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Nurses Leading in Bridging the Culture Gap: Communicating With the Deaf Community

Veronica C. Leftridge
Abilene Christian University, vcl16a@acu.edu

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Doctor of Nursing Practice

Nannette W. Glenn, Ph.D.

Dr. Nannette Glenn, Dean of the College of Graduate and Professional Studies

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Doctoral Project Committee:

Tonya Sawyer-Mcgee

Dr. Tonya Sawyer-McGee, Chair

Donna R. Atobajeun

Dr. Donna Atobajeun

Dr. Sandra Cleveland

Dr. Sandra Cleveland

Abilene Christian University

School of Nursing

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by

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Dedication

This dissertation is dedicated to all Deaf, Deaf families, American Sign Language (ASL) interpreters, and First Church sign language ministry members who were inspirational in sharing knowledge of Deaf culture and American Sign Language (ASL). I want to thank my husband (Ray), adult children (Eboni/Omar, Essence, and Elijah), and grandchildren (Emani, Adena, and Malcolm), who have supported me throughout my educational journey. To my fellow nurses who strive to become culturally competent: the world is a safer and more caring place because of you. As a nurse leader and patient advocate for the Deaf community, the purpose of the DNP project was to raise global awareness of Deaf culture and to help nurses improve their communication with the Deaf in clinical practice. Thank you to Abilene Christian University for providing a platform to develop my DNP project and share my Christian beliefs in a Christian environment. Finally, the DNP project would not be possible without the blessings, wisdom, and unconditional love of God the Father, Son, and Holy Spirit.

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Abstract

Nurses provide patient care in clinics, hospitals, homes, churches, schools, communities, and military, as well as on emergency medical helicopters. When a nurse is assigned to care for a patient, the patient expects the nurse to be culturally competent, communicate effectively, and provide safe quality care. However, cultural incompetence is observed when nurses provide care for Deaf patients, but they are unfamiliar with Deaf culture. In addition, communication is a fundamental skill nurses learn in nursing school, but course content in nursing programs rarely touches on how to communicate effectively with Deaf patients. Of the approximately 325 million people in the United States, 28 million are Deaf, but unfortunately, nurses are unprepared to communicate with Deaf patients due to the lack of cultural competency training. Nurses want to lead in bridging the culture gap in communicating with the Deaf community. The aim of this project was to raise awareness in academia of the lack of cultural competency education for nurses regarding Deaf culture and improve nurses' cultural competency to reduce health care disparities within the Deaf community. The utilization of Leininger's theory of culture care diversity and Andrews and Boyle's transcultural interprofessional practice model directly influences health care delivery to improve health disparities. A pre-/postsurvey was used to assess the XXXX nurses' efficacy of Deaf culture and provided available resources to communicate with the Deaf patient. The small sample size was one of the limitations of this quasi-experimental study. Recommendations to improve cultural competency include (a) health care organizations providing training for staff on Deaf culture, (b) nursing schools offering Deaf culture as part of their curriculum, (c) ASL being recommended in nursing school curriculums. and (d) annual training on Deaf culture in hospitals, clinics, and academic settings. The DNP

Essentials is the foundation to continue with evidence-based clinical interventions to improve health disparities in the Deaf community.

Keywords: Deaf, nurses, communication, ASL, leadership, Deaf culture, cultural competency, Quadruple Aim, health disparities, Leininger's theory, Andrews and Boyle's transcultural interprofessional practice (TIP) model, quasi-experimental study, DNP essential, self-efficacy

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Chapter 1: Introduction

Nurses provide patient care in clinics, hospitals, homes, churches, schools, communities, and military, as well as on emergency medical helicopters. When a nurse is assigned to care for a patient, the patient expects the nurse to be culturally competent, communicate effectively, and provide safe, quality care. However, cultural incompetence is observed when nurses provide care for Deaf patients, but they are unfamiliar with Deaf culture. In addition, communication is a fundamental skill nurses learn in nursing school, but course content in nursing programs rarely touches on how to communicate effectively with Deaf patients. The nurse–patient relationship evolves from effective communication with all patients, but the DNP project focused on the Deaf community (Boz & Dereli, 2018).

Of the approximately 325 million people in the United States, 28 million are Deaf, but unfortunately, nurses are unprepared to communicate with Deaf patients due to the lack of cultural competency training (NAD, 2021). Therefore, Deaf patients do not receive the health care necessary to improve health care outcomes. Registered nurses (RNs) who receive training using an educational tool kit might be prepared to understand how to communicate with the Deaf community.

Throughout the literature, reference to individuals who use ASL are referred to as “Deaf” and excluded from the hearing impaired (deaf) population. In addition, Deaf is capitalized because it is a proper name for culture in the Deaf and hard-of-hearing community (Yosso, 2020). In the United Kingdom, Abou-Abdallah and Lamyman (2021) explained that members of the Deaf community are labeled as cultural–linguistic minorities with similar health disparities because of the lack of Deaf culture understanding among healthcare professionals. Again, race, ethnicity, sexual orientation, education, physical abilities, gender, or language should not

prohibit nurses from communicating with patients. However, nurses have anxiety when receiving a Deaf patient because they are unfamiliar with the culture. Yet, they are the first healthcare professionals on the scene at a hhealthcare facility (Cumberland et al., 2018; Gerchow et al., 2021; Lesch et al., 2019). In addition, Kite (2019) agreed that health care professionals show biases toward Deaf individuals. The bias interferes with patient care because of the lack of understanding (Cannon & Luckner, 2016).

Statement of the Problem

Nurses want to lead in bridging the culture gap to communicate with their patients and patients' family members who are Deaf. Unfortunately, health care professionals are inadequately prepared to care for Deaf patients because higher education institutions do not include Deaf culture in their curriculum. Once students graduate and enter the workforce, health care organizations do not train them on how to communicate with the Deaf (Kruse et al., 2021). However, the Americans With Disabilities Act of 1990 (ADA) mandates health care professionals provide Deaf patients with effective communication (Panzer et al., 2020). In addition, the NAD (2021) recognized communication between nurses and Deaf patients is possible if change starts with the curriculum in academic institutions with nursing programs and health care organizations. The problem is student nurses' lack of preparedness to communicate with the Deaf before becoming RNs.

All health care professionals need to understand communication in Deaf culture. For example, Marquete et al. (2018) emphasized that nurses must know how to communicate with everyone to provide basic nursing care. Deaf patients should not be excluded from the population. Since nurses are responsible for delivering patient-centered care, the communication

training should start with nursing students and health care professionals. Nurses expect to understand the concept of communication and incorporate the idea to improve health outcomes.

This DNP project was aimed at evaluating RNs' knowledge of Deaf culture and how they communicate with the Deaf. Moreover, nurses' lack of efficacy in communicating with their Deaf patients increases health disparities (Velonaki et al., 2015). Yet, there is limited research on nurses' leadership role in improving communication with Deaf patients (Cumberland et al., 2018). Gračanin (2020) stated, "To understand and communicate means to respect and believe in the importance, value, uniqueness, kindness, and strength of another person and his or her abilities and right to self-determination" (p. 51). Nurses are the frontline workers who want want to feel efficacious when encountering Deaf patients in the health care system (Velonaki et al., 2015). Nurses understand the types of communication and want to improve health outcomes (Afriyie, 2020). Therefore, as part of this project, nurses led self-directed learning to address the challenge and use an educational resource tool kit to bridge the communication gap (Smith & West, 2006).

Background

The Doctor in Nursing Practice (DNP) Essentials explain, "Nursing is an evidence-based practice; hence it is the responsibility of the nurse to keep up-to-date with quality evidence and demonstrate it in practice" (Afriyie, 2020, p. 438). For example, Florence Nightingale's nurses pledge resonates in the hearts and minds of nurses and emphasizes the need for nurses to demonstrate excellence in the profession (see Appendix A). The pledge reads, "I will do all in my power to maintain and elevate the standard of my profession" ("Florence Nightingale Pledge," 2015, p. 4). Therefore, I asked the following research questions for this study: "What can nurses do to improve the population health and patient experience of the Deaf community?"

and “What can one nurse do to improve the nurses’ knowledge of the Deaf community and learn how to communicate with the Deaf?” (Arnetz et al., 2020). I demonstrated how nurses’ passion for being culturally competent to care for the Deaf community would change the health care system. Besides, the DNP Essentials state, “Nursing is an evidence-based practice; hence it is the responsibility of the nurse to keep up-to-date with quality evidence and demonstrate it in practice” (Afriyie, 2020, p. 438).

The Deaf population falls into the same category of individuals who have restricted access or access to health care like patients who speak a language other than English, and patients who do not speak English or speak English as their second language have limited access or are denied health care every day (National Association of the Deaf [NAD], 2021). Deaf patients use ASL to communicate. Still, consequently, there is a lack of data on how many RNs receive education on Deaf culture and ASL to learn how to communicate and provide nursing care. Deaf patients are left wondering about their health care and not understanding the treatment of care, while the nurses feel culturally incompetent and unable to care for or communicate with the Deaf patient. XYZ Institute for Deaf and Blind (pseudonym) statistics indicated between October 2016 and November 2017 that they served the healthcare needs of 24% of the population in Dallas area who were Deaf or hard of hearing.

Andrews and Boyle (2019) explained that effective communication requires a dialogue between two or more individuals. Communication can be expressed “through ideas, feelings, intentions, attitudes, expectations, perceptions, instructions, or commands” (Andrews & Boyle, 2019, para. 1). In addition, Andrews and Boyle (2019) agreed that nurses who understand Deaf culture would have less fear and anxiety in communicating with Deaf patients.

In addition, the utilization of Leininger's theory of culture care diversity (TCCD) and Andrews and Boyle's transcultural interprofessional practice (TIP) model directly influences health care delivery to improve health disparities (Zaccagnini & White, 2015). Leininger, Andrew, and Boyle agreed that cultural competency is necessary to effectively communicate.

Nurses will lead self-directed learning to understand Deaf culture and how to communicate with Deaf patients by using the educational resource tool kit to bridge the culture gap and language gaps to address the challenge. Furthermore, Jeffreys and Smodlaka (1999) argued cultural competency and self-efficacy are required to reduce health disparities and necessary to provide transcultural nursing care. His Cultural Competence Curriculum conceptual framework was grounded by Leininger's cultural care theory and offered a multidimensional process for learners who receive formal education for cultural competency.

Purpose of the Study

I understood Cronje's (2013) statement, "The purpose of any study is to uncover the truth" (16:18). The aim of this project was to raise awareness in academia of the lack of cultural competency education for nurses regarding Deaf culture and improve nurses' cultural competency to reduce health care disparities within the Deaf community. Imagine being a deaf patient in the hospital or clinic and not understanding the health care professional or treatment plan. The purpose is not to ask nurses to become ASL interpreters but to show the need for nurses to know the ASL alphabet and be aware of medical terminology, Deaf culture, and the resources available to communicate with the patient and their families. The intervention was to create an educational resource tool kit for RNs to understand how to communicate with the Deaf patient. The XXXX nurses who participated in the survey received an education on Deaf culture and communication strategies to help communicate with Deaf patients. The educational tool kit

included a PowerPoint presentation, video, and a Zoom presentation to assist the nurse in understanding how to communicate with Deaf culture.

Cultural awareness is expected at all levels of nursing. In addition, Kuenburg et al. (2016) explained, “Deaf cultural competency training for medical staff has significantly increased skills in caring for Deaf community members, thereby reducing health care disparities” (para. 13). Nurses are expected to work independently toward cultural competency. Dauvrin and Lorant (2015) emphasized the importance of cultural competency and indicated it was a lifelong learning process. Therefore, nurses will continue to grow professionally through self-efficacy.

In addition, the PICO project provided a system that increased deaf awareness and nurses’ knowledge base (Quality and Safety Education for Nurses, 2020). A pre-/postsurvey assessed the XXXX nurses’ efficacy in Deaf culture and provided available resources available to communicate with the Deaf patient. The DNP project is to bring awareness to the need for cultural competency in Deaf culture to be taught in nursing schools and health care organizations. In the healthcare setting, cultural competency necessitates effective communication and a nurse–patient relationship. However, health care professionals are inadequately prepared to care for Deaf patients because nursing training in higher education institutions does not include Deaf culture in their curriculum. Furthermore, once students graduate and enter the workforce, healthcare organizations do not train them on how to communicate with the Deaf.

Significance

This document illustrated nurses’ obstacles in communicating with the Deaf culture and the challenges nursing leaders experience in implementing organizational change. Health care organizations frequently use the Triple Aim framework, known as Quadruple Aim (QA), to

improve health care (Arnetz et al., 2020). The Triple Aim focuses on the efficiency of health care performance, including cost reduction, patient experience, and population health, and the fourth focuses on health care team wellness. Trying to meet the organization's demands while maintaining a therapeutic nurse–patient relationship has been one of the most significant health care organizational challenges. The contemporary struggles for nurses have included burnout, moral distress, and dealing with practice change. I am aware that all four aims are crucial for organizational efficiency and meeting productivity demands. Certainly, nurses play an integral role in the Quadruple Aim, and the research identified the relevance.

Cost Reduction

The implementation of the intervention might reduce repeated admissions because patients will receive effective communication before discharge. BU School of Public Health (2018) agreed that lack of access to communication between health care providers and Deaf patients lead to more frequent admissions to the emergency room, costing the organization. BU School of Public Health (2018) gave an example of a patient's perspective:

> Even on the individual level, most doctors and health care professionals do not know how to communicate or work with deaf people. For example, I was misdiagnosed last year because of a doctor's unfamiliarity with treating deaf patients. This was evident in his physical shaking and awkward demeanor as he tried to engage with me. Additionally, my rights to effective communication were denied, as they did not provide an in-person ASL interpreter. I suffered two weeks with pneumonia (while taking the wrong medication) and later had to go to the hospital for an emergency antibiotic IV. Although doctors have the best interests of their patients at heart, these same doctors are not always

> appropriately educated to become culturally responsive practitioners. (BU School of Public Health, 2018, para. 4)

The lack of communication caused an increase in length of stay, additional medications, and a negative perception of the health care system.

Population Health

The health care providers' lack of cultural competency is identifiable by the health disparities in the Deaf population, in addition to negative biases and lack of resources (Cawthon et al., 2017). Undoubtedly, Cawthon et al. (2017) explained that lack of communication increased the health disparities. Statistics have shown "language-concordant patient-provider communication is associated with higher appropriate use of preventive services by deaf ASL users. The results suggest that ASL fluent clinicians may be crucial to addressing healthcare communication barriers experienced by deaf ASL users" (McKee et al., 2011, pp. 1–4).

Patient's Experience

Organizations are expected to meet the needs of all patients. The Deaf patient is not exempt. For example, Miller's (2017) blog explains the situation of a Deaf patient who went to the hospital:

> The chest pain was bad enough. Then John Paul Jebian asked staff at Baptist Hospital of Miami for an American Sign Language interpreter. They instead brought a video screen with an internet link to a remote interpreter to help him understand what the doctors and nurses were saying. Jebian, who is deaf, said a nurse struggled to set up the equipment as he anxiously wondered whether he was suffering a heart attack. "I was panicked," said Jebian, 46, recalling that July 2012 day. "I didn't know if I had to have surgery.

> Everything was going past me. I didn't know what was happening when it was happening." (Miller, 2017, para. 1)

Jebian's experience was not an isolated issue. He survived, but the court record indicated that the organization's policy was insufficient. What if Jebian had a culturally competent nurse? Could his experience have been different?

Health Care Organizations

Health care organizations depend on the efficacy of the health care providers. For example, work performance improves when nurses have adequate resources and professional development (Arnetz et al., 2020). Indeed, the research proposed that nurses who received the educational tool kit would have a heightened awareness of communication with the Deaf patient.

I provided an educational tool kit to assist in the cultural competency of Deaf patients. According to the findings, nurses required educational resources to understand deaf culture, communicate, and perform basic finger spelling. The nurses learned how to effectively communicate to improve health outcomes and strategies to enhance communication between a nurse and Deaf patient. One solution to reduce the Deaf community's health disparities includes the following:

> To reduce the health care inequities that deaf individuals face in our current health care environment, the health care system must begin to address these obstacles by educating their health care staff and providers on how to identify at-risk individuals for poor communication and ensure these individuals receive appropriate language assistance and accommodations. (NAD, 2021, para. 3)

Effective communication between a nurse and a patient is therapeutic and "provides quality health care in terms of better management of patients and helps to organize and control managerial tasks" (Junaid & Rafi, 2018, p. 560).

The Deaf receive support from the American Deaf Act (ADA), and nurses and health care providers are obligated to provide reasonable accommodations that include effective communication with Deaf patients. The nurses' goal is to have a therapeutic relationship with clients, health care institutions, nursing schools, and nursing state boards for maintaining ADA regulations. The ADA provides resources for nurses to meet the health care standards for Deaf patients.

PICOT Question and Hypothesis

Evidence-based research is formulated from a clinical question in a PICOT format that guides the literature review. Gallagher-Ford and Melnyk (2019) explained it is the first step in the evidence-based process to create an unbiased search strategy. As a result, evidence-based research will improve the quality and effectiveness of patient-centered care. The "P" represents the patient problem or population. In this situation, most nurses lack understanding of the culture of the Deaf because of the omission of Deaf education from nursing school curricula. The "I" represents intervention to resolve the issue. Therefore, the goal is to educate nurses to improve their understanding of Deaf culture so that communication can enhance therapeutic outcomes. The "C" represents a comparison of the issue. A pre-/posttest was administered to the nurses to assess their Deaf culture and communication knowledge (see Appendix B). The "O" represents the outcome to determine the quality-of-care improvement (Mitchell et al., 2021). The posttest was the indicator of the understanding of the educational tool kit. The "T" represents the specific time to measure the outcomes, and the plan was to gather the data within 2 months (Fandino,

2019). The PICOT components included the following: (a) Problem: RNs and cultural competency with Deaf patients; (b) Intervention: Educate RNs using an educational tool kit to prepare them to understand how to communicate with Deaf patients. A presurvey was conducted, and thereafter, a 60-minute educational session was offered. A postsurvey was completed by the nurses to assess their knowledge of communication strategies with Deaf patients and cultural competence. RNs self-reported how they increased their awareness of Deaf culture because of the educational training; (c) Outcome: RNs will self-report how they increased awareness of Deaf culture because of the educational training; (d) Time: Two months to survey RNs from XYZ State Nurses Association. The development of the PICOT began the research process. The key terms provided a roadmap to the PICOT question.

Research Questions

RQ1: Will educational resources on communication strategies broaden cultural competency among RNs caring for deaf patients?

RQ2: Will training using an evidence-based tool kit on Zoom improve nurses' communication strategies for caring for Deaf clients?

RQ3: If the nurse leader uses pre-/postsurvey to assess XXXX nurses' knowledge of communicating with the Deaf, will a significant finding illustrate the need for additional education in nursing schools and organizations to bridge the communication gap between the nurse and Deaf?

Definition of Key Terms

American Sign Language (ASL). ASL is an autonomous linguistic system independent of English. Individuals who are Deaf use ASL to express thoughts and feelings using hand, face, and body to communicate with others (Moore, 2018).

Communication. Communication is an action where verbal or nonverbal information is sent to the "sender and receiver" for processing and understanding (Junaid & Rafi, 2018, p. 560). For example, the nurse and the Deaf person exchange thoughts through ASL, video teleconferencing, or pen and paper.

Cultural competence. Cultural competence is a set of skills, behavior, and knowledge that indicates a person is proficient with a group or individual's culture (Drame et al., 2022).

Deaf. The word *deaf*, with a lowercase *d*, represents a group of people who have a deficit in hearing or the inability to hear. When the term Deaf is capitalized, the population uses ASL to communicate, and they do not consider themselves disabled (Chovaz et al., 2022; Houghton Mifflin, 2005). They consider themselves hard of hearing and not hearing impaired.

Deaf culture. Deaf culture refers to individuals in a culture where the capital D is used for the Deaf, who use ASL to communicate. The Deaf rely on visual aids and language for communication (Chovaz et al., 2022; Holcomb, 2016).

Educational tool kit. An educational tool kit combines various learning materials such as videos, documents, and audio to enhance someone's knowledge for educational purposes (Shah et al., 2014).

Nurse. A nurse is a person whose profession is to minister to clients with a mental or physical condition (Butler, 2017).

Summary

The DNP project intervention demonstrated that advanced nurse clinicians could implement strategies to improve the quality of life for their patients based on the DNP Essentials (American Association of Colleges of Nursing [AACN], 2022). Cultural competency includes effective communication and a nurse–patient relationship. However, health care professionals are

inadequately prepared to care for Deaf patients because higher education institutions do not include Deaf culture in their curriculum, and once students graduate and enter the workforce, health care organizations do not train them on how to communicate with the Deaf. If one student nurse or nurse understands Deaf culture, their patient is more likely to communicate with their nurse, and the nurse is more likely to feel confident in providing care to the Deaf patient.

Chapter 2: Literature Review

This chapter discusses the evidence-based literature in nursing and illustrates how research supports the significance of the PICOT for "Nurses Leading in Bridging the Culture Gap: Communicating With the Deaf Community." Undoubtedly, communication is a crucial part of the nursing profession between a nurse and any diverse client, and Deaf clients are included in the "linguistic diversity" (Gerchow et al., 2021, para. 1; Sanches et al., 2019). Therefore, a nurse needs to understand Deaf culture to communicate. Madeleine Leininger was the pioneer and expert in cultural care theory (CCT) to support this notion. In fact, McFarland and Wehbe-Alamah (2019) mentioned, "Leininger predicted that nurses would use the theory to discover diverse perspectives on care and differences and similarities in caring for clients using culturally-based data to guide nursing care practices" (p. 540). In this DNP project, I aimed to evaluate the RNs' knowledge of Deaf culture and how they communicated with the Deaf. In this chapter, I examined and discussed this theory and overview of themes and research related to improving communication with the Deaf community through the nurse–patient relationship.

Literature Search Methods

The literature search included a comprehensive search on cultural care; Deaf culture; nurse and client relationships; communication with Deaf, hard-of-hearing, and hearing-impaired clients; and cultural competency. A review of the relevant literature provides evidence-based knowledge of the need to offer an educational tool kit for nurses to improve cultural competency to assist in communicating with Deaf clients.

Initially, the research query included terms such as *deaf patient* and *nurse leader*, which resulted in 742 search inquiries between 2017 and 2018, but most of the research articles were written before 2000. A search for terms such as *nurse communication*, *nursing leadership*, and

Deaf patients between 2017 and 2021 produced 2,403 inquiries using ACU Library's One Search from the DNP guide. The literature was saturated with information about health care professionals caring for clients who were Deaf or hard of hearing. The evidence-based literature was limited to nurses having cultural competency in communicating with Deaf patients. Websites for literature review included in the search included the National Deaf Association, Centers for Disease Control and Prevention, and National Deaf Center.

The search engines included peer-reviewed journals between 2012 and 2018. Since that time, a total of 50,003 journals were found in the library's databases, including OneSearch EBSCO (502), Medline (104), SAGE, Google Scholar, EBSCO Discovery, ScienceDirect, CINAHL Plus (147), PsycINFO, Credo Reference, CINAHL Complete, PubMed, Cochrane Collection Plus (155) Academic Search Premier, Ovid (1043), ProQuest (64), and West Collections: digitalcommons@wcsu.

The key terms included in the literature were as follows: *Deaf, deaf, health care professionals*, *nurse*, *nursing*, *communication*, *interaction*, *hospital*, *Deafness nursing*, *Deafness*, *women*, *ethnic groups*, *program evaluation*, *leadership*, *diversity*, and *children with disabilities*. In addition, other terms found in the literature included *multidisciplinary teamwork*, *hospital personnel*, *patient care*, *clinics*, *American Sign Language*, *medical care use*, *medical personnel*, *Deaf*, *hearing disorders*, *nurse–patient relations*, *communication methods*, *sign language*, *professional knowledge standards*, and *communication barriers*. Finally, keywords in the literature included the following: *deafness nursing*, *consent*, *students*, *nursing*, *persons with hearing impairments*, *nursing care*, *health services accessibility*, *information exchange*, *interactions*, *hospital*, *communication strategies*, *care*, *student–patient relationship*, *organization*, *cultural competence*, and *Quadruple Aim*.

Historical Overview

Of the approximately 325 million people in the United States, 28 million are Deaf. By 2050, about 2.5 billion people will have a hearing deficit, and 500,000 will communicate by using ASL (Andrews et al., 2019; Berry & Stewart, 2006; World Health Organization, 2021). The expectations are nurses will be prepared to provide patient-centered care to a diverse population.

In retrospect, nurses are significant in providing culturally congruent care within the Deaf community but lack the education or resources to accommodate the diverse patient population (Sanches et al., 2019). Undoubtedly, once nurses understand the culture of Deaf clients, the benefits will include a nurse–client therapeutic relationship and clients' understanding of instructions, which will improve the quality of care.

The Deaf community refers to "deaf" as a person who is medically unable to hear. For this review, the focus is on individuals who call themselves "Deaf" but spell the term with a capital "D." Deaf individuals also communicate using ASL (Lieu et al., 2007; Sirch et al., 2016; Velonaki et al., 2015). Andrews et al. (2019) explained that Deaf people "see their bodies as well, whole, and non-impaired, and they self-identify as members of a linguistic minority, not with the culture of disability" (Andrews et al., 2019, p. 47). For this reason, nurses must be educated on Deaf culture.

Several national organizations support the rights of diverse populations, such as Deaf culture. For example, the National Standards for Culturally and Linguistically Appropriate Services in Health and Health Care (National CLAS Standards) "aim to improve health care quality and advance health equality by establishing a framework for organizations to serve the

nation's increasingly diverse communities" (Office of Minority Health, 2018, para. 3). The organization trains and prepares leaders and organizations to be culturally competent.

Secondly, the NAD is a national civil rights 501(c)(3) nonprofit organization founded by deaf leaders in 1880 in the United States to advocate for the use of ASL nationally for individuals with hearing impairments and the Deaf (NAD, 2021). On an international level, "NAD represents the United States of America to the World Federation of the Deaf (WFD), an international human rights organization" (NAD, 2021, para. 1). In addition to NAD's advocacy for justice, the organization provides education regarding the resources needed for health care providers to improve the quality of life for the Deaf community. For example, NAD stated, "Federal civil rights laws require covered entities to ensure effective communication with people who are deaf [sic] or hard of hearing" (NAD, 2021, para. 1). For example, the law requires health care organizations to provide the Deaf community with an on-site or off-site interpreter.

Advantages of VRI and Interpreters

If an interpreter is not immediately available, the nurse could use an interpreter off site by employing technology such as video remote interpreting (VRI; Jacobs et al., 2018). VRI can be found in a "wide variety of settings including hospitals, physicians' offices, mental health care settings, police stations, schools, financial institutions, and workplaces, and often used when an interpreter is not available" (NAD, 2021, para. 2). If a nurse wanted to use the VRI services, the facility would schedule an appointment or request the service on demand 24 hours a day, 7 days a week (Kushalnagar et al., 2019; NAD, 2021). VRI services do not eliminate the fact that on-site interpreters are recommended first (Kushalnagar et al., 2019). However, health care organizations may choose the VRI method instead of in-person interpreters because the VRI is affordable and scheduling is more accessible than an in-person interpreter (Kushalnagar et al.,

2019). The location of the health care facility will determine if VRI is available. Besides, the Department of Health and Human Services (DHHS) has guidelines to regulate the use of VRI. For example, the regulations include a qualified interpreter, real-time full-motion video with high-speed internet with a wide bandwidth, a clear visual image between the interpreter and the Deaf person, audible sound, and adequate training on the use of the technology. The advantages of using VRI include being (a) cost-effective, (b) accessible, and (c) flexible in terms of scheduling (Kushalnagar et al., 2019).

Cost-Effective

Health organizations often use VRI services because it is more cost-effective. For example, Jacobs et al. (2018) explained that the average cost of VRI services is $2.72 per minute, whereas on-site interpreters charge "$45– $150 per hour" (p. 72). The health care facility is responsible for providing either service. If the health care facility wants to use VRI, at least 14 states and the District of Columbia will reimburse or cover the cost using Medicaid or the CHIP program (Jacobs et al., 2018). For example, the State of Arizona's Medicaid program offers free interpretation services (Jacobs et al., 2018). Unfortunately, data indicate that 36 states have not adopted the practice of reimbursing health care or language services providers for the cost of the interpreter services, leaving patients without services.

Accessibility

The laws require health care facilities to provide services that will improve the quality of care for all patients. Kushalnagar et al. (2019) explained that VRI is an effective communication service to bridge the gap between the Deaf and health care professionals. VRI technology allows access to additional interpreters.

Flexibility Scheduling

If a facility wants an on-site interpreter, the person must travel to the site, whereas VRI can be on demand if there is an emergency and the client needs to talk with someone (Kushalnagar et al., 2019). Miscommunication is avoided with qualified interpreters (Kushalnagar et al., 2019). For example, if a Deaf patient arrives at the hospital alone at 3:00 a.m., VRI will allow a qualified interpreter to communicate with the patient because the video service is available 24 hours a day, 7 days a week.

Disadvantages

The dependence on technology is a disadvantage when using VRI services because there is the possibility of technical issues. As mentioned earlier, DHHS requires wide bandwidth, high speed, and a high-quality video display. If the VRI has technical difficulty, the communication will be negatively affected between the health care provider and the Deaf client. In addition, the setup time for the equipment can cause a delay in the client's care (Kushalnagar et al., 2019). In addition, Kushalnagar et al.'s (2019) cross-sectional study of Deaf patients' experiences with VRI was the first in the United States. The outcome indicated that 51% of Deaf patients prefer to have an on-site interpreter because they were not satisfied with the quality of the VRI services.

Secondly, the ADA mandates that all businesses provide reasonable accommodation to the Deaf community and include communication resources for Deaf clients (U.S. Department of Justice Civil Rights Division: Disability Rights Section, 2014). For example, businesses include urgent care clinics, hospitals, restaurants, and health care clinics. State and local governments are expected to follow the ADA guidelines:

> The ADA requires that Title II entities (state and local governments) and Title III entities (businesses and nonprofit organizations that serve the public) communicate effectively

> with people who have communication disabilities. The goal is to ensure that communication with people with these disabilities is equally effective as communication with people without disabilities. (U.S. Department of Justice, 2014, p. 1)

Lastly, nursing organizations such as the AACN (2016) understand the need for cultural competency and expect nursing schools to include the concept in the curriculum to improve the quality of care for the Deaf community. For this reason, nursing education and health care organizations are collaborating to enhance the delivery of care. For example, the AACN (2016) published a report that included recommendations for building strong partnerships between academia and health care facilities to prepare student nurses for the future.

Benefits of Learning Deaf Culture

The World Federation of the Deaf agrees that accommodation is a right and not a privilege (Kuenburg et al., 2016). Nurses who advocate for the Deaf are agents to promote change in health care institutions, clinics, nursing schools, and nursing organizations by engaging in self-efficacy. The literature reported a knowledge gap when the nurse tries to communicate with their Deaf patient (Lieu et al., 2007). The benefits include self-efficacy and the nurses' ability to provide culturally competent care.

Benefits of Self-Efficacy

The World Health Organization (WHO) agreed that individuals who are trained to communicate with the Deaf would impact the delivery of health care and reduce health disparities within the community resulting in positive outcomes (Lieu et al., 2007; Schwarz et al., 2015; Velonaki et al., 2015). The application of Madeleine Leininger's CCT will promote an environment for "culturally congruent nursing care" (McEwen & Wills, 2015, p. 233).

Nurses' Lack of Knowledge of Deaf Culture

The formal literature identified nonnursing disciplines that improve communication between the Deaf and pharmacists, doctors, and respiratory therapists. Most research was performed outside the United States, including in Italy, Spain, Australia, Greece, and the Netherlands. However, they found limited literature on nurses' cultural competency and self-efficacy when caring for the Deaf. Many of the research articles' titles did not address nurses' issues leading to bridging the communication gap with Deaf patients. The results included practical recommendations on communication strategies, but very few qualitative, quantitative, or mixed methods discussed the cultural competency of nurses related to the Deaf community (Cardoso et al., 2006). Copious amount of literature supported information about the Deaf prior to 2017, but limited research identified nurses demonstrating leadership in improving health disparities for the Deaf community.

In addition, there is limited research on evidence-based studies related to nurses communicating with Deaf patients. The literature found in nursing journals did not have statistical data to support the research. Discussion on competencies and best practices for nurses were found in nursing journals such as the *Nurse Practitioner*, *American Annuals of the Deaf*, *Nursing Management*, and *Nursing*. Most of the research on communication challenges and methods for the Deaf was found in countries other than the United States. For example, the countries that explored Deaf culture included Greece, Netherlands, Puerto Rico, and Africa.

Theoretical Framework Discussion

The use of Leininger's cultural care diversity and universality theory and Andrew and Boyle's TIP model has a direct impact on health care delivery. Care and culture are inseparable when it comes to the delivery of nursing practice (Blackstone et al., 2015; Leininger, 1988). In

the 1960s and 1970s, Leininger's CCT research discovered nurses knew how to care for their clients. Still, there was limited research on nurses' understanding of caring for diverse populations in the 1960s and 1970s. Transcultural nursing combines nursing and anthropology (Andrews et al., 2019; McFarland & Wehbe-Alamah, 2019). Anthropology is defined as "a discipline that is concerned with the scientific study of humans, past and present" (Andrews et al., 2019, p. 4). In addition to Leininger's theoretical framework, Andrews and Boyle's TIP model conceptual framework is relevant to the research.

Conceptual Framework Discussion

Andrews and Boyle's TIP model conceptual framework focused on the process and deliverance of culturally competent care for a diverse population and was the framework for developing the cultural competency questionnaire during the planning and implementation of the DNP project. Although there are many definitions for cultural competency, the focus is on individual and organizational cultural competence. For this research, individual cultural competence refers to any health care professional delivering care to the Deaf, and organizational cultural competence refers to "organizational leadership" (Andrews et al., 2019, p. 33). The optimum goal is to have a culturally competent health care system and curriculum within nursing schools.

Three Themes

The literature implicated inequities because of the lack of cultural competency training. In addition, in this literature review, most information focused on the disparities identified in three themes: (a) lack of nurse–patient communication and the relationship formed through such communication, (b) clients' negative experiences, and (c) lack of resources or support personnel.

Theme 1: Lack of Nurse–Patient Communication Relationship

Nurses are often the first health care professional a Deaf person will encounter when seeking health care. Nurses should show efficacy when providing care to Deaf patients. Therefore, a nurse–patient communication relationship is necessary for a successful recovery and discharge (Gračanin, 2020). Nurses should show efficacy when providing care to Deaf patients if there is going to be an improvement in their quality of care to bridge the health care disparities among the Deaf community. For example, nurses should understand various communication guidelines, such as NAD (2021) recommendations to flag at-risk clients' charts using the identification system indicating a client who needs assistance with communication. Secondly, they must know basic ASL to use in emergencies.

Deaf clients do not trust health care professionals because of their lack of communication competency (Gračanin, 2020). An example is nurses assume Deaf clients understand note writing, and they hand them a paper and pen to write on. Still, NAD explained that "English is often a second language for many Deaf people just as it is for people from other countries" (NAD, 2021, section 6). Therefore, writing is not an effective tool of communication for the Deaf.

Theme 2: Misunderstandings and Negative Experiences

Health care professionals' negative perceptions of Deaf clients result from their lack of empathy demonstrated in the health care facilities (Panzer et al., 2020). The educational material is not inclusive because of the high reading level (Lesch et al., 2019). Deaf patients do not understand doctors' orders or nurses' discharge instructions (Sanches et al., 2019). Deaf patients do not see themselves as having hearing disabilities. The Deaf identify with having a second language.

Theme 3: Lack of Resources in Health Care

Inadequate Equipment. Inadequate equipment and proper equipment utilization are other themes that create inequities in communication with and care for the Deaf community. Nurses and other health staff need to be appropriately educated on equipment to support communication with Deaf individuals. This can help prevent disparities in health care delivery for the Deaf community and improve health outcomes, access to care, and communication.

ASL Interpreters Unavailable. The literature indicated that ASL interpreters are required when Deaf patients are admitted, but health care facilities often do not request their services due to lack of accessibility or financial restraint. ASL interpreters are not immediately available when the Deaf person arrives at the health care facility (Lesch et al., 2019; Panzer et al., 2020). ASL lacks medical training to communicate effectively (Lesch et al., 2019).

Historical Precedence

Nurses' roles are different from physicians' roles but are equally necessary. In the past, the literature research indicated language barriers hindering nurse–Deaf patient relationships, increased misunderstandings and negative experiences, and decreased accessibility of ASL interpreters. Unfortunately, most of the literature focuses on Deaf patients related to their health care providers, but there is minimal literature that outlines the nurse's role in improving relationships with Deaf clients (Gerchow et al., 2021).

Language Barriers Between Nurses and Deaf Patients

Gerchow et al. (2021) recognized that the interaction between nurse and patient starts on admission or in triage. Consequently, a health care organization's solutions include technology to translate information between nurse and client. As a result, VRI or video relay service (VRS) technologies assist nurses in communicating with the Deaf (Shuler et al., 2013). Even now,

despite the advancement in technology, the age of the Deaf client will determine if they can use the technology. The older Deaf client prefers communicating with people because technology "lack the personal touch and create a disconnection between the medical provider and the patient" (Lesch et al., 2019, p. 238). Therefore, the client's age must be considered when using technology to communicate with Deaf clients. In short, nurses do not learn about communicating with the Deaf until they work in a health care facility. Therefore, unless the Deaf culture is implemented in the nursing school's curriculum, nurses will need continual education on Deaf culture.

Lack of Accessibility ASL Interpreters

In the past, Deaf clients would bring a family member or friend to the health care facility to help communicate with a health care professional. The ADA recommends using interpreters to communicate medical terminology accurately, but the responsibility is with the health care facility to provide the interpreter (U.S. Department of Justice, 2014). Depending on the health care organization's budget and compliance with the ADA, this will determine the accessibility of the ASL interpreters, and economics is still the issue today.

Misunderstandings and Negative Experiences

Deaf clients' negative experiences in clinics and hospitals have caused concerns in the health care profession. Despite the numerous national surveys that say nursing is the number one trusted profession. In addition, evidence suggests that the Deaf client has "fear, mistrust, and frustration when discussing previous health care interactions," and they "believe that health care professionals are unprepared to accommodate their needs" (Lesch et al., 2019, p. 239).

Synthesis

For this reason, the ADA protects the Deaf, and the expectation is to receive a reasonable accommodation and reduce the health disparities among the Deaf. The world understands that the Deaf population is diverse and does not get adequate health care due to the language barrier (Panzer et al., 2020). Nurses are expected to advocate for all patients, including the Deaf patient. One of the reasons for the health disparity among the Deaf population is nurses' lack of communication strategies (Velonaki et al., 2015). Nurses are not educationally prepared to facilitate learning when they have Deaf patients. The problems noted in the reviews centered around the health disparities among the Deaf population and the Deaf patients' rights. The qualitative studies discussed indicated communication gaps, but none of the literature focused on the nurses' leadership role to change the lives of the Deaf. Nurses want to communicate with their clients and are willing to learn about Deaf culture.

According to current research, communication barriers limited 80% Deaf people's access to healthcare. Hence the need for education and training on how to communicate with Deaf people. In the descriptive studies, only a few researchers included nurses as participants in the qualitative, cross-sectional, and correlational studies. The demographics included male and female children and adult men and women between the ages of 10 and 60. The nurses who were participants had limited educational training in Deaf culture. The work experiences of the nurses ranged from 2 years to 30 years.

Summary

The literature review was a starting point to create the PICOT question. The literature search was challenging due to the gap in information within the last 5 years and the lack of

research on nurse leaders' implementation to improve health disparities among the Deaf community.

Nursing programs do not include Deaf culture in their curriculum. In addition, once students graduate and enter the workforce, health care organizations do not train them on how to communicate with the Deaf. Furthermore, using Leininger's theory of culture care diversity and Andrews and Boyle's TIP model has a direct impact on health care delivery.

Additionally, the world understands the Deaf population is diverse and does not get adequate health care due to the language barrier. Nurses are expected to advocate for all patients, including the Deaf patient. The qualitative studies indicated communication gaps, but none of the literature focused on the nurses' role as a leader in changing the lives of the Deaf. Nurses want to communicate with their clients and are willing to learn about Deaf culture.

The existing research demonstrates nurses' lack of efficacy when caring for Deaf patients, causing communication gaps. The gaps in the literature research also indicate a need to revisit Leininger's CCT and Andrews and Boyle's TIP. According to the exhaustive literature review, the nursing profession has not had enough evidence-based research on nurses' implementation strategies to improve communication with the Deaf community. Nursing schools must incorporate communication with the Deaf culture in the educational curriculum. Nurses have routinely been self-learners; however, they should also take the initiative to learn proper techniques and skills to communicate with the Deaf community.

Undoubtedly, limited literature on how nurses communicate with the Deaf community is prevalent in the literature review. In other words, literature reviews supported future studies on how nurses could improve their communication through formal education. Only a few nursing programs outside of the United States have identified the need to incorporate strategies to

communicate with the Deaf community into their curriculum. Additional research needs to be explored in changing the nursing curriculum to include ASL or bring awareness to improve the quality of care for the Deaf and decrease the health disparities among the Deaf community. Deaf culture awareness will increase nurses' cultural competency, reduce health disparities in the Deaf community, improve communication with nurses and patients, and increase Deaf awareness in the community. The research question was, "Will registered nurses who receive annual educational training on communication with the Deaf improve the quality of care provided to the Deaf patient?"

The review revealed more research is needed because there is not enough current literature identifying nursing leaders engaging in bridging the culture gap. The challenge is to reach nurses who are practicing and educate them on how to communicate with the Deaf community. Educational material is also limited, but future research to broaden the scope of a literature review could improve the health disparities among the Deaf community.

Chapter 3: Research Method

In the United States, 3 out of every 1,000 people are prelingually Deaf, where they were unable to hear at birth or before "verbal language," so most of the Deaf population use ASL to communicate (Anglemyer & Crespi, 2018, p. 1). Meanwhile, as the Deaf population increases, the knowledge of Deaf culture and proper communication diminishes. This trend can especially be seen in health care when a Deaf client goes to a health care facility and must bring a family or friend to interpret for the health care professional to ensure communication while receiving care in the health care system. Contrary to evidence-based practice, nurses frequently use family to interpret, but their actions can lead to miscommunication, especially if the nurse is not knowledgeable of Deaf culture. As a result, the nurse who triages the patient looks to the family for assistance and grabs a pen and paper to communicate. The hope is that the Deaf client understands and comprehends written communication (NAD, 2021). As a result, "the evidence-based practice recommends, all physicians and healthcare staff be exposed to an effective training program addressing Deaf culture" (Anglemyer & Crespi, 2018, p. 4). Unfortunately, the health care facility's economic resources will determine the availability of Deaf services, such as a live human translator or electronic device. This chapter provides an overview of the methodology utilized to conduct this project.

Purpose

In the DNP project, I aimed to evaluate the RNs' knowledge of Deaf culture and how they communicated with the Deaf. Additionally, the purpose of the doctoral project was to educate nurses on Deaf culture and improve communication between the nurse and the Deaf patient in all environmental settings utilizing Leininger's cultural care diversity and universality theory and Andrews and Boyle's TIP model as theoretical foundations. Andrews and Boyle

(2019) recommended the TIP model for interprofessional teams to bring awareness to beliefs and health-related values, improve health care systematically, promote communication, and engage in clinical judgment. Remember, "with knowledge can come advocacy" (Daub et al., 2019, p. 209). For example, God holds us accountable for what we know, and what we do with the knowledge can change lives.

For this reason, the PICOT question sparked the birth of the DNP project in 2017. The problem identified RNs and cultural competency for Deaf patients. Therefore, in this project, I intended to improve RNs' cultural competency through communication between nurses and Deaf clients using a quasi-experimental design.

Project Design

Quasi-Experimental Design

The two-tailed paired *t* test was used to test the project hypothesis that nurses who receive basic education on how to communicate with the Deaf community can enhance their cultural competence. The project used a quasi-experimental design, and the design was chosen because there was no randomization of participants. In addition, quasi-experimental designs are used to assess preintervention baseline data (i.e., preintervention survey) and determine if the intervention—in this case, education on communicating with the Deaf community—affects cultural competency and determines the effectiveness of the intervention (Bloomfield & Fisher, 2019).

Methodology Appropriateness

The quasi-experimental research design incorporated a two-tailed paired *t* test for data analysis. A two-tailed paired-samples *t* test was conducted to examine whether the mean difference between presurvey knowledge Deaf culture assessment response and postsurvey

knowledge Deaf culture assessment response was significantly different from zero. In addition, a two-tailed Wilcoxon signed rank test was conducted to examine whether there was a significant difference between presurvey knowledge Deaf culture assessment response and postsurvey knowledge Deaf culture assessment response. The two-tailed Wilcoxon signed rank test is a nonparametric alternative to the paired-samples *t* test and does not share its distributional assumptions (Conover & Iman, 1981). The data were collected in two phases. The first phase was a pretest given to the nurses to assess their knowledge of Deaf culture and how to communicate with the Deaf. The second phase was data collected after the nurses attended the educational session.

Feasibility and Appropriateness

My primary responsibility was to ensure the human subjects' (HS) data were confidential and that studies conducted were organized. The RNs read the informed consent and the purpose of the research project. Afterward, the RNs were directed to the link that indicated they accepted the information on the electronic informed consent from Survey Monkey. The significance of this study indicated an opportunity to survey nurses from other nursing organizations. However, only the nurses from XYZ (pseudonym) were interviewed. Cultural competency is a global expectation (Andrews et al., 2019). As a result, the appropriateness of the DNP project had global implications for the entire nursing profession. Fortunately, no budget was necessary for the DNP scholarly project because data collection was completed via SurveyMonkey. However, an incentive for the DNP project might have drawn more participants.

IRB Approval and Process

The Institutional Review Board (IRB) training was completed, and a certificate was issued for RCR and SBE training. The training had to be completed before the completion of an

IRB application. The IRB application "should be done after a successful proposal defense and approval by the student's chair and committee, which is done after this course" (Abilene Christian University [ACU], n.d., para. 2). One of the responsibility of a researcher is to meet all of IRB's confidentiality requirements. Furthermore, Sugarman and Carrithers (2020) agreed that a challenge would be if human subjects are reluctant to participate in research studies because they do not understand that the information they provide is confidential. For example, nurses from the associations were asked if they understood Deaf culture. Due to the sensitivity of the question, the nurses may not want everyone to know they have a knowledge deficit in Deaf culture. Therefore, the explanation of the research must be comprehensive and data secure (Terry, 2017). Every researcher can agree that "good research practices including reliable data anonymization and security processes are important" (Wallis et al., 2018, p. 290).

An informed consent form explained how their data remained secure and confidential to the participants. In every study that requires the use of human subjects, the IRB requires comprehensive informed consent. Informed consent implies that the researcher has complied with the three principles: autonomy, beneficence, and justice. The participants received information explaining the research and informed consent via SurveyMonkey and on the nursing association's social media page. The informed consent included the objectives, risks, and benefits of the study and my contact information. The contact information is included because some participants may not understand part of the study or informed consent.

A support letter from the organization was required to ensure buy-in with the project ideals and methods for enhancement of education and improvement in the communication with Deaf patients. The XYZ State Nurses Association (XXXX) (pseudonym) organization had to be informed of the desire to survey the RNs. XXXX (pseudonym) was contacted and asked if it

could send a letter of support and provide a platform for the survey. XXXX (pseudonym) agreed to give the social media platform but was unable to write a letter of support because of the organization's policy. XXXX's (pseudonym) response indicated they do not endorse research studies from their members because of the number of nurses in their organization. Fortunately, they agreed to post the survey on the XXXX (pseudonym) Facebook page and the company's website under "current research." A flyer was designed to inform the nurses of the study. Districts meet at various times; therefore, the survey was posted on the XXXX (pseudonym) website. The RN participant logged into the practice section of the website and selected "current research."

I solicited permission to use the XXXX (pseudonym) website for the participants. The educational consultant for XXXX (pseudonym) requested the Webmaster to post the request for participants on their website menu "practice" link, which participants could find under the "current research" tab. Unfortunately, the XXXX (pseudonym) website was under construction. Therefore, the posting of the solicitation flyer was delayed for 3 weeks. The standard format for the solicitation flyer was based on the XXXX (pseudonym) website. Those who completed the informed consent from the link provided permission to participate and received a pretest to complete before the educational session. The nurses received full disclosure before signing the informed consent. The nurses were alerted to risks, conflicts of interest, and benefits. Additionally, the nurses were asked to complete the deaf cultural assessment and demographic survey. The nurses were informed of their rights to refuse to participate in the study at any time, without penalty.

After the first phase, the participants from the preeducational survey and demographics were kept confidential. The personal data collected from the nurses were deidentified to maintain

confidentiality and anonymity. The nurses were asked not to open their cameras or use their real names on the screen. Goodman et al. (2018) explained that IRB and federal agencies protect the subjects using the deidentified process where the nurses' identifier markers are removed from the data.

In the second phase, the nurses received a 60-minute educational training before the posteducational survey, made available to participants immediately after the educational training. The online free web-based education included an overview of Deaf culture and basic communication techniques. Nurses were also shown free video experiences from Deaf people from a national Deaf website that provides this free for public viewing and use. Included in the tool kit was a PowerPoint presentation on how to communicate with the Deaf, communication best practices, and evidence-based resources. Conducting this education can allow nurses to become culturally congruent, defined as a nursing practice that illustrates an understanding of cultural values, worldwide views, beliefs, and collaboration of health care professions (Marion et al., 2017). Warshawski et al. (2019) explained how nurses become culturally congruent by self-assessment of values and beliefs. The American Nurses Association includes cultural congruence as one of the nursing standards that supports nursing education, nursing practice, and research.

Interprofessional Collaboration

The research project outcomes will have significance across disciplines. The disciplines can expound on the research to improve the health disparity in the Deaf community. Interprofessional collaboration is necessary to improve communication with the Deaf. The interprofessional collaboration may occur with the XXXX, RN participants, research project chair, and committee members to ensure proper project intent and implementation communication. Meanwhile, the interprofessional collaboration also involves communication

between myself, colleagues, and IRB committee members. All disciplines and parties involved will improve their practice with the educational tool kit.

Practice Setting

In XYZ, there were 95,000 nurses. I was unsure how many participants were needed until the power analysis was estimated. The survey took place online using cyber communication with Zoom. The education session was conducted via Zoom technology. Zoom conference technology is a secure online platform designed for meetings (Zoom, 2021). The survey was accessible online to the participants 24 hours a day, 7 days a week before the education session and 7 days after the educational session. The expectation was that nurses would feel compelled to be part of the evidence-based research knowing they contribute to reducing the health care disparity communication gap among Deaf clients.

Target Population

The target populations were adults 18 years or older who were RNs. The demographic information included age, marital status, gender, membership to XXXX, years of RN experience, education level, prior education in Deaf culture, and encounters with Deaf clients. Nurses will know they are freely able to remove themselves from the study.

Risks and Benefits

The risks involved in the project are minimal, and the benefits outweigh the risks. However, cyber communicating is a risk because some individuals may not read their emails regularly, may miss the research survey deadline, or may have their identity compromised due to some attendees knowing others through their association with XXXX. The survey maintained anonymity. Therefore, no or few risks were involved in the study. No reminders were sent because no emails were available due to the anonymity of the survey. In addition, cyber

communication is always risky, and one threat to confidentiality is unauthorized persons responding to the study (Mattison, 2018). To minimize confidentiality risks, participants were asked to turn off their cameras. Another potential risk was psychological stress or concerns related to the participants' lack of knowledge on how to communicate with Deaf clients. Some participants may have internalized stress related to their lack of knowledge or ability to communicate with those who are Deaf.

One benefit was the enhanced knowledge of how to effectively communicate with the Deaf community to improve health care delivery and anticipate the needs of this population group. The benefits outweighed the risk as nurses enhance communication with the Deaf community. Self-efficacy is another benefit that can positively impact nurses' confidence and increase their cultural competence when caring for the Deaf. There is also a benefit to Deaf patients who will have health care providers who intentionally provide cultural care.

Instrument and Measurement Tool

The cultural self-assessment tool by Andrews and Boyle (2019) was utilized for this project. Permission to use the tool and permission to modify questions to fit the purpose of this project were given by Dr. Margaret Andrews (see Appendix C). The cultural assessment tool is a tool that assesses one's cultural competency related to population groups for which health professionals provide care (Andrews & Boyle, 2019). The tool's purpose is to allow health care professionals to reflect on their attitudes, beliefs, and practices related to how their cultural background creates certain biases based on their values.

Based on the project's purpose, additional quizzes and educational information related to communication of the Deaf community were utilized from LifePrint. LifePrint has free online, web-based training and educational resources for caring for and communicating with the Deaf

community (LifePrint, n.d.). This online platform was chosen due to its free public use of content and the ability of educational material to be used in a format that allows for self-paced education, which can be utilized by a Deaf educator or person who desires to learn more ways to communicate and care for Deaf clients. LifePrint is also a recognized platform for teaching individuals how to perform basic communication strategies with the Deaf community utilizing various methods. It is recognized and used by certified interpreters from American Sign Language University (LifePrint, n.d.).

Analysis Plan

The data from the instrument tool were entered into SPSS for analysis once the informed consent was signed and returned via SurveyMonkey. Descriptive statistics were used to summarize demographic and clinical characteristics. The means of the following demographic data were collected: age, gender, membership to XXXX, years of RN experience, education level, prior education in Deaf culture, and encounters with Deaf clients. These data were analyzed using descriptive statistics such as mean, median, and mode. The alternate hypothesis said there was an improvement in the nurses' understanding of Deaf culture. The outcome of the research study was shared on the website to collect the data at the organization's request. The information shared were decoded to avoid confidentiality concerns.

Timeline

The timeline of the DNP scholarly project started in 2017 with the plan to pursue this project. Initial contact was made with XXXX in 2017 to receive information regarding the procedure to solicit members for this project. XXXX does not endorse research projects or research but allows for solicitation of members to secure participants for the study by enabling postings of research projects on its Facebook page and company website. The course NURS 701

was the first pillar to start the timeline for project development by developing the problem of interest and identifying the theoretical framework for the project. Additional timeline tasks leading to this project are noted (see Appendix D).

Summary

Confidentiality, informed consent, and sample size were the potential challenges for the study. Researchers must anticipate threats and have a plan to avoid or remove the threats. The specific research design and the two-tailed paired *t* test for data analysis will assist in achieving the desired outcomes with the method previously discussed. Additionally, by getting approval to conduct this project through the IRB, there was assurance that privacy and harm were limited for participants (see Appendix E).

The greatest fear of research is interference in the security and privacy of the study, but I believed in God's Word that read, "Do not fear, for I am with you; do not be dismayed, for I am your God" (*New International Version Bible*, 2022, Isaiah 41:10). The principles to research that can benefit clients and health care professionals to ensure quality health care delivery through informed education.

Chapter 4: Results

In this DNP project, a two-tailed paired-samples *t* test was used to test statistical significance in both directions between a presurvey and a postsurvey based on educational intervention for nurses on how to communicate with the Deaf community. The educational sessions were live using Zoom as a nonrecording videoconference platform. Nurses only had to attend one 60-minute session. I considered the nurses' availability and offered allotted times that did not conflict with nurses working 8- and 12-hour shifts during the week and weekends. Nine nurses completed the presurvey, but only eight attended the educational sessions. Therefore, only eight nurses completed the postsurvey. The nurses in the study were instructed to turn off their cameras and remove their names from the screen. Unfortunately, Zoom did not allow participants to hide their names, so the participants substituted their names with names of a fruit or vegetable. The educational session included a PowerPoint presentation with information on nurses improving communication with the Deaf community using lectures, quizzes, documents, and videos from certified interpreters or content from the NAD. Occasionally, nurses would ask questions and receive their answers in real time. The alternate hypothesis said there was an improvement in the nurses' understanding of Deaf culture.

Data Collection

The data collected were the property of ACU. The data was on one computer, and the I was the only person to access to the analytics data. In addition, confidentiality included keeping the computer password secured, ensuring virus protection software, maintaining a password-protected computer, and locking all personal identification materials in a secured file cabinet. I was the only person having access to the data, using pseudonyms for the participants, and shredding the data years later following IRB guidelines.

Nurses were not excluded based on gender, socioeconomic status, or ethnicity. Survey questions were added to the pretest administered to each participant to examine demographic data. Data were collected and presented in tables and figures. Informed consent was solicited from each eligible participant. Participants were provided with an electronic copy of the informed consent form. After completing the informed consent process, participants were provided a link and asked to complete a pretest. After the pretest, participants were asked to attend an information session and then complete a posttest. Educational sessions were conducted via Zoom.

Data Management

Data collected during this DNP project were stored in a secure university learning management system labeled under my name. The university owns the data in case access is needed at a future time. The graduate program provided a secure system to house research data maintained and supported by the university's information technology (IT) department. Data were maintained according to the federal regulations for protecting and maintaining human research participants' data and, after such time, were securely shredded and destroyed.

Data Analysis

A power analysis is a statistical calculation that identifies the minimal number of participants for a research study (Kraemer & Blasey, 2016). The large effect size using a power analysis for a two-tailed paired-samples *t* test indicated the minimum sample size to have a significant power of at least .8 with an alpha of .05 that will result in large effect size ($d = 0.8$) is 15 (Intellectus Statistics, 2022). However, the study was unsuccessful in soliciting enough participants to reach the recommended size of 15.

In addition, Intellectus Statistics (2022) explained that if the effect size is large and the tests are powerful, the DNP project will need fewer subjects, but if the effect size is small with little or no power used, the DNP project needs a larger sample size. However, the post hoc analysis was done, and the sample size was insufficient, leading to a higher chance of Type II error. The two-tailed paired *t* test was used to analyze the mean. The two-tailed paired *t* test was used to analyze the same set of items under different conditions (postsurvey after the educational presentation; Minitab 19 Support, 2020). The RNs who completed the cultural assessment survey completed the posttest. For example, the study used a two-tailed paired *t* test to determine if the XXXX (pseudonym) RNs improved their knowledge of Deaf culture after the educational tool kit was offered.

Demographics

The nine RNs who participated in the preassessment survey were XXXX members. Still, only eight nurses attended the educational session and completed the postsurvey. Since the research was anonymous, I could not contact the participants or provide a reminder. According to XYZ's Registered Nursing Workforce, in 2016, the mean age of an XYZ nurse was 46 years old. Figure 1 shows the demographic characteristics of the nurses: 44.44% of the nurses' ages ranged 35–44 years of age, 33.33% of nurses ranged 45–54 years of age, 11.11% ranged 55–64 years of age, and 11.11% were older than 75 years of age.

Figure 1

Participating Nurses' Ages

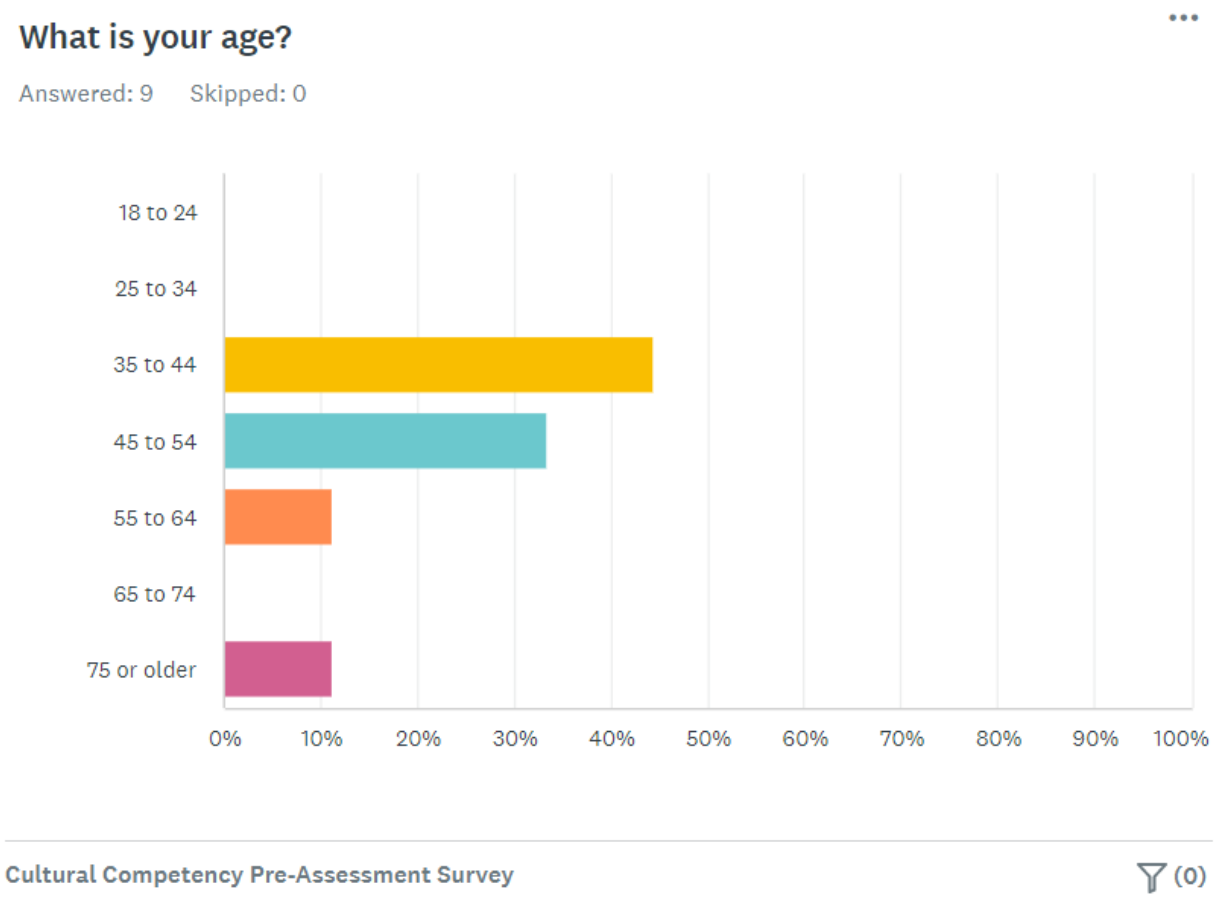
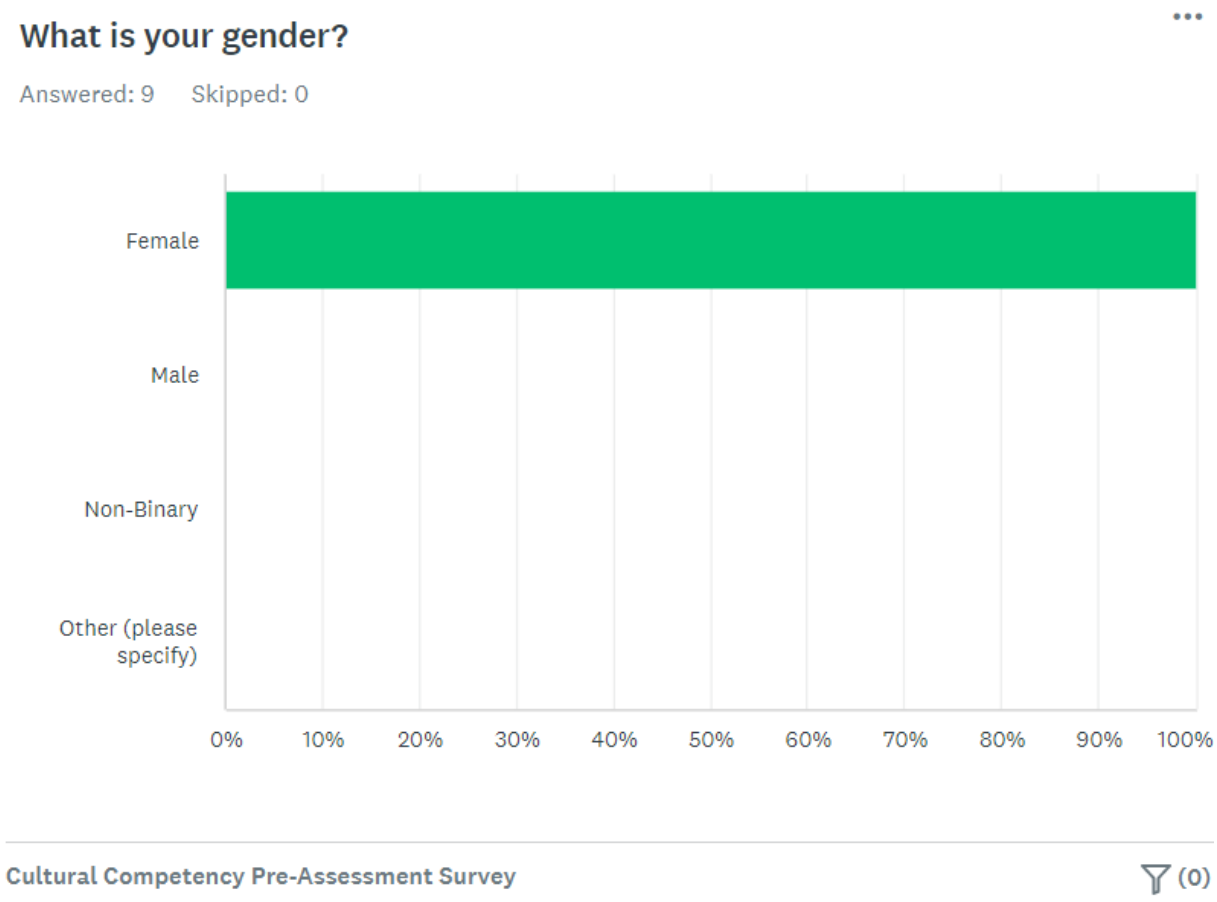


Figure 2 shows that all participants who completed the preassessment survey were women. In previous demographics surveys performed by the XYZ Board of Nursing, most of the nurses were also women.

Figure 2

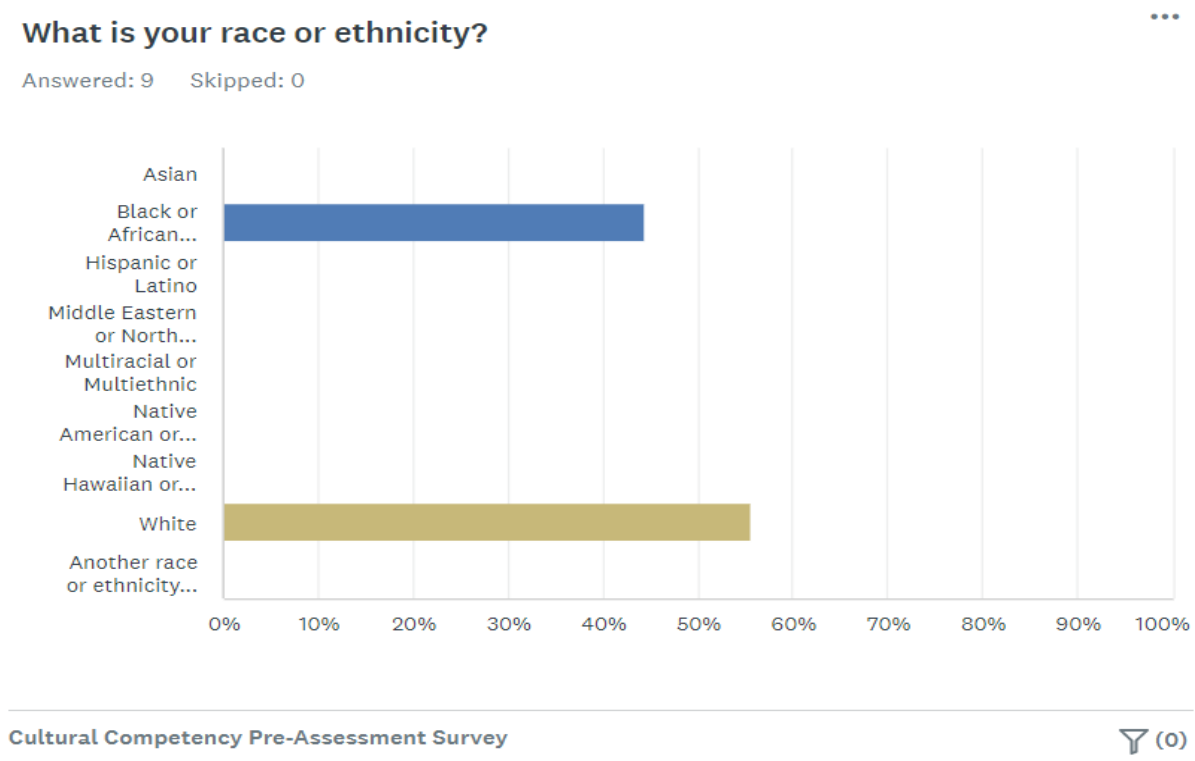
Nurse-Participants' Gender



As shown in Figure 3, the results indicated (n = 9) that nurses who participated in the survey were white (55.56%), whereas African Americans who participated in the survey were 44.44%.

Figure 3

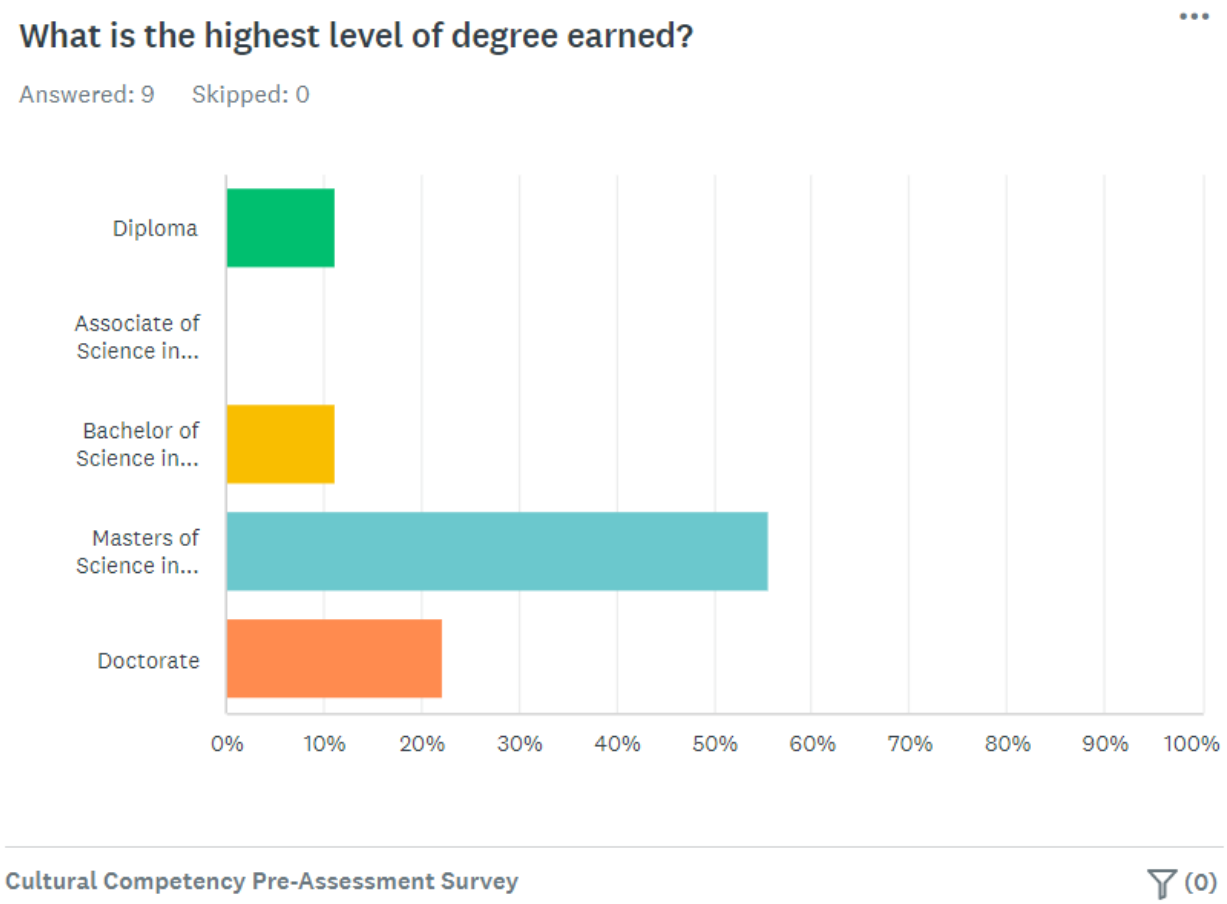
Nurses' Race



The nurses' level of education identified ranged between diploma and doctorate degrees. Figure 4 shows most of the nurses possessed a Master of Science in Nursing (MSN) degree. Of the nurse participants, most (55.56%) held an MSN, many (22.22%) held doctorates, some (11.11%) held a diploma in nursing (LPN or LVN, 11.11%), and some (11.11%) held a Bachelor of Science in Nursing (BSN).

Figure 4

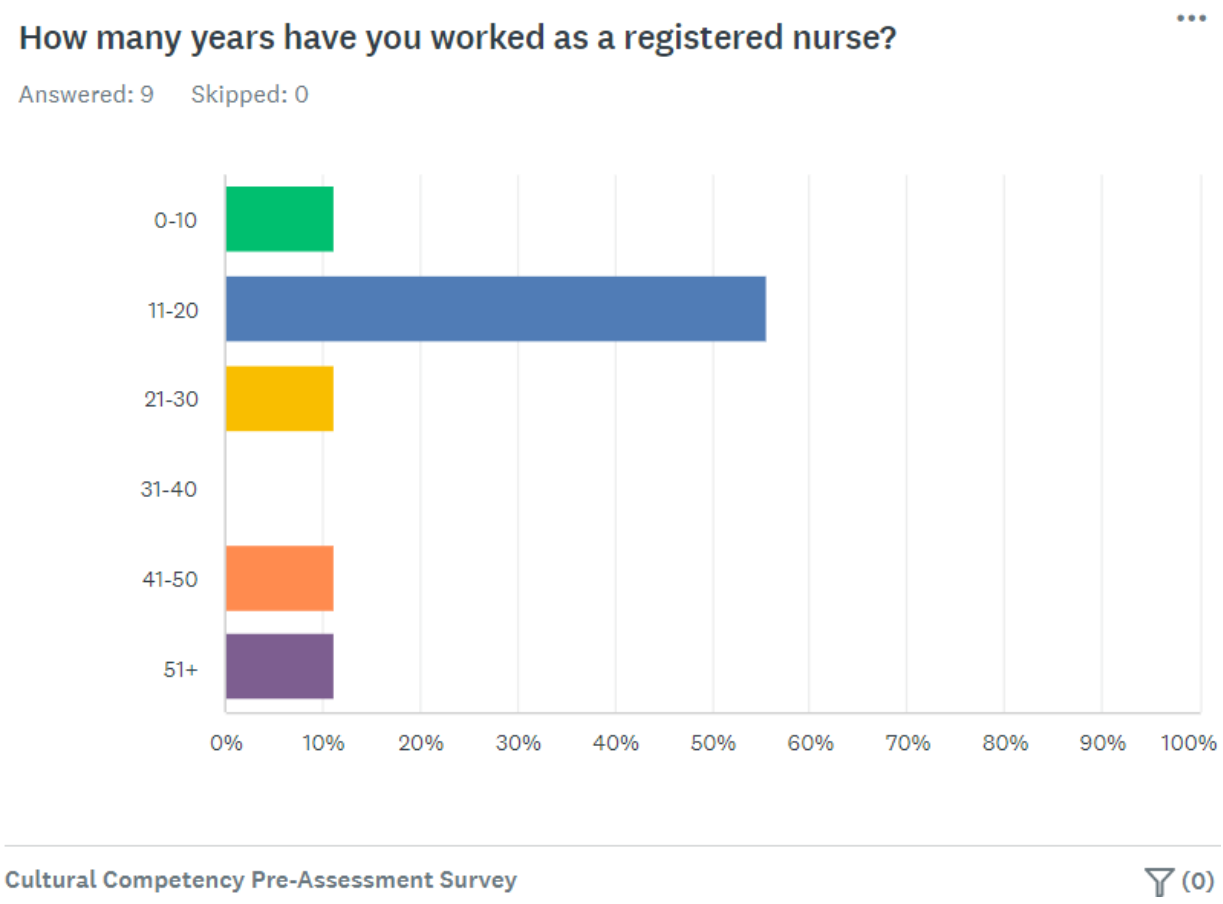
Level of Education of Nurses Who Participated in the Survey



The survey identified RNs' years of experience. The participants who completed the study (n = 9) had between 11 and 20 years of experience as RNs. Figure 5 identified novice to expert nurses who had no experience to more than 50 years of experience working as an RN.

Figure 5

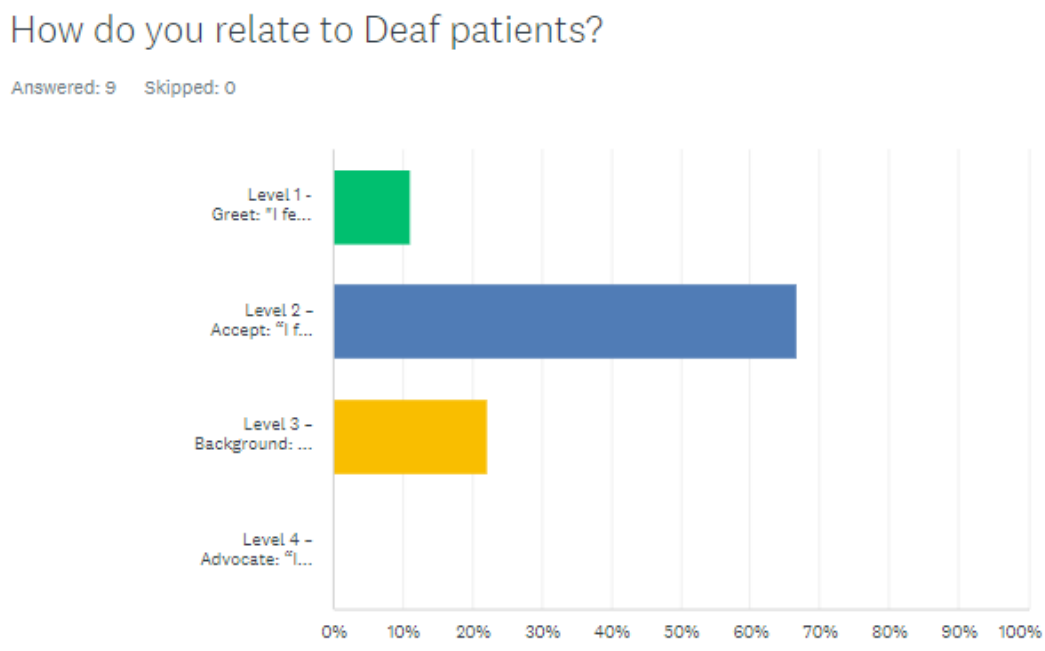
Years of Experience as a Registered Nurse



In Figure 6, nurses responded in the survey about how they would relate to Deaf patients if or when assigned to the patients, and 11.11% believed they could greet the Deaf person. Still, most nurses (66.67%) thought they could accept the person while relaxing and listening to the Deaf patient's concerns. Only 22.22% of the nurses felt they had the knowledge base or experience to help the Deaf person. Unfortunately, none of the nurses were confident enough to advocate for the Deaf person. Sirch et al. (2016) explained that nurses' lack of knowledge of Deaf culture and how to communicate threatens the quality and health outcomes of the Deaf.

Figure 6

How Nurses Relate to Deaf Patients

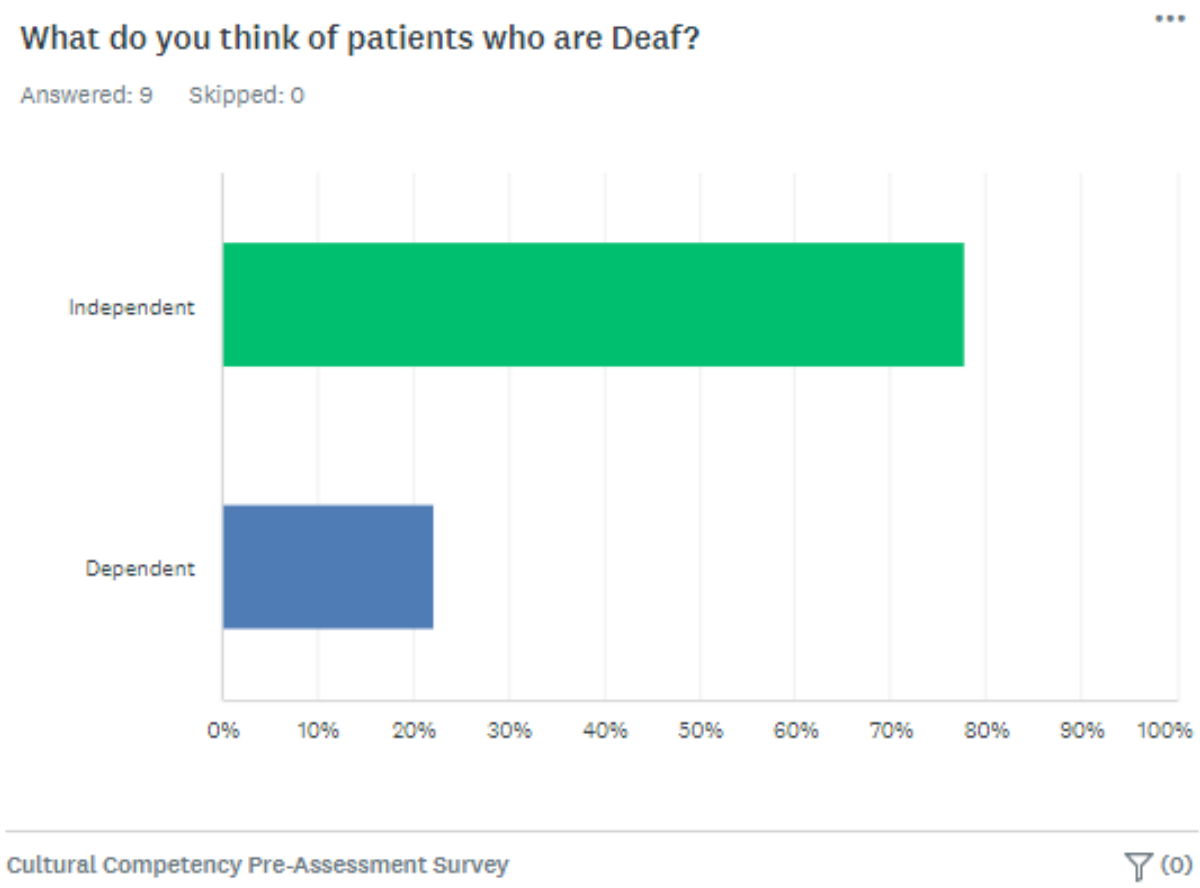


ANSWER CHOICES	RESPONSE
Level 1 - Greet: "I feel I can greet this person warmly and welcome him or her sincerely."	11.11%
Level 2 – Accept: "I feel I can honestly accept this person as he or she is and be comfortable enough to listen to his or her concerns."	66.67%
Level 3 – Background: "I feel I have the background of knowledge and/or experience to be able to help this person."	22.22%
Level 4 – Advocate: "I feel I could honestly be an advocate for this person."	0.00%

Cultural stereotypes inhibit someone's perception of others (Andrews et al., 2019). Figure 7 indicates that most nurses' perceptions of Deaf patients were positive, and 78% believed that Deaf patients are not disabled and can independently function in society. In contrast, 22% of the nurses' felt that the Deaf were dependent. However, the nurses' knowledge base improved in educational sessions.

Figure 7

Nurses' Perception of the Deaf Presurvey

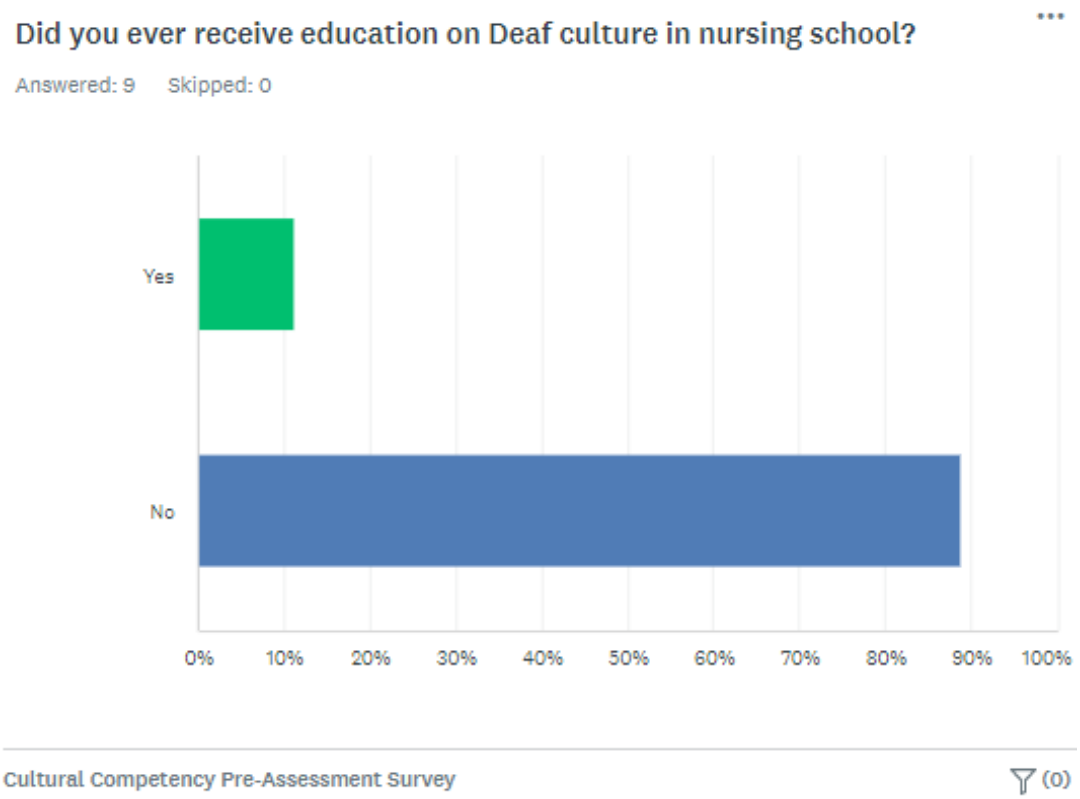


The American Nurses Association (ANA) emphasized that the nursing scope of practice is for every nurse to be an advocate, promote health and wellness, educate, and obtain an adequate health assessment of all patients, but nurses did not receive training to care for the Deaf (Lieu et al., 2007). Many nurses learn as they go when they have a Deaf patient for their patient care assignment. The reason was Deaf culture was never included in the nursing curriculum. In addition, Lieu et al. (2007) explained that ASL did not qualify as a second language in academia until the Education Reform and Funding Act was passed in 2004. Currently, the ASL is not required in any nursing program. Therefore, nursing students are graduating from nursing school and graduate school and working in the health care system but lack the ability to use ASL to

communicate with the Deaf community. Figure 8 illustrates that 89% of nurses never received education on Deaf culture as student nurses. The purpose of the DNP project was to bring awareness to the need for cultural competency in Deaf culture to be taught in nursing schools and health care organizations.

Figure 8

Nurses' Experience With Deaf Education in Nursing School

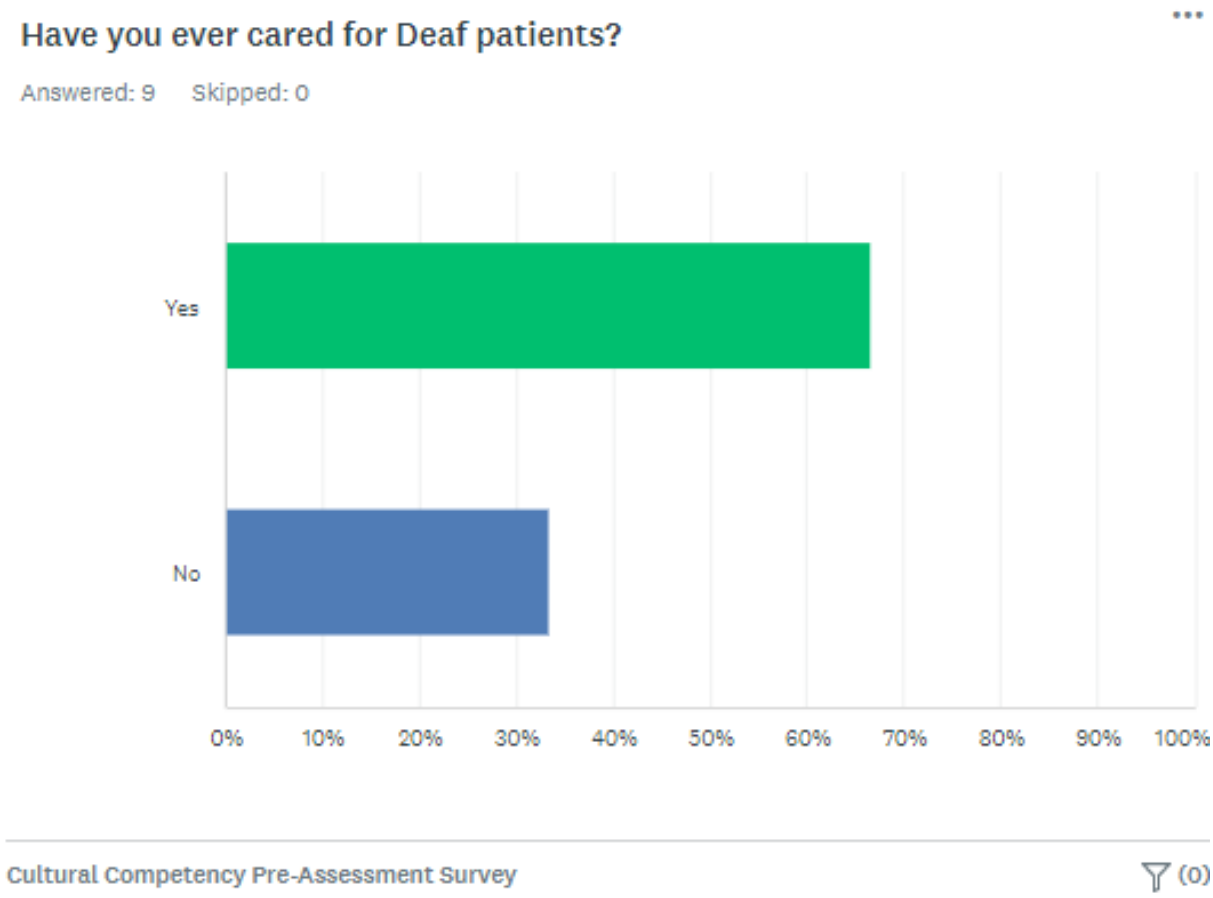


Deaf patients have more adverse health care outcomes, poorer health knowledge, and less effective communication with health care professionals than patients who can hear (Panzer et al., 2020). However, Afriyie (2020) explained that effective communication is essential for the nurse–patient relationship. Therefore, if communication can be established, trust can be built, but if nurses have ineffective communication, they cannot assist the Deaf in improving the quality of

care. As shown in Figure 9, 67% of the nurses cared for Deaf patients in the past, but as shown in Figure 7, only 11% of the nurses received education on Deaf culture.

Figure 9

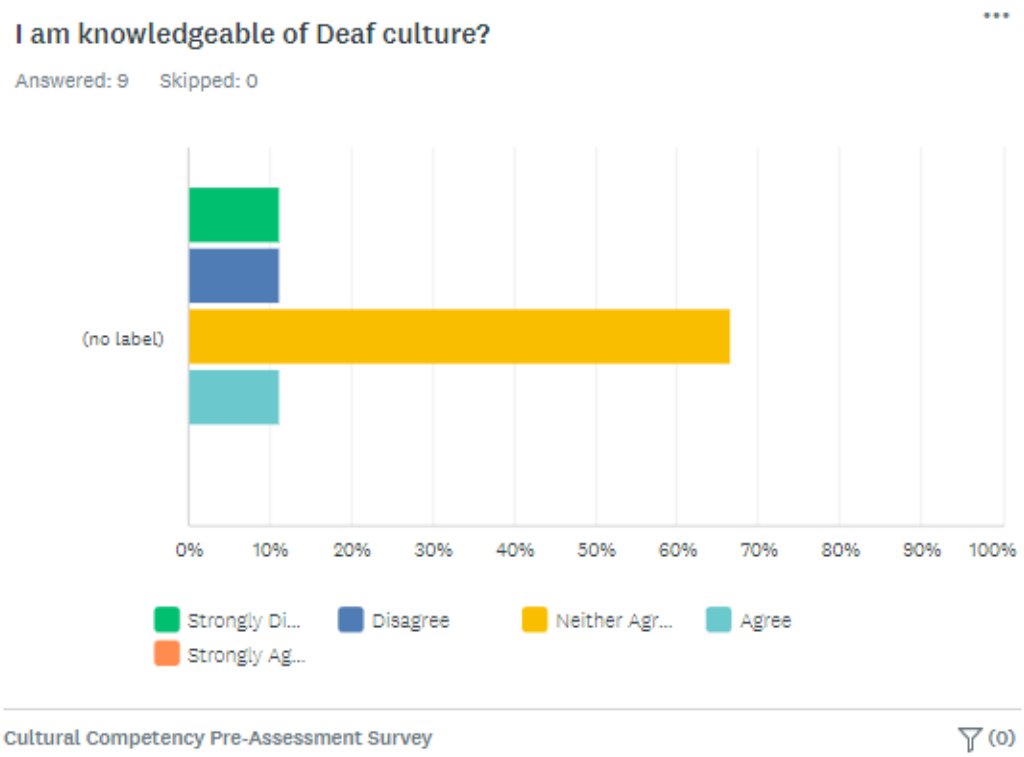
Presurvey: Nurses Who Cared for Deaf Patients



As shown in Figure 10, most nurses (67%) self-reported that they neither agreed nor disagreed if they knew the culture, 11% strongly agreed, 11% disagreed, and 11% agreed. But know of the nurses strongly agreed that they were knowledgeable of Deaf culture.

Figure 10

Presurvey: Nurses Self-Reported Knowledge of Deaf Culture



The educational tool kit offered sessions that included videos, finger spelling, and ASL practice videos. Participants had an opportunity to review and take a quiz on the ASL alphabet and medical terminology words. The participants were given the answers after the quiz. As shown in Figure 11, no participants reported that they knew ASL. However, in Figure 12, 12% of participants reported an understanding of ASL.

Figure 11

Presurvey: Nurses' Self-Reported Knowledge of ASL

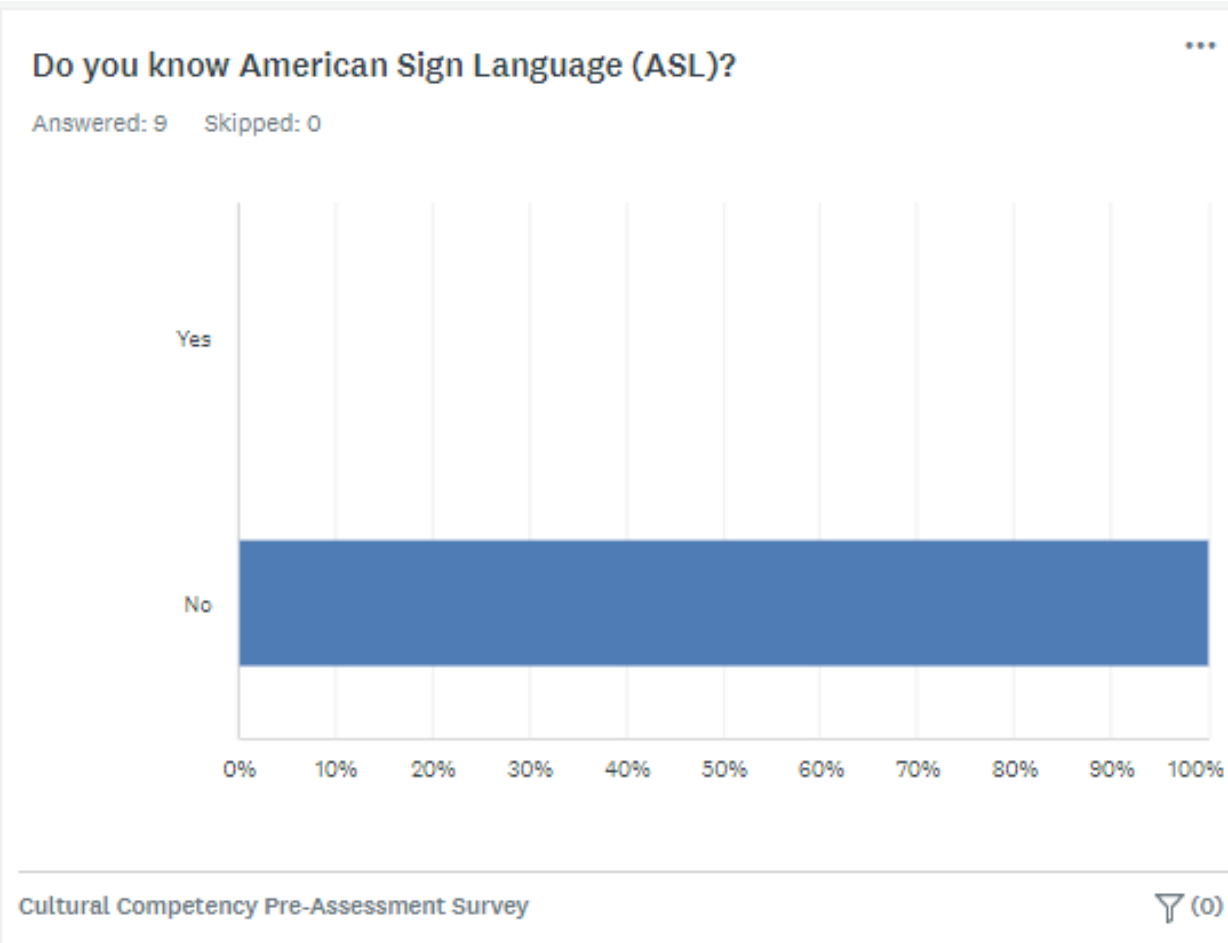
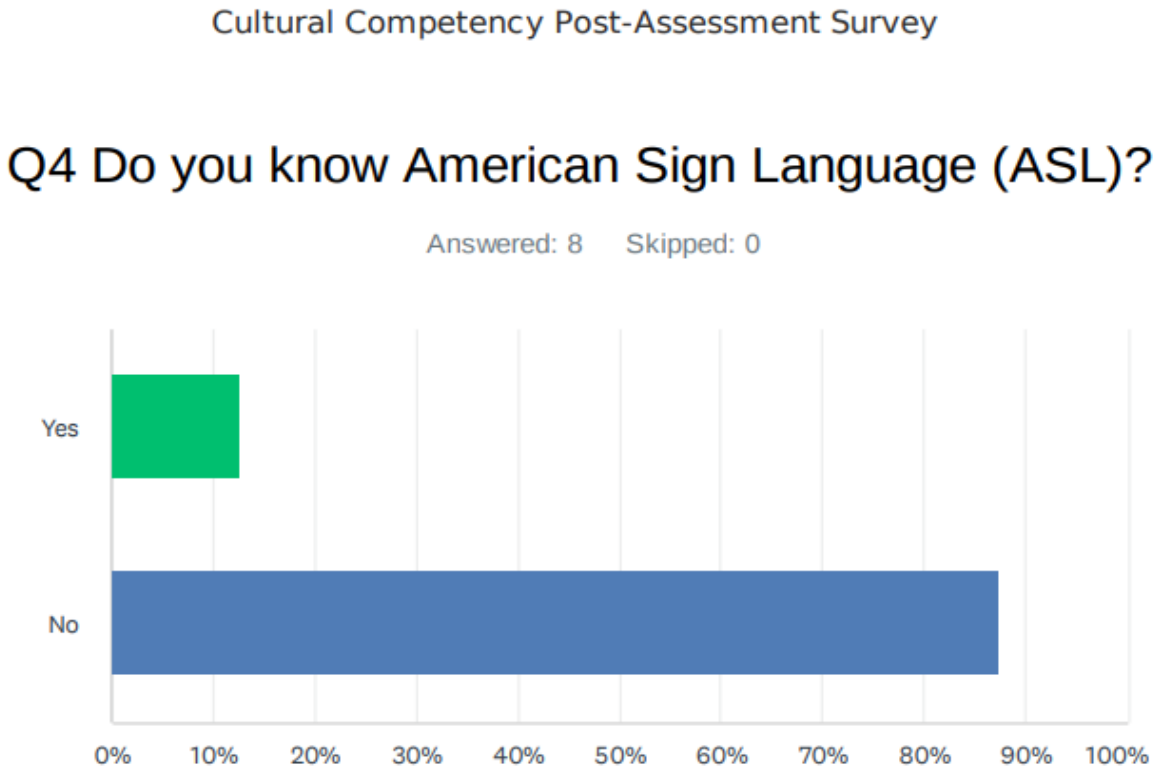


Figure 12

Postsurvey: Nurses' Self-Reported Knowledge of ASL



The DNP project was designed to bridge the culture gap and improve nurses' cultural competency by improving communication with the Deaf by using an educational tool kit to prepare them to understand how to communicate with Deaf patients. As shown in Figure 13, 78% of participants did not know how to communicate with the Deaf. However, after the educational session, in Figure 14, participants self-reported 37% indicated they did not know how to communicate with the Deaf. The results showed the education tool kit provided to the nurses gave them additional knowledge that was lacking before the educational session.

Figure 13

Presurvey: Nurses' Self-Reported Knowledge of Communicating With the Deaf

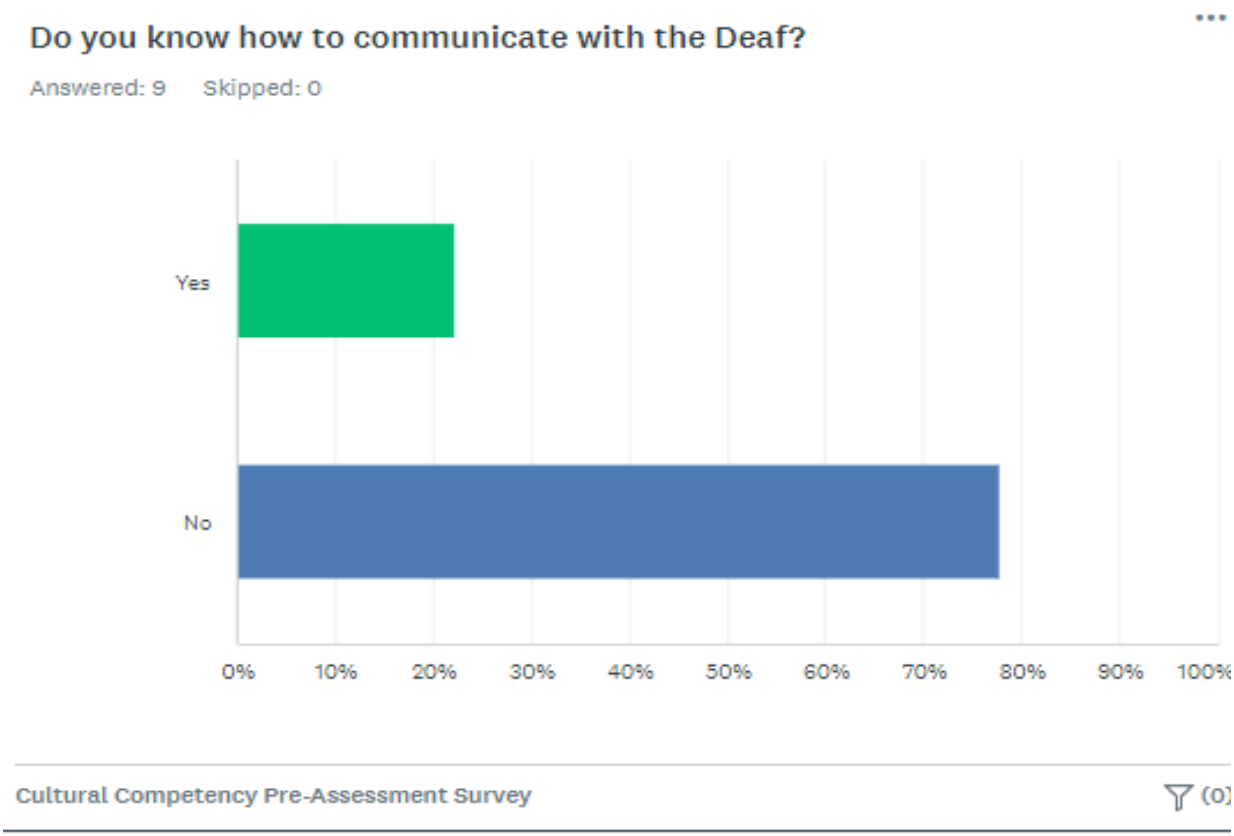
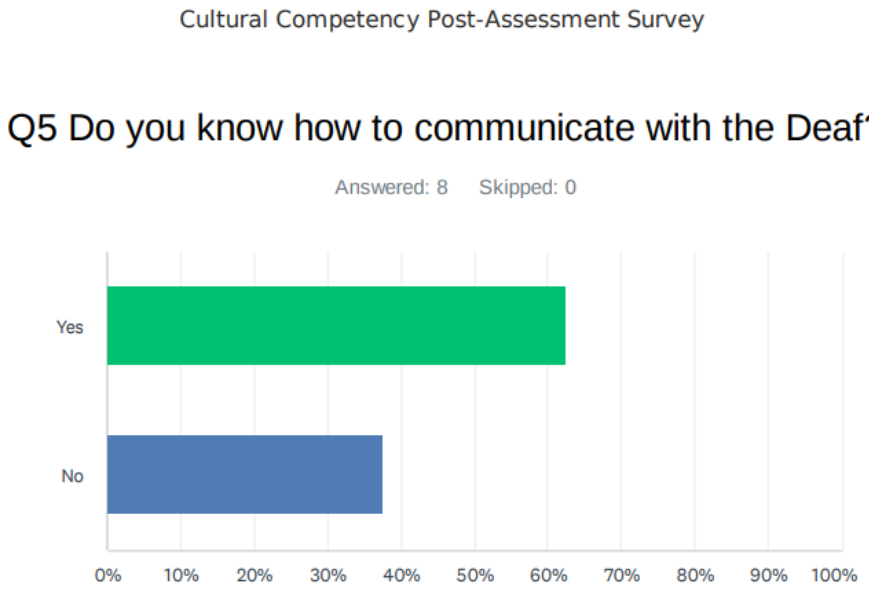


Figure 14

Postsurvey: Nurses' Self-Reported Knowledge of Communicating With the Deaf



Statistical Testing

A two-tailed paired *t* test was conducted to compare pre-/postsurvey assessment variables. The *t* tests compare the two variables' means and identify the variance between the two (Davis, 2013). As shown in Table 3, the descriptive data came from the pre-/postsurvey. The mean of how nurses related to Deaf patients before and after the survey was –.375; nurses' perception before and after was the same.

Two-Tailed Paired Samples t *Test*

A two-tailed paired-samples *t* test was conducted to examine whether the mean difference between Preknowledge of Deaf culture and Postknowledge of Deaf culture was significantly different from zero.

Assumptions

Normality. A Shapiro–Wilk test was conducted to determine whether the differences in Preknowledge of Deaf Culture and Postknowledge of Deaf culture could have been produced by a normal distribution (Razali & Wah, 2011). The results of the Shapiro–Wilk test were not significant based on an alpha value of .05, $W = 0.91$, $p = .345$. This result suggests the possibility that a normal distribution produced the differences in Preknowledge of Deaf Culture and Postknowledge of Deaf Culture cannot be ruled out, indicating the normality assumption is met.

Results

The result of the two-tailed paired samples *t* test was not significant based on an alpha value of .05, $t(7) = –1.67$, $p = .138$, indicating the null hypothesis cannot be rejected. This finding suggests the difference in the mean of Preknowledge of Deaf Culture and the mean of Postknowledge of Deaf Culture was not significantly different from zero. The results are presented in Table 1. A bar plot of the means is shown in Figure 15.

Table 1

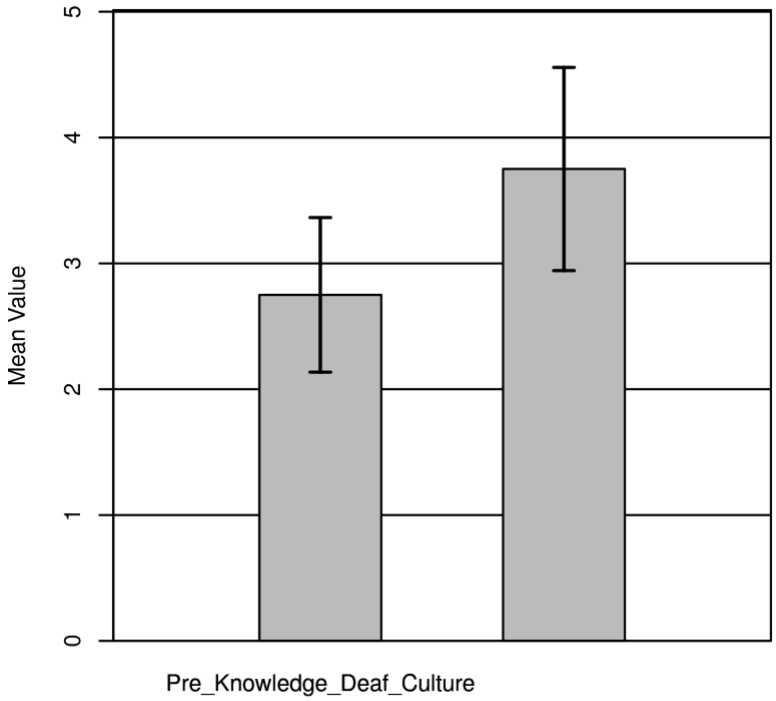
Two-Tailed Paired Samples t *Test for the Difference Between Preknowledge of Deaf Culture and Postknowledge of Deaf Culture*

Preknowledge of Deaf Culture		Postknowledge of Deaf Culture				
M	*SD*	*M*	*SD*	*t*	*p*	*d*
2.75	0.89	3.75	1.16	–1.67	.138	0.59

Note. $N = 8$. Degrees of Freedom for the *t*-statistic = 7. *D* represents Cohen's *d*.

Figure 15

Means of Preknowledge of Deaf Culture and Postknowledge of Deaf Culture With 95.00% CI Error Bars



Two-Tailed Wilcoxon Signed Rank Test

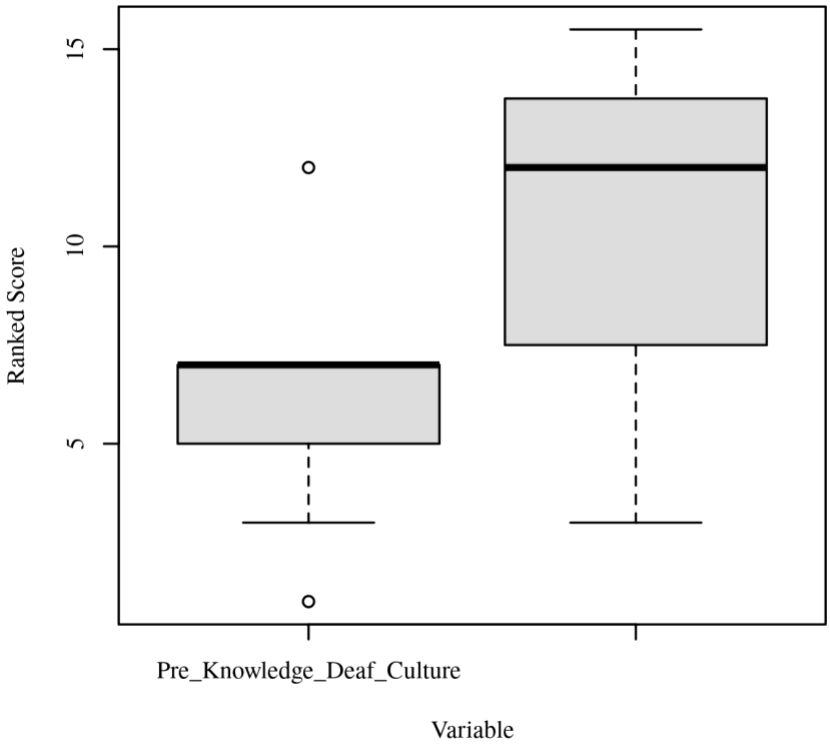
A two-tailed Wilcoxon signed rank test was conducted to examine whether there was a significant difference between Preknowledge of Deaf Culture and Postknowledge of Deaf Culture assessment. The two-tailed Wilcoxon signed rank test is a nonparametric alternative to the paired-samples *t* test and does not share its distributional assumptions (Conover & Iman, 1981).

The two-tailed Wilcoxon signed rank test results were not significant based on an alpha value of .05, $V = 5.50$, $z = -1.47$, $p = .143$. Figure 16 presents a box plot of the ranked values of Preknowledge of Deaf Culture and Postknowledge of Deaf Culture. This indicates that the

differences between Preknowledge of Deaf Culture (*Mdn* = 3.00) and Postknowledge of Deaf Culture (*Mdn* = 4.00) are explainable by random variation.

Figure 16

Ranked Values of Preknowledge of Deaf Culture and Postknowledge of Deaf Culture



Descriptive Statistics

Frequencies and percentages were calculated for pre- and postdescriptive data. The most frequently observed category on the presurvey for how nurses related to the Deaf patient (Pre_Relate_Deaf) was Level 2 (*n* = 6, 66.67%). The most frequently observed category on the postsurvey for how the nurses related to the Deaf patient (Post_Relate_Deaf) after the educational session was Level 3 (*n* = 5, 55.56%). The most frequently observed category on the presurvey for nurses' perception of the Deaf (Pre_Perception_Deaf) was Independent (*n* = 7, 77.78%). The most frequently observed category on the postsurvey for nurses' perception of

the Deaf (Post_Perception_Deaf) was Independent (*n* = 7, 77.78%). The most frequently observed category on the presurvey for nurses caring for a Deaf patient (Pre_Care_Deaf) was Yes (*n* = 6, 66.67%). The most frequently observed categories on the postsurvey for caring for the Deaf (Post_Care_Deaf) were Yes and No, each with an observed frequency of 4 (44.44%). The most frequently observed presurvey category regarding if nurses were knowledgeable of ASL (Pre_Knowledge_ASL) was No (*n* = 9, 100.00%). The most frequently observed category on the postsurvey for nurses' knowledge of ASL (Post_Knowledge_ASL) was No (*n* = 7, 77.78%) after the educational session. The most frequently observed category on the presurvey for if nurses know how to communicate with the Deaf (Pre_How_Communicate) was No (*n* = 7, 77.78%). The most frequently observed category on the postsurvey for if nurses know how to communicate with the Deaf (Post_How_Communicate) was Yes (*n* = 5, 55.56%). Frequencies and percentages are presented in Table 2.

Table 2

Frequency Table for Nominal and Ordinal Variables

Variable	*n*	*%*
Pre_Relate_Deaf		
Level 1	1	11.11
Level 2	6	66.67
Level 3	2	22.22
Missing	0	0.00
Post_Relate_Deaf		
Level 1	1	11.11
Level 2	2	22.22
Level 3	5	55.56
Missing	1	11.11
Pre_Perception_Deaf		
Independent	7	77.78
Dependent	2	22.22
Missing	0	0.00

Variable	*n*	*%*
Post_Perception_Deaf		
Independent	7	77.78
Dependent	1	11.11
Missing	1	11.11
Pre_Care_Deaf		
Yes	6	66.67
No	3	33.33
Missing	0	0.00
Post_Care_Deaf		
Yes	4	44.44
No	4	44.44
Missing	1	11.11
Pre_Knowledge_ASL		
No	9	100.00
Missing	0	0.00
Post_Knowledge_ASL		
Yes	1	11.11
No	7	77.78
Missing	1	11.11
Pre_How_Communicate		
Yes	2	22.22
No	7	77.78
Missing	0	0.00
Post_How_Communicate		
Yes	5	55.56
No	3	33.33
Missing	1	11.11

Note. Due to rounding errors, percentages may not equal 100%.

Descriptive Statistics

Summary statistics were calculated for each interval and ratio variable. Frequencies and percentages were calculated for each nominal and ordinal variable.

Frequencies and Percentages

The most frequently observed category for Preknowledge of Deaf Culture Ordinal was Neutral (*n* = 6, 66.67%). The most observed Postknowledge of Deaf Culture Ordinal category was Agree (*n* = 4, 44.44%). Frequencies and percentages are presented in Table 3.

Table 3

Frequency Table for Pre-/Postsurvey of Deaf Culture Ordinal

Pre-/postsurvey variable	*n*	*%*
Nurses' Knowledge of Deaf Culture Ordinal		
Strongly disagree	1	11.11
Disagree	1	11.11
Neutral	6	66.67
Agree	1	11.11
Missing	0	0.00
Post–Nurses' Knowledge of Deaf Culture Ordinal		
Disagree	2	22.22
Agree	4	44.44
Strongly agree	2	22.22
Missing	1	11.11

Note. Due to rounding errors, percentages may not equal 100%.

Summary Statistics

The summary statistics can be found in Table 4. The observations for the presurvey Knowledge of Deaf Culture observations had an average of 2.78 (*SD* = 0.83, Min. = 1.00, Max. = 4.00). In comparison, after the educational sessions, nurses' postsurvey Knowledge of Deaf Culture averaged 3.75 (SD = 1.16, Min. = 2.00, Max. = 5.00), compared to 2.78 in the presurvey.

Table 4

Summary Statistics Table for Interval and Ratio Variables

Variable	*M*	*SD*	*n*	Min.	Max.
Pre_Knowledge of Deaf Culture	2.78	0.83	9	1.00	4.00
Post_Knowledge of Deaf Culture after Education	3.75	1.16	8	2.00	5.00

Note. "-" indicates the statistic is undefined due to constant data or insufficient sample size.

Limitations of Project

The small sample size ($n = 8$) was one of the limitations of this quasi-experimental study. Second, the inability of nurses to sit for an educational session created a challenge due to the lack of nurses' response to schedule a 60-minute education session to participate in the research. To accommodate the participant, the educational session dates were included every day of the week. The nurses were accommodated for their 12-hour work schedule, and was able to select times for the educational training ranging from 9:00 a.m. to 10:00 p.m. However, I proposed shortening the time slots within 24 hours and extending the survey dates because of my unavailability.

Small Sample Size

The power analysis recommended 15 participants, but only nine completed the preassessment survey after a 2-month study, and only eight nurses returned to attend the educational session. As revealed by Berthelsen and Holge-Hazelton (2015), results of a self-reported survey completed by nurses in an Austrian hospital indicated three barriers that prevent nurses from participating in clinical research could affect sample size: (a) lack of time, (b) lack of interest, and (c) limited access to information.

Lack of Time for Educational Sessions. The COVID-19 pandemic changed nurses as they battled to keep patients alive and keep families connected to their loved ones. The total time for the presurvey, educational session, and postsurvey was less than 70 minutes. However, as a

nurse and primary investigator, nurses have many challenges a nurse and understands the life of a nurse. Still, the nurses who participated in the my study had worked 8–12 hours days and sacrificed their time to participate in a 60-minutes online presentation. Furthermore, I had a limited time to collect data and would recommend 4 to 6 weeks instead of 2 months in the future.

Lack of Interest. Nurses have responsibilities at home, work, and school for individuals pursuing their education. Therefore, asking them to participate in a clinical research study that would require 60 minutes of their time could add to their existing to-do list. Berthelsen and Holge-Hazelton (2015) explained that offering a financial incentive could increase participation in the following research project. Farah et al. (2021) explained, "Most researchers (81.3%) identified lack of time and high workload as the most common personal barriers and 44.4% identified lack of funds and research incentives as the most common institutional barriers" (p. 1). Therefore, I could have offered gift cards to nurses who attended the educational sessions to encouraged them to attend. I would also include a survey that was not anonymous, so email reminders could be distributed to the participants to remind them of the education session.

Limited Access to Information. The third barrier was limited access to information. In the future, the survey could be provided to nurses outside of XXXX (pseudonym) to expand the opportunity for a larger sample size. A pilot survey would have given me data of XXXX (pseudonym) clinical research website users. XXXX (pseudonym) reconstructed their website at the beginning of the research, which delayed the availability of the survey to the participants. XXXX was accommodating and provided their social media platforms to solicit the project.

In addition, the DNP project survey was anonymous that prevented communication with the participants via email. In the future, requests for emails would be helpful to allow an

opportunity to send reminders of the educational sessions to the participants. Zhang and Tullis (2021) agreed that emails would be a memory aid for participants.

Challenges With Technology. The researceducational Zoom session was done using a computer. The activities in the educational tool kit required participants to be able to see sign gestures from the certified interpreters. In addition, they signed the alphabet, numbers, and medical terminology in ASL format. An ASL quiz was offered, but if participants were not using their computers and did not know how to navigate using their mobile devices to see the PowerPoint slides and videos, they could not participate in the quiz, leaving them unengaged in the learning activity. Burkoski et al. (2019) explained in a previous study that educational outcomes were affected if individuals had challenges with technology. In the future, specifying the platform for the educational session needs to be included in the instructions to the participants.

Summary

Finally, the data from the two-tailed paired *t* test were entered electronically using the Statistical Package for the Social Sciences (SPSS) Version 21. The data included the ID number, age, gender, scores of the pre- and postquestionnaire, years of RN experience, years of experience working with the Deaf, and years of education on Deaf culture.

The sample size of eight participants resulted in an underpowered study and a lack of conclusion as to whether the effect existed or not, so the impact on the outcome of the research study was based solely on the eight participants. The Power result was 0.36. The sample size affects the validity of the research and asserts that a researcher has more confidence when they have a larger sample size to reflect their sample average and variation of data correlates with the population average (Glazek, 2016; Jankowski et al., 2017).

One way to avoid an inadequate sample size is to use a power analysis to project sample size. A power analysis can help determine the smallest sample size suitable and detect the effect of a given test at the desired level of significance (Murayama et al., 2022). Secondly, one can use power analysis statistics to predict an adequate sample size. The challenge of not using a power analysis "can lead to substantial distortion and errors such as reporting no statistically significant differences between the groups or no significant correlations between given variables while such meaningful differences or correlations exist in the population" (Tomczak et al., 2014, p. 196). For example, if the sample size is small, the study results could give a false positive. However, the challenge in obtaining a large sample size in this study included a lack of participants due to the demands of the COVID-19 pandemic preventing nurses from having time to attend a 60-minute live educational session.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of the DNP project was to establish a baseline of the nurses' knowledge of Deaf culture and enhance nurses' awareness of Deaf culture by providing an educational tool kit as a resource to communicate with patients and their families. In addition, through the DNP project, the DNP project aimed to evaluate the RNs' knowledge of Deaf culture and how they communicated with the Deaf. The intervention included an educational resource tool kit for RNs on how to communicate with Deaf patients. A quasi-experimental design utilized a two-tailed paired *t* test. The two-tailed paired *t* test found the mean difference (see Table 1). In addition, the purpose of a quasi-experimental design is to use nonrandomized participants (H. White & Sabarwal, 2014). This design was chosen because all participants' feedback was important. The hypothesis was tested on nurses who received basic education on communicating with the Deaf community to improve their cultural competence and self-efficacy. In addition, quasi-experimental designs are recommended to assess preintervention baseline data (i.e., preintervention survey) and determine if the intervention—in this case, education on communicating with the Deaf community—affects cultural competency and determines the effectiveness of the intervention (Bloomfield & Fisher, 2019). In this study, a two-tailed paired *t* test was used to assess the significance of the educational sessions.

Discussion of Findings

XYZ RNs self-reported their efficacy before and after the educational resources tool kit and identified an increased awareness of Deaf culture. Based on the minimum priori sample size of 15 participants, the desirable statistical power level was intended to be 0.8 with a probability level of .05 (Kreidler et al., 2013). However, the sample size was eight participants, resulting in a Power (1 – ß err. prob.) of 0.35.

The goal of the DNP project was to improve nurses' cultural competency to reduce health care disparities within the Deaf community. In addition, the DNP project was to raise awareness in academia and health care organizations of the lack of cultural competency education for nurses regarding Deaf culture. The ADA mandates health care professionals provide Deaf patients with effective communication (Panzer et al., 2020). In addition, the NAD (2021) blamed the academic institutions for the nurses' lack of preparedness to communicate with the Deaf clinically. Consequently, nurses' lack of efficacy in communicating with the Deaf increases health disparities. Yet, there is limited research on nurse initiatives in bridging the communication gap with Deaf patients, the main reason for the DNP project research title.

Additionally, the intervention included education sessions related to improving cultural competency with the Deaf community. The educational tool kit included a 60-minute Zoom presentation to assist the nurse in understanding how to communicate with the Deaf. Before the educational session, 78% of the RNs did not communicate with the Deaf. XYZ RNs self-reported their efficacy in Deaf culture and communication before and after the educational resources tool kit.

In the DNP project, the aim was to evaluate the RNs' knowledge of Deaf culture and access how they communicated with the Deaf. The Deaf community expects nurses and health care professionals to communicate using visual language and technology (Chovaz et al., 2022). The nurses who participated in SurveyMonkey preassessment survey received a live 60-minute educational session on Zoom videoconferencing. The objective of the educational session was to increase the nurses' knowledge of how to communicate with the Deaf. The SurveyMonkey postassessment survey results indicated that the nurses gained knowledge of communication with the Deaf after attending the virtual educational session. The nurses also commented that they

increased their knowledge after participating in the live Zoom educational session. The implications of the project outcomes because of the DNP Essentials are discussed in this chapter.

Evidence-Based Practice Findings and Relationship to DNP Essentials

The DNP project outcomes were based on the eight DNP Essentials curricular concepts and competencies. The first DNP Essential was the beginning of the my experience in recognizing that the Deaf community is a minority population experiencing health disparities (Gerchow et al., 2021).

DNP Essential I: Scientific Underpinnings for Practice

The AACN (2022) explained that DNP Essential I is the foundation of nursing. Nursing leaders learn how to influence individuals and organizations to bring change. The utilization of Leininger's culture care diversity and universality theory and Andrew and Boyle's TIP model validated the purpose of implementing an intervention that will increase nurses' knowledge of Deaf culture. The second DNP Essential is necessary to find support from external and internal resources in the organizations to improve the communication gap between nurses and Deaf patients.

DNP Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking

I recognized that system change must be a team effort. DNP Essential II emphasizes that organization and system leadership is expected from a DNP graduate (AACN, 2022). The project outcome included that RNs will self-report how they increased awareness of communication strategies for the Deaf culture because of the educational training. The postsurvey indicated that 75% of participants acknowledged an increase in knowledge of Deaf culture.

DNP Essential III: Clinical Scholarship and Analytical Methods for Evidence-Based Practice

The essential correlation between the DNP project and DNP Essential III is the discovery of knowledge collected through extensive literature review across disciplines. Minimum research was available on nurses' intervention in bridging the communication gap between the Deaf client and the nurse. However, the discovery of improving communication with the Deaf was evident in other disciplines outside of nursing, such as speech pathologists, physical therapists, pharmacists, doctors, and respiratory therapists. DNP Essential III was demonstrated in the DNP project through a scholarly approach through data collection, new analytic data knowledge, and application scholarship to implement evidence-based practice. For example, SurveyMonkey was the tool used to collect the data, power analysis was used to identify the appropriate sample size, and SPSS software was used to determine the demographics and assess the knowledge base of RNs caring for the Deaf community. Zaccagnini et al. (2020) stated, "Research regarding professionals who adopt a scholarly approach to practice has shown benefits for the individual clinician (e.g., validates the provider's work and their profession)" (p. 38) and supports the concept of a scholarly clinician and the use of analytical methods used in the DNP project.

DNP Essential IV: Informational Systems, Technology, and Patient Care Technology

DNP Essential IV promotes the improvement and transformation of health care using technology. Technology plays an integral role in communication with the Deaf using the VRI for videoconferencing. The DNP project emphasizes the nurse's need to understand how to use VRI before engaging in inpatient care with a Deaf person. Does the question remain about when nurses get educational training for the VRI? The XYZ Office of Deaf Services recommends a test call be performed before using the technology. If the health care professional uses the VRI for telehealth, the nurse must prepare 15 minutes before the patient's appointment to anticipate

and resolve any technical problems. In addition, telehealth is used as a platform with VRI to allow the Deaf to access health care despite the COVID-19 pandemic (J. White et al., 2022). The DNP project reinforced the importance of nurses knowing the basic ASL alphabet if the technology is not readily available to provide patient care.

DNP Essential V: Health Care Policy for Advocacy in Health Care

The DNP Essential V influences health care policies that will promote cultural sensitivity, quality of care, access to care, financial equity, social justice, health equity, and reduction of health disparities. For this DNP project, the focus was on improving communication between the nurse and the Deaf patient. I recognized the need for the Deaf community to have the same access to health information as the hearing community; likewise, the invention of the DNP project was to educate nurses on how to communicate with the Deaf. Abou-Abdallah and Lamyman (2022) stated, “Clear communication and patient engagement with health is key to better outcomes, which poses a challenge for the clinician unprepared to accommodate a patient’s hearing needs” (p. 380). Considering nurses’ challenges, the DNP project developed an intervention to bridge the communication gap between the nurses and the Deaf. As an advocate for the Deaf, the recommendation to improve the communication included nurses taking educational courses at their institutions, professional organizations, and state nursing boards. In addition, the results of the DNP project indicated Deaf culture should be added to the curriculum in nursing programs for nursing students to build on their cultural competency. An advocate is expected to be an influencer and activist in professor organizations to implement change in health care policies (Abou-Abdallah & Lamyman, 2022). For this reason, I currently an active member of the XXXX (pseudonym) organization.

DNP Essential VI: Interprofessional Collaboration

The literature review indicated that various disciplines such as pharmacists, physicians, nurses, and speech therapists need to collaborate to reduce the health disparities in the Deaf community. The purpose of the DNP Essential V was to provide interprofessional collaboration to improve patient and population health outcomes. However, Abou-Abdallah and Lamyman (2022) found clinician bias toward the Deaf interfered with their desire to learn how to communicate with the Deaf and found physicians experienced poor communication with their Deaf patients, which led to physician–patient mistrust and medical errors. The results of the DNP project suggested that health care professionals examine their bias before caring for the Deaf. The DNP project educational presentation educated nurses; however, the education session could benefit any discipline to improve communication between health care professionals and the Deaf. Nurse leaders must organize a collaboration among disciplines to enhance the communication in the Deaf community.

DNP Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health

The DNP Essential VII recognizes the importance of population health to improve global health through clinical prevention. The DNP project participants were from XYZ, but the need to educate nurses and health care providers is a worldwide issue (Abou-Abdallah & Lamyman, 2021). In addition, Schwartz (2019) explained in Northern Ireland, health care providers lack cultural awareness of the Deaf community. The Deaf community is an aggregate that requires quality health services that include effective communication (Schwartz, 2019). Equally important is teaching nurses about Deaf culture, and the DNP project results indicated there were positive outcomes after the education session.

DNP Essential VIII: Advanced Practice Nursing

Lastly, DNP Essential VIII emphasizes nurses demonstrating competencies as the foundation of nursing practice. Nurses must communicate with the Deaf and understand Deaf culture as competency in nursing. The DNP project provided the nurses with education on how to communicate, Deaf culture, and a cultural assessment. The literature gap indicated additional research studies to examine nursing leadership in improving nursing practices related to the Deaf community. Abou-Abdallah and Lamyman (2021) agree that basic ASL training will increase health care professionals' confidence in caring for the Deaf community.

Recommendations to Improve Cultural Competency

- Health care organizations provide training for staff on Deaf culture.
- Nursing schools offer Deaf culture as part of their curriculum.
- Recommend ASL in nursing school curricula.
- Provide annual training in Deaf culture in hospitals, clinics, and academic settings
- Invite a Deaf person to the class with an interpreter.
- Extend the research study to all nurses outside of the state.
- Recommend reproducibility of a research project.
- Request the XYZ State Board of Nursing explore the idea of requiring nurses to have at least 2 hours of Deaf culture training before nurses can renew their licenses.

Recommendations for Future Research and Clinical Practice

The aim of the DNP project was to change health care professional practices in communication between the nurse and the Deaf patient. Health care organizations use the Quadruple Aim (QA) framework to maximize health care system performances and productivity

(Arnetz et al., 2020). For example, the QA focuses on reducing health care costs, reducing health care disparities, and improving patient experiences.

In the DNP project, nurses were deliberately educated on Deaf culture to enhance the Deaf's health care experiences. After the educational session, the nurses indicated that 75% agreed or strongly agreed that their knowledge increased after learning about Deaf culture on the video platform. As a result of the research study, the presurvey indicated that only 11% were knowledgeable about Deaf culture. In contrast, the postsurvey stated that 75% of nurses increased their knowledge of Deaf culture.

Arnetz et al. (2020) explained that evidence-based research must benefit the patient and health care providers for change to happen in clinical practice. However, nurses have daily demands but are willing to implement change if the intervention will simplify health care practices. For example, limited evidence-based research on nurses' health care practices related to the Deaf. Veyvoda et al. (2019) completed a phenomenological method of inquiry using speech and language clinicians as participants, and the researchers discovered that through inquiry there were strategies to improve cultural competency and health care practices for the Deaf. The results indicated health care providers needed to seek professional development opportunities, such as (a) continuing education courses, (b) ASL classes, (c) collaboration with others who have the same skill set, and (d) a support system to assist health care providers (Veyvoda et al., 2019). Therefore, the same recommendations from their research can be used by any health care provider.

In addition, improving cultural competency for the nurses caring for the Deaf will enhance patient care outcomes and reduce costs and return visits to the health care facilities.

Andrews et al. (2019) explained the guidelines for health care organizations and nurses practicing culturally competent care to include the following:

1. Nurses will be knowledgeable of various cultures, including the values, practices, and traditions of the Deaf culture.
2. The education and training of nurses before they graduate from nursing school will prepare new nurses to develop the knowledge, skills, and attitudes necessary for safe and effective nursing care for the Deaf community.
3. Nurses will use critical reflection to assess their own biases toward the Deaf community to improve the delivery of nursing care.
4. Nurses will communicate culturally competent care verbally and nonverbally, including learning ASL alphabets and medical terminology when a live or virtual interpreter is pending.
5. Nurses will deliver cross-cultural practice through cross-cultural knowledge and skills, including Deaf culture training, before renewing professional licenses.
6. Health care organizations and nurses are expected to provide a platform and financial resources for nurses to assess and evaluate the cultural needs of patient-care practices.
7. Nurses will continue to be patient care advocates and remain active in professional nursing organizations that will challenge the health care system to improve policies and laws that affect the Deaf community.
8. Nurses will demonstrate cross-cultural leadership that will ignite change in the health care profession, community, and health care systems (profit and nonprofit) to reduce the health disparities in the Deaf community.

9. Nurses will engage in a diverse workforce that will recruit other nurses and health care professionals to join ranks to recruit and retain multicultural staff that will assist in communicating with the Deaf in clinics, hospitals, and academic settings.
10. Nurses will continue to incorporate evidence-based research to improve health care for the Deaf. Nurse leaders will assess the need to implement projects and research that will enhance the lives of the Deaf.

The future of health care is dependent on nurses who are transformational leaders that will engage in system thinking to change health care practices (Jeffs, 2018). The goal was to reach at least one of the quadruple aims to improve the care experiences for the Deaf. For example, Provident and Lape (2020) explained the purpose of the Quadruple Aim is to enhance "health care for consumers and clinicians in the US and around the world" (p. 1). Nurses who participated in the study admitted that the educational session improved their knowledge of Deaf culture and their understanding of how to communicate with the Deaf. In addition, the state board of nursing from each state could require nurses to have so many hours of continuing education units before renewing their license every 2 years. I want to improve the paucity of research related to the Deaf community.

Summary

Consequently, the DNP project illustrated the necessity for nurses to demonstrate cultural competency in the Deaf community. The educational tool kit successfully increased the nurses' knowledge of communicating with the Deaf community. However, the sample size was too small and did not represent the XYZ nursing population. The COVID-19 pandemic prevented the participants from meeting in person. Educational sessions were presented at XXXX conferences

in the past, where the sample size could have been more significant for the educational intervention.

Furthermore, nursing leaders should examine why nurses are reluctant to participate in clinical research. Future studies will identify strategies that will change clinical practices for the Deaf community. A resolution from XXXX (pseudonym) stated that the XYZ (pseudonym) State Nurses Association “will challenge nurses across the state to attend continuing education regarding communicating with the Deaf.” The DNP project indicated that nurses are leading in changing the lives of Deaf communities. The DNP Essentials is the foundation to continue with evidence-based clinical interventions to improve health disparities in the Deaf community.

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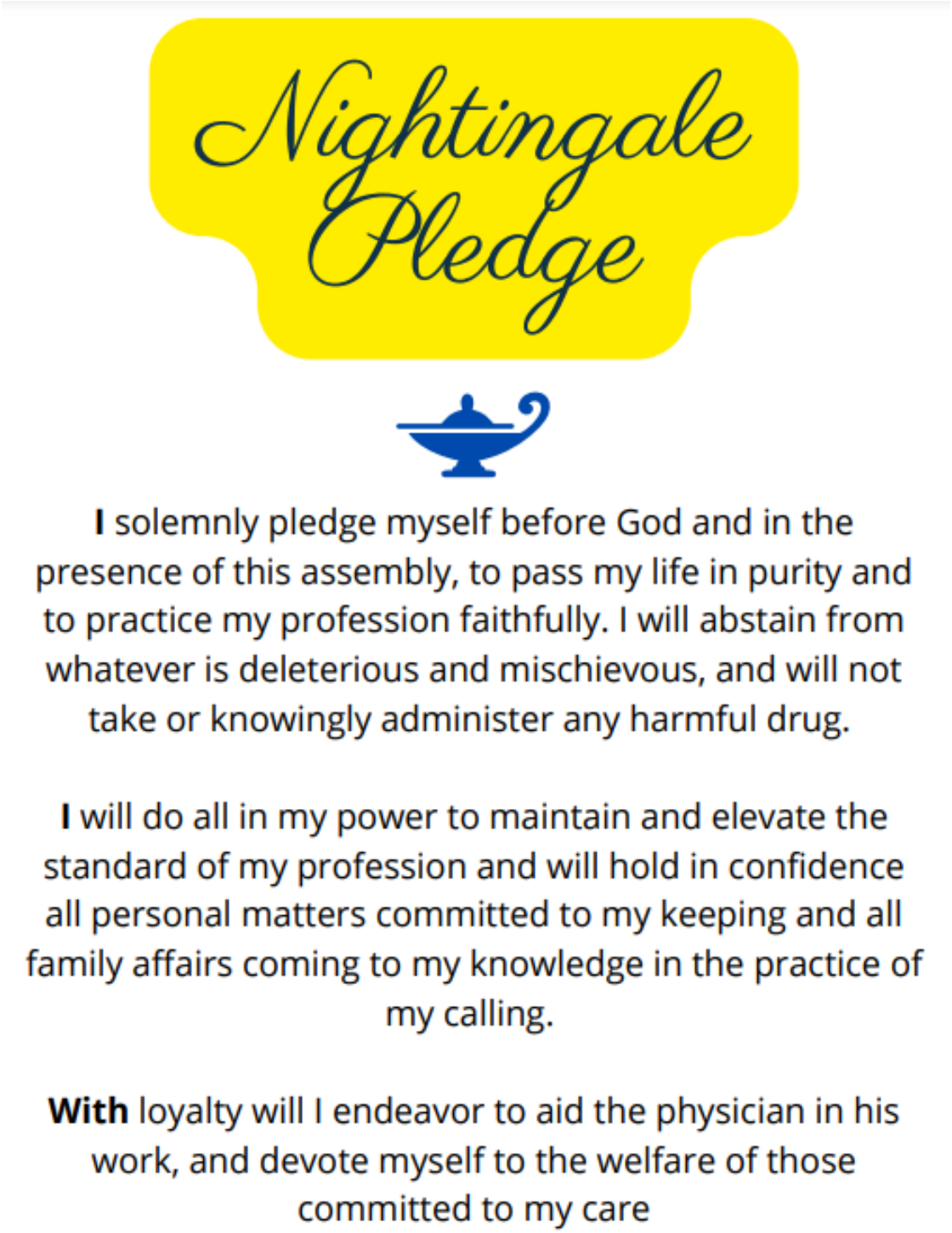
Appendix A: Nightingale Pledge 1893



The Truth About Nursing (2020).

Appendix B: Pre-/Postassessment Survey

Cultural Competency Pre-Assessment Survey

Nurses Leading in Bridging the Culture Gap: The Dos and Don'ts of Communication with the Deaf Client

The research aims to raise awareness in academia and healthcare organizations of the lack of cultural competency education for nurses regarding Deaf culture. The goal is to increase nurses' cultural competency to reduce healthcare disparities within the Deaf community.

Eligibility Requirements:

- Participants must be at least 18-years old.

- Participants must be a registered nurse in the State of Alabama.

Time Required:

- 2-minute Pre-Assessment Survey

- Schedule for one 60-minute Educational Zoom Session: Participant's anonymity maintained (no camera, no names, and no recordings).

- 1-minute Post-Survey at the end of the Zoom Session

* 1. What is your gender?

- ○ Female
- ○ Male
- ○ Non-Binary
- ○ Other (please specify)

* 2. What is the highest level of degree earned?

- ○ Diploma
- ○ Associate of Science in Nursing
- ○ Bachelor of Science in Nursing
- ○ Masters of Science in Nursing
- ○ Doctorate

* 3. What is your age?

- 18 to 24
- 25 to 34
- 35 to 44
- 45 to 54
- 55 to 64
- 65 to 74
- 75 or older

* 4. How many years have you worked as a registered nurse?

- 0-10
- 11-20
- 21-30
- 31-40
- 41-50
- 51+

* 5. What is your race or ethnicity?

- Asian
- Black or African American
- Hispanic or Latino
- Middle Eastern or North African
- Multiracial or Multiethnic
- Native American or Alaska Native
- Native Hawaiian or other Pacific Islander
- White
- Another race or ethnicity, please describe below

Self-describe below:

* 6. How do you relate to Deaf patients?

- Level 1 - Greet: "I feel I can greet this person warmly and welcome him or her sincerely."
- Level 2 – Accept: "I feel I can honestly accept this person as he or she is and be comfortable enough to listen to his or her concerns."
- Level 3 – Background: "I feel I have the background of knowledge and/or experience to be able to help this person."
- Level 4 – Advocate: "I feel I could honestly be an advocate for this person."

* 7. What do you think of patients who are Deaf?

- Independent
- Dependent

* 8. Did you ever receive education on Deaf culture in nursing school?

- Yes
- No

* 9. Have you ever cared for Deaf patients?

- Yes
- No

* 10. Do you know American Sign Language (ASL)?

- Yes
- No

* 11. Do you know how to communicate with the Deaf?

- Yes
- No

* 12. I am knowledgeable of Deaf culture?

Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree

* 13. Please indicate your availability for the 60-minute ZOOM educational session. Choose one day from the list below for which you will be available:

Join Zoom Meeting
https://us02web.zoom.us/j/84478026544?pwd=OVRsNDBXZzJCSmRBbzR0RFlRMmFXUT09

Meeting ID: 844 7802 6544
Passcode: 569378
One tap mobile
+16468769923,,84478026544#,,,,*569378# US (New York)

Meeting ID: 844 7802 6544
Passcode: 569378

- [ ] Sunday, February 20, 2022, at 11:00 am (Please Copy ZOOM Meeting Information and SAVE-THE-DATE)
- [ ] Sunday, February 20, 2022, at 1:00 pm (Please Copy ZOOM Meeting Information and SAVE-THE-DATE)
- [ ] Sunday, February 20, 2022, at 3:00 pm (Please Copy ZOOM Meeting Information and SAVE-THE-DATE)
- [ ] Sunday, February 20, 2022, at 5:00 pm (Please Copy ZOOM Meeting Information and SAVE-THE-DATE)
- [ ] Sunday, February 20, 2022, at 6:30 pm (Please Copy ZOOM Meeting Information and SAVE-THE-DATE)

Cultural Competency Post-Assessment Survey

Nurses Leading in Bridging the Culture Gap: The Dos and Don'ts of Communication with the Deaf Client

The research aims to raise awareness in academia and healthcare organizations of the lack of cultural competency education for nurses regarding Deaf culture. Increase nurses' cultural competency to reduce healthcare disparities within the Deaf community.

Eligibility Requirements:

- **Participants must be at least 18-years old or older.**
- **Participants must be a registered nurse in the State of Alabama.**
- **Completed the Pre-Assessment Survey and 60-min Zoom Educational Session**

Time Required:

- **1-min. Post-Assessment Survey**

* 1. How do you relate to Deaf patients?

- ◯ Level 1 - Greet: "I feel I can greet this person warmly and welcome him or her sincerely."
- ◯ Level 2 – Accept: "I feel I can honestly accept this person as he or she is and be comfortable enough to listen to his or her concerns."
- ◯ Level 3 – Background: "I feel I have the background of knowledge and/or experience to be able to help this person."
- ◯ Level 4 – Advocate: "I feel I could honestly be an advocate for this person."

* 2. What do you think of patients who are Deaf?

- ◯ Independent
- ◯ Dependent

* 3. Have you ever cared for Deaf patients?

- ◯ Yes
- ◯ No

* 4. Do you know American Sign Language (ASL)?

- ◯ Yes
- ◯ No

* 5. Do you know how to communicate with the Deaf?

- ◯ Yes
- ◯ No

* 6. I am knowledgeable of Deaf culture?

1

Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
◯	◯	◯	◯	◯

Appendix C: Dr. Andrew's Permission for Questionnaire

Re: Andrew and Boyle Transcultural Interprofessional Practice Model Instrutment External

Margaret Andrews [redacted] Thu, Aug 5, 2021, 9:47 AM

to me

I sent the book via Priority Mail. You should receive it in about 2-3 days. All the best. I hope you find the TIP Model and assessment guides helpful. Feel free to adapt/modify whatever you need to customize anything from the book to your deaf/hearing impaired patient population.

All the best!

Marge Andrews

Appendix D: Timeline

Month/Year	DNP Project Tasks
January 2017	Enrolled in ACU
March 2017	PICOT Question Developed/Literature Review
March 2018	Interruption in Education Due to Finances
April 2021	Readmitted to ACU DNP Program/Nursing Leadership
April 2021	Data Input to Typhon
May 2021	Consultation With Chair
	Mini Proposal
June 2021	Revisions Accepted Chapters 1–3
August 2021	Zoom Meeting With Dr. Gibson, Director of DNP
	Program/Associate Professor
October 2021	Consultation With Chair
October 2021	Proposal Defense Completed
November 2021	Consultation With Chair
December 2021	Request IRB Approval
January 2022	IRB Approval
January 2022	Solicitation Flyer posted on XYZ State Nurses Association
	(XXXX) Website
February 2022	Zoom Educational Sessions Ended
February 2022	Data Collection Inactivation Email Received by IRB
February 2022	Consultation With Chair
March 2022	Meeting With My DNP Chair

March 2022	Analyzed Compiled Data
March 2022	Accepted into NU 754
March 2022	Consultation with Chair
March 2022	Submitted Chapters 1–5 for Review to Chair
March 2022	Chapters 1–5 for Review to NURS 754 Professor
March 2022	Scheduled Final Defense on April 8, 2022
March 2022	Contacted Editor to Review Paper / Jeff Thomas
March 2022	Data Input to Typhon
April 2022	Researched Journals of Interest for Article
April 2022	Consultation With Chair
April 2022	Changed the DNP Title to “Nurses Leading the Culture Gap: Communicating with the Deaf Community”
April 2022	Consultation With Statistician
April 2022	Completed Final Defense With No Revisions
April 2022	Consultation With Chair
May 2022	Consultation With Dr. Gibson
May 2022	Obtained Signature Page From Committee Members, Chair, and Dean
May 2022	Prepare Cover Letter for Journal Article

Appendix E: IRB Approval Letter

[redacted]

Educating Students for Christian Service and Leadership Throughout the World

[redacted]

January 4, 2022

[redacted]

Dear [redacted]

On behalf of the Institutional Review Board, I am pleased to inform you that your project titled "Nurses Leading in Bridging the Culture Gap: The Dos and Don'ts of Communication with the Deaf Community",

[redacted])is exempt from review under Federal Policy for the Protection of Human Subjects.

If at any time the details of this project change, please resubmit to the IRB so the committee can determine whether or not the exempt status is still applicable.

I wish you well with your work.

Sincerely,

[redacted]