NURSING STUDENTS' CULTURAL AWARENESS AND HIGH-FIDELITY SIMULATION SKILLS

By
SHOROK ALAHMEDI

DISSERTATION
Submitted in partial fulfillment of the requirements
for the degree of
Doctor of Philosophy at
The University of Texas at Arlington
Arlington, Texas
May 2022

Dissertation Committee:
Deborah Behan, Dissertation Chair
Patricia Allard, Committee Member
Jing Wang, Committee Member

ABSTRACT

Cultural awareness is learning to be self-aware of other cultures and even an individual's own culture. Nursing students learn about influences of values and beliefs, and the impacts of culture as they consider how to care for patients of other cultures. However, as students are learning cultural awareness for patient care they may struggle with some of their own cultural values and beliefs that may affect them in ways that they are not aware.

This descriptive correlational study involved two research questions that examined undergraduate nursing students' (n = 51) cultural awareness, and the association between undergraduate nursing students' cultural awareness and students' nursing skills in the capstone skills refresher test that include cultural aspects of care. The National League for Nursing (NLN) Jeffries Simulation Theory (2016) guided the relational proposition tested in this study. The Cultural Awareness Scale (Rew et al., 2014) was used to measure undergraduate nursing students' cultural awareness.

The Point-Biserial (r pbis) correlation revealed a non-significant correlation (r = .305, p = 0.1) between undergraduate nursing students' cultural awareness and students' nursing skills in the capstone skills refresher test. The Chi square(x^2) test indicated that students' cultural experience in the current nursing program was the only variable that was significantly associated (p = .005) with nursing students' skills. Nursing faculty must create learning environments that help nursing students to become more culturally aware of themselves and others.

ACKNOWLEDGEMENTS

First and foremost, my deepest thank and gratitude to God for providing me the perseverance, strength, patience, health, and the time to complete my PhD journey. Thank God for all these blessings.

Studying a PhD degree in a different country as an international student was the most challenging task I had. I am so thrilled that I am at this point right now. I am very fortunate and feel very lucky to be surrounded with great family, and friends.

I could not have succeeded on this PhD journey without the ever-present love, support, patience, and encouragement from my little family here in Dallas, my lovely husband (Omar Alhamdan), and my lovely daughter (Deem Alhamdan). I am thankful to start and finish this journey with you. I could not imagine better company.

I would like to express my deepest gratitude and heartfelt thank you to my mother (Noura Alahmedi), my father (Hamed Alahmedi), my sisters (Shatha, Hadeel, Rahaf), and my brothers (Mohammad, Motaz) in Saudi Arabia for their genuine love, prayers, support, and trust all these years.

A huge thank you for my wonderful friends here in Dallas for their time, motivation, and positive energy. You have cherished with me every moment and supported me whenever I needed it. I'm so happy and proud of your achievements too.

DEDICATION

First, I would like to acknowledge and thank the Ministry of Higher Education in Saudi Arabia and the Saudi Arabian Cultural Mission in the United States for providing me a scholarship and full funding to complete my doctoral education in the United States.

Studying my PhD degree in Nursing Science at the University of Texas at Arlington (UTA) has been a truly life-changing experience for me. It would not have been possible to do without the support and guidance that I received from many people. I am grateful to have met with Dr. Marco Brotto who inspired me in many ways since the first day we met in August 2017. I would like to extend my appreciation to my academic advisor Dr. Margarita Trevino for her time, effort, and productivity in the graduate nursing department. She was a truly motivational for me, even during my tough times while in the PhD program.

A heartfelt thank you to my truly remarkable dissertation Chairperson and Research advisor, Dr. Deborah Behan, who has been a tremendous mentor for me. Without her valuable guidance, constant feedback, support, encouragement, and insistence of excellence, this PhD degree would not have been achievable. Thank you for assisting me to explore my passion, helping me recognize my strengths and weaknesses, and encouraging me to grow as a nurse scientist. Many thanks to my other committee members Dr. Patricia Allard and Dr. Jing Wang for their continuous guidance, support, and encouragement in this long journey

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION……..... 1

Introduction ……... 1

Cultural-Ethnic Diversity in the United States ……. 2

Teaching Cultural Awareness in Nursing ……. 3

Theoretical Framework ……. 4

Theory Application ……... 10

Propositions ……. 11

Statement of the Purpose and Questions 12

Assumptions 12

Definitions of Terms 12

Summary 13

CHAPTER 2: CRITICAL REVIEW OF RELEVANT LITERATURE……. 14

Learning about Cultural Awareness in Nursing 14

Cultural Awareness in Nursing Practice 16

Cultural Awareness in Nursing Education 18

Learning with the Use of Simulation 21

Cultural Awareness and Simulation Learning 25

Summary 27

CHAPTER 3: METHODS AND PROCEDURES……. 28

Research Design 28

Sample..... 29

Sampling Method 29

Setting..... 30

Measurements Methods 31

Procedure..... 34

Data Collection 35

Ethical Consideration 37

Data Analysis 38

Delimitations..... 40

Summary..... 40

CHAPTER 4: FINDINGS……..... 41

Study Results..... 41

Research Question #1..... 43

Research Question #2..... 45

Summary..... 48

CHAPTER 5: DISCUSSION……... 50

Representativeness of Sample..... 50

Major Findings of Demographic Variables..... 51

Major Findings of Research Variables..... 54

Link to Theoretical Framework..... 57

Study Limitation..... 58

Clinical Nursing Implications 58

Recommendation for Future Research..... 59

Conclusion..... 59

Summary..... 60

REFERENCES……... 61

APPENDIXES……..... 68

Appendix A: Power Analysis..... 68

Appendix B: Capstone Clinical Skill Refresher..... 69

Appendix C: Cultural Awareness Scale..... 71

Appendix D: CAS Permission..... 75

Appendix E: Demographic Survey..... 76

Appendix F: Requitement Script..... 78

Appendix G: Consent Form..... 79

Appendix H: IRB Approval Letter..... 81

LIST OF TABLES

Table		Page
1	Conceptual and Operational Definitions of Study Variables……	11
2	Study Variables…….	32
3	Demographic Variables Statistics …...…….	38
4	Study Variables Statistics…….	39
5	Descriptive Statistics of Demographic Variables …….	42

LIST OF FIGURES

Figure Page

1 The NLN Jefferies Simulation Theory…… 4

2 Data Collection Flow Chart……. 36

CHAPTER 1

INTRODUCTION

Culture is described as thoughts, actions, customs, beliefs, values, and behaviors observed in individuals' social and religious practices (Leininger, 2002). According to Leininger (2002) culture also guides individuals' decisions and predicts their choices throughout life. In healthcare, culture is described as how individuals can receive healthcare information and how individuals' beliefs affect the associated treatments (OMH, 2018). For that reason, healthcare interventions must consider the cultural values and beliefs for all patients. Nurses' cultural values must also be considered when caring for these patients

Cultural awareness is defined as being aware of one's own thoughts, values, and beliefs (Long, 2012). Cultural awareness is important in providing care for diverse patient populations (Long, 2012). In healthcare, nurses are required to have cultural awareness to effectively communicate and interact with patients of a different culture (Ong-Flaherty, 2015). However, not all nurses are culturally aware enough to understand the values and beliefs of patients from another culture (Mareno & Hart, 2014). Even though nurses are taught cultural aspects related to healthcare, they may still not be culturally aware of all other cultures as well as their own individual culture. In academia, nursing faculty are knowledgeable of ways to provide good learning experiences regarding culture. Additionally, faculty can make the student environment a positive learning experience when learning about diverse populations of differing cultures. However, no studies were found that addressed undergraduate nursing students' cultural awareness of their own cultural values and beliefs, and how it might compare, interfere, or conflict with learning and testing experiences involving the care for other diverse cultural populations.

Cultural-Ethnic Diversity in the United States

In the United Sates (U.S.), there has been a continuous increase and rapid growth in cultural diversity because of the many different ethnicities living and working in the country (U.S. Census Bureau, 2020). This includes cultural and ethnic differences in rural versus urban populations (U.S. Census Bureau, 2020). In Texas specifically, the total population is 30 million, with three million (10%) living in rural areas while 27 million (90%) are living in urban areas (USDA-ERS, 2021). According to the 2020 data from the U.S. Census Bureau, the differing ethnicities in Texas are the following: (a) 41.2 % White American, (b) 39.7% Latin American; (c) 12.8% African American; (d) 5.2% Asian American; (e) 1.0% American Indian or Alaska Native; and (f) 0.1% Native Hawaiian or other such as Pacific Islander (U.S. Census Bureau, 2020). Further, Texas is the second most culturally and ethnically diverse state in the U.S., behind only California (U.S. Census Bureau, 2020). Therefore, cultural considerations of rural, urban, and different ethnicities need to be considered in healthcare for both nurses and patients.

Cultures from rural, urban, and ethnic groups bring challenges to healthcare. The rapid change in the overall population emphasizes the need for nurses to become culturally aware of their own values and beliefs to properly care for patients with other values and beliefs. This is supported by Alpers and Hanssen (2014) who found that lack of cultural awareness by nurses influenced the quality of nursing care. Although, nurses and nursing students learn about cultural awareness either in formal or informal training they still may not have the ability to properly care for patients of other cultures. There is a need to conduct this study to address undergraduate nursing students' cultural awareness of their own cultural values and beliefs, and how it might support, interfere, or conflict with those cultural values when caring for other diverse cultural populations.

Teaching Cultural Awareness in Nursing Programs

In nursing education, the focus of teaching cultural awareness is to learn about values and beliefs of different cultures related to healthcare (Degazon & Mancha, 2012). Nursing students may become more aware of their own cultural values and beliefs as they consider many other cultural values and beliefs discussed in the classroom. Nursing students who struggle with cultural awareness regarding their own values and beliefs have reportedly faced difficulties caring for other cultures during their nursing education because students' cultures may conflict when compared to another culture (Degazon & Mancha, 2012). An example of one cultural conflict experienced by a nursing student is regarding asking questions or offering comments during discussion with faculty when they have been taught not do so in their own culture because in their African or Asian culture it is considered disrespectful behavior to question the teacher (Igbo et al., 2011; Ong-flaherty, 2015). This is also a problem for nursing students when their own culture conflicts with questioning the physician's orders or performing physical examinations on the opposite gender (Ong-flaherty, 2015). Another common cultural conflict for a nurse from the Middle East is the insertion of a urinary catheter for a patient of an opposite gender (Ong-flaherty, 2015). Therefore, there is a need for nursing faculty to consider individual cultural awareness among nursing students to know if they are aware about diverse patient cultures as well as their own cultural conflicts.

Multiple educational modalities are used in nursing education. For example, didactic lectures, case studies, group discussion, low fidelity, and high-fidelity simulation learning (Cupelli, 2016; Diaz et al., 2015; Grossman et al., 2012; Hoye & Severinsson, 2010; Hultsjö et al., 2019; Kardong-Edgren et al., 2010; Mareno &Hart, 2014; San, 2018, Sanner et al., 2010; Wilson et al., 2010). For this study high-fidelity simulation learning and testing was utilized

because students were required to demonstrate nursing competencies that included a a cultural assessment requiring cultural awareness. High-fidelity simulation involves computer programmed mannequins that facilitate interaction in a realistic physical clinical environment (Grossman et al., 2012; Hass et al., 2010; San, 2018; Weideman et al., 2016). Undergraduate nursing students from different cultures attended the capstone clinical skills refresher test, which is an evaluation exam conducted in the simulation skills laboratory to evaluate undergraduate nursing students in the capstone course before starting the practicum in clinical settings. Simulation scenarios included a skill competence as well as consideration of the patient culture.

No studies have been found in which associations between cultural awareness and a clinical skills refresher test. Therefore, this study examined undergraduate nursing students' cultural awareness and the association between undergraduate nursing students' cultural awareness scores and scores of the capstone clinical skills refresher test that included patients' culture.

Framework

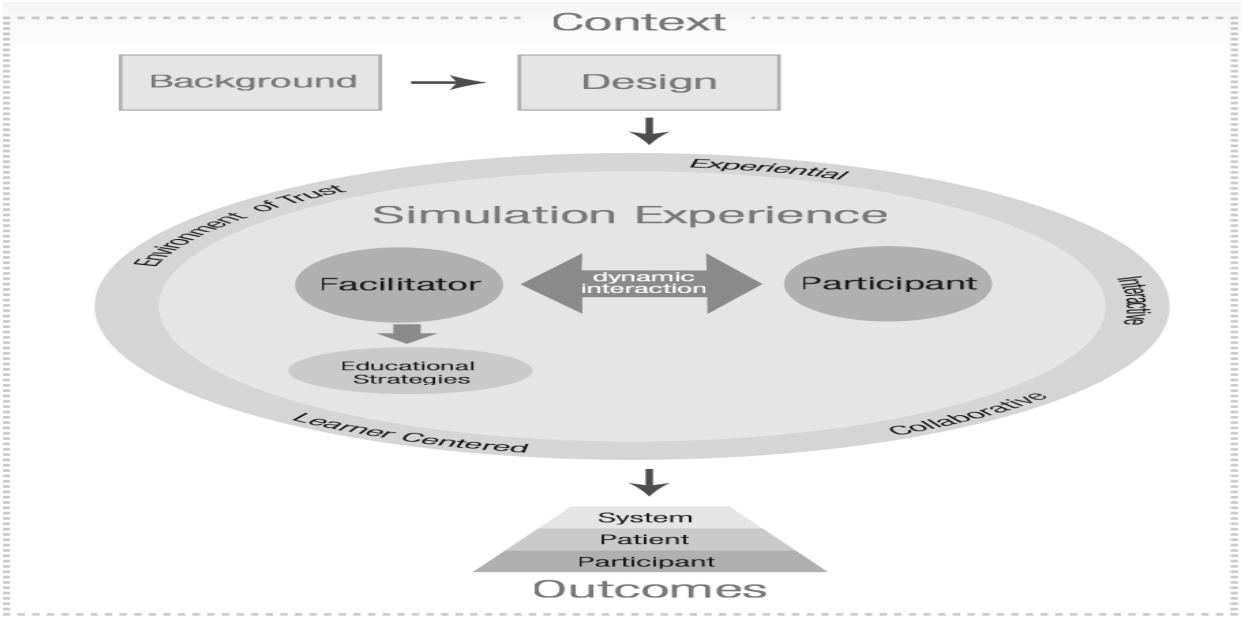


Figure 1: NLN Jefferies Simulation Theory (Jeffries, 2015).

The National League of Nursing (NLN) Jeffries Simulation Theory is supported by the NLN Laerdal Medical multi-site, multi-method project design (Figure 1; Jeffries, 2015). The aim of this theory is to help health educators to design, implement, and evaluate simulation activity (Jeffries, 2015). The NLN Jeffries Simulation Theory has seven major concepts: context, background, design, simulation experience, facilitator and education strategies, participant, and outcomes (Jeffries, 2015).

Context

Simulation context is a starting point to design any simulation activity, which includes the place and the purpose of that simulation (Jeffries, 2015). For example, whether the simulation activity is conducted in academic or practice settings, and whether for teaching or evaluation purposes. (Jeffries et al., 2015). For this study, the capstone clinical skills refresher test was conducted in a simulation skills laboratory (Smart Hospital) for evaluation purposes in an academic setting. The purpose of this test is to evaluate undergraduate nursing students in the capstone clinical course before graduation. Faculty who evaluated students in the capstone clinical skills refresher test are the same clinical faculty working with undergraduate nursing students in the clinical settings (P, Allard, personal communication, August 30, 2021).

Background

Simulation background includes the goals and the specific expectations that may influence the simulation design. Simulation background includes time, equipment, and all resources that may be used to design and implement the simulation activity (Jeffries, 2015). For this study, undergraduate nursing students were assigned to the capstone clinical skills refresher test that takes 40 minutes to complete. The goals and expectation for the capstone clinical skills refresher test are that undergraduate nursing students will meet the standard set for nursing skills

while caring for the patients in the real world (P, Allard, personal communication, August 30, 2021). Students have already practiced nursing skills throughout the curriculum. In the capstone clinical skills refresher test, students were tested individually to determine if they have mastered the skills in preparation for graduation. Students knew before testing that they could be asked to perform any skill they have learned throughout the nursing program.

Design

Simulation design includes all the important elements that need to be considered in preparation for the simulation activity (Jeffries, 2015). Simulation design elements provide the simulation structure and support the implementation and success of simulation activity. Simulation design includes the specific simulation learning objectives, problem-solving complexity, simulation fidelity, and facilitator responses to participants during simulation (cues) toward the end (debriefing) of the simulation activity (Jeffries, 2015). For this study, four objectives were utilized in the simulation scenario. Objective (1) was the assessment, which included obtaining relevant data, and assessing the environment. In the assessment, nursing students were required to demonstrate cultural awareness by considering patients' cultural values and beliefs during their assessment. Objective (2) was communication, which included oral communication between the nurse and patient, as well as written documentation. Objective (3) was clinical judgment, which included interpreting vital signs, laboratory results, prioritizing outcomes, intervention performance, and interventions evaluation. Objective (4) was patient safety, which included patient identifiers, utilizing standard precautions, safe medication administration, equipment management, technical performance, and reflecting on hazards (P, Allard, personal communication, August 30, 2021).

For this study, simulation scenarios included problem solving factors to expose undergraduate nursing students' strengths, weaknesses, and ability to independently solve the problems presented in the simulation scenario. High fidelity simulations (computer programmed mannequins) were used to simulate blood pressure, breathing, eyes blinking, pulse, and respirations. The simulation environment was like the patient's room with medications, supplies, and patient's chart (P, Allard, personal communication, August 30, 2021).

Cueing was used to support undergraduate nursing students during the capstone clinical skills refresher test. The cues guided students in their decision-making process. Cues on the simulation scenario were provided by faculty. For example, information provided to the student regarding respiratory status might be a cue that Oxygen needed to be implemented. Immediately after the capstone clinical skills refresher test, the same faculty guided a five-minute debriefing session to allow the undergraduate nursing students to reflect on the simulation activity. The guided reflection included a discussion about setting priorities, appropriate nursing interventions, and decision-making skills (P, Allard, personal communication, August 30, 2021).

Simulation Experience

Simulation is an experiential, collaborative, learner centered environment that requires dynamic interaction between the facilitator and the participants (Jeffries, 2015). Simulation can provide realistic, challenging experience where learners can face new scenarios in a safe environment. Simulation gives learners the skills and confidence necessary to solve problems in an engaging way (Jeffries, 2015). The facilitator and the participants must share the responsibility to maintain the simulation environment. They are both responsible for enhancing the quality of the simulation experience (Van Soeren et al., 2011). In this study, the simulation experience was a testing- centered environment because undergraduate nursing students were

evaluated on their nursing skills before going to their last clinical prior to graduation (P, Allard, personal communication, August 30, 2021).

Facilitator and Educational Strategies

Simulation Facilitators have an extensive effect on the simulation activity (Jeffries, 2015). The facilitator organizes and guides the simulation activity to achieve optimum learning outcomes. Additionally, the facilitator also establishes a collaborative simulation learning environment, provides quick feedback, and provides a positive attitude of simulation roles (Jeffries, 2015). Facilitator characteristics include facilitator clinical knowledge, skills, preparation for simulation, and the educational strategies that may be used by the facilitator during the simulation (Jeffries et al., 2015; Parker & Myrick, 2012). Educational strategies may include facilitator response to participant need as well as providing appropriate feedback about the simulation activity (Jeffries, 2015). For this study, capstone course faculty were the simulation facilitators. The facilitators attended the full simulation scenario in the same room with the undergraduate nursing students. Faculty provided students with the scenario, and then observed students quietly without correcting the students' actions until each student finished caring for the patient presented in the scenario. Undergraduate nursing students received faculty feedback only after the capstone clinical skills refresher test was completed.

Participant

Simulation participants have great influence on the simulation activity. Participant characteristics will affect simulation design (role assignment) and outcomes such as the impact of participant engagement within the simulation learning experience (Kaplan, Abraham, & Gary, 2012). Participant characteristics include but are not limited to participant age, gender, level of anxiety, self-confidence, and preparedness for the simulation activity (Beischel, 2013; Diez et

al., 2013; Fenske et al., 2013; Jeffries & Rogers, 2012; Leblanc et al., 2012). For this study, all undergraduate nursing students enrolled in the capstone clinical assessment course were included in the capstone clinical skills refresher test. These students previously learned and demonstrated competencies in both skills' laboratory and simulation sessions. Further, they completed all required nursing courses and must pass the capstone clinical skills refresher test to start the final practicum in the clinical setting (P, Allard, personal communication, August 30, 2021). Undergraduate nursing students from different cultures attended the capstone clinical skills refresher test, which could be from several different cultures such as urban and rural, White American, Latin American, African American, Asian American, Native Hawaiian, Pacific Islander, American Indian, Alaskan Native, and other international). Simulation scenarios also included patients from different cultures to assess undergraduate nursing students' cultural awareness by considering patient cultural values and beliefs during their assessment. For this study, the participant characteristic was undergraduate nursing students' cultural awareness about their own cultural values, as well as their score tests on the capstone clinical skills refresher test that included a component of patient culture.

Outcomes

Simulation outcomes include three areas: participant outcome, patient outcome, and system outcome. The NLN theory focuses on participant learning outcomes (knowledge, skills, attitudes), participant reaction (satisfaction, self-confidence), and participant behavior (Jeffries, 2015). For this study, the participant learning outcome was undergraduate nursing students' skills during the capstone clinical skills refresher test. These skills may be affected by their own cultural awareness, or lack thereof, when performing the capstone clinical skills refresher test of diverse cultures other their own. Undergraduate nursing students have practiced nursing skills in

every class as they attended simulation skills learning exercises. Previously they have been evaluated at each level of their educational program regarding assessment, prioritization of tasks, and medication calculations that include intravenous insertions. For this study undergraduate nursing students' skills were evaluated on how they assess patient data, identify major concerns, calculate medication rates, and administer medications to culturally diverse patients (P, Allard, personal communication, August 30, 2021).

Application Theory to Study

The NLN Jeffries Simulation Theory is a useful tool to design, implement, and evaluate simulation activity. A theory is useful when it provides nurse educators a practical guide that can be applied to teaching as well as predicting outcomes (Walker & Avant, 2011). The NLN Jeffries Simulation Theory is applicable to all nursing skills, starting with basic skills and including advanced skills.

The NLN Jeffries Simulation Theory was used to explain the findings of this study. For this study, the two research variables were undergraduate nursing students' cultural awareness and undergraduate nursing students' skills. Undergraduate nursing students' cultural awareness variable was conceptually defined as *participant culture* and operationally defined as undergraduate nursing students' cultural awareness, measured by the Cultural Awareness Scale. Undergraduate nursing students' skills variable was conceptually defined as *participant skills* and operationally defined as undergraduate nursing students' skills during the capstone clinical skills refresher test measured by the Capstone Clinical Skills Refresher tool.

Table 1.

Conceptual and Operational Definitions of Study Variables

Research Variables	Conceptual Definition	Operational Definition	Measurements

Undergraduate nursing students' cultural awareness	Participant (Participant culture)	Undergraduate nursing students' cultural awareness	Cultural Awareness Scale
Undergraduate nursing students' skills	Outcome (participant skills)	Undergraduate nursing students' skills during the capstone clinical skills refresher test	Capstone Clinical Skills Refresher Tool

Propositions

The NLN Jeffries Simulation Theory proposed the following:

1. Participant characteristics, facilitator characteristics, and simulation educational strategies (active learning, feedback, students/faculty interaction, collaboration, high expectation, diverse learning, and time on task) directly influence (positive or negative influence) the simulation experience.
2. Simulation design (objectives, fidelity, scenarios complexity, cues, and debriefing) directly influence (positive or negative influence) participant outcomes (knowledge, skill performance, learner satisfaction, critical thinking behaviors, and self-confidence).
3. The relational proposition tested in this study was participant characteristics directly influence participant outcome. The proposition for this study was undergraduate nursing students' cultural awareness (*participant culture*) is associated with undergraduate nursing students' skills (*participant skills)* in the capstone clinical skills refresher test. Students who have cultural awareness of their own and other cultures will have better nursing skill outcomes.

Statement of the Purpose and Question

The purpose of this study was to examine undergraduate nursing students' cultural awareness and the association between undergraduate nursing students' cultural awareness scores and scores of the capstone clinical skills refresher test that include patients' cultural aspects. The research questions for this study were: (a) What is the score of undergraduate nursing students on the cultural awareness scale? (b) What is the association between undergraduate nursing students' score on cultural awareness and their capstone clinical skills refresher score?

Assumptions

The assumptions guiding this study were the following:

1. Undergraduate nursing students have learned about cultural awareness.
2. Undergraduate nursing students' cultural awareness is associated with their skills in the capstone clinical skills refresher test.

Definition of Terms

The following definitions were used within the context of this study:

- Undergraduate Nursing Student: A nursing student who is being educated at the Bachelor of Science in Nursing (BSN) level of nursing education.
- Culture: A set of beliefs, values, and behaviors that can be observed in individuals' social and religious practices. Culture characteristics identify individuals and how each different culture is recognized (Leininger, 2002).
- Cultural Diversity: The difference in age, gender, race, ethnicity, religion, sexual orientation, social, economic and education status related to groups of individuals (Andrews & Boyle, 2012).

- Cultural Awareness: Being aware of one's own thoughts, values, and beliefs. It is a mindful effort to examine values and beliefs within our own and other cultures as we provide quality care to patients who have a different cultural background from the care provider (Long, 2012).
- Simulation Fidelity: The level of realism in both the technology and the environment within the simulations (Jeffries, 2015).
- The Capstone Clinical Skills Refresher Test: Evaluation exam conducted in the simulation skills laboratory to evaluate undergraduate nursing students in the capstone course before starting the practicum in clinical settings.

Summary

This chapter included an overview of information about simulation learning, theoretical underpinnings of learning when using simulation, and the importance of nursing students learning patient culture. Additionally, the gap was identified of the need to conduct a research study on the association between undergraduate nursing students' cultural awareness and their nursing skills in the capstone clinical skills refresher test. The undergraduate nursing students' cultural awareness is important to provide care for diverse patient populations. However, there were no studies found regarding the association of success in the capstone clinical skills refresher test that included culture of patients and the undergraduate nursing students' individual cultural awareness. The NLN Jeffries Simulation Theory, propositions, study purpose, research questions, and assumptions of the study were also included. Finally, definitions of terms were provided for further clarification of concepts.

CHAPTER 2

CRITICAL REVIEW OF RELEVANT LITERATURE

This chapter provides a discussion on cultural awareness and its significance regarding undergraduate nursing students in the U.S. The background highlights the history of cultural awareness in nursing practice and the needs for education of cultural awareness. This chapter concludes with a discussion on what is known and unknown about undergraduate nursing students' cultural awareness within the U.S.

Cultural Awareness in Nursing

Each culture has different meanings for illness, disability, health issues, and treatments (Ravindran & Myers, 2012; Smith, 2013). Long (2012) defined cultural awareness as being aware of one's own thoughts, values, and beliefs. Therefore, cultural awareness is an important skill for nurses to have when providing care for diverse patient populations. Ravindran and Myers (2012) used Bronfenbrenner's ecological theoretical model to examine culture in families with autism spectrum children. They discussed the cultural effects in shaping family understanding about health treatments, and the factors affecting nurses' cultural awareness towards patients' needs. Ravindran and Myers (2012) found that nurses' cultural values, beliefs, and previous experiences with patients of a different culture influenced nurses when caring for those patients. They suggested cultural awareness education for nurses to start with a broad cultural view. They felt it would help nurses understand cultural implications regarding responses to treatment that patients would be asked to endure. (Ravindran & Myers, 2012; Smith, 2013).

Another cultural view that is sometimes forgotten but is also important is the rural versus urban culture. Currently, the urban population is approximately 273 million, which is estimated

to be 82% of the total U.S. population. By 2060, 89% (298 million) of the U.S. population is projected to live in urban areas (U.S. Census Bureau, 2020). The current rural population in the U.S. is 60 million, which is an estimated 18% of the total U.S. population. By 2060, the rural population is projected to decrease to 11% (35 million) of the total U.S. population (U.S. Census Bureau, 2020). This would indicate that people are moving to urban areas, which creates a further need to be culturally aware of all types of cultures including rural, urban, and nurses' own cultures.

The rapid change and growth in rural and urban areas and the different ethnic populations residing in each geographical location emphasizes the need for nurses to be culturally aware of many differences among cultures. Ingram (2012) feels that nurses need to increase their cultural awareness to provide the best care for all patients. Ingram (2012) conducted a systematic review using Campinha-Bacote's (2011) culture competent model to describe cultural awareness. Ingram (2012) used multiple data sources to search for literature such as CINAHL, ERIC, Health Source Nursing, Academic Search Premier, and Master FILE. All articles used were relevant to cultural awareness in nursing and were published in peer reviewed journals between 1990 to 2012. Ingram (2012) found that applying Campinha-Bacote's Process of the Cultural Competence Model (awareness, skills, knowledge, encounters, and desire) helped nurses to integrate the appropriate cultural assessments. Ingram (2012) highlighted the need for nurses to be culturally aware to be able to understand different cultural values and beliefs of diverse patient populations.

However, not all nurses are culturally aware enough to understand the values and beliefs of patients from another culture. Even though nurses are taught cultural aspects related to healthcare, they may still not be culturally aware of all other cultures as well as their own

individual culture. Therefore, cultural education is necessary to understand and implement cultural awareness care for patients from differing cultures (Campinha-Bacote, 2011; Ingram, 2012; Mareno & Hart, 2014; Ong-Flaherty, 2015; Ravindran & Myers, 2012; Smith, 2013).

Cultural Awareness in Nursing Practice

Lack of cultural awareness has been reported to have a negative influence on the quality of care for those patients. Alpers and Hanssen (2014) conducted a mixed method study to explore nurses' cultural awareness and describe the relationship between nurses' cultural awareness and years of nursing experience. They also conducted focus group interviews with (n = 100) psychiatric unit nurses and (n =145) medical unit nurses to investigate how psychiatric unit and medical unit nurses evaluated their own cultural awareness when treating patients from different cultures. Alpers and Hanssen (2014) reported that 28% (28) of psychiatric nurses and 20% (29) of medical nurses felt they had inadequate cultural awareness concerning patients' cultures. Among both groups together, a total of 48% (118 nurses) agreed that they had inadequate cultural awareness. Alpers and Hanssen (2014) found no significant differences between medical and psychiatric nurses (p =0.43) in years of nursing experience and cultural awareness. They reported that experience alone does not provide nurses with adequate cultural awareness. Alpers and Hanssen (2014) suggested formal cultural education at the university, and informal cultural training in the hospital to provide nurses and nursing students with the necessary cultural skills.

Cultural training is essential so that nurses provide care for diverse patient populations. Mareno and Hart (2014) conducted a cross-sectional study to measure nurses' cultural awareness when caring for patients from multiple cultures. The Clinical Cultural Competency Questionnaire (CCCQ) was sent to (n =365) nurses. Mareno and Hart (2014) reported that out of the 365 nurses, 41% (150) of nurses had obtained undergraduate degrees and 59% (215) of the

nurses had obtained graduate degrees. Mareno and Hart (2014) conducted a t-test analysis to compare differences in the level of cultural awareness between nurses based on their education. They showed that undergraduate-degree nurses scored lower on cultural awareness (M = 2.10, SD = .84) than graduate-degree nurses (M = 2.29, SD = .79).The result indicated that nurses with higher education have more cultural awareness, and the difference in the mean score of cultural awareness between nurses' groups were statistically significant t [359] = -2.1 ($p < .01$). Mareno and Hart (2014) also examined differences in workplace cultural training and educational level. The difference in the mean scores for workplace cultural training and educational level were statistically significant (t [359] = 3.289, $p < .01$). They also reported that nurses with undergraduate degrees (M = .86, SD = .35) and nurses with graduate degrees (M = .73, SD = .45) had received some cultural training in the workplace. Further, a total of 84% (126) of undergraduate-degree nurses reported receiving some workplace cultural training with 13.7 % (21) reporting not receiving workplace cultural training. A total of 72.6% (156) of graduate degree nurses reported receiving some workplace cultural training and 27.4% (59) reported not receiving workplace cultural training (Mareno &Hart, 2014).

Cultural awareness education is essential to reduce healthcare disparities (Diaz et al. 2015). Diaz et al. (2015) conducted a mixed method study to assess nursing programs capacity to promote culturally aware nursing practice. The study sample included (n = 102) nursing faculty: (26) faculty with a master's degree, (24) faculty with a bachelor's degree, (35) community college faculty, and (17) clinical nurse educators. Diaz et al. (2015) used the Inventory for Assessing the Process of Cultural Competence in Healthcare Professionals-Revised (IAPCC-R) tool to assess nursing faculty performance in teaching culture awareness. Diaz et al. (2015) showed no significant differences (p = .442; F = 0.905) between nursing faculty scores in

IAPCC-R, and nursing faculty age, or work experience. Diaz et al. (2015) also conducted focus group interviews with nursing faculty to explore their experience in teaching culture awareness. They reported that nursing faculty had a limited number of cultural diversity courses, and the cultural subjects were not included in all course syllabi (Diaz et al., 2015).

Cultural Awareness in Nursing Education

A group of nurse educators focused on the effectiveness of cultural educational strategies to identify undergraduate nursing students' cultural awareness (Calvillo et al., 2009; Sanner et al., 2010). These educational strategies involved cultural presentations, shared meals, and discussion activities to increase students' cultural awareness levels (Calvillo et al., 2009; Sanner et al., 2010). Sanner et al. (2010) used a quasi-experimental pretest-posttest design to assess nursing students' awareness of other cultures. A convenience sample of (n = 47) undergraduate nursing students was recruited from one public university in the U.S. Students signed the consent form to participate in a culture workshop and completed both the pretest and posttest survey. Students' cultural awareness was measured using the Openness to Diversity Challenge Scale (ODCS) before and after the workshop (Sanner et al., 2010). Following the workshop, students' cultural awareness scores had significantly increased (p = 0.001). Sanner et al, (2010) indicated that cultural educational strategies had improved nursing students' cultural awareness.

Nursing students faced challenges in areas of food, language, gender, emotions, and relationships when working with patients from different cultures (McClimens et al., 2014). These challenges included the consideration of patients but did not include the perceptions of nursing students who provided care for those patients. McClimens et al. (2014) conducted a qualitative design study to explore undergraduate nursing students' experiences in caring for patients from different cultures. Data were collected using focus group interviews with undergraduate nursing

students in different classes of adult nursing, mental health, and learning disability departments. Interviews were conducted with students to obtain qualitative data about areas of difficulty in providing culturally appropriate care. McClimens et al. (2014) found that nursing students faced difficulties in meeting patient cultural needs. The cultural difficulties were related to patient language and gender. McClimens et al. (2014) also found language differences between nursing students and patients because of students' proficiency in English, which may cause difficulty in communication. Students in this study were not given the opportunity to discuss their own cultures or any issues related to any conflict of cultural values and beliefs. McClimens et al. (2014) determined that nursing students need to be prepared to work in culturally diverse settings; thus, they suggested that nursing students should receive cultural awareness education and training during their nursing program. Nursing students can first learn cultural awareness using different educational modalities such as role play and simulation learning (McClimens et al., 2014).

Another way of developing cultural awareness is through in-service learning (Kardong-Edgren et al., 2010). Cupelli (2016) selected three groups of associate degree nursing students during their fundamentals course with each clinical group composed of eight nursing students. The students joined the in-service-learning project to interview Jewish holocaust survivors for 90 minutes using a structured interview. The purpose of this in-service-learning project was to perform cultural assessments and develop nursing students' cultural awareness. The project had been introduced by the same faculty member each semester with different clinical groups over a total of three semesters. The effectiveness of the in-service-learning project, students' achievements, and project learning outcomes were evaluated each semester for the three semesters (Cupelli, 2016). Cupelli (2016) assessed the clinical group by direct observation

during the interview, post interview group discussion, written assignments, and self-reflection exercises. Cupelli (2016) found that the in-service learning project provided the students with a rich cultural experience. Cupelli (2016) reported that the project experience helped the students to learn effective communication and improved their recognition of their own and other cultures (cultural awareness), which they could then continue to practice. Once students increased their understanding and appreciation of cultural differences and similarities among and between groups, they were said to have obtained cultural awareness and were able to add that awareness into their future nursing practice (Cupelli, 2016).

In Sweden, Safipour et al. (2017) conducted a quantitative cross-sectional study to measure the cultural awareness among undergraduate nursing students with a consideration of students' demographics. Safipour et al. (2017) collected data from (n = 215) nursing students in three different universities in Southern Sweden using the Swedish version of the Cultural Awareness Scale. Safipour et al. (2017) showed that 78.4 % (167) of the students were native Sweden (born in Sweden of Swedish born parents), 11.7 % (25) came from a family with the first generation of immigrants (born outside Sweden), 9.9 % (21) came from a family with second generation of immigrants (born in Sweden from parents who were born outside of Sweden), and 20 % (35) of the students who were born in Sweden reported that they had lived abroad for more than six months. Simultaneous regression analysis was calculated to assess the statistical association between all study variables. Safipour et al. (2017) found a significant correlation between being a first-generation immigrant student (born outside Sweden) and cultural awareness regarding patient care/clinical practice ($F = 2.54$, $df = 3, 171$, $p < .01$). Safipour et al, (2017) also found that students from first generation immigrants got higher scores in cultural awareness compared to the other two groups of students (second generation

immigrants and native Swedish). Sequential multiple regressions were also calculated to test the demographic variables to determine the best significant regression model. Safipour et al, (2017) reported that the mean differences were not statistically significant except for the first-generation variable ($p < .01$). They recommended that future qualitative research is needed to understand the cultural awareness among immigrant nursing students and to improve cultural awareness education in Swedish nursing programs.

Hultsjö et al, (2019) also highlighted the need for cultural awareness education to improve the quality of care for patients from all cultures. Hultsjö et al. (2019) conducted a qualitative study to explore undergraduate nursing students' cultural awareness experience. A purposive sample was used to recruit ($n = 12$) undergraduate nursing students in the last semester of their nursing programs from two different universities in Sweden. A focus group with semi structured interview was used in this study. The interview questions involved students' experience with cultural awareness during their nursing education. Hultsjö et al. (2019) reported that nursing students had limited cultural awareness experience during their nursing education. Students' cultural awareness experience were developed from informal education. They also showed that nursing students are willing to learn more about cultural aspects and be aware of their own prejudices. Hultsjö et al. (2019) suggested that nursing education needs to be improved and involve cultural awareness contents in both theory and practice.

Learning with the Use of Simulation

Simulation-based learning is a teaching tool designed for students to apply theoretical nursing care in a safe learning environment. Simulation learning has been shown to improve critical thinking, and clinical performance for undergraduate nursing students as well as nursing program outcomes. Simulation learning has improved nursing students' abilities to apply safety

practices in nursing, and students' performance has been rated positive after the simulation experience (Ham, 2016; Hope et al., 2011; Pauly-O'Neill, 2013; Pinar et al., 2015; Sanko & Mckay, 2017; Sears et al., 2010; Yuan et al., 2012).

In the United Kingdom (UK), Hope et al. (2011) conducted a mixed method research study with (n >500) undergraduate nursing students over a two-year period. This study was designed to explore the relationship between simulation learning strategy and nursing curriculum outcomes. The quantitative data were collected from undergraduate nursing students enrolled in the adult health nursing course between 2007 and 2009. The self-evaluation questionnaire included sixteen items (open-ended questions) that explored students' simulation experiences. Focus group interviews were also conducted to collect the qualitative data from undergraduate nursing students (n =35) after they had successfully completed the adult health nursing course. Students' responses to the open-ended questions were carefully used to guide the interview questions. The qualitative data were analyzed and manually coded to eight themes. Hope et al. (2011) reported that simulation learning experiences improved nursing students' problem-solving abilities, psychomotor skills, and overall confidence. They also identified that nursing students see simulation as an encouraging learning strategy. Nursing students valued their simulation experiences as simulation allowed them to be active rather than passive recipients within their learning environment (Hope et al., 201).

High-fidelity simulation (computer programmed mannequins to facilitate interaction in a realistic physical clinical environment) was used to evaluate the improvement in medication administration skills and calculation abilities in undergraduate nursing students (Pauly-O'Neill, 2013). Pauly-O'Neill (2013) examined the effect of high-fidelity simulation on reducing medication errors and on safe medication administration. Student performance was evaluated on

patient rights, students' knowledge of allergies, and the administration of correct medication dilution and correct IV infusion rate (Pauly-O'Neill, 2013). Regular clinical skills training sessions were conducted first to assess nursing students' medication administration skills. Pauly-O'Neill (2013) found that 4 out of 18 students (22%) provided correct medications, and 5 out of 18 students (29%) safely diluted an IV medication. Then, simulation clinical skills training sessions that involved various simulation scenarios were conducted to expose students to prescribing errors, high-risk medications, complicated medication reconstitutions, medication dilutions, and IV administrations. After the simulation sessions, Pauly-O'Neill (2013) found that 25 out of 26 students (96%) were successful in IV medication dilution techniques, 24 out of 26 students (90%) assessed patient medication allergies, and 23 out of 26 students (88%) provided accurate IV pump rates (Pauly-O'Neill, 2013). They also found that the simulation experience significantly contributed to reduce medication errors. Simulation experience may strongly enhance undergraduate nursing students' abilities to administer medications safely and accurately by following medication rights (Pauly-O'Neill, 2013).

High-fidelity simulation was commonly used as a student-centered learning method and performance assessment to fill the gap between theory and practice (Pinar et al., 2015). Pinar et al. (2015) conducted a descriptive correlational study to evaluate nursing students' perception of high-fidelity simulation and to evaluate the effects of a student simulation experience on knowledge, skills, and critical thinking. A convenience sample of (n =114) undergraduate nursing students enrolled in a maternal child health nursing course were invited to participate in the study. Pinar et al. (2015) used nine different scenarios that included critical obstetric concepts in the simulation activities. They used the Simulation Evaluation Form and the Simulation Design Scale to collect data. Pinar et al, (2015) found a positive significant correlation between

the amount of simulation training students received and students' perception of simulation (r = 0.654, p = 0.000). Out of 114 students, 26.3% (30) preferred high-fidelity simulation only, 25.4% (28) preferred live actors only, and 49.1% (56) preferred both high fidelity and live actors. Pinar et al, (2015) also indicated that simulation activities improved students' perception of simulation learning.

The high-fidelity simulation was used in a nursing pharmacology course to test the effect of simulation training on undergraduate nursing students' medication administration practices. Sanko and Mckay (2017) conducted a quasi-experimental study including (n =120) undergraduate nursing students who received simulation-enhanced pharmacology training. Ninety-five percent (114) of the students agreed that the simulation experience promoted their learning of nursing skills and improved their medication administration safety (Sanko & Mckay, 2017).

Another study involved the integration of high-fidelity simulation into Pediatric Advanced Life Support (PALS) courses to improve health providers resuscitation knowledge and self-efficacy skills in rural health settings. Stellflug and Lowe (2018) found that health care providers who completed PALS with high fidelity simulation were able to identify patients' health problem faster than providers who completed traditional PALS without the use of simulation. To determine the effects of high-fidelity simulation into PALS courses in rural settings, Stellflug and Lowe (2018) conducted an experimental research study on health providers who were divided randomly into control and experimental groups. The control group received PALS with low fidelity simulation (general static models with the lowest learner interaction within simulation) and the experimental group received PALS with high-fidelity simulation. Stellflug and Lowe (2018) examined the differences between the control and the

experimental groups for resuscitation knowledge and self-efficacy skills at the end of the course and again six months later. At the end of the course, both experimental and control groups had similar scores on the written exam. However, health providers skills performance in the experimental group was significantly improved when using high-fidelity simulation compared to the health providers in control group using low-fidelity simulation ($p = 0.05$). Stellflug and Lowe (2018) indicated that high-fidelity simulation was a better mode of simulation for learning and testing. After six months, both groups had a significant decrease in their PALS written exam scores ($p = 0.042$) and skills score ($p = 0.003$).

Cultural Awareness and Simulation learning

More research is needed to study simulation learning methods to enhance cultural awareness in undergraduate nursing students. The literature search revealed only three published studies which discussed cultural awareness and simulation interventions (Grossman et al., 2012; Weideman et al., 2016; San, 2019).

Grossman et al. (2012) conducted a bi-national study to examine undergraduate nursing students' cultural awareness using high-fidelity simulation scenarios. The sample of this pretest post-test design included American ($n = 48$) and Norwegian ($n = 25$) senior nursing students. Two simulation scenarios were developed by faculty to allow nursing students to practice cultural assessment skills during the simulation experience. Grossman et al. (2012) used the Transcultural Self Efficacy Tool (TSET) to measure nursing students' perceptions of cultural awareness prior and post simulation. Grossman et al. (2012) found that American students' scores were statistically significant ($p = .01$) in all TSET subscale scores, while Norwegian students' scores were statistically significant ($p = .02$) in cognitive and affective domain TSET subscale only. However, students' scores in the practical domain were not statistically significant

(p =.07). Grossman et al. (2012) indicated that nursing students' scores in TSET supported the use of simulation as a teaching method to improve nursing students' cultural awareness in both American and international nursing schools.

Weideman et al (2016) also used the TSET in their pretest post-test design study to evaluate nursing students' transcultural skills. The study sample included (n = 141) undergraduate nursing students from two universities. Weideman et al (2016) used the Cultural Competence and Confidence Model (Jeffreys, 2016) to design, implement, and evaluate a virtual simulation experience (VSE) to improve nursing students' ability to provide culturally aware care. They designed prenatal and post-natal VSE that included African American and Amish patients. Weideman et al (2016) found a statistically significant difference between pretest and post-test for each TSET subscale (p = .001) and the overall TSET scale (p = .001).

More recently, San (2019) conducted a one-group pre-test and post-test educational intervention study to explore the effect of Diverse Standardized Patient Simulation (DSPS) on nursing students' transcultural self- efficacy (TSE). This study involved (n = 53) associate degree nursing students enrolled in a medical-surgical nursing course, in their second semester. Two DSPS scenarios were designed by the researcher and the Transcultural Self Efficacy Tool was used to assess nursing students' changes in TSE. San (2019) found that students' self-efficacy scores improved significantly from pretest to post-test (p = .05) in both cognitive and practical TSET subscales. San (2019) supported the use of the DSPS for cultural awareness education in nursing programs.

While three studies were found in which researchers examined simulation learning methods to enhance cultural awareness in nursing students, no studies have been found in which researchers tested nursing students' cultural awareness as well as consideration for patients'

cultures during the capstone clinical skills refresher test. Therefore, this study examined undergraduate nursing students' cultural awareness and the association between undergraduate nursing students' cultural awareness score and the score of the capstone clinical skills refresher test that included patients' cultural aspects.

Summary

Many issues surround learning cultural awareness among nursing students. Beyond learning cultural awareness and striving to reach cultural competency nursing students are expected to render culturally competent care with all types of diverse patient populations. Faculty are knowledgeable in ways to provide good learning experiences regarding culture, and they can make the student environment a positive learning experience for diverse populations. However, no studies have been found that address undergraduate nursing students' cultural awareness of their own cultural values and beliefs and how it might interfere and conflict with learning and testing experiences that involve caring for diverse cultural populations.

CHAPTER 3

METHODS AND PROCEDURES

This chapter includes a description of the methods used in this study. The design for this pilot study is a descriptive correlational approach. The purpose of this study is to examine undergraduate nursing students' cultural awareness, and the association between undergraduate nursing students' cultural awareness scores and scores of the capstone clinical skills refresher test that include cultural considerations of patients. The research questions for this study are: (a) What is the score of undergraduate nursing students on the cultural awareness scale? (b) What is the association between undergraduate nursing students' score on cultural awareness and their capstone clinical skills refresher test score? The chapter includes descriptions of the design, sample, setting, and measurement methods that were used in this study. It also includes a discussion of the procedures and data analysis. The chapter concludes with a discussion of ethical considerations and delimitations of the study.

Research Design

This pilot study utilized the descriptive correlational design. This design is used by researchers to describe and examine the association between two variables (Gray et al., 2017). The variables examined in this study were undergraduate nursing students' cultural awareness and undergraduate nursing students' skills in the capstone clinical skills refreshers test. Data of the two variables were collected from one group of participants at one general point in time. Each data of the two variables were collected individually, then examined to see if there was an association between undergraduate nursing students' cultural awareness and undergraduate nursing students' scores during the capstone clinical skills refresher test.

Sample

Accessible Sample

The target population for this pilot study was all undergraduate nursing students enrolled in the capstone course at the time of data collection. The study sample included all possible ethnicities (i.e., White American, Latin American, African American, Asian American, Native Hawaiian, Pacific Islander, American Indian, Alaskan Native, and other international). Rural and urban nursing students were also included in this study for consideration of cultural values as well as different ethnicities. For the Fall 2021 semester, the capstone course had two sections: online and on-campus. The total number of undergraduate nursing students enrolled in both sections of the capstone course was 410 students. Undergraduate nursing students from both sections were included in this study.

The G* Power 3.1 software was used to perform the power analysis for the sample size estimation for this study in which the data were analyzed. With significance set at 0.05, medium effect size sat at 0.30, and power sat at 0.80. Medium effect size was used because as the sample size increased the impact of random error is reduced and increases the chance to find a significant association between study variables. The sample size estimation was based on the exact test with correlation bivariate normal model (Appendix A). A minimum sample size of 84 participants were required to examine the association between undergraduate nursing students' cultural awareness and undergraduate nursing students' scores during the capstone clinical skills refresher test.

Sampling Method

This pilot study was conducted within the undergraduate nursing program in one public university in the U.S. A convenience sample for this study included all undergraduate nursing

students enrolled in the capstone course at the time of data collection. A convenience sample methodology was used in this pilot study to obtain basic data about undergraduate nursing students' cultural awareness and undergraduate nursing students' scores during the capstone clinical skills refresher test. Additionally, the convenience sample is inexpensive, accessible, and requires less time than other types of samples (Gray et al., 2017).

Sample Criteria

Sample inclusion criteria included all undergraduate nursing students enrolled in the capstone course. They were all adults, 18 years and older, currently living in the U.S., and having access to university emails. Students in this course were enrolled in a mandatory capstone clinical skills refresher test. They were required to demonstrate nursing competencies before starting their final practicum in clinical settings (P. Allard, personal communication, August 16, 2020). In the capstone clinical skills refresher test, students were tested using four different simulation scenarios that included certain skills required to care for patients from different cultures (ethnicities). The cultural component of the exam may have been mention of a specific ethnicity or a specific statement revealing the need for cultural consideration while caring for the patient. Exclusion criteria for the sample were undergraduate nursing students who did not provide demographics, and who did not complete 50% of the cultural awareness survey.

Setting

The capstone clinical skills refresher test was conducted at two sites, in the simulation laboratory (Smart Hospital) located on the university campus and online (Microsoft Teams) for students who enrolled in an online only section of the capstone course. In this study, the primary investigator (PI) only used the students' final scores of the capstone clinical skills refresher test.

The PI was not involved in the capstone clinical skills refresher test at all. Only faculty of the students were involved in the capstone clinical skills refresher test.

Due to COVID- 19 restrictions, five test stations and five capstone course faculty were at the smart hospital on the test day to evaluate undergraduate nursing students' skills in the capstone clinical skills refresher test. Only one student was tested at a time in each station (P. Allard, personal communication, August16, 2021). Students were tested on four assessment criteria which include patient safety, oxygen administration, vital signs, and medication administration. Four different simulation scenarios were used in four stations on the test day, and only one repeated scenario in station number five. Simulation scenarios included patients from different cultures to assess undergraduate nursing students' ability to care properly for the patients. The faculty of the capstone course used the Capstone Clinical skills Refresher tool to evaluate undergraduate nursing students' skills in the capstone clinical skills refresher test, which is part of the capstone course requirement (P. Allard, personal communication, August16, 2021). The Capstone Clinical skills Refresher tool (Appendix B) was used in this course to determine if students could make the proper assessment and render the proper care before starting their final practicum in clinical settings.

Measurement Methods

Variables

For this study, the two research variables were undergraduate nursing students' cultural awareness and undergraduate nursing students' skills. Undergraduate nursing students' cultural awareness variable was conceptually defined as *participant culture* and operationally defined as undergraduate nursing students' cultural awareness measured by the Cultural Awareness Scale (Appendix C). Undergraduate nursing students' skills variable was conceptually defined as

participant skills and operationally defined as undergraduate nursing students' skills during the capstone clinical skills refresher test measured by the Capstone Clinical skills Refresher tool.

The study survey was created in QuestionPro, which is a survey tool. A link was generated within QuestionPro and then inserted within an email invitation to all students. The QuestionPro survey included both demographic questions (Appendix E) and the cultural awareness scale.

Table 2.

Study Variables

Research Variables	Conceptual Definition	Operational Definition	Measurements
Undergraduate nursing students' cultural awareness	Participant (Participant culture)	Undergraduate nursing students' cultural awareness	Cultural Awareness Scale Interval, 36 items on a 7-point Likert-scale ranges (0 -7) from strongly disagree to strongly agree
Undergraduate nursing students' skills	Outcome (participant skills)	Undergraduate nursing students' skills during the capstone clinical skills refresher test	Capstone Clinical Skills Refresher Tool Nominal 21 Items, two values 0= Not done 1= Done

Capstone Clinical Skills Refresher

The Capstone Clinical skills Refresher (Appendix B) was developed by nursing faculty from the Undergraduate Department of the College of Nursing to evaluate undergraduate nursing students' skills during the capstone clinical skills refresher test. This assessment tool was used by undergraduate nursing faculty in the Capstone course only. The tool included four assessment criteria that reflected clinical judgement and nursing decision-making processes. These

assessment criteria are patient safety (4 items), oxygen administration (2 items), vital sings (3 items), and medication administration (12 items). The tool included 21 items, each item had two values (0= Not done) and (1= done). In the Capstone clinical skills refresher test, each skill was graded with one point if the student did this skill and zero if student did not do the skill. The final score of this tool is the only part utilized in this study because it included undergraduate nursing students' total scores in the capstone clinical skills refresher test that included cultural awareness of the patient in the scenario. Students' scores ranged from 18 to 21, with a minimum passing score of 18. The content validity of the Capstone Clinical Skills Refresher tool was supported by the expertise of undergraduate nursing faculty creating the questions. The internal consistency reliability (Cronbach's alpha) has not been done for this tool. This tool was developed by nursing faculty from the Undergraduate Department of the College of Nursing to evaluate undergraduate nursing students' skills during the capstone clinical skills refresher test only, and no one else uses it as research tool.

Cultural Awareness Scale

The Cultural Awareness Scale (Appendix C) was developed and updated by Rew et al. (2003, 2014). Permission to use the scale was granted by the original author (Appendix D). The scale was developed based on a literature review on cultural awareness, cultural competence, cultural sensitivity, nursing clinical practice, and nursing education (Rew et al., 2003.2014). The scale has five key subscales that reflect cultural awareness. These subscales are general educational experiences (4 items), awareness of attitudes (8 items), classroom and clinical instruction (15 items), research issues (4 items), and (5 items) clinical practice (Rew et al., 2003, 2014). The scale includes 36 items on a 7-point Likert-type scale ranging from "*strongly disagree*" to "*strongly agree.*" The total scale internal consistency reliability (Cronbach's alpha)

is 0.82, and the Cronbach's alpha for the five key subscales range from 0.71 to 0.94, which demonstrate the adequate reliability of the scale (Rew et al., 2003, 2014). A content validity index has been reported at 0.88, which is considered to be strong (Rew et al., 2003, 2014). Each item in the Cultural Awareness Scale was graded between one to seven points. The scale is easy to read at a sixth grade reading level.

Demographic Survey

The demographic survey included 12 demographic questions and two open- ended questions (Appendix E). The 12 demographic questions included six questions about students' age, gender, race, primary spoken language, years of living in the U.S., and area where they grew up. The rest of the questions covered students' previous obtained university degree, previous obtained nursing degree, studying in another country, students' cultural experience in the current nursing program, and required nursing skills that they may feel violates students' cultural values. The two open ended questions were: (a) What cultural values of your own helped or hindered your success during a particular simulation skill that you were asked to perform? (b) What are your feelings and experiences when asked to perform a skill that is in complete disagreement with your own cultural values? Students' own cultural values and beliefs may interfere and conflict with their learning and testing when their own values and beliefs are violated. Students were asked to answer the open-ended questions to identify their perception of their ability to be successful when testing in simulation that may be affected by their own personal cultural values.

Procedure

Participant Recruitment

Study participants were recruited by email. The capstone lead faculty sent the recruitment script email (Appendix F) to all undergraduate nursing students in the capstone course on behalf of the PI. The reason the faculty sent the email is because it can easily be sent through the

university email system to students and only the Lead Faculty had access to this distribution list. The recruitment email included an overview and the purpose of the study along with the link to the survey in QuestionPro. A second email was sent one week later as a reminder. Then, reminder emails were sent periodically (every two weeks) until students' graduation. Data were collected over ten weeks. Data collection was closed two weeks after students' graduation. No compensation was offered for participation in this study. There are no financial costs incurred by participation in this study. The class requirements were paid for by the students upon enrollment into the course and there is no connection to the course itself by the PI.

Data Collection

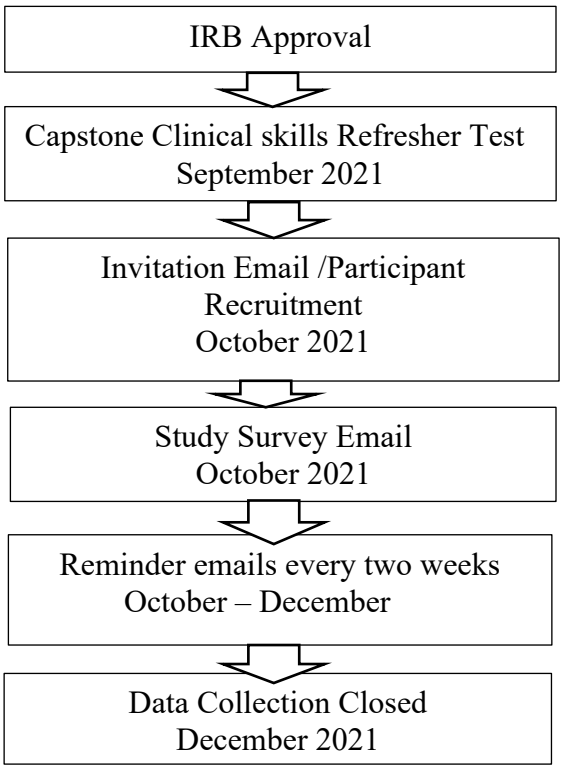
The first part of data collection was during the capstone clinical skills refresher test, which is a part of the capstone course requirement. The capstone course faculty used the Capstone Clinical skills Refresher tool to evaluate and grade undergraduate nursing students' skills in both groups (online, on campus), and the final scores were used in this study.

The second step of data collection was after the capstone clinical skills refresher test. The capstone course lead faculty sent the invitation email to all undergraduate nursing students enrolled in the capstone course. Students received the study recruitment script through the distribution list using their official university email accounts. The email included a link for the consent form (Appendix G) and study survey. Students who declined to participate received a "Thank You" message and were not able to continue to the survey. Students who agreed to participate in the study signed the consent form by writing their first and last names. By signing the consent form, students were giving permission to the PI to use their final scores on the capstone clinical skills refresher test in this study. Students then proceeded to the study survey.

The study survey included demographic questions and cultural awareness questions. Students needed a maximum of ten minutes to complete the study survey.

After data collection, the dissertation chair created a password-protected shared file on the university OneDrive to upload the collected data. Only the PI and dissertation chair were given access to this data. The file was shared with the capstone lead faculty only long enough to upload the Excel file that include students' scores from the capstone clinical skills refresher test. The dissertation chair then unshared the file with the lead faculty. It was then only accessible to the PI and the dissertation chair. Students' scores in the cultural awareness survey were uploaded in the shared OneDrive file by the PI. Both students' scores in the capstone clinical skills refresher test and students' scores in the cultural awareness survey were entered into SPSS. All participants who did not complete the demographic section were removed from the SPSS dataset. All participants who did not complete at least 50% of the cultural awareness survey were removed from the dataset. The SPSS data were housed in the shared OneDrive folder. Once the data were cleaned, it was shared with the statistician for data analysis.

Figure 2: Data Collection flow Chart



Ethical Considerations

To address the study ethical issues, the Institutional Review Board (IRB) approval was obtained from the university before starting the recruitment process (Appendix H). Students were provided an overview of the study in the email that was sent to them with the link to the survey. In the informed consent within the survey, students were provided a clear explanation about the study and the data collection process. Information was provided regarding risks and benefits. Additionally, students were reminded that they may withdraw from the study at any time without any penalties. Students were informed that the PI is not involved in any testing. By signing the informed consent, they were giving permission to the PI to use their final scores of the capstone clinical skills refresher test and the cultural awareness survey scores in this study for data analysis. Students were assured that their identities would remain confidential. Once correlation of their final scores in the capstone clinical skills refresher test with their scores in the cultural awareness survey the names were discarded. Students' participation in the study had no effect on their capstone course scores in any way and were informed of that when they were invited to participate in the study.

Study data were stored in a shared file in a university secure OneDrive password-protected site, and this file was shared only with the dissertation chair. The survey was also password protected using the university QuestionPro survey tool, and only the PI and dissertation chair had access to the survey. Data, forms, and all other records were saved in the shared file with the dissertation chair. The shared file folder on the OneDrive will be destroyed after three years.

Data Analysis

Data analysis was completed using the statistical package SPSS. Prior to data analysis, data from students who did not complete demographic questions, and/or did not complete 50% of the cultural awareness survey were removed from the study. Data analysis included both descriptive and correlational statistics. Descriptive statistics were calculated for demographic variables (Table 3).

Table 3.

Demographic Variables Statistics

Demographic Variables	Level of Measurement	Descriptive Statistical Procedure
Capstone course section	Nominal	Percent (%), mean ($\bar{x}$), standard deviation (SD)
Age	Interval	Percent (%), mean ($\bar{x}$), standard deviation (SD)
Gender	Nominal	Percent (%), mean ($\bar{x}$), standard deviation (SD)
Ethnicity	Nominal	Percent (%), mean ($\bar{x}$), standard deviation (SD)
Primary Spoken Language	Nominal	Percent (%), mean ($\bar{x}$), standard deviation (SD)
Years of living in the U.S.	Interval	Percent (%), mean ($\bar{x}$), standard deviation (SD)
Area of growing up	Nominal	Percent (%), mean ($\bar{x}$), standard deviation (SD)
Previous University Degree	Nominal	Percent (%), mean ($\bar{x}$), standard deviation (SD)
Previous Nursing Degree	Nominal	Percent (%), mean ($\bar{x}$), standard deviation (SD)
Studying in another country	Nominal	Percent (%), mean ($\bar{x}$), standard deviation (SD)
Cultural experience in current nursing programs	Nominal	Percent (%), mean ($\bar{x}$), standard deviation (SD)

Nursing skills violates students' cultural values	Nominal	Percent (%), mean ($\bar{x}$), standard deviation (SD)

Correlation statistic was calculated for study variables (undergraduate nursing students' cultural awareness and undergraduate nursing students' skills). The Point-Biserial *r* pbis was chosen to calculate the correlation between the interval continuous variable (undergraduate nursing students' cultural awareness) and the nominal dichotomous variable (undergraduate nursing students' skills). The Point-Biserial (*r* pbis) correlation was calculated by using the total score for each student on the Cultural Awareness Scale and the total score for each student on the Capstone Clinical Skills Refreshers tool (Table 4).

Table 4.

Study Variables Statistics

Study Variables	Instrument	Level of Measurement	Statistical Procedure
Undergraduate nursing students' cultural awareness	Cultural awareness scale	Interval	Point-Biserial *r* pbis
Undergraduate nursing students' skills	Capstone clinical skills refresher tool	Nominal	Point Biserial *r* pbis

Chi square(x^2) test was calculated to determine associations between demographic nominal variables (gender, race, primary spoken language, area of grow up, students' previous obtained university degree, previous obtained nursing degree, studying in another country, students' cultural experience in the current nursing program, and the nominal dichotomous variable (undergraduate nursing students' skills).

Students' answers to the open-ended questions were analyzed using a qualitative approach. The open-ended questions were: (a) What cultural values of your own helped or

hindered your success during a particular simulation skill that you were asked to perform? (b) What are your feelings and experiences do you have when asked to perform a skill that is in complete disagreement with your own cultural values? Because there were only two open-ended questions the design did not qualify for this to be a mixed methods design. Therefore, rules of rigor in qualitative studies were not used as in actual qualitative studies. The PI reviewed the transcript to identify recurring text for each theme. The quotes were reviewed, and themes were identified, resulting in a total of five major themes.

Delimitations

Delimitations for this study were related to external validity and the ability to generalize the findings. In this study, external validity may be compromised as there is a single site of the study, small sample size, and the use of a convenience sample. The results of the study may not be generalized to other nursing programs but has value for the institution in which the study took place. The other limitation was related to the Capstone Clinical Skills Refreshers tool used to evaluate undergraduate nursing students during the capstone clinical skills refresher test in the study. The content validity of the Capstone Clinical Skills Refreshers tool was supported by expertise of undergraduate nursing faculty. The internal consistency reliability (Cronbach's alpha) has not been done for this tool.

Summary

This chapter included a description of the methods and procedure used in the study. The research design, sample, setting, and measurement methods used were included. The chapter also included a discussion of the procedures and data analysis and concluded with a discussion of ethical considerations and delimitations of the study.

CHAPTER 4

FINDINGS

The findings of this descriptive correlational study are presented in this chapter. The results include information on undergraduate nursing students' cultural awareness and the association between undergraduate nursing students' cultural awareness scores and scores from the capstone clinical skills refresher test that included patients' cultural aspects. Sample description is also presented followed by data analysis to answer the two research questions.

Study Results

Sample Description

The study survey was emailed to all undergraduate nursing students (n= 410) enrolled in the capstone course in one public university in the U.S. However, 51 students agreed to participate in the study by signing the consent form and completing the demographic survey. Thirty-six students completed the cultural awareness scale, 29 students gave permission to use their final scores of the capstone clinical skill refresher test in this study.

Based on the participants' demographics, 51 undergraduate nursing students completed the demographic survey. Of 51 undergraduate nursing students, (43%, n= 22) were white American and (87 %, n= 44) were female. Students' ages ranged from 18 to 36 years, 35%(n =18) of students were between 18 and 25 years old. The majority of the students (78%, n= 40) spoke English as a primary language, 73%(n =37) lived in the U.S. since they were born, and 71%(n= 36) reside in urban areas. Sixty-one percent (n= 31) reported that they obtained a university degree before receiving the current nursing degree they were striving to achieve, 84%(n= 43) did not study in a university in another country before coming to this university, and 78 %(n= 40) of the students did not obtain a degree from a university in another country before

taking classes for a degree in this university. A further description of the sample is presented in Table 5.

Table 5

Descriptive Statistics of Demographic Variables

Demographic Variables	N	%	Mean	SD	Variance
Capstone Section					
Online	32	63	1.37	.49	.24
On Campus	19	37			
Age (years)					
18-25	18	35	2.49	1.30	1.69
26-30	8	16			
31-35	7	14			
36 or older	18	35			
Gender at Birth					
Female	44	87	1.14	.35	.12
Male	7	14			
Race/ Ethnic Background					
White American	22	43	2.27	1.60	2.56
Latin American	9	18			
African American	13	26			
Asian American	4	8			
Native Hawaiian or Pacific Islander	1	2			
Other international	2	4			
Spoken Language					
Yes	40	78	1.22	.42	.17
No	11	22			
living in the U.S.					
Since Born	37	73	1.69	1.17	1.38
1-5 years	1	2			
6-10 years	5	10			

More than 10 years	8	16			
Growing up/Residing Area					
Rural area	15	29	1.71	.46	.21
Urban area	36	71			
Studied in another country					
Yes	8	16	1.84	.37	.13
No	43	84			
Previous Degree					
Yes	11	22	1.22	.42	.17
No	40	78			
Previous Nursing Degree					
Yes	31	61	1.39	.49	.24
No	20	39			
Cultural experience					
Yes	46	90	1.10	.30	.09
No	5	10			
Nursing skill violates cultural values					
Yes	5	10	1.90	.30	.09
No	46	90			

Research Questions

Research Question #1

What is the score of undergraduate nursing students on the cultural awareness scale?

Undergraduate nursing students' cultural awareness was measured using the Cultural Awareness Scale. The scale has five key subscales that reflect cultural awareness. These subscales are general educational experiences, awareness of attitudes, classroom and clinical instruction, research issues, and clinical practice (Rew et al., 2003, 2014). The scale includes 36 items on a 7-point Likert-type scale ranging from "*strongly disagree*" to "*strongly agree.*" The total scale internal consistency reliability (Cronbach's alpha) is 0.82, and the Cronbach's alpha

for the five key subscales ranged from 0.71 to 0.94, which demonstrates the adequate reliability of the scale (Rew et al., 2003, 2014). Total scores on the cultural awareness scale ranged from 36 to 252, with higher numbers indicating higher levels of cultural awareness. Scores less than 140 indicated low cultural awareness, scores ranging between 140 and 190 indicated moderate cultural awareness, and scores greater than 190 indicated higher cultural awareness. The final scores from (n= 29) students who completed the cultural awareness scale were used in the analysis. Students' scores ranged between 140 and 232, and the mean score was 190 (SD =19). The number of students who scored greater than or equal to 190 was 16 (55%), which indicated that students had moderate to high levels of cultural awareness.

Undergraduate nursing students' skills during the capstone clinical skills refresher test were measured using the Capstone Clinical skills Refresher tool. Total scores on the Capstone Clinical skills Refresher tool ranged from 18 to 21, with a minimum passing score of 18. The content validity of the Capstone Clinical Skills Refreshers tool was supported by undergraduate nursing faculty with expertise in the content. The internal consistency reliability (Cronbach's alpha) of this tool has not been evaluated, mainly because this tool was only used to evaluate undergraduate nursing students' skills during the capstone clinical skills refresher test and created by faculty according to the skill expectation of a graduating student, rather than being a research tool. For this study, all undergraduate nursing students (n= 410) enrolled in the capstone course were required to complete the capstone clinical skills refresher test before starting the final clinical. The final scores from (n= 29) students who participated in the study were used in the analysis. Students' scores ranged between 20 and 21, and the mean score was 20.8 (SD=.35). The number of students who scored 21was 86% (n=25). All students participated in this study

passed the medication administration skills, which equaled 12 points (57 %) of the total score of the Capstone clinical skills refresher test.

Research Question #2

What is the association between undergraduate nursing students' scores on cultural awareness and their capstone clinical skills refresher test scores?

The normality test and homogeneity test were important in this study to choose the appropriate statistical test to find the association between the independent continuous variable (cultural awareness scores measured on interval scale), and the dependent dichotomous variable (capstone clinical skills refresher test scores measured on nominal scale).

Test of normality was performed to determine the distribution of the continuous variable. The Shapiro-Wilks test was computed on cultural awareness scores and the result showed that the variable did not deviate from normality (W= 0.98, p = .6). Test of homogeneity of variances was also performed to determine if the variances of the dichotomous variable were equal. The Levene's test was computed, and the result showed that the capstone clinical skills refresher test scores variances were equal (F= 1.874, p = .174).

The Point- Biserial correlation was calculated to find the association between undergraduate nursing students' scores on cultural awareness and their capstone clinical skills refresher test scores. The Point- Biserial correlation revealed a non-significant correlation (r = -.305, p = 0.1). Undergraduate nursing students' cultural awareness score is not associated with the undergraduate nursing students score in the capstone clinical skills refresher test. The result is not significant due to the small sample size. A minimum sample size of 84 participants were required to examine the association and determine statistical significance between undergraduate nursing students' cultural awareness and undergraduate nursing students' scores during the

capstone clinical skills refresher test. However, the actual sample size received in this study after omitting the missing data is 29 participants only.

The Chi square(x^2) test was calculated to determine associations between demographic nominal variables (gender, race, primary spoken language, area of grow up, students' previous obtained university degree, previous obtained nursing degree, studying in another country, students' cultural experience in the current nursing program, and nursing skills that may violate students' cultural values) and nursing students' skills. Students' cultural experience in the current nursing program was the only variable that was significantly associated (p = .005) with nursing students' skills.

There were two open-ended questions in the survey. The open-ended questions were: (a) What cultural values of your own helped or hindered your success during a particular simulation skill that you were asked to perform? (b) What are your feelings and experiences do you have when asked to perform a skill that is in complete disagreement with your own cultural values? The PI reviewed the transcript to identify recurring text for each theme. The quotes were reviewed, and themes were identified, resulting in a total of five major themes. For question one, (1)What cultural values of your own helped or hindered your success during a particular simulation skill that you were asked to perform? the following themes were derived:

Theme 1: Cultural Experience in Nursing School

Theme 2: Cultural Influences and Simulation Testing

For question two, (2) What are your feelings and experiences do you have when asked to perform a skill that is in complete disagreement with your own cultural values? The following themes were derived:

Theme 3: Cultural Conflict in Nursing Care

Theme 4: Cultural Awareness and Patient Priority

Theme 5: Cultural Differences During Communication

Theme 1: Cultural Experience in Nursing School

Nursing students and patient cultures need to be considered in each Learning environment.

"*I have not been asked to perform a skill that makes me feel uncomfortable , but continued repetition of culturally narrow themes in patient scenarios makes me feel excluded, disregarded, and as if my voice, and many voices like my own, are simply being ignored."*

Theme 2: Cultural Influences and Simulation Testing

Nursing students' cultural values may influence their performance during simulation.

"I grew up in a culture where immediate feedback on behavior was the norm. In the simulations, there was not always immediate feedback and that felt like it caused me to have stress and anxieties about my performance during the simulations regardless of my preparation. I also feel like my culture valued rule following and not cheating. For simulation activities, it was hard to discern what amount of supplemental material I should have at my disposal simply because I was in simulation as opposed to having to perform skills in person where I assume no supplemental material would be allowed."

" I don't believe there were any overt cultural interactions relating to the simulation, but that isn't to say there aren't cultural influences such as increased confidence in voicing my opinion related to patient conditions."

Theme 3: Cultural Conflict in Nursing Care

Nursing students' cultures may conflict when providing care for patients from another culture.

"*Doing the urinary catheter and performing assessment on the opposite sex was uncomfortable at first but I got used to it the more I performed them."*

Theme 4: Cultural Awareness and Patient Priority

Nursing students were aware about diverse patient cultures as well as their own cultural conflicts. However, patient care is always first.

"*Sometimes I am a little frustrated or uncomfortable, but I know that comes with the territory of being a nurse, so I have to do what is best for the patient or for improving my skills*."

"*While I may disagree, I was able to set aside my feelings and perform what was needed, I performed the skill as the health, safety, and well-being of the patient is always first."*

"I don't associate my feelings when caring for a patient. What is best for them is my priority"

Theme 5: Cultural Differences During Communication

Nursing students faced some difficulty when communicating with people from different cultures.

"When caring for patients with the same cultural values as me, I felt like it was easier to connect and communicate with them. When interacting with patients who did not share the same cultural values as me, it was a bit difficult at times to care for them."

"Initially I struggled with looking people in the eye when having a discussion or communicating with them since is perceived as being disrespectful in my culture. We usually bow down our heads especially when communicating with an elderly or someone of higher authority than you are, which is different in the U.S because is a sign of telling lies. I still struggle with it sometimes when with even my instructors but is getting better now."

Summary

This chapter included a presentation of the findings of the descriptive correlational study. Sample description and the association between undergraduate nursing students' cultural awareness scores and scores of the capstone clinical skills refresher test were presented.

Correlational and regression data analysis to answer the two research questions were also presented. The correlation analysis revealed a non-significant correlation. Undergraduate nursing students' cultural awareness score is not associated with undergraduate nursing students score in the capstone clinical skills refresher test.

CHAPTER 5
DISCUSSION

This chapter includes a discussion of the findings of the descriptive correlational study. These findings are compared with other similar research studies and linked to the theoretical framework. Major findings of demographic and research variables are discussed. Study limitations, implications for nursing practice, and recommendations for future research are presented.

Representativeness of Sample

The convenience sample in this descriptive correlational study included (n =51) undergraduate nursing students enrolled in the capstone course from one public university in the U.S. The study sample included all ethnicities (i.e., White American, Latin American, African American, Asian American, Native Hawaiian, Pacific Islander, American Indian, Alaskan Native, and other international). Rural and urban nursing students were also included in this study because the differing cultural values of both rural and urban areas need to be considered. The study sample was smaller than samples of other cultural awareness studies previously described in the literature review. The six studies on cultural awareness from the U.S. and one study from another country had larger samples than the current study (Alpers & Hanssen, 2014; Cupelli, 2016; Diaz et al., 2015; Mareno &Hart, 2014; McClimens et al., 2014; Safipour et al., 2017; Sanner et al., 2010). However, only one cultural awareness study conducted in Sweden had a smaller sample than the current study (Hultsjö et al., 2019).

The setting for this study was also different from the previous studies on cultural awareness. Due to the COVID 19 pandemic, the entire sample was recruited online using the university email. Data were also collected online using a QuestionPro survey. No previously reported studies of cultural awareness were conducted using an email. Previous studies were

conducted in nursing schools and hospitals (Alpers & Hanssen, 2014; Cupelli, 2016; Diaz et al., 2015; Hultsjö et al., 2019; Mareno &Hart, 2014; McClimens et al., 2014; Sanner et al., 2010; Safipour et al., 2017).

Major Findings of Demographic Variables

Major findings of demographic variables are discussed in this section. Out of 12 demographic variables included in this study, relevant findings of 10 variables are presented, and linked to other cultural awareness studies previously described in the literature review. Demographic variables included seven variables about students' race/ ethnic background, primary spoken language, years of living in the U.S., area where they grew up, previously obtained university degrees, and whether they had studied in another country. The remaining variables covered students' cultural experience in the current nursing program and simulation learning experience. In this study, a total of (n= 51) students completed the demographic surveys.

Ethnic Background and Years of living in the U.S.

Immigrant nursing students (born outside the U.S.) got higher scores on the cultural awareness scale. In this study, 26 % of the students (n= 13) were African American, 18 % (n= 9) were Latin American, 9 % (n= 4) were Asian American, and 4% (n= 2) were internationals, One from Romania, and One from Sri Lanka. Also, 28 % of students (n= 14) were born outside of the U.S. and had been living in the U.S. between One to Ten years. These findings are consistent with the study conducted in Sweden. Safipour et al. (2017) found a significant correlation between being a first-generation immigrant student (born outside Sweden) and cultural awareness regarding patient care/clinical practice ($F = 2.54$, $df = 3, 171$, $p < .01$). Safipour et al. (2017) also found that students from first-generation immigrants got higher scores in cultural

awareness compared to the other two groups of students (second-generation immigrants and native-born Swedish).

Language

The language differences between nursing students and patients may cause difficulty in communication (McClimens et al., 2014). In this study, 22 % (n= 11) of the students reported that English is not their primary spoken language. This finding is consistent with McClimens et al. (2014) study who found that cultural difficulties between nursing students and their patients were related to patients' language and gender.

Area Where Students Grew Up

Seventy-one percent (n= 36) of the students grew up in urban areas and came from culturally diverse backgrounds. Students reported that growing up in diverse area have helped them in understanding many cultures and being open to other cultures. This finding is consistent with Ingram's study (2012), who indicated that rapid growth in rural, urban, and ethnic populations emphasized the need for nursing students to become culturally aware of many differing cultures. However, only one student reported that caring for patients with the same cultural values makes it easier to connect and communicate with them, while interacting with patients who did not share the same cultural values makes it difficult at times to care for them.

Previous University Degrees

Nursing students who obtained degrees before receiving the nursing degree got higher scores on the cultural awareness scale. Sixty-one percent (n= 31) of the students obtained a degree before receiving a nursing degree, and 22% (n=11) obtained a degree from a university in another country. This finding is consistent with Mareno and Hart (2014), who found that nurses

with higher education degrees have more cultural awareness, in which helps nurses to understand patients from diverse culture.

Cultural Experience in the Current Nursing Program

Nursing students need to increase their cultural awareness to provide care for all patients (Ong-Flaherty, 2015). Ninety percent (n= 46) of the students reported that the current nursing program helped them to learn about different cultural values. This finding supported the cultural awareness studies previously described in the literature review. Cultural education is necessary for nursing students to improve their cultural awareness when caring for patients from differing cultures (Campinha-Bacote, 2011; Ingram, 2012; Mareno & Hart, 2014; Ong-Flaherty, 2015; Ravindran & Myers, 2012; Smith, 2013).

Students' Cultural Values and Simulation

Nursing students' cultural values may affect their success when practicing simulation skills. Sixty-three percent (n= 32) of the students were enrolled in an online capstone course. Students reported that online simulation helped them to be comfortable practicing nursing skills without being shy. This finding is consistent with the Ravindran and Myers study (2012), who found that nurses' cultural values and beliefs may influence their behaviors when caring for patients.

Students' Cultural Values and Nursing Skills

The study findings also showed that 90 % (n = 46) of the students have not experienced any situations that were in direct conflict with their own cultural values. In other words, they have not been asked to perform any nursing skill that violates their personal cultural values. However, 10 % (n= 5) of the students disagreed. Students described their feeling and cultural experience during the simulation sessions in nursing school. Students felt excluded when faculty

including specific cultures in patients' scenarios and not considering their culture. Students reported that some nursing skills violated their cultures such as performing assessment and inserting urinary catheter to the opposite gender. They felt uncomfortable when they performed these skills at the first time, however, students were able to set their feelings aside and perform what the best for their patients. Students faced some difficulty during the communication with their faculty and patients as they had different cultural values when dealing with older persons. During simulation sessions, students also reported some cultural conflicts that may affect their performance, such as not receiving immediate feedback. This finding is consistent with Degazon and Mancha (2012), who found that nursing students who struggle with their own cultural values and beliefs, they may face difficulties caring for other cultures because students' cultures may conflict when compared to another culture.

Major Findings of Research Variables

Research Question #1

What is the score of undergraduate nursing students on the cultural awareness scale?

General Experiences at School of Nursing

Nursing students reported that their experiences at nursing school have helped them to become more knowledgeable about various cultural groups and increase their awareness. Fifty percent (n= 18) of the students strongly agreed, and 28 % (n= 10) agreed that the general experiences at this nursing school helped to increase their understanding about different cultures. This finding is consistent with the Alpers and Hanssen study (2014), who reported that cultural awareness education at the university helped nursing students with the necessary cultural skills.

General Awareness/Attitudes

Nursing students' cultural awareness had increased since they entered nursing school.

Seventy-eight percent of the students (n= 28) reported that they felt comfortable working with patients from all ethnic groups. This finding is consistent with Hultsjö et al. (2019), who reported that nursing students were willing to learn about cultural awareness during their nursing education, and they can be aware of their own cultural values.

Nursing Classes/ Clinicals

Nursing faculty are responsible to accommodate nursing students' cultural and learning needs, and they must include course content that discusses cultural issues in the classroom (Diaz et al., 2015). Seventy-eight percent (n= 28) of the students reported that instructors at this nursing school used examples and case studies to teach information regarding care for patients of various cultures. These findings are consistent with McClimens et al. (2014), who found that nursing students can learn cultural awareness using different educational modalities. Nursing students should receive more cultural awareness education and training during their nursing program (McClimens et al., 2014).

Additionally, 64 % (n= 23) of the students noticed that during group discussion, nursing instructors respected differences in individuals from diverse cultures. This finding is consistent with Cupelli (2016), who reported that cultural group discussions had helped the students to learn effective communication and improve their recognition of their own and other cultures. Group discussions also helped to increase students understanding and appreciation of cultural differences and similarities among and between groups (Cupelli, 2016). The previous finding is also consistent with Sanner et al. (2010), who indicated that cultural educational strategies such as discussion activity had improved nursing students' cultural awareness.

Clinical Practice

Ingram (2012) highlighted that nursing students must be culturally aware to understand different cultural values and beliefs for diverse patient populations. Eighty-six percent (n= 30) of the students reported that they respect the decisions of their patients when they are influenced by culture even if they disagree. This finding is consistent with Ingram (2012), who suggested that nursing students must learn cultural skills necessary to perform culturally appropriate assessments and ongoing care for their patients.

Research Issues

In this study, 48 % (n= 14) of the students reported that researchers at this nursing school consider different cultural groups and multicultural aspects in their studies. This finding supported the pursuit of nursing education that promotes cultural awareness to learn about values and beliefs of different cultures related to healthcare. Since nursing students' cultures may differ compared to another culture, this is a crucial element of providing proper care (Degazon & Mancha, 2012).

Research Question #2

What is the association between undergraduate nursing students' score on cultural awareness and their capstone clinical skills refresher test score?

Based on the statistical finding of this study, undergraduate nursing students' cultural awareness score is not associated with undergraduate nursing students score in the capstone clinical skills refresher test. However, nursing students indicated that they were not given the opportunity to discuss their own cultures during the simulation, or to identify if there were any issues related to conflicts of cultural values and beliefs with patients' culture. Nursing students also reported that there were no cultural interactions with the simulated patient during the simulation sessions but there were cultural influences that affect their performance during the simulation. This finding is consistent with Diaz et al (2015), who reported that nursing faculty

had a limited number of cultural diversity courses, and cultural contents were not included in all course syllabi. The previous finding supported the need to include cultural contents in each nursing course. Nursing faculty must use different teaching strategies to enhance nursing students' cultural awareness. They must allow nursing students to discuss their cultural values and beliefs to become more culturally aware of themselves and others.

Link to Theoretical Framework

Jeffries Simulation Theory (Jeffries, 2015) was used to explain the results of this study. For this study, the two research variables were undergraduate nursing students' cultural awareness and undergraduate nursing students' skills. Undergraduate nursing students' cultural awareness variable was conceptually defined as *participant culture* and operationally defined as undergraduate nursing students' cultural awareness, measured by the Cultural Awareness Scale. The undergraduate nursing students' skills variable was conceptually defined as *participant skills* and operationally defined as undergraduate nursing students' skills during the capstone clinical skills refresher test, as measured by the Capstone Clinical Skills Refresher tool. The relational proposition tested in this study was participant characteristics (*participant culture*) and participant outcome (*participant skills)*. For this study undergraduate nursing students' cultural awareness (*participant culture*) and the association with undergraduate nursing students' skills (*participant skills)* in the capstone clinical skills refresher test were tested. The statistical findings did not support the theoretical proposition that nursing students' cultural awareness is associated with undergraduate nursing students' skills. However, if the power analysis had been obtained there might have been different results. Undergraduate nursing students' cultural awareness is not associated with undergraduate nursing students' skills in the capstone clinical skills refresher test.

Study Limitations

Limitations for this study were related to external validity and the ability to generalize the findings. In this study, external validity was compromised in three ways: there is a single site of the study; small sample size; and the use of a convenience sample. The results of the study may not be generalized to other nursing programs but has value for the institution in which the study took place.

Another limitation was related to the Capstone Clinical Skills Refreshers tool used to evaluate undergraduate nursing students during the capstone clinical skills refresher test. The content validity of the Capstone Clinical Skills Refreshers tool was supported by expertise of undergraduate nursing faculty. The internal consistency reliability (Cronbach's alpha) has not been done for this tool. Also, the tool did not include any criteria for cultural awareness skills, students were not evaluated on how they consider patients cultures when providing nursing care.

Last, due to the COVID 19 pandemic, data collection time was also a limitation. Data were collected in one semester only, and when they were busy working 12-hour shifts in clinicals. Students were very busy fulfilling their needed hours in clinicals for graduation requirements, which explained why the response rate was lower than the estimation needed for this study.

Clinical Nursing Implications

Study findings have important implications for cultural awareness in both nursing education and clinical practice. Nursing faculty must allow students' cultural values and beliefs to be a point of discussion to create learning environments that help nursing students to become more culturally aware of themselves and others. Simulation learning and testing must include different cultures to allow cultural communication between students and simulated patient during

the simulation session, and to understand what cultural influences affect students' performance during simulation. Nursing faculty must consider both students and patients cultures when they developed simulation scenarios. They must include an evaluation criteria to evaluate nursing students' cultural skills during simulation sessions. Cultural discussion and debriefing must be conducted after each simulation session to enhance nursing students' cultural awareness and validate their values and belfies regarding the simulation experience that include different cultures.

Recommendations for Future Research

This study was limited to email recruitment only. Future research is needed using different research recruitment strategies. Recruitment of participants from both undergraduate and graduate nursing programs will help determine whether cultural awareness levels are similar to or different from this study. To support the findings from this study, future research is needed to expose the factors associated with nursing students' cultural awareness. Researchers also need to use different measurement methods to evaluate nursing students' cultural awareness during clinical simulation, to compare their findings with other cultural awareness studies conducted in the U.S. and in other countries. Future qualitative studies about cultural awareness may provide more insight about nursing students cultural awareness, and how students' cultural values help or hinder their success during a nursing program. Future interventional studies will provide more data about how to improve nursing students' cultural awareness in the U.S.

Conclusions

Despite its limitations, several conclusions can be drawn from this study. Cultural awareness is associated with different factors identified in this study and draws on previous research studies conducted in the U.S. and in other countries. Findings from this study can be used to support Jeffries Simulation Theory and provide evidence that the theoretical concepts are

associated with nursing students' cultural awareness and clinical simulation skills. The findings regarding students' cultural awareness in this sample in the U.S. provides evidence that cultural awareness is an important issue in need of further exploration.

Summary

This chapter included a discussion of the findings of the study. The findings were compared with other similar research studies and linked to the theoretical framework. Major findings of demographics and research variables as well as implications for nursing practice were discussed. Future research was proposed based on the findings of this study.

References

Alpers, L. M., & Hanssen, I. (2014). Caring for ethnic minority patients: A mixed method study of nurses' self-assessment of cultural competency. *Nurse Education Today,* https://doi:org.ezp.waldenulibrary.org/10.1016/j.nedt.2013.12.004

Andrews, M. M., & Boyle, J. S. (2012). *Transcultural concepts in nursing care* (6th ed.). Philadelphia, PA: Wolters Kluwer/Lippincott Williams & Wilkins.

Beischel, K. P. (2013). Variables affecting learning in a simulation experience: A mixed methods study. *Western Journal of Nursing Research, 35*(2), 226-247. https://doi:10.1177/0193945911408444.

Calvillo, E., Clark, L. Ballantyne, J., Pacquiao, Dula., Purnell, L., & Villarruel, A. (2009). Cultural competency in baccalaureate nursing education. *Journal of Transcultural Nursing, 20* (2), 137-45. https://doi:10.1177/1043659608330354.

Campinha-Bacote, J. (2011). Delivering patient-centered care in the midst of a cultural conflict: The role of cultural competence. *Online Journal of Issues of Nursing,16*(2), 1-12. http://doi:10.3912/OJIN.Vol16No02Man05.

Cupelli, L. (2016). An innovative service-learning project to develop cultural competency in undergraduate nursing students. *Teaching and Learning in Nursing,11*(3), 113-117. http://doi:10.1016/j.teln.2016.01.004.

Diaz, C., Clarke, P. N., & Gatua, M. W. (2015). Cultural competence in rural nursing education: Are we there yet? *Nursing Educational Perspectives, 36*(1), 22-26. http://doi:10.5480/12-1066.1.

Diez, N., Rodriguez-Diez, M., Nagore, D., Fernandez, S., Ferrer, M., & Beunza, J. (2013). A randomized trial of cardiopulmonary resuscitation training

for medical students: Voice advisory mannequin compared to guidance provided by an instructor. *Simulation in Healthcare, 8,* 234-241. http://doi:10.1097/SIH.0b013e31828e7196.

Degazon, C., & Mancha, C. (2012). Changing the face of nursing: Reducing ethnic and racial disparities in health. *Family & Community Health, 35*(1), 5-14. http://doi:10.1097/FCH.0b013e3182385cf6.

Fenske, C. L., Harris, M. A., Aebersold, M. L., & Hartman, L. S. (2013). Perception versus reality: A comparative study of the clinical judgment skills of nurses during a simulated activity. *Journal of Continuing Education in Nursing, 44*(9), 399-405. https://doi:10.3928/00220124-20130701-67

Gray, J. R., Grove, S. K., & Sutherland, S. (2017). *Burns and Grove's the practice of nursing research: Appraisal, synthesis, and generation of evidence* (8th ed.). St. Louis, MO: Elsevier.

Grossman, S., Mager, D., Opheim, H., & Torbjornsen, A. (2012). A bi-national simulation study to improve cultural awareness in nursing students. *Clinical Simulation in Nursing, 8*(8), 341-346.

Ham, K. L. (2016). Use of standardized patients to enhance simulation of medication administration. *Nurse Educator, 41*(4), 166-168. http://doi:10.1097/NNE.0000000000000248.

Hoye, S., & Severinsson, E. (2010). Professional and cultural conflicts for intensive care nurses. *Journal of Advanced Nursing,66*(4), 858-867. http://doi: 10.1111/j.1365-2648.2009.05247.x

Hope, A., Garside, J., & Prescott, S. (2011). Rethinking theory and practice: Pre-registration student nurses' experiences of simulation teaching and learning in the acquisition of clinical skills in preparation for practice. *Nurse Education Today, 31*(7), 711–715. https://doi:10.1016/j.nedt.2010.12.011.

Hultsjö, S., Bachrach-Lindstrom, M., Safipour, J., & Hadziabdic, E. (2019). Cultural awareness requires more than theoretical education: Nursing students' experiences. *Nurse Education in Practice, 39*. 37-79. http://doi: 10.1016/j.nepr.2019.07.009.

Igbo, I., Straker, K., Landson, M., Symes, L., & Bernard, L. (2011). An innovative, multidisciplinary strategy to improve retention of nursing students from disadvantaged backgrounds. *Nursing Education Perspectives, 32*, 375-379. https://pubmed.ncbi.nlm.nih.gov/22235693/.

Ingram, R. R. (2012). Using Campinha-Bacote's process of cultural competence model to examine the relationship between health literacy and cultural competence. *Journal of Advanced Nursing, 68*(3), 695-704. http://doi: 10.1111/j.1365-2648.2011.

Jeffries, P. R., & Rogers, K. J. (2012). Theoretical framework for simulation design. In P. R. Jeffries (Ed.), *Simulation in nursing education: From conceptualization to evaluation* (2nd ed., pp. 25-42). New York: National League for Nursing.

Jeffries, P. R. (Ed.). (2015). *The NLN Jeffries simulation theory*. Philadelphia, PA: Wolters Kluwer.

Jeffries, P. R., Rodgres, B., Adamson, K. (2015). NLN Jeffries Simulation Theory: Brief narrative description. *Nursing Education Perspectives, 36(*5). 292-293. http://doi: 10.5480/1536-5026-36.5.292

Kardong-Edgrem, S., Cason, C. L., Walsh Brennan, A. M., Reifsnider, E., Hummel, F., Mancini, M., & Griffin, C. (2010). Cultural competency of graduating BSN nursing students. *Nursing Education Perspectives, 31*(5), 278-285. https://pubmed.ncbi.nlm.nih.gov/21086864/.

Leblanc, V. R., Regehr, C., Tavares, W., Scott, A. K., Macdonald, R., & King, K. (2012). The impact of stress on paramedic performance during simulated critical events. *Prehospital & Disaster Medicine, 27*(4), 369-374.

Leininger, M. (2002). Essential transcultural nursing care concepts, principles, examples, and policy statements. In M. Leininger & M. R. McFarland (Eds.), *Transcultural nursing: Concepts, theories, research, and practice* (3rd ed.). New York, NY: McGraw-Hill.

Long, T.B. (2012). Overview of teaching strategies for cultural competence in nursing students. *Journal of Cultural Diversity,19*(3), 102-108. https://pubmed.ncbi.nlm.nih.gov/23155896/.

Mareno, N., & Hart, P. (2014). Cultural competency among nurses with undergraduate and graduate degrees: Implications for nursing education. *Nursing Education Perspectives, 35*(2), 83-88. http://doi:10.5480/12-834.1.

McClimens, A., Brewster, J., & Lewis, R. (2014). Recognizing and respecting patients' cultural diversity. *Nursing Standard, 28*(28), 45-52. http://doi: 10.7748/ns2014.03.28.28.45.e8148.

Ong-flaherty, C. (2015). Critical cultural awareness and diversity in nursing: A minority perspective. *Nurse Leader,13*(5).58-62. http://dx.doi.org/10.1016/j.mnl.2015.03.012.

San Ozkara, E. (2015). Using clinical simulation to enhance culturally competent nursing care: A review of the literature. *Clinical Simulation in Nursing, 11*(4), 228-243. http://dx.doi.org/10.1016/j.ecns.2015.01.004.

San Ozkara, E. (2019). Effect of the Diverse Standardized Patient Simulation (DSPS) Cultural Competence Education Strategy on Nursing Students' Transcultural Self-Efficacy Perceptions. *Journal of Transcultural Nursing, 30* (3). 291-302. http://doi:10.1177/1043659618817599

Parker, B. C., & Myrick, F. (2012). The pedagogical ebb and flow of human patient simulation: Empowering through a process of fading support. *Journal of Nursing Education, 51*(7), 365-372. https://doi:10.3928/01484834-20120509-01

Pauly-O'Neill, S. (2013). Beyond the five rights: Improving patient safety in pediatric medication administration through simulation. *Clinical Simulation in Nursing, 5*(5), 181–186. http://doi.org/10.1016/j.ecns.2009.05.059.

Pinar, G., Knight C., Gaioso V., Watts P., Dailey K., et al. (2015) The Effects of high-fidelity simulation on nursing students perceptions and self-efficacy of obstetric skills. *International Archives of Nursing and Health Care,1*(1).1-7. https://doi. 10.23937/2469-5823/1510008.

Ravindran, N., & Myers, B. J. (2012). Cultural influences on perceptions of health, illness, and disability: A review and focus on autism. *Journal of Child and Family Studies, 21*(2), 311–319. https://doi.org/10.1007/s10826-011-9477-9

Rew, L., Becker, H., Cookston, J., Khosropour, S., & Martinez, S. (2014). Measuring cultural awareness in nursing students. *Journal of Nursing Education, 42*(6), 249-257. https://doi.10.3928/0148-4834-2003060-07.

Safipour, J., Hadziabdic, E., Hultsjö, S., & Bachrach-Lindstrom, M. (2017). Measuring nursing students' cultural awareness: A cross-sectional study among three universities in southern

Sweden. *Journal of Nursing Education and Practice, 7* (1). 107-113. http://dx.doi.org/10.5430/jnep.v7n1p107

Sanko, J., & Mckay, M. (2017). Impact of simulation-enhanced pharmacology education in prelicensure nursing education. *Nurse Educator, 42*(5S), S32–S37. http://doi10.1097/NNE.0000000000000409.

Sanner, S., Baldwin, D., Cannella, K., Charles, J., & Parker, L. (2010). The impact of cultural diversity forum on students' openness to diversity*, Journal of cultural diversity,17*(2), 56-61. https://www.ncbi.nlm.nih.gov/pubmed/20586367.

Smith, L. (2013). Researching for cultural competence. *Nursing 2013,* www.Nursing2013.com

Stellflug, S. M., & Lowe, N. K. (2018). The effect of high-fidelity simulators on knowledge retention and skill self- efficacy in pediatric advanced life support courses in a rural state. *Journal of pediatric nursing, 39*, 21–26. https://doi.org/10.1016/j.pedn.2017.12.006.

United States Census Bureau. (2021). *U.S. Census Bureau projections show a slower growing, older, more diverse nation a half century.* http://www.census.gov/newsroom/releases/archivespopulation/cb12-243.html.

van Soeren, M., Devlin-Cop, S., MacMillan, K., Baker, L., Egan-Lee, E., & Reeves, S. (2011). Simulated interprofessional education: An analysis of teaching and learning processes. *Journal of Interprofessional Care, 25*(6), 434-440. https://doi:10.3109/13561820.2011.592229

Walker, L. O., & Avant, K. C. (2011). *Strategies for theory construction in nursing* (5th ed.). Upper Saddle River, NJ: Pearson Education.

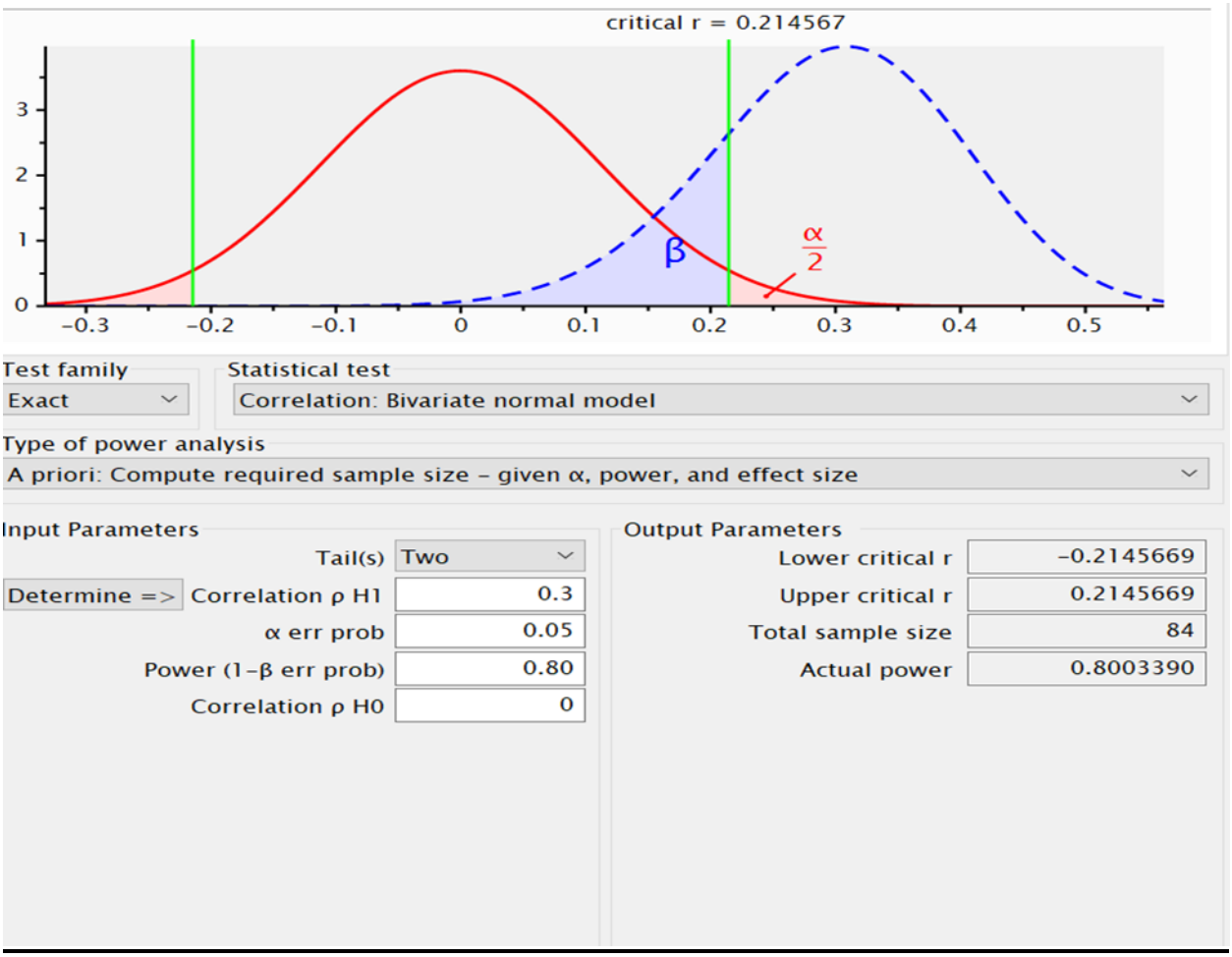
Wilson, A., Sanner, S., & McAllister, L. E. (2010). An evaluation study of mentoring program to increase the diversity of the nursing workforce. *Journal of Cultural Diversity, 17*(4), 144-

150.http://search.proquest.com/openview/bf2b9640e677979b2befa6215a2953c0/1?pqorigsite gscholar&cbl=34124.

Weideman, Y. L., Young, L., Lockhart, J. S., Aocn, C., Grund, F. Y., Fridline, M. M., & Panas, M. (2016). Strengthening cultural competence in prenatal care witha virtual community: Building capacity through collaboration. *Journal of Professional Nursing, 32* (5S), S48–S53.

Yuan, H., Williams, B., & Fang, J. (2012). The contribution of high-fidelity simulation to nursing students' confidence and competence: A systematic review. *International Nursing Review, 59*(1), 26–33. http://doi 10.1111/j.1466-7657.2011.00964.

Appendix A: Power Analysis



Appendix B: Capstone Clinical Skills Refresher

	Skill	Done	Not Done	Comments
Patient Safety:				
	1. Introduces self/wearing ID *(once)*			
	2. Identifies patient with two identifiers: name and DOB *(at least once before initiating patient care AND before administering medication)*			
	3. Performs hand hygiene *(before initially touching patient)*			
	4. Assesses allergies: **Betadine** *(at least once prior to medication administration)*			
Oxygen Administration: Adult face mask				
	1. Applies adult face mask correctly to patient			
	2. Sets oxygen flow meter to 6 Lpm			
Vital signs: Set values ***(see daily VS sheet - BP_____ P_____ RR_____)***				
	* Places BP cuff on patient correctly			
	1.Takes Blood Pressure (*reading +/- 8 diastolic or systolic*)			Student:
	2.Takes radial pulse (*reading +/- 8 beats of set value*)			Student:
	3.Counts respirations (*reading +/- 4*)			Student:
Medication Administration: IVP Ondansetron (Zofran)				
	* Medication administration procedure			
	1. Verbalize information about medication: • Name (generic & brand) • Class (pharmacologic & therapeutic) • Mechanism of action • Peak/onset/duration (if applicable) • Why patient is receiving medication			
	2. Identify assessment information: • Allergies • Pain score (if applicable) • Vital sings (if applicable) • Laboratory values (as applicable) • Contraindications or cautions present • Previous or current side effects/ adverse effects			
	3. Perform hand Hygiene according to correct procedure			
	4. Identify patient and allergies: • Use 2 identifiers: patient's name & DOB, compare this to the armband and the chart • Allergies (and reactions), compare to the chart to verify all allergies identified by the patient are present			

	5. Perform three medication check: • Compare medication to MAR in EMR when gathering medications (i.e., from pyxis) • Compare medication to MAR in EMR at the bedside before preparing medication at the beside • Compare medication to MAR in EMR before administration at the bedside and scan the medication/patient barcode per facility guidelines			
	6. Prepare medication properly for the route of administration			
	7. Prepare patient for administration: • Introduce self by name and title • Explain procedure • Obtain pertinent assessment/ lab results based on the medication being given • Position patient appropriately • Identify and utilize individual preferences when able			
	8. Provide pertinent patient/ family teaching in layman's term			
	9. Administer medication according to the correct procedure route			
	10. Document medication administration done correctly			
	11. Evaluate patient (as appropriate for medication)			
	12. Provide patient safety before exiting			
Other:				

Appendix C: Cultural Awareness Scale (Rew et al., 2003, 2014)

		General Experiences at this School of Nursing	**Does Not Apply**	**Strongly Disagree**			**No Opinion**			**Strongly Agree**
1	1.	The instructors at this nursing school adequately address multicultural issues in nursing		1	2	3	4	5	6	7
1	2.	This nursing school provides opportunities for activities related to multicultural issues.		1	2	3	4	5	6	7
1	3.	Since entering this school of nursing my understanding of multicultural issues has increased.		1	2	3	4	5	6	7
1	4.	My experiences at this nursing school have helped me become knowledgeable about the health problems associated with various racial and cultural groups.		1	2	3	4	5	6	7
		General Awareness and Attitudes								
2	5.	I think my *beliefs and attitudes* are influenced by my culture.		1	2	3	4	5	6	7
2	6.	I think my *behaviors* are influenced by my culture.		1	2	3	4	5	6	7
2	7.	I often reflect on how culture affects beliefs, attitudes, and behaviors.		1	2	3	4	5	6	7
4 RC	8.	When I have an opportunity to help someone, I offer assistance less frequently to individuals of certain cultural backgrounds.		1	2	3	4	5	6	7
4 RC	9.	I am less patient with individuals of certain cultural backgrounds.		1	2	3	4	5	6	7
4	10.	I feel comfortable working with patients of all ethnic groups.		1	2	3	4	5	6	7
2	11.	I believe nurses' own cultural beliefs influence their nursing care decisions.		1	2	3	4	5	6	7
4 RC	12.	I typically feel somewhat uncomfortable when I am in the company of people from cultural or ethnic backgrounds different from my own.		1	2	3	4	5	6	7

		Nursing Classes/Clinicals								
4 RC	13.	I have noticed that the instructors at this nursing school call on students from minority cultural groups when issues related to their group come up in class.		1	2	3	4	5	6	7
1	14.	During group discussions or exercises, I have noticed the nursing instructors make efforts to ensure that no student is excluded.		1	2	3	4	5	6	7
2	15.	I think that students' cultural values influence their classroom behaviors (for example, asking questions, participating in groups, or offering comments.)		1	2	3	4	5	6	7
1 RC	16.	In my nursing classes, my instructors have engaged in behaviors that may have made students from certain cultural backgrounds feel excluded.		1	2	3	4	5	6	7
2	17.	I think it is the nursing instructor's responsibility to accommodate the diverse learning needs of students.		1	2	3	4	5	6	7
1	18.	My instructors at this nursing school seem comfortable discussing cultural issues in the classroom.		1	2	3	4	5	6	7
1	19.	My nursing instructors seem interested in learning how their classroom behaviors may discourage students from certain cultural or ethnic groups.		1	2	3	4	5	6	7
2	20.	I think the cultural values of the nursing instructors influence their behaviors in the clinical setting.		1	2	3	4	5	6	7
1	21.	I believe the classroom experiences at this nursing school help our students become more comfortable interacting with people from different cultures.		1	2	3	4	5	6	7
1 RC	22.	I believe that some aspects of the classroom environment at this nursing school may alienate students from some cultural backgrounds.		1	2	3	4	5	6	7

5	23.	I feel comfortable discussing cultural issues in the classroom		1	2	3	4	5	6	7
1	24.	My clinical courses at this nursing school have helped me become more comfortable interacting with people from different cultures.		1	2	3	4	5	6	7
1	25.	I feel that this nursing school's instructors respect differences in individuals from diverse cultural backgrounds.		1	2	3	4	5	6	7
1	26.	The instructors at this nursing school model behaviors that are sensitive to multicultural issues.		1	2	3	4	5	6	7
1	27.	The instructors at this nursing school use examples and/or case studies that incorporate information from various cultural and ethnic groups.		1	2	3	4	5	6	7
		Research Issues								
3	28.	The faculty at this school of nursing conducts research that considers multicultural aspects of health-related issues.		1	2	3	4	5	6	7
3	29.	The students at this school of nursing have completed theses and dissertation studies that considered cultural differences related to health issues.		1	2	3	4	5	6	7
3	30.	The researchers at this school of nursing consider relevance of data collection measures for the cultural groups they are studying.		1	2	3	4	5	6	7
3	31.	The researchers at this school of nursing consider cultural issues when interpreting findings in their studies.		1	2	3	4	5	6	7
		Clinical Practice								
5	32.	I respect the decisions of my patients when they are influenced by their culture, even if I disagree.		1	2	3	4	5	6	7
5	33.	If I need more information about a patient's culture, I would use resources available on site (for example, books, videos, etc.).		1	2	3	4	5	6	7

5	34.	If I need more information about a patient's culture, I would feel comfortable asking people I work with.		1	2	3	4	5	6	7
5	35.	If I need more information about a patient's culture, I would feel comfortable asking the patient or a family member.		1	2	3	4	5	6	7
4 RC	36.	I feel somewhat uncomfortable working with the families of patients from cultural backgrounds different than my own.		1	2	3	4	5	6	7

Appendix D: CAS Permission

Alahmedi, Shorok Hamed M
Mon 10/12/2020 12:07 PM
To: ellerew@mail.utexas.edu
Cc: Behan, Deborah Fern

Dear Dr.Rew,

Hope you doing well!

I'm Shorok Alahmedi, I'm PhD in nursing student at the University of Texas at Arlington. My research interest is focus on simulation in nursing education.
Currently, I'm studying the effect of nursing students culture values on their performance during simulation. I would like to take your official permission to use The Culture Awareness Scale (CAS) in my research.

I'm including my research advisor Dr.Deborah Behan in this email.

Regards
Shorok Alahmedi

Rew, Donna L <ellerew@mail.utexas.edu>
Mon 10/12/2020 1:49 PM
To: Alahmedi, Shorok Hamed M

Rew & Becker Cultural 2014.p... 88 KB

Cultural-2.awarenessScale .doc 78 KB

2 attachments (166 KB) Download all Save all to OneDrive - University of Texas at Arlington

You certainly have permission. I've included the scale and the most recent publication.

Appendix E: Demographic Survey

Please respond to each item by circling a response. Thank you!

1. In which capstone course section, you are enrolled?
   1) Online 2) On Campus

2. What is your age?
   1) 18-25 2) 26-30 3) 31-35 4) 36 or older

3. What is your gender at birth?
   1) Female 2) Male

4. What is your race/ ethnic background?
   1) White American 2) Latin American 3) African American 4) Asian American

   5) Native Hawaiian or other Pacific Islander 6) American Indian. 7)Alaskan Native

   8) Other international: Specify_____

5. Is English your primary spoken language?
   1) Yes 2) No

6. How long have you been living in the U.S.?
   1) Since Born 2)1- 5years 3) 5-10 years 4) More than 10 years

7. In which area did you grow up?
   1) Rural area 2) Urban area

8. Have you ever studied in a university in another country?
   1) Yes 2) No

9. Have you ever obtained a degree from a university in another country?
   1) Yes 2) No

10. Have you ever obtained any degree before receiving a nursing degree?
    1) Yes 2) No

11. Did the current nursing program you are in help you to learn about different cultural values?
    1) Yes. 2)No

12. Is there any nursing skill that you have learned while in nursing school that you feel violates your cultural values and beliefs, and which made you uncomfortable?
    1) Yes 2) No

Open- Ended Questions

1. What cultural values of your own helped or hindered your success during a particular simulation skill that you were asked to perform?

_____
_____
_____
_____

2. What are your feelings and experiences do you have when asked to perform a skill that is in complete disagreement with your own cultural values?

_____
_____
_____
_____

Appendix F: Recruitment Script

Recruitment Script (Email)

To: Capstone Course Nursing Students

My name is Shorok Alahmedi, I'm PhD nursing candidate at the University of Texas at Arlington. I am inviting you to participate in my dissertation research study titled, [NURSING STUDENTS' CULTURAL AWARENESS AND HIGH-FIDELITY SIMULATION SKILLS]. The purpose of this study is to examine undergraduate nursing students' cultural awareness and the association between undergraduate nursing students' cultural awareness scores and scores of the capstone clinical skills refresher test.

You can choose to participate in this research study if you are at least 18 years old, UTA undergraduate nursing student enrolled in the capstone course for the Fall semester 2021 and completed the capstone clinical skills refresher.

If you agree to participate in this study, please click on the link below, which will take you to the survey. Your decision about whether to participate is entirely up to you. Choosing to participate or not will in no way affect your grade in the capstone course. Even if you choose to begin the study, you can also change your mind and quit at any time without any consequence.

If you have any questions about the study, please feel free to email me at shorokhamedm.alahmedi@mavs.uta.edu. Or email my dissertation chair Dr. Deborah Behan at dgreen@uta.edu.

Regards,
Shorok Alahmedi, MSN, RN
PhD Nursing Candidate
College of Nursing and Health Innovation
The University of Texas at Arlington

Appendix G: Consent From

My name is Shorok Alahmedi, and I am asking you to participate in a UT Arlington research study titled, "NURSING STUDENTS' CULTURAL AWARENESS AND HIGH-FIDELITY SIMULATION SKILLS" This research study looks at the association between your cultural awareness and your experience in simulation clinical skills refresher. You can choose to participate in this research study if you are at least 18 years old, currently live in the U.S., UTA undergraduate nursing students enrolled in capstone course for the Fall 2021 semester and have access to UTA emails. Your survey will be automatically excluded if you did not answer any demographic questions and/ or not complete 50% of the cultural awareness survey.

Reasons why you might want to participate in this study include you may like to share your learning experience as undergraduate nursing students during the clinical skills refresher and discuss how simulation accommodate your cultural learning needs. But you might not want to participate if you are uncomfortable sharing your culture experiences, and uncomfortable to discuss some issues related to your culture. Your decision about whether to participate is entirely up to you. If you decide not to be in the study, there won't be any punishment or penalty; whatever your choice, there will be no impact on any benefits or services that you would normally receive. Even if you choose to begin the study, you can also change your mind and quit at any time without any consequences.

If you decide to participate in this research study, the list of activities that I will ask you to complete for the research are (1) Read and sign the informed consent form (write your first and last names). (2) fill out the survey. The survey will take approximately 20 minutes of your time to complete. You have two weeks to compete the survey.

Although the benefits of this study would be improving cultural awareness teaching in nursing programs. The study activities are not expected to pose any additional risks beyond those that you would normally experience in your regular everyday life. However, you may feel uncomfortable to participate in this study as your identities will be known, or you may feel that your grade is controlled by nursing faculty and refusing participation will affect your grade. Your faculty will not have access to your responses on the survey. She will however, have access to your score on your simulation. Her access to the scores relates to your simulation testing, but the researchers will not have access to anything other than your name and final score for research purposes only. Your participation in this study will not affect your grade in any way. Data from this study will be used for research purposes only. No data will be shared with anyone other than my faculty advisor for data analysis of cultural awareness and simulation scores. You can withdraw from the study at any time without any penalties.

You will not be paid for completing this study, nor does it in any way affect your grade either negatively or positively. There are no alternative options to this research project.

The research team is committed to protecting your rights and privacy as a research subject. We may publish or present the results, but your name will not be used. Data collected in this study will be shared and discussed with UTA dissertation committee members. The committee

members are approved by UTA Office of Graduate Study. While absolute confidentiality cannot be guaranteed, the research team will make every effort to protect the confidentiality of your records as described here and to the extent permitted by law. If you have questions about the study, you can contact me at shorokhamedm.alahmedi@mavs.uta.edu. For questions about your rights or to report complaints, contact the UTA Research Office at 817-272-3723 or regulatoryservices@uta.edu.

You are indicating your voluntary agreement to participate by writing your First and Last names on the line below.

First Name: _____. Last Name: _____.

Appendix H: IRB Approval Letter

UNIVERSITY OF TEXAS ARLINGTON | OFFICE OF RESEARCH ADMINISTRATION
REGULATORY SERVICES

10/21/2021

IRB Approval of Minimal Risk (MR) Protocol

PI: Shorok Hamed Alahmedi
Faculty Advisor: Dr. Deborah Behan
Department: Nursing - Graduate
IRB Protocol #: 2022-0041
Study Title: *"NURSING STUDENTS' CULTURAL AWARENESS AND HIGH-FIDELITY SIMULATION SKILLS"*

Effective Approval: 10/20/2021

The IRB has approved the above referenced submission in accordance with applicable regulations and/or UTA's IRB Standard Operating Procedures.

Principal Investigator and Faculty Advisor Responsibilities

All personnel conducting human subject research must comply with UTA's IRB Standard Operating Procedures and RA-PO4, Statement of Principles and Policies Regarding Human Subjects in Research. Important items for PIs and Faculty Advisors are as follows:

- **Notify Regulatory Services of proposed, new, or changing funding source**
- Fulfill research oversight responsibilities, IV.F and IV.G.
- Obtain approval prior to initiating changes in research or personnel, IX.B.
- Report Serious Adverse Events (SAEs) and Unanticipated Problems (UPs), IX.C.
- Fulfill Continuing Review requirements, if applicable, IX.A.
- Protect human subject data (XV.) and maintain records (XXI.C.).
- Maintain HSP (3 years), GCP (3 years), and RCR (4 years) training as applicable.

REGULATORY SERVICES | The University of Texas at Arlington, Center for Innovation
202 E. Border Street, Suite 300, Arlington, Texas 76010, Box #19188
(Phone) 817-272-3723 (Email) regulatoryservices@uta.edu (Web) www.uta.edu/rs