscales and then dividing by the number of items answered. The two means were summed and divided by two to produce the total CCA score. The scores for cultural competence range from 1 (low) to 7 (high). Scores were treated as interval level data in the same manner that they have been in previous studies (Marra et al., 2010). A higher score reflected a higher level of cultural competence. SPSS v 21 was used for the analysis. Hierarchical multiple regression was used to evaluate relationships. It has been previously established that respondent race correlates with higher cultural competence when dealing with diverse groups (Marra et al., 2010; Paez et al., 2008). Due to this fact, race/ethnicity was considered a covariate for this study and loaded in to the hierarchical model in the first block for the analysis.

The following research questions were constructed to address the purpose of the study.

1. For certified registered nurse anesthetists, what is the relationship between mean score on the CCB subscale and the score on the CAS subscale on the Cultural Competence Assessment tool?

   $H_0$1: For certified registered nurse anesthetists, there is no relationship between the mean score on the CCB subscale and score CAS subscale on the Cultural Competence Assessment tool.

   H_A1: For certified registered nurse anesthetists, there is a relationship between the score on the CCB subscale and score on their CAS subscale on the Cultural Competence Assessment tool.

Research Question 1 was designed to determine a relationship between mean scores on each of the two subscales, the CCA and CCB on the Cultural Competence Assessment tool. Descriptive statistics were used to determine the means for comparison of the two scores.

2. For certified registered nurse anesthetists, what is the relationship between previous post graduate diversity training and score on the Cultural Competence Assessment tool?

   H_02: For certified registered nurse anesthetists, there is no relationship between previous post graduate diversity training and CCA score on the Cultural Competence Assessment tool.

H_A2: For certified registered nurse anesthetists, there is a relationship between previous post graduate diversity training CCA score on the Cultural Competence Assessment tool.

Research Question 2 was designed to predict any relationship that existed between the predictor variable post graduate diversity training and CCA score through the use of hierarchical multiple regression analysis when controlling for participant race/ethnicity, sex, practice setting and years of practice. The α level was set at 0.05.

3. For certified registered nurse anesthetists, what is the relationship between practice environment and CCA score on the Cultural Competence Assessment tool?

   $H_0$3: For certified registered nurse anesthetists, there is no relationship between practice setting and CCA score on the Cultural Competence Assessment tool.

   H_A3: For certified registered nurse anesthetists, there is a relationship between practice setting and CCA score on the Cultural Competence Assessment tool.

Research Question 3 was designed to predict any relationship that existed between the independent variable practice setting and CCA score through the use of hierarchical multiple regression analysis when controlling for participant race/ethnicity, sex, post graduate diversity training and years of practice. The α level was set at 0.05.

Threats to Validity

Internal Validity

This research was descriptive in nature and did not predict causality. The purpose was merely to describe the population as it exists currently. The CCA tool has not been used for studying cultural competence in nurse anesthetists, although it has been used in studies with other types of nurses as well as other advanced practice nurses. It has also been used in populations of health care providers that similar levels of educational preparation as nurse anesthetists. There was the potential for differences in participants of differing age groups which could threaten internal validity since all of the participants were measured simultaneously. Another threat to internal validity was self-report nature of the research. In this type of research, there was a potential risk for the study population to provide answers to the items in a way that was influenced by their desire to provide the social desirable answer. To analyze this phenomenon, the CCA tool also contained a short version of the Marlowe-Crowne Social Desirability Scale which was used to identify potential bias of the answers provided by the nurse anesthetists that participated in this research.

Marlowe-Crowne Social Desirability Scale. Self-report research can bring with it a tendency for individuals to respond on in a manner that represents them in a socially favorable light (van de Mortel, 2008). This phenomenon is labeled social desirable responding (SDR) and can confound research results by creating false relationships in the data or obscuring relationships that actually exist (van de Mortel, 2008). The Marlowe-Crowne Social Desirability Scale is a social desirability scale that can be used to detect

and minimize SDR in an attempt to enhance the validity of questionnaires (van de Mortel, 2008). The CCA tool used a short version of the Marlowe-Crowne Social Desirability Scale. This scale consisted of 13 items and had been shown to be valid and reliable when compared with the longer original version of the scale (Reynolds, 1982). Scores (range from 1-13) on the Marlowe-Crowne Social Desirability Scale were used to determine if bias existed in the study related to the participant urge to answer the items in a socially desirable manner. Lower mean scores indicated lack of bias.

External Validity

External validity for my study was randomization of the population to ensure that a wide variety of respondents have the opportunity to participate. Randomization was structured to include nurse anesthetists practicing in a wide variety of employment arrangements and practice settings (population based). I chose to survey both male and female nurse anesthetists due to the representation of both groups, 43% male and 58% female, reported in the latest AANA member survey conducted in 2015 (AANA, 2015). Previous studies have not included information related to sex as a criterion due the fact that men are generally underrepresented in nursing and the results have not been generalizable (Starr & Wallace, 2009). I chose a population of nurse anesthetists working in seven states. Four of these states included have seen a significant increase in diverse populations over the past 10 years, according to the U.S. census, and three of the states have seen less of an increase. It was thought that this choice of states would increase the likelihood that some practitioners would be exposed to a larger number of minority patients and that this fact would provide some comparison within the sample.

Statistical Conclusion Validity

Several things may have threatened statistical conclusion validity. Measures to help ensure that statistical conclusions were valid included a sample size of 158, meeting the assumptions of normality, a .05 margin of error, measurement of the reliability of the overall CCA tool as well as both of the scales by calculation of Cronbach's α and determination of validity using factor analysis along with the Kaiser-Meyer-Okin measure of sampling adequacy. As stated earlier, the tool had previously undergone reliability and validity testing in other studies with other populations with acceptable results (Doorenbos et al., 2005; Schim et al., 2003). Test-retest reliability (r = .85, p = .002) of the tool was demonstrated previously (Doorenbos et al., 2005).

Ethical Procedures

Final approval of the Institutional Review Board for Walden University (# 08-06-15-0327223) was received on September 8, 2015. After that date, I entered into an agreement with the AANA to purchase member email addresses to distribute the survey (Appendix D). The AANA electronic survey policy details the procedure for security and privacy of the data (Appendix D). According to AANA policy, the survey site is periodically reviewed and updated with security measures; information is stored in secure databases that are protected by passwords, as well as data base and network firewalls to prevent loss, misuse of alteration of any of the information contained on the site (AANA, 2014). The network staff members perform regular security audits and data from the survey was stored at a secure hosting facility with physical and soft-ware based security

systems (AANA, 2014). The site also provided SSL encryption for survey participants (AANA, 2014).

Per agreement with the AANA, I had no access to AANA member emails or any member identifying information (Appendix D). The only individuals with access to the files are personnel authorized by the AANA. The responses and surveys are destroyed by the AANA 12 months after the deployment of the survey and the AANA does not keep any hard copies of the electronic surveys (AANA, 2014). The responses were reported to me in aggregate to ensure that respondents could not be identified (AANA, 2014). I will keep the aggregate data which was set to me in the form of an Excel spreadsheet by the AANA and stored on my personal computer which is locked and password protected for the next 5 years. The AANA survey website provided SSL encryption for survey participants (AANA, 2014).

Summary

A cross-sectional descriptive design was chosen for this study with the goal of examining what is occurring in the profession without any interference. I felt that it was necessary to establish a baseline from which to start the discussion surrounding the cultural competence in nurse anesthetists. Factor analysis and reliability testing using Cronbach's α was performed on the Cultural Competence Assessment tool to determine validity and reliability due to the lack of its use in this population. Hierarchal multiple regression analysis was used to determine any relationships that existed between the independent variables, previous diversity training and practice setting, and the dependent variable cultural competence score when controlling for participant race/ethnicity.

Chapter 4: Results

Introduction

Health care provider behavior has been found to contribute to health care disparities for patients (Smedley et al., 2003). In order to help curb the contributions by providers, steps must be taken to ensure that they are providing culturally sensitive health care services. Determining variables that are associated with increased cultural sensitivity and awareness or reinforce culturally sensitive behaviors may increase patient satisfaction and improve care for underrepresented patient populations. The purpose of this descriptive cross-sectional nonexperimental exploratory quantitative research study was to examine a set of variables in order to determine their association with cultural competence scores in nurse anesthetists. During the review of the literature for this research, no study was found that explored cultural competence and associated variables in certified or recertified registered nurse anesthetists.

This research was foundational and may help fill a gap in the literature. This chapter provides information related to the data collections procedures and description of the population. In order to obtain foundational data regarding cultural competence measured in terms of cultural awareness and sensitivity and cultural behavior in certified registered nurse anesthetists along with associated variables, the following research questions and hypotheses were formulated to guide this study:

1. For certified registered nurse anesthetists, what is the relationship between the mean score on the CCB subscale and the mean score on the CAS subscale on the Cultural Competence Assessment tool?

   $H_0$1: For certified registered nurse anesthetists, there is no relationship between the mean score on the CCB subscale and the mean score CAS subscale on the Cultural Competence Assessment tool.

   H_A1: For certified registered nurse anesthetists, there is a relationship between the mean score on the CCB subscale and the mean score on their CAS subscale on the Cultural Competence Assessment tool.

2. For certified registered nurse anesthetists, what is the relationship between previous post graduate diversity training and their score on the Cultural Competence Assessment tool?

   H_02: For certified registered nurse anesthetists, there is no relationship between previous post graduate diversity training and their score on the Cultural Competence Assessment tool.

   H_A2: For certified registered nurse anesthetists, there is a relationship between previous post graduate diversity training and their score on the Cultural Competence Assessment tool.

3. For certified registered nurse anesthetists, what is the relationship between practice setting and their score on the Cultural Competence Assessment tool?

   $H_0$3: For certified registered nurse anesthetists, there is no relationship between practice setting and their score on the Cultural Competence Assessment tool.

   H_A3: For certified registered nurse anesthetists, there is a relationship between practice setting and their score on the Cultural Competence Assessment tool.

Data Collection

Upon receiving final approval (IRB# 08-06-15-0327223), an agreement was finalized with the AANA for the use of the survey service that is provided by the AANA Research and Quality Division of the AANA Foundation. The survey was deployed electronically on September 15, 2015 and closed on September 29, 2015. It was open for a total of 14 days. One reminder to participate in the survey was sent on September 22, 2015. One hundred and fifty-eight participants completed the survey. Interestingly, the data report shows that 176 participants actually began the survey but only completed the first two questions related to the ethnic composition of the group of patients that they care for and their self-reported level of cultural competence. The score for each of these scales was calculated by summing the scores and dividing by the number of questions answered. The data collection procedures closely followed the processes described in Chapter 3.

Demographics

Demographics related to the sample population and the groups for which they provide care were collected and analyzed. Results were compared, when appropriate, to the results from the membership survey conducted by the AANA in 2015 in order to determine the representative nature of the population. The sample was comprised of 28.6% male participants and 71.4% female. Female participants are overrepresented in this population when compared to the overall percentage of females who are members of the AANA. According to the latest member survey conducted this year, women represented 58% of all members (AANA, 2015). Caucasian participants constituted the largest number of respondents at 87.2% followed by African American and Asian respondents at 5% and 3.5% respectively (see Table 2).

Table 2

Respondent Self Report Race/Ethnicity

	Frequency	Percentage
White/Caucasian/European American	123	87.2
African American/Black/Negro	7	5
Asian (Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, or other Asian)	5	3.5
Hispanic/Latino (including Mexican, Mexican American, Chicano, Puerto Rican, Cuban, other Spanish)	1	0.7
Other	5	3.5

Note: No response accounted for 19.9% of the original total of 176.

The actual percentage of AANA members who identify as White or Caucasian is 91%, which is in close proximity to the 87% of those respondents in this survey. However, according to the 2015 AANA member survey Asian, African American and Hispanic members each represent 2% of the total membership. In this sample population, both African American and Asian members are slightly overrepresented, while Hispanic members are underrepresented (AANA, 2015). Thirty-five of the respondents did not answer the question. Those responses accounted for 19.9% of the original total, but were not used in the final calculations as noted in Table 2.

Participants were also asked how long they had been in practice as a nurse anesthetist. The majority, 48.93%, had been practicing either less than 5 years or greater than 25 years. This statistic is similar to the information obtained from the member

survey. In that survey, 61% of the respondents had either been practicing less than 5 years or more than 21 years (AANA, 2015).

Data were also collected regarding the racial and ethnic makeup of the groups of patients for which the respondents cared for in the last 12 months. More than 93% of the respondents reported that they had encountered patients in their practices who belonged to Hispanic, Caucasian, or African American groups. Asian patients were included in the groups cared for by 76% of the nurse anesthetists followed by Middle Eastern patients who were cared for by 63% of the nurse anesthetists in this sample. In contradiction to the high number of non-Caucasian patients that this group of providers encounters, the number of Caucasian providers has remained exceedingly high.

Information regarding the type of participant employment arrangement was solicited. The majority of the participants, 56.4% worked in a group practice, which was defined as being a mixture of anesthesiologists and nurse anesthetists. The next highest employment arrangement that was represented was clinical practice in a teaching facility at 14.3% followed by a variety of other work arrangements.

Respondents were asked to provide a self-reported score of cultural competence which was based on a question that inquired about their level of competence when working with people from cultures different from their own. This question was scored on a five-point Likert scale that ranged from a high of 5, very competent, to a low of 1, very incompetent. The mean score for the group was high at 4.35. The mean score on the social desirability scale (Marlowe-Crown) was 5.2, (range 0-13). Higher scores equal the need for more approval and indicate that the respondent is giving the more socially

acceptable answers. This group scored on the lower end of the scale meaning that their answers more closely related their own viewpoints.

The participants were also asked to describe their practice setting in terms of the population of the area in which they worked. The two options provided were rural, which was described as having a population density of < 1000 people per square mile, and urban, which was described as having a population density of >1000 people per square mile. Respondents in the study reported that 34.8% practiced in a rural area while 65.2% practiced in an urban area (see Table 3).

Table 3

Respondent Practice Setting

	Frequency	Percentage
Rural	49	34.8
Urban	92	65.2

Participants were asked about their participation in diversity training as a certified registered nurse anesthetist as opposed to diversity training that accompanied their graduate training program. Based on a review of the qualifications for the continued recertification of nurse anesthetists, it was noted that mandatory cultural sensitivity training was not required. Although the majority of the participants responded that they had participated in diversity training since their graduation, a substantial percentage acknowledged that they had not (see Table 4).

Table 4

Respondent Participation in Post Graduate Diversity Training

	Frequency	Percentage
No	57	40.7
Yes	83	59.3

Results

This research focused on exploring the topic of cultural competence in certified registered nurse anesthetists. The CCA tool has been used with various groups of nurses with differing levels of education as well as other types of health care providers. The results presented here provide foundational support for continued diversity training in this group of providers.

Research Questions and Hypotheses

Research Question 1 explored the relationship between cultural awareness and sensitivity and cultural competence behavior in nurse anesthetists. The CCA tool provides a method by which to compute a participant's score on the subscales of cultural awareness and sensitivity and cultural competence behavior and translate these into quantitative measure for cultural competence score on each subscale as well as their total cultural competence score. The goal of this question was to calculate the mean score for each subscale and determine the relationship between the two scores. A Pearson product-moment correlation was performed to evaluate the null hypothesis that there is no relationship between mean score on the CAS subscale and the CCB subscale for certified

registered nurse anesthetists. Primary analysis showed that there were no violations of normality, linearity, or homoscedasticity. There was significant evidence to reject the null hypothesis and conclude that there was a weak, positive association between CAS score (M = 5.64, SD = .73) and CCB score (M = 4.38, SD = 1.19), r (146) = .24, $p < .01$. Lower scores on the cultural competence behavior subscale are associated with higher scores on the cultural sensitivity and awareness subscale (see Table 5).

Table 5

Bivariate Correlation among Mean CAS Score and Mean CBB Score

Subscale	1	2
Mean Cultural Sensitivity and Awareness Score	1.000	.235**
Mean Cultural Competence Behavior Score	.235**	1.000

** Correlation is significant at the 0.01 level (2-tailed)

Research Question 2 examined the relationship between the independent variable post graduate diversity training and the dependent variable overall cultural competence assessment score. Currently there is no universal requirement for cultural or diversity sensitivity education or training after graduation for certified registered nurse anesthetists. Other researchers have shown correlation between diversity training and overall cultural competence score on the CCA. In these studies it was not clear when the training actually occurred. Some of the participants could have engaged in structured curricular offerings as a result of their academic training. I was interested in knowing if participating in post graduate training specifically, contributed to overall cultural

competence score on the CCA. The variable of participant ethnicity has also been shown to correlate with overall cultural competence score. Since race/ethnicity had been shown to influence CCA score in previous analysis, I chose to use hierarchical multiple linear regression analysis. Prior to running the regression analysis, I checked the assumptions for the dependent variable of overall cultural competence assessment score. The assumptions of linearity and normality of the distribution for the dependent variable were both met. Multiple regression analysis was conducted to predict score on the CCA using the predictor, previous graduate diversity training. Entering participant race/ethnicity in the first independent variable block and post graduate training in the second block allowed any contribution by race/ethnicity to be eliminated in the final results.

Total cultural competence score was first calculated for use as the dependent variable. The total mean CCA score was calculated to be 4.98 (SD = .79). The scores ranged from 1 to 7. For this sample, 40.7% of the respondents reported that they had not participated in post graduate diversity training and 59.3% of the respondents reported that they had participated in post graduate diversity training. The model as a whole was not statistically significant (F (2, 37) = 2.275 and only accounted for 3% of the variance in total cultural competence assessment score (R^2 = .032). The model summary indicated that previous graduate diversity training (B = .28, p <.05) was significantly positively associated with higher total cultural competence score. Despite the fact that the model summary did not indicate significance, the coefficient table did indicate, based on an R value of .189, that post graduate diversity training was weakly significantly correlated with total mean CCA score. The β coefficient for previous graduate diversity indicates

that the model does predict a positive 28% increase in CCA score for an increase in diversity training if all of the other variables are held constant (see Table 6).

Research Question 3 examined the variable of practice setting and its correlation with total cultural competence score. Hierarchical (step-wise) multiple regression analysis was chosen to determine the possibility of relationships between the independent practice setting and the independent variable total cultural competence score. The covariate of race/ethnicity was entered into the model in the first independent variable block and practice setting in the second block allowed for analysis of the predictor variable of practice setting without any contribution by race/ethnicity in the final results. The practice setting options given to the participants were rural, described as a population < 1000 people per square mile and urban, described as a population of > 1000 people per square mile. In this sample 34.8% of the respondents worked in a rural area and 65.2% of the respondents worked in an urban area. The according to the analysis of variance result the regression model was not statistically significant (F (2,136) = 2.388 and accounted for .4% of the variance in cultural competence assessment score (R^2 = .036). The model summary indicated practice setting (B = .102, p = .481) was not significantly correlated with total score on the cultural competence assessment tool (see Table 6).

Table 6

Summary of Hierarchical Regression analysis for variables predicting CCA (N = 139)

	CCA Score		
Variable	*B*	*SE B*	B
Participant ethnicity	.032	.056	.049
Previous diversity training	.284	.140	.171*
Practice setting	-.102	.145	-.060
R^2		.032	
F		2.275	

*$p < .05$

Summary

A search for literature regarding the topic of cultural competence in certified registered nurse anesthetists yielded negligible results. This study aimed to determine foundational information that may be used to guide decision making surrounding a host of issues. Research Question 1 aimed to determine if there was continuity in the cultural sensitivity and awareness and the cultural competence behaviors of the respondents. Scatter plot analysis showed that cultural awareness and sensitivity scores were positively correlated to lower cultural competence behavior scores. Analysis results demonstrated that the correlation was significant. This incongruence in scores seems to indicate a

difference between the awareness and sensitivity of the respondents and their actual behaviors. So in essence a gap exists between how respondents say they treat minority patients and how they actually treat members of this group. Such results indicate a need for training related to the meaning of unintentional bias behavior for nurse anesthetists and also for the need for programs structured help eliminate these types of practices when dealing with patients. Research Question 2 was structured around the correlation between post graduate diversity training and overall CCA score. There was a weak positive significant correlation was noted between the two variables. These results are similar to those found in other studies with other types of health care providers. From this data, it would appear that post graduate training may be beneficial for those with lower scores on the CCA. Research Question 3 examined the relationship between the size of the community in which a certified registered nurse anesthetist works and their total CCA scores. There was no relationship found between these variables.

The findings in this study provided some foundational information which examined the constructs of cultural competence, specifically cultural awareness and sensitivity and cultural competence behaviors as described in the CCA in certified registered nurse anesthetists. Results showed that any type of post graduate diversity training has the potential to improve cultural competence scores and should be further evaluated. The interpretation of these findings as well as the limitations, recommendations and implications for social change will be discussed in Chapter 5.

Chapter 5: Results

Introduction

The purpose of this cross-sectional exploratory quantitative study was to assess the variables associated with cultural competence in certified registered nurse anesthetists using the Cultural Competence Assessment tool. The study was conducted using electronic distribution of the Cultural Competence Assessment tool, developed by Schim and colleagues, to a randomized sample of 3,000 nurse anesthetists working in the states of Georgia, Kentucky, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia. Review of the literature regarding cultural competence and the construct related to cultural competence in nurse anesthetists revealed negligible research or even attending to the topic. Due to this fact, I felt that investigating the topic and describing associated variables would begin to fill a gap in the literature and provide direction for the next steps for the profession of nurse anesthesia to take. The increasingly diverse landscape of the population requires that health care providers insure that there is equitable treatment for all patients. Based on the results of this study, I have determined that there is a gap between cultural awareness and sensitivity and cultural competence behaviors in nurse anesthetists. The significance lies in the fact that respondents may profess their intent to provide culturally appropriate unbiased care in spite of the fact that their responses indicate that this may not actually be the case. There was a correlation between post graduate diversity training in nurse anesthetists and overall cultural competence score. This result indicates that post graduate diversity training should be a requirement for recertification.

Interpretation of the Findings

The lack of research surrounding cultural competence in the field of nurse anesthesia prohibits the comparison of these results with any previous peer-reviewed literature. Similar results from studies with other populations of health care providers were documented in regard to previous diversity training, although it was not specified whether the training was completed while the respondents were licensed providers or students. The theoretical framework used for this study, Leininger's culture care diversity and universality theory, was also the framework for the development of the 3-D model of culturally congruent care developed by Schim, Doorenbos, Benkert, and Miller (Schim et al., 2003). This model was the framework for the development of the Cultural Competence Assessment tool, the instrument used in the data collection phase of my research project. Leininger's culture care diversity and universality theory, was the first to emphasize the need for a culturally competent nursing force and it is the only nursing theory that centers on holistic and comprehensive care of diverse cultures (Maier-Lorentz, 2008; Masters, 2010). This theory states that nurses should be equipped with the tools and understanding regarding caring for minority patient populations (Leininger, 2002). These underpinnings of practice are taught as a requirement in undergraduate nursing education. The constructs of cultural competence were operationalized in the 3-D model of culturally congruent care through the understanding of the meaning of holistic culturally appropriate nursing care. Based on the assumption that all nurses are trained to care for all patients in a holistic manner, the nurse anesthetists in this study should have exhibited congruent cultural awareness and sensitivity and cultural

competence behavior scores. The results showed that this may not be the case and that more work needs to be done to ensure that patients are treated equitably regardless of culture or race.

There are some important concepts to consider when examining the lack of congruency between the respondents' CAS scores and CCB scores and how these differences may contribute to bias when providing health care to groups of minority patients. Explanation of factors contributing to behavior is required in order to help find ways to ameliorate the differences. In order to understand some of the potential implications, I looked to the field of psychology for one possible explanation and interpretation of the differences in scores.

Dual Process Model

Researchers in the field of psychology have used the term, dual process model, to describe how something can develop as the result of two different processes, unconscious and conscious (Smith & DeCoster, 2000). The underlying basis for this model is the idea that humans have two distinct and connected learning and memory systems which they use to process information in order to make decisions and judgments in everyday life (Smith & DeCoster, 2000). A dual process model that may explain the results of this research is the dual-attitude model, which was first described by Wilson, Lindsey, and Schooler (2000). The central idea behind this model is rooted in the supposed inability of an individual to have a completely neutral or impartial evaluation or attitude about anything in their environment and that there can be dual or the same attitudes about one object (Wilson et al., 2000). People develop attitudes over time as a result of evaluations

of everything in their environment (Wilson et al., 2000). Attitudes are ideas that guide the individual to determine whether something is good or bad (Cunningham & Zelazo, 2006). This model suggests implicit and explicit attitudes towards the same object can exist simultaneously in an individual's memory (Wilson et al., 2000).

As stated previously in chapter 2, the CCA tool measures self-reported cultural awareness and sensitivity and behaviors. When evaluating the participants' responses on the CCA, there was inconsistency in their awareness and sensitivity when compared with their behaviors towards individuals from diverse populations. Social cognition, how we make sense of others, has been used as the foundation on which psychologists study the ways in which group characteristics influence one's perception of an individual (van Ryn & Fu, 2003). This idea may help explain how race and ethnicity can influence health care provider behavior and unintentional bias which may be potential catalysts leading to the development of disparities. The dual process model explains how unconscious and conscious processes can exist in the same scenario, which may explain inconsistencies in provider sensitivity to diversity and their actual behaviors.

As described previously, the underlying basis for these models is the idea that humans have two distinct and connected learning and memory systems which they use to process information to make decisions and judgments in everyday life (Smith & DeCoster, 2000). These interconnected systems have been described as slow learning and fast binding (Burgess, Fu, & van Ryn, 2004). The slow learning system is characterized by the presence of information that was recorded slowly so that a large variety of experiences can be reflected in the memory (Smith & DeCoster, 2000). The

memory reflects stable knowledge that represents the typical properties of the individual's environment (Smith & DeCoster, 2000). The remaining system, termed the fast binding system, is used for the rapid learning of new information so that one significant specific piece of information can be committed to memory even after only one exposure (Smith & DeCoster, 2000). These types of dual model theories have been applied to many theories in cognitive psychology to explain how two phenomena can exist simultaneously and account for differences in perception and behavior. This model has emerged as a dominant model in human decision-making and serves as a platform for research focused on clinical decision-making (Croskerry, 2009).

The Dual-Attitude Model. The central idea behind this model is rooted in the supposed inability of an individual to have a completely neutral or impartial evaluation or attitude about anything in their environment and that there can be dual or the same attitudes about one object (Wilson et al., 2000). People develop attitudes over time as a result of evaluations of everything in their environment, including individuals Wilson, et al., 2000). Attitudes are ideas that guide the individual to determine whether something is good or bad (Cunningham & Zelazo, 2006). This model suggests implicit and explicit attitudes towards the same object can exist simultaneously in an individual's memory (Wilson et al., 2000).

Implicit attitudes are those which can be either positive or negative, have an unknown origin, occur automatically outside the consciousness of the individual, and influence uncontrollable responses that the person feels does not adequately reflect or represent their attitude (Burgess, van Ryn, Crowley-Matoka, & Malat, 2006; Wilson et

al., 2000). Burgess, van Ryn, Crowley-Matoka, & Malat (2006) suggested that when a new attitude develops, the old attitude is not replaced and that both attitudes exist in the memory. The old attitude is termed implicit and the label of explicit is given to the new attitude (Wilson et al., 2000). Implicit attitudes influence both the explicit and implicit response to a subsequent stimulus (Wilson et al., 2000).

The dual-attitude model has been used to describe social information processing and has been foundational to the research on stereotyping and the investigation of health care provider unintentional bias (Burgess et al., 2006). Despite that fact that health care providers find prejudice in contrast to their professional values, they may fail to see the evidence of prejudice or bias in their own behaviors (Burgess et al., 2006; Smedley et al., 2003). The presence of unconscious and conscious health care provider bias may influence the delivery of treatment and consequently contribute to disparities in health care (Smedley et al., 2003). Research has shown that individuals apply stereotypes in an attempt to make sense of others and that they have highly adaptive strategies that are used to categorize and generalize massive amounts of information (van Ryn & Fu, 2003). As a result of these methods of processing information, individuals mentally assign their beliefs and expectations to an individual based on their social category (van Ryn & Fu, 2003).

Burgess (2010) posits that in health care settings where providers experience high cognitive load and high mental activity imposed on their working memory that the resulting racial and ethnic disparities in care are likely due to bias in decision making. Due to the demands on their time, acuity of the patient, or urgent nature of the patient

encounter, nurse anesthetists are frequently working under conditions of high cognitive load. Increasing the levels of cognitive load and fatigue limits control over inhibition of bias, and thereby, increases the likelihood of implicit forms of bias (Dovidio & Fiske, 2012). These characteristics of their daily work environments put nurse anesthetists at risk of developing unintentional biases toward their patient population as a means of categorizing large amounts of information. The behaviors could be in direct conflict with their awareness and sensitivity related to different racial or ethnic groups, but exhibited due to an old memory that takes over momentarily to the intrinsic and extrinsic high cognitive load associated with their work environment. As a result, these health care providers must consider the effects that of unconscious cognitive processes on their practice.

Limitations of the Study

The study was potentially limited by numerous factors. Lack of use of the survey instrument in this population necessitated reliability and validity testing using Cronbach's α analysis and principle factor analysis. Other factors that may have also limited generalizability of these results to the entire population of certified registered nurse anesthetists are presented here.

CCA Reliability and Validity

The CCA tool has been used in numerous other studies with a variety of groups of service type providers (Doorenbos & Schim, 2004; Doorenbos et al., 2005; Schim et al., 2005; Schim et al., 2006a; Shah & Lonie, 2012; Suarez-Balcazar et al., 2009). This instrument is comprised of two subscales, one of which measures cultural awareness and

sensitivity and one which measures cultural competence behavior. The scores on the subscales were used to determine the cultural competence score of each participant. The CCA was developed in 2003 and psychometric testing of the tool was performed in 2005 (Doorenbos et al., 2005; Schim et al., 2003 ;). Previous researchers have shown the validity and reliability of the CCA tool (Doorenbos et al., 2005; Schim et al., 2005; Schim, et al., 2006b; Schim et al., 2007). Experts from various health care related fields established face, content, and construct validity (Schim et al., 2003). Test-retest reliability for the CCA has also been confirmed at $r = 0.85$, $p = .002$ in a group of hospice providers over a 4 month period (Doorenbos et al., 2005).

Previous reliability testing performed on the CCA using Cronbach's α, yielded results ranging from 0.89-0.92 (Doorenbos et al., 2005; Schim et al., 2005; Schim, et al., 2006b; Schim et al., 2007). Reliability testing performed for my research project showed that the CCA had overall internal consistency reliability of .89. Internal consistency values of .79 and .91 were calculated for the CAS and CCB subscales respectively. Internal consistency reliability for the subscales documented in a previous study was noted to be .75 and .91 (Doorenbos et al., 2005).

To determine validity in this population, principle factor analysis was completed using the Promax rotation (not limited to orthogonal) with Kaiser Normalization on the 25 questions of the CCA with SPSS v. 21. The Kaiser-Meyer-Olkin test of sampling adequacy was .740 with $p < .001$. This result signaled that the sample size was adequate. Results showed that four factors with item loading above .40 accounted for 54% of the

variance. Determination of the number of factors was based on eigenvalues of > 1, scree plots analysis, and well-defined variable loading which was described in previous studies.

Generalizabilty of Results

The results of this study may have limited generalizability based on the fact that minority representation from the field of nurse anesthesia was missing. White/Caucasian nurse anesthetists were overrepresented which may have skewed the results. Also, limiting the sample to only seven states may have restricted the inclusion of certain populations of nurse anesthetists. Even though there were an adequate number of respondents to meet the confidence interval, the number was not distributed in a manner that represented the population as a whole. This sample population represented a group which was restricted to a specific region of the country and specific states and this limited regional sampling may have contributed to bias with regards to the results.

As stated previously in Chapter 1, the design of this quantitative research study was cross-sectional. The main reason for this classification was that the data were obtained from a one-time assessment of the nurse anesthetists who met the chosen inclusion criteria. The results are descriptive and exploratory, signifying that the correlations found between demographic variables and overall cultural competence assessment score do not necessarily imply causation. Cross-sectional studies only represent a one-time assessment and do not necessarily reflect the results presented by longitudinal studies that are conducted over longer periods of time.

Recommendations

The topic of cultural competence in certified registered nurse anesthetists has received little attention from researchers and scholars in the field. In short, the opportunities for adding to the body of knowledge of nurse anesthesia practice seem endless. Although the topic may not be as "flashy" as others that are related to clinical issues, the patient centered approach to nursing care requires that all nurses evaluate their own cultural awareness and behaviors toward all patients, including those in underserved populations. Focused studies on patient satisfaction and pain treatment disparities in minority populations cared for by certified registered nurse anesthetists should be developed and conducted. Similar studies examining these topics in other groups of health care providers have been carried out, but they are absent in the nurse anesthesia literature. Research with the Cultural Competence Assessment tool could be expanded to include other areas of the country. This type of inclusion would provide more detail on nurse anesthetists working in other areas and with other minority groups not represented in this sample. The groups should also be expanded to describe nurse anesthetist cultural competence when working with other classifications of minority groups, such as gender, sexual orientation and age. Designing high quality studies can help guide the development of training requirements for practitioners that currently do not exist.

Implications for Positive Social Change

There are several levels at which this study may effect positive social change. First of all, at the individual level there are two options. The results have the potential to positively affect the nurse anesthetist by informing them of potentially biased behavior

which is not culturally centered. This opens up the possibility for the provider to seek out opportunities for personal and professional growth. According to the results of this study, nurse anesthetists possess a high level of cultural awareness and sensitivity in contrast to their cultural competence behaviors. My assumption is that this lack of congruency is may be unrecognized by the individual providers in the sample. This lack of recognition could lead to biased care for patients. Participation in learning opportunities structured around ways to improve culturally competent behaviors with groups of minority patients has the potential to positively affect the nurse anesthetists and as a result their patients. This increased awareness and improved cultural competence behavior could help lessen any disparities that exist in the patient encounters between nurse anesthetists and the populations that they serve. Patients are the obviously benefactors of enhanced provider cultural competence. The findings of this study suggest that diversity training is not an area that should be abandoned once graduate school is completed. Yearly training modules revolving around increasing cultural awareness, enhancing cultural sensitivity and fostering cultural competence behaviors could potentially narrow the gap that exists in this population today. Currently, nurse anesthetists are required to meet requirements for certification every 2 years. In this structure there are no requirements for cultural competence or awareness training. The model for recertification that has been in place for many years will be changing with the recertification period that begins in 2016. This change in structure of recertification opens the door for the inclusion of alternative competencies that deal with topics outside the usual offerings related to clinical practice and techniques, pharmacology, and

research. It would appear that an opportunity exists to include requirements for cultural competence training that is focused on increasing awareness, sensitivity, and behavior. This research supports the need for increasing those skills through participation in cultural competency training in nurse anesthetists who are currently practicing. However, more research is needed to determine the specific types of training that could improve cultural competence behaviors bringing those more in line with cultural sensitivity and awareness. Finding ways to reduce disparities at all levels of health care for minority populations through a variety of mechanisms, including increased delivery of culturally competent care will create positive social change.

Conclusion

Certified registered nurse anesthetists provide anesthesia care in many types of rural and urban settings. The changes in the U.S. population demographic profile over the last 10 years helps predict with a high degree of certainty that nurse anesthetists will be providing care for more patients from racially and ethnically diverse groups. It is imperative that these providers have the skills and knowledge to provide high quality clinical anesthesia care while also ensuring that they possess the skills to communicate and interact with patients of underrepresented groups. The combination of these types of skills is necessary to guarantee the delivery of equitable anesthesia services.

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Appendix A: Information Sheet

Survey invitation: Cultural Competence in Certified Registered Nurse Anesthetists

Dear CRNA:

This study is being conducted by XXXXXXXXXX as a PhD requirement for Walden University. Currently, there is a lack of research examining the topic of cultural competence in practicing nurse anesthetists. The purpose of this study is to gain insight into the variables associated with cultural competence in CRNAs. Due to your status as a certified or recertified CRNA you are invited to participate in a research study titled "Cultural Competence in Certified Registered Nurse Anesthetists".

In this study, you will be asked to complete an electronic survey. Your participation in this study is voluntary and you are free to withdraw your participation from this study at any time. The survey should take only 20 minutes to complete.

This survey has been approved by the Institutional Review Board of Walden University. There are no risks associated with participating in this study. The survey collects no identifying information of any respondent. All of the response in the survey will be recorded anonymously.

While you will not experience any direct benefits from participation, information collected in this study may benefit the profession of anesthesia in the future by better understanding the variables that may enhance the quality anesthesia care for minority populations through improving the cultural competence of CRNAs.

If you have any questions regarding the survey or this research project in general, please contact XXXXXXXXX or her advisor, XXXXXXXXXX If you have any questions concerning your rights as a research participant, please contact the IRB of Walden University at irb@waldenu.edu.

By completing and submitting this survey, you are indicating your consent to participate in the study. Your participation is appreciated.

XXXXXXXXX, Doctoral Candidate, Walden University

Advisor XXXXXXXXXXXX, Department of Health Sciences, Walden University

Please click on the survey link below and provide us with your feedback no later than

Month, Day, 201?

This invitation does not imply any endorsement of the survey research and/or its findings by the AANA. The survey contents and findings are the sole responsibility of the individual conducting the survey.

Appendix B: Cultural Competences Assessment Tool

Cultural Competence Survey

Increasing cultural diversity of people in our communities and workplaces is a fact of life. Diversity among students, co-workers, and organizations is also expanding. Improvements in travel and communication have brought people with different cultures, languages, and customs into contact as never before. A greater variety of people within our communities, schools, and workplaces continues to have an impact on the way that we think, feel, and act.

This survey is designed to explore your knowledge, feelings, and actions when you interact with others in the context of health care and health service environments and in academic settings. *Your answers are strictly confidential.* The researchers will put your answers together with those of others to get an overall profile for group cultural competence and educational needs. Neither your identity nor your individual answers will be shared with anyone.

Questions on this survey are intended to gather information about how you personally think, feel, and act. Some questions may not fit your situation exactly depending on the type of work you do at this time. Please try to answer every question. If you are unsure or have no opinion on an item, use the “No Opinion” or “Not Sure” options. There are no “right” or “wrong” answers.

Completing this survey is completely voluntary. It will take about 20 minutes of your time. You may choose not to participate. You may stop at any time. Your completion of the survey indicates your informed consent to participate in this study.

NOTE: This instrument may only be used with the express permission of the authors. For information contact:

XXXXXXXXXXXXX

VERSION: 4 NOVEMBER 2009

1. In the past 12 months, which of the following racial/ethnic groups have you encountered among your clients and their families or within the health care environment or workplace? *Mark 'X' for all that apply.*
   - ❑ Hispanic/Latino (including Mexican, Mexican American, Chicano, Puerto Rican, Cuban, other Spanish)
   - ❑ White/Caucasian/European American
   - ❑ Black/African American/Negro
   - ❑ American Indian/Alaska Native
   - ❑ Asian (Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, or other Asian)
   - ❑ Native Hawaiian/Pacific Islander
   - ❑ Arab American/Middle eastern
   - ❑ Other (specify) _____

2. In your current environment what percentage of the total population is made up of people from these racial/ethnic groups? *Write in percent to add to 100%*

____ Hispanic/Latino (including Mexican, Mexican American, Chicano, Puerto Rican, Cuban, other Spanish)
____ White/Caucasian/European American
____ Black/African American/Negro
____ American Indian/Alaska Native
____ Asian (Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, or other Asian)
____ Native Hawaiian/Pacific Islander
____ Arab American/Middle Eastern
____ All other groups combined
100 % = TOTAL

3. Overall, how competent do you feel working with people who are from cultures different than your own?

Very competent	Somewhat competent	Neither competent nor incompetent	Somewhat Incompetent	Very Incompetent
❑	❑	❑	❑	❑

For each of the following statements, put an 'X' in the box that best describes how you feel about the statement.

4. Race is the most important factor in determining a person's culture.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

5. People with a common cultural background think and act alike.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

6. Many aspects of culture influence health and health care.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

7. Aspects of cultural diversity need to be assessed for each individual, group, and organization.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

8. If I know about a person's culture, I don't need to assess their personal preferences for health services.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

9. Spiritually and religious beliefs are important aspects of many cultural groups.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

10. Individual people may identify with more than one cultural group.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

11. Language barriers are the only difficulties for recent immigrants to the United Sates.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

12. I believe that everyone should be treated with respect no matter what their cultural heritage.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

13. I understand that people from different cultures may define the concept of “health care” in different ways.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

14. I think that knowing about different cultural groups helps direct my work with individuals, families, groups, and organizations.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

***For each of the following statements put 'X' in the box that best describes how often you do the following*:**

15. I include cultural assessment when I do individual or organizational evaluations.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

16. I seek information on cultural needs when I identify new people in my work or school.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

17. I have resource books and other materials available to help me learn about people from different cultures.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

18. I use a variety of sources to learn about the cultural heritage of other people.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

19. I ask people to tell me about their own explanations of health and illness.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

20. I ask people to tell me about their expectations for health services.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

21. I avoid using generalizations to stereotype groups of people.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

22. I recognize potential barriers to service that might be encountered by different people.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

23. I remove obstacles for people of different cultures when I identify barriers to services.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

24. I remove obstacles for people of different cultures when people identify barriers to me.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

25. I welcome feedback from clients about how I relate to people from different cultures.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

26. I find ways to adapt my services to individual and group cultural preferences.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

27. I document cultural assessments if I provide direct client services.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

28. I document the adaptations I make with clients if I provide direct client services.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

Your answers to these last few questions will help us understand responses from different kinds of people who complete the survey. <u>ALL answers are strictly confidential.</u>

Read each item below and decide whether the statement is true or False as it pertains to you personally. Mark your answers with an 'X' in the True or False box.

29. It is sometimes hard for me to go on with my work if I am not encouraged.

True	False
❑	❑

30. I sometimes feel resentful when I don't get my way.

True	False
❑	❑

31. On a few occasions, I have given up doing something because I thought too little of my ability.

True	False
❑	❑

32. There have been times when I felt like rebelling against people in authority even though I knew they were right.

True	False
❑	❑

33. False matter who I'm talking to, I'm always a good listener.

True	False
❑	❑

34. There have been occasions when I took advantage of someone.

True	False
❑	❑

35. I'm always willing to admit it when I make a mistake.

True False

❑ ❑

36. I sometimes try to get even rather than forgive and forget.

True False

❑ ❑

37. I am always courteous, even to people who are disagreeable.

True False

❑ ❑

38. I have never been irked when people expressed ideas very different from my own.

True False

❑ ❑

39. There have been times when I was quite jealous of the good fortune others.

True False

❑ ❑

40. I am sometimes irritated by people who ask favors of me.

True False

❑ ❑

41. I have never deliberately said something to hurt someone's feelings.

True False

❑ ❑

42. Using the categories below, what do you consider yourself? *(Choose one or more)*

- ❑ Hispanic/Latino (including Mexican, Mexican American, Chicano, Puerto Rican, Cuban, other Spanish)
- ❑ White/Caucasian/European American
- ❑ Black/African American/Negro
- ❑ American Indian/Alaska Native
- ❑ Asian (Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, or other Asian)
- ❑ Native Hawaiian/Pacific Islander
- ❑ Arab American/Middle eastern
- ❑ Other (specify) _____

	Yes	No
46. Have you ever participated in cultural diversity training?	❑	❑

47. If you have had prior diversity training, which option below best describes it? *(Check all that apply)*

- ❑ Separate college course for credit
- ❑ Content covered in a college course
- ❑ Professional Conference or Seminar
- ❑ Employer Sponsored Program
- ❑ On-line (computer assisted) Education
- ❑ Continuing Education Offering
- ❑ Other diversity training types (Specify)

  _____

48. How would you describe the population density of the area in which you practice anesthesia?

- ❑ Rural (Low population density)
- ❑ Non rural/urban (High population density)

48. Which of the following best describes your primary employment arrangement?

- ❑ Clinical practice in a teaching facility
- ❑ Group practice (CRNAs and anesthesiologists)
- ❑ Faculty in a graduate nurse anesthesia program
- ❑ Independent solo practice
- ❑ CRNA group practice
- ❑ Other _____

49. Sex

- ❑ Female
- ❑ Male

50. Years of practice as a CRNA

- ❑ 0-5 years
- ❑ 6-10 years
- ❑ 11-15 years
- ❑ 16-20 years
- ❑ 21-25 years
- ❑ > 25 years

Thank you for taking this survey. I appreciate your time and effort!

If you have any questions or concerns about this research, please contact:

XXXXXXXXXXXXXX

Appendix C: Letter of Permission to Use CCA

RE: Cultural Competence Assessment Tool

11 messages

Mon, Mar 31, 2014 at 10:23 AM

To:

Dear XXXXXX:

I am delighted to learn of your interest in the Cultural Competence Assessment tool. I am sending three files for your information and use:

1. an MSWord copy of the CCA tool
2. a couple of pages that describe how the items are scored
3. a bibliography of papers about the theory, the tool development, and some uses to date

Once you have a chance to review this material, I will be happy to answer any additional questions you may have. We do not charge for academic, service, or research use of the tool. We only ask that you give my team credit as the tool's source and let us know how it works out if you decide to use it in your project. Let me know how I can be of help.

Best Regards-

XXXXXXXXXXX

Appendix D:

American Association of Nurse Anesthetists
222 South Prospect Avenue, Park Ridge, Illinois 60068
Tel: 847-692-7050 Fax: 847-692-6968

AANA Electronic Survey Policy and Order Form

Version 12-11-2014

ELECTRONIC SURVEY ORDER FORM, Page 4/4

ELECTRONIC SURVEY AGREEMENT

1) In placing this order for the electronic survey, I agree that if I gain access to the e-mail addresses or any identifiable information, I will not use, disclose, transfer, or retain any portion of the e-mail addresses and/or the information to identify any individual who participated in the survey.

2) In placing this order for the electronic survey, I agree that I will not use, disclose, transfer any portion of the AANA members' responses to identify any individual who participated in the survey.

3) In placing this order for the electronic survey, I agree that the approval of this order **does not imply any endorsement** of the research and/or its findings by the AANA. In addition, the survey contents, development and findings are the sole responsibility of the individual conducting the survey.

4) Any study and/or report of the members' responses MUST be reported **in aggregate** so respondents cannot be identified. Any expression of a quote response cannot identify the respondent.

5) In placing this order for the electronic survey, I agree that a final abstract of the findings and documentation of the results will be submitted to the AANA at **researchsurvey@aana.com** within **one month after completing** the study.

6) The AANA may share the submitted report and findings. The researcher will receive full credit for their work.

Name: _____

Signature: _____ Date _____

Disclaimer

1. AANA reserves the right to refuse fulfillment of any survey order if the AANA does not approve the purposes or content of the research.
2. The volume of requests may lead to a delay in deployment of the instrument to preserve a proper response rate. You will be notified of the anticipated date of deployment. It may take up to 6 weeks for your survey to be deployed after the approval if *extensive* demands occur.

For Staff Only		
Research Director Approval: _____	Date	_____ Initials
Survey Processed: _____ By _____	Date	_____ Initials