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The Impact of Performance Anxiety on Student Nurses in Simulation Settings

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Walden University
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Abstract

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MS, Regis University, 2011

BSN, Regis University, 2009

BA, Buffalo State College, 1990

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Nursing

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Abstract

The benefits of simulation in nursing education are well established. Yet, there is a paucity of literature on the psychological effects of the performance aspect of a student demonstrating skills in the simulation setting. Vocational nursing students may experience anxiety in the simulation setting that is distinctly different than in other testing settings and it can contribute to withdrawal from a nursing. The purpose of this study, guided by Lazarus' transactional model of stress and coping, was to understand if vocational nursing students experience performance anxiety while demonstrating clinical skills in the simulation setting versus other settings such as the clinical and computerized testing settings. The research questions explored anxiety in the simulation setting as described by vocational nursing students. Participants were recruited from a vocational nursing program in the southwestern United States and 17 were interviewed in person, by phone, and by Skype. Data were transcribed and coded with open coding. Data analysis revealed themes of completing skills check offs, receiving a forewarning, what was at stake, working with mannequins, feeling nervous, comparing to other settings, familiarity, coping skills, and resources. Participants described anxiety as unique to the simulation setting indicating that significant performance anxiety exists in this setting. Recommendations include providing education for faculty to recognize performance anxiety and continued research on interventions. Positive social change comes from faculty who are sensitive to performance anxiety and are able to support student success to graduate compassionate, confident, and empowered nurses. These strong nurses will be able to provide stellar care for patients in all settings.

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Dedication

This work is dedicated to nursing students. You come from many backgrounds; you bring different experiences with you, and yet you come together to care for others. You work hard; you have fears; you have many obligations; you cry; you show us your vulnerabilities, your strengths and through everything, you continue to learn so that you can benefit others. You buckle down, and "get it done," and it is the same concept that will help your patients overcome their challenges, and achieve their goals. You share your energy and strength and show everyone around you examples of the success that comes from perseverance. I see your effort, and I appreciate your work. You inspire me to keep learning. Thank you for being such an essential part of my teaching and learning experience.

Acknowledgments

My gratitude for my dissertation committee is boundless. I hope to provide your level of professionalism, support, and compassion to my students and colleagues. Dr. Hussey, you showed patience and kindness to me when I had none for myself. Dr. Frazer, you inspired love and respect for quality research that makes a positive difference to others.

My love and gratitude for my husband are endless. Jamie, you are my biggest supporter, cheerleader, proofreader, compassionate critic, lifeline, and partner in all things. This dissertation would not have been possible without your love and confidence. You are my light, my rock, and my heart.

I have to acknowledge all the important cheerleaders in my life: my friends who remained patient while I disappeared to write and who kept cheering me on with kind notes, words, and hugs throughout the entire process. Veronica, Rebel, Donna, Raven, Dr. Amy Stone, and Dr. Gina Sully, your love kept me going. I also acknowledge my parents who raised me to be strong and to fight to reach my goals. You taught me that patience and perseverance make the "grit" needed to accomplish anything worthwhile. My love and respect for you guides me every day.

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Chapter 1: Introduction to the Study

Introduction

Simulated clinical scenarios have become an evidence-based technique for skills acquisition in nursing education, but they may also add to academic stress in the form of performance anxiety (Hayden, Smiley, Alexander, Kardong-Edgren, & Jeffries, 2014). When otherwise successful students fail a competency assessment in the lab simulation setting, it may be because they experienced anxiety due to the requirement of performing a skill in an artificial setting with an audience observing. Performance anxiety includes traits such as worry and emotionality; these traits may prevent students who pass in other areas of the program by demonstrating knowledge effectively (Rokenes, Smith, & Larsen, 2014).

Research illustrates that there are many benefits to the use of simulation in nursing education including increasing readiness for practice, increasing confidence with skills, and providing a safe space for students to practice skills (Hayden et al., 2014). Though the National Council of State Boards of Nursing (NCSBN) published a 2014 study with results that supported replacing up to 50% of clinical experiences with simulation in prelicensure nursing education, the study only addressed drawbacks of technical difficulties with simulation, not potential emotional and psychological drawbacks such as anxiety (Hayden et al., 2014). This chapter serves as an introduction to the study by summarizing research on simulation and anxiety in prelicensure nursing students related to simulation, outlining the purpose of the study, presenting the research questions, summarizing the theoretical framework for the study, and exploring the nature

of the study including relevant definitions, assumptions, scope, delimitations, limitations, and significance of the study.

Background

The benefits of the use of simulation in prelicensure nursing education have been extensively explored in the literature. Simulation settings can increase student confidence, provide a safe environment to assess competency, and generally prepare the student for the clinical setting (Aebersold & Tschannen, 2013). Hicks, Coke, and Li (2009) discussed drawbacks to the use of simulation in nursing education as including responsiveness of equipment, realism of mannequins, and the instructor's ability to use the equipment effectively. The authors stated that when these disadvantages are prominent, it may not be appropriate to use simulation for high-stakes testing (Hicks, Coke & Li, 2009). Stephens (1992) discussed the complex phenomenon of anxiety in nursing students including its characteristics, antecedents, and consequences, which include cultural factors, financial factors, personal expectations, family expectations, history, motivational factors, and preparedness. Zargarzadeh and Shirazi (2014) presented a study on the effects of anxiety and relaxation techniques on nursing students. The authors recommended the inclusion of coping strategies and relaxation techniques in nursing curriculum specifically to address anxiety in performance situations including during testing, and skills performance in the simulation setting (Zargarzadeh & Shirazi, 2014). The benefits of simulation are well established, yet there is little literature on the psychological effects of the performance aspect of a student demonstrating skills in the simulation setting. Using Lazarus' (1966) theory of stress and coping as a theoretical

framework, my research affords an opportunity to fill the gap in understanding the lived experiences of nursing students being assessed on skills performance in the simulation lab.

Hansen and Bratt (2015) presented a meta-analysis of simulation use for competence prior to entrance into the clinical setting; the concept of competence acquisition through simulation was analyzed with an eight-step process developed by Walker and Avant (2011) to define the competence as a concept. Hansen and Bratt supported standardization of skills assessment in the simulation setting, and stated a goal to add to the development of a framework for evaluation of skills in the lab simulation setting. Hansen and Bratt's study suggested the need for a framework for evaluation and guide that framework to include methods other than the current live demonstration in front of an instructor and peers. This study also highlighted the coping skills employed to mitigate the negative effects of anxiety in the simulation setting.

Problem Statement

Simulation has become an integral part of nursing education and is one of the most recognized teaching and learning strategies used in healthcare education (Hayden et al., 2014). Its popularity also continues to grow in professional settings for continuing education and ongoing training (Aebersold & Tschannen, 2013). Simulation is an activity or event that reproduces clinical practice using designed scenarios, high-fidelity mannequins, medium-fidelity mannequins, standardized patients, role playing, skills stations, and computer-based critical thinking simulations (Hayden et al., 2014). Hayden, Smiley, Alexander, Kardong-Edgren, and Jeffries (2014) noted that in 2010, more than

87% of prelicensure nursing programs used simulation and that the NCSBN aimed to establish a standardized simulation curriculum for all prelicensure programs to implement.

Simulation has become a standard learning activity in nursing programs. The problem identified by this study was that nursing students may experience anxiety in the simulation setting that is distinctly different than in other settings (e.g. clinical and computerized testing) and comparable to performance anxiety in other professions. Regina de Souza Teixeira et al. (2014) discussed student anxiety during performance of clinical skills occurring when assessments are completed in the simulation setting with an instructor observing. Medeiros Barbar, De Souza Crippa, and De Lima Osorio (2014) cited Lehrer et al. (1990); Mor et al. (1995); and Kenny et al. (2004) in defining performance anxiety as "a group of disorders that affect individuals in several situations such as public speaking, sports activities, mathematic calculations or artistic activities like dancing, theater, and music" (p. 381). Medeiros et al. (2014) summarized the definition of *performance anxiety* as distressing feelings related to performing to an audience. This definition was applied to the nursing student demonstrating skills while classmates and an instructor (as the audience) observe.

Many students are ultimately successful in performing skills acquired in the simulation setting, but little research has been conducted to explore the concept of performance anxiety in nursing students as a phenomenon that differs from test anxiety occurring in computerized testing, and anxiety that may occur in the clinical setting. Although there is an abundance of literature supporting the benefits of simulation for

skills acquisition and assessment, documentation of the disadvantages of simulation and consequences of high-stakes testing in the simulation setting was found to be limited to technical drawbacks focusing on equipment (Hicks et al., 2009). As above, application of Lazarus' (1966) theory of stress and coping as a theoretical framework provided an opportunity for research to fill the gap in understanding the lived experiences of nursing students being assessed on skills performance in the simulation lab. This research supported instructors and students with identifying tools to mitigate the adverse effects of performance anxiety (Rokenes et al., 2014).

Purpose

The overarching purpose of this study was to describe vocational nursing students' experience of demonstrating skills in a simulation setting, specifically to gain insight into performance anxiety (i.e. stage fright), to determine whether or not performance anxiety exists in this population within the simulation setting, and to identify the coping techniques employed during testing. The simulation setting was explored for anxiety specific to the setting, distinguished from students' ability to work with patients and complete testing in traditional settings (e.g., computerized testing). Performance anxiety was defined as an experience of physical, emotional, or behavioral symptoms when thinking about, just before, or during demonstrating clinical skills in the simulated setting while an instructor observed for assessment purposes (Anxiety and Depression Association of America, 2010-2015). Exploring the significance of performance anxiety in this unique setting and the coping skills employed to mitigate negative effects added to an understanding of the students' experiences and challenges.

Research Questions

Applying Creswell's (2014) format to qualitative descriptive methodology, and Ravitch and Carl's (2016) recommendation of identifying core constructs, the research questions were as follows:

1. If performance anxiety is noted in the simulation setting, is it significant in vocational nursing students while demonstrating skills?
2. How do vocational nursing students describe anxiety experienced during skills assessments in simulation settings?
    a. Do nursing students describe anxiety in the simulation setting in a way that is similar or different to other settings (clinical setting and computerized exams)?
3. How do nursing students describe the coping skills that they employ if feeling anxiety during skills assessments?

Conceptual Framework for the Study

Lazarus' (1966) transactional theory of stress and coping categorized coping as emotion focused, which regulates emotional response, and problem focused, which uses behavior to change the situation. Both categories of coping were appropriate for a study to explore otherwise successful students who fail due to performance anxiety. Within this framework, the emotion focused and problem focused categories provided a relevant and accessible means of evaluating nursing students' current coping capabilities as well as teaching these students new coping skills. Lazarus' theory used concepts such as behavioral change (and consequential success or failure within that change), stress

adaptation, and coping mechanisms and illuminated the concepts giving them definition, processes and components to test and measure. In a study on the effectiveness of relaxation techniques used by nursing students with anxiety, Russler (1991) explained Lazarus' theory of stress and coping to examine anxiety, the antecedents, and interventions to help student mitigate the negative impact anxiety can have on performance. Lazarus' transactional model provided a lens through which to view the stress process when discussing stress and interventions since this model focuses on coping mechanisms and adaptation.

Lazarus and Folkman's (1984) appraisal theory evolved from Lazarus' (1966) transactional model of stress, which proposed that there is a transaction between person and environment that causes stress. Prior to this transaction, the person has appraised that the demands of the situation exceed the available resources (Lazarus, 1966). The same proposition was found in Lazarus and Folkman's theory of stress, which stated that stress arises when a person appraises a lack of resources for the situation they are facing (Lazarus & Folkman, 1984). Lazarus stated that stress is defined by the person's perception, not by the actual event or the response; an example to illustrate this proposition is the student who states they cannot do the task when assigned to demonstrate a skill for evaluation, even though they have practiced the demonstration successfully without someone observing them. The student in this case has appraised that they do not have the resources (e.g., confidence, courage, memory of the skill, etc.) to complete the demonstration. Additional propositions of multiple situational appraisals, and types of coping are discussed in Chapter 2.

Nature of the Study

Qualitative Methodology

The nature of this study was qualitative methodology to capture the participants in their natural setting of nursing school. The researcher is a key instrument in observing behavior and interviewing participants directly (Creswell, 2014). Qualitative descriptive research is consistent with understanding how students experience anxiety; it provided a holistic account and presented personal perspectives in addition to various factors involved with the simulation setting (Creswell, 2014). Qualitative interview was the methodology employed for this study. Face-to-face and telephone interviews using semistructured interview questions designed to invite opinions and personal views on the topic were conducted with nursing students (Creswell, 2014).

Types and Sources of Data

Multiple sources of data such as interviews, and observations (during face-to-face interviews), and transcriptions (for face-to-face and telephonic interviews) were used for this study. I organized the data into categories or themes that spanned across all the data sources (see Creswell, 2014). Inspired by similar qualitative studies, I coded and organized the qualitative data for analysis in hopes to identify themes. One study that used similar types of data was conducted by Woda, Gruenke, Alt-Gehrman, and Hansen (2016) who presented a qualitative study on student perceptions regarding simulation experiences; the data was coded with topic codes, and although the original intent was to explore students' perceptions, three themes emerged that focused on the overall experience. Following a similar methodology and use of data, the use of qualitative

analysis in my study helped identify themes and specify anxiety occurring in simulation as a different experience than anxiety that may occur in other settings of the nursing program.

Definitions

The terms specific to this study were defined as follows:

Computerized testing: An assessment of knowledge that requires a student to complete an assessment using a computer or similar technology (Ghazal, Anjani, David, & Wallani, 2015). Online assessment methods include multiple choice exams, essays, projects, and interactive discussions that are not face-to-face with the evaluator (Ghazal et al., 2015).

Coping: The use of problem-based or emotion-based strategies to move past fear to complete a task (Lazarus, 1966).

Performance anxiety: The fear that jeopardize a person's ability to complete a task at their expected level of performance (Hjeltnes, Binder, Moltu, & Dundas, 2015).

Second-semester or Level 2 and higher students: Students who have successfully advanced past the initial section of nursing-specific courses (as defined by the program). Vocational nursing programs are generally 12-month programs, and may be divided into semesters, weeks, or quarters (Nurse Journal, 2017).

Simulation settings: Areas where a patient situation is replicated and may include a low, medium, or high fidelity mannequin for the student to demonstrate one or more skills (e.g., catheter insertion on a low fidelity mannequin) (Hayden et al., 2014).

Skills assessments: Planned scenarios during which the student nurse demonstrates a skill; the demonstration takes place with an instructor observing and grading the performance (Oermann & Gaberson, 2016). Skills assessments are formative when the teacher or evaluator provides feedback to assist the student to develop competencies (Oermann & Gaberson, 2016). Skills assessments are referred to as *summative,* or high stakes, when the student must demonstrate competency of the skill to advance to the next course, to graduate, or for another option that entails significant consequences (Oermann & Gaberson, 2016).

Test anxiety: A state of fear that causes an inability to recall information that was previously known, or an inability to understand reasonable questions or directions in the testing setting (Chaniotis, Soultatou, Artemiadis, Papadimitriou, & Darviri, 2013).

*Vocational/Practical nursing student*s: Students enrolled in prelicensure, accredited vocational nursing programs that will result in a certificate of graduate vocational/practical nurse and eligibility apply to take a state vocational nursing licensure exam (the term *vocational* is used in Texas and California; the term *practical* is used in all other states) (Temple Community College, 2017).

Assumptions

The most pertinent assumption was that the anxiety that occurs for nursing students is not a desirable state when performing skills in a simulation lab. Additional assumptions were that students desired to decrease their anxiety and participants were honest with their responses in the interviews.

Scope and Delimitations

For this study, participants were vocational nursing students enrolled (full time) in a prelicensure vocational nursing program at a community college in central Texas. I was a key instrument in interviewing participants directly (see Creswell, 2014). This population was chosen due to a scarcity of data regarding performance anxiety as a drawback to skills assessment in the simulation setting. Because completion rates in vocational nursing programs in Texas are decreasing, it was important to understand influences challenging the success of vocational nursing students (Texas Center for Nursing Workforce Studies, 2016). A developed understanding of one reason these students may be withdrawn from a nursing program could assist nursing programs to create interventions to support student success. Other undergraduate nursing programs (associate's and bachelor's degree nursing programs) also use simulation to evaluate skills, but each program has a different focus; vocational nursing programs focus more on basic nursing care and cater to a foundational level of education, whereas registered nursing programs include care planning and management aspects of nursing care (Huisman-de Waal, Feo, Vermeulen, & Heinen, 2018). Simulation may not be used in the same ways in all programs, so I focused on simulation use in vocational nursing education.

Johnson's (1980) behavior system model, as cited in McEwen and Wills (2014), was examined for adaptability to the concept of performance anxiety because the conceptual components of this theory include patterned ways of behavior that are purposeful, and they link person to environment. Further examination of Johnson's

theory revealed that it is best used to examine nursing behavior in order to guide nursing practice, and it lacks components that illuminate reactions to anxiety and was therefore rejected as a guiding theory for my research. The National League for Nursing (NLN)/Jefferies simulation framework was also considered for this research because it addressed simulation characteristics and outcomes (among other aspects of simulation), and it was designed for simulation use within nursing education (Hallmark, Thomas, & Gantt, 2014). The Jefferies Simulation framework was also rejected as a framework for my research because although the theory focused on instructor-student interaction and supported the use of simulation for skills assessment, it lacked information about the psychological and emotional impact of simulation on students and on its use in collaborative learning (Hallmark et al., 2014). The transactional model was more appropriate for use with nursing students, particularly when discussing stress and interventions since this model focuses on coping mechanisms and adaptation.

Limitations

In this study, I used purposive sampling in one location so it may not generalizable to other populations. This study did not include an intervention due to the lack of research currently available on nursing student performance anxiety in the simulation setting. I sought to create a baseline of data regarding this population that can be used in future interventional studies. It should be noted that the results of this study could affect me because I am a professor for a vocational nursing program in Texas and a professional nurse working with vocational nurses. The study, being exploratory

excluded some biases; however, bias due to being a nurse and pre-existing assumptions were addressed in reflexive exercises throughout the research process.

A potential weakness in the interview design and threat to quality was honesty of participants. Additional weaknesses were variables identified as (a) baseline mental health issues such as anxiety disorders, (b) life stressors that may have affected the student on any given day, (c) life experiences (e.g. history of trauma), and (d) motivation (extrinsic versus intrinsic). Extrinsic factors could have greatly influenced participants in all phases of research including participant selection (Frankfort-Nachmias, Nachmias, & DeWaard, 2015) Probing questions during the data collection process assisted with identifying and addressing these variables as discussed in chapter five.

Significance

This research filled a gap in understanding by focusing specifically on anxiety that occurred during the nursing student's performance in simulation settings. This project was unique because it addressed a limited area of simulation. Hayden et al. (2014) conducted the NCSBN national simulation study, which was a landmark study that examined simulation use in prelicensure programs. I highlighted multiple benefits of simulation and addressed the drawbacks of technical issues but did not mention the impact of psychological stressors such as performance anxiety that occur in the simulation setting. The results of this study can provide educators a starting point from which to create interventions to support students experiencing performance anxiety.

Study findings contributed to positive social change by impacting pedagogy as faculty could change how they prepare students for testing in simulation settings and

change how skills are assessed in the simulation setting so that students could derive the intended benefit of gaining skills to prepare for patient care. It is important that faculty identify students who are struggling and apply techniques aimed at decreasing the negative consequences of performance anxiety such as nausea, headache, and psychological stress that lead to an inability to complete the performance of skills (freezing) (Prato & Yucha, 2013). Positive social change may come from compassionate faculty graduating compassionate, confident, and empowered professional nurses.

Summary

Performance anxiety may have an impact on student vocational nurses in simulation settings. Vocational nursing programs in Texas are working to increase completion rates and subsequently increase the vocational nursing workforce (Prato & Yucha, 2013); this study examined the simulation setting because it is one area that can lead students to withdraw from programs if they are unsuccessful with a skills assessment. In this qualitative study, I aimed to generate information regarding the phenomenon of performance anxiety occurring with student vocational nurses in the simulation setting. I also aimed to describe performance anxiety and the physical and emotional consequences it could have on student vocational nurses. By developing a more thorough understanding of performance anxiety as it occurs in student nurses, I have contributed to a foundation of data upon which future research can be based, and that vocational nursing programs can use to develop interventions to support student success. Chapter 2 presents a detailed review of the literature.

Chapter 2: Literature Review

Introduction

The use of simulation in nursing education supports learning and the evaluation of skills performance (Hayden et al., 2014). Some students experience anxiety in the simulation setting and research is beginning to focus on the many elements of the simulation experience including the risk of emotional drawbacks (Najjar, Lyman, & Miehl, 2015). When otherwise successful students fail a competency assessment in the lab simulation setting, they might be experiencing anxiety directly related to performing a skill in an artificial setting with an audience observing. Performance anxiety includes traits such as worry and emotionality; these traits might prevent students who pass in other areas of the program from demonstrating knowledge effectively in a simulation setting (Rokenes et al., 2014).

Research has shown that there are many benefits to the use of simulation in nursing education including increasing readiness for practice, increasing confidence with skills, and providing a safe space for students to practice skills (Hayden et al., 2014). The NCSBN (2014) published a study that indicates up to 50% of clinical experiences can be replaced with simulation in prelicensure nursing education. However, the study addressed only the drawbacks of technical difficulties with simulation, not potential emotional and psychological drawbacks such as anxiety (Hayden et al., 2014).

The overarching purpose of my study was to describe vocational nursing students' experience of demonstrating skills in a simulation setting specifically to gain insight into performance anxiety, to determine whether or not performance anxiety existed in a

particular population of interest within the simulation setting, and to identify the coping techniques students employed during testing. The data generated from my study provided an understanding of the lived experiences of nursing students who are being assessed on skills performance in the simulation lab and thus can assist instructors and students to identify tools to mitigate the adverse effects of performance anxiety (see Rokenes et al., 2014). Chapter 2 includes the literature search strategy, an explanation of the Lazarus and Folkman (1984) transactional model of stress and coping, and a review of relevant literature.

Literature Search Strategy

The nursing, education, and psychology resource databases in Walden University library were used to gather literature for this research. The search engine used was Thoreau so that most of the library's collection, and a broad range of subjects could be searched from one location. Nursing databases included CINAHL Plus with Full Text, ProQuest Nursing & Allied Health Sources, MEDLINE with Full Text, PROQUEST Health & Medical Complete, PubMed, Cochrane Database of Systematic Reviews. Education databases included: Education Source, ERIC, LearnTechLib-The Learning and Technology Library, Education Research Starters, Teacher Reference Center, and Oxford Education Bibliographies. Psychology databases included PsychINFO, PsycCRITIQUES, PsycEXTRA, SAGE Journals, and SocINDEX with Full Text.

The following key words and phrases were used as search terms and criteria individually, or in combination: *Test anxiety, simulation, nursing students, stress reduction, assessment of skills, performance anxiety in nursing students,* and *Lazarus*.

Terms excluded from the search were those related to nursing education in a master's level nursing program. Additional terms were used with Boolean search strings: *Test anxiety* and *nursing students, simulation* and *anxiety, Lazarus* and *nursing students,* and *Lazarus* and *performance anxiety*. The literature review includes purchased books, peer-reviewed articles, and organizational reports obtained online.

Date parameters were originally set for 2013 to 2017 but several exceptions were made to include research that used Lazarus' theory of stress appraisal. Within the date parameters set (2013 to 2017), no research could be located specifically focusing on performance anxiety occurring in nursing students demonstrating skills in the simulation setting. Due to the lack of data regarding this phenomenon, the search was extended to include anxiety in nursing students in a variety of learning situations. The articles acquired within these parameters were sorted for theoretical and thematic relevance until categorical saturation was reached. Regular searches were conducted to check for updates in the literature regarding the application of Lazarus' theory of stress appraisal to research on anxiety in nursing students, and on nursing student anxiety in the simulation setting. When the searches stopped yielding additional studies, saturation was achieved.

Theoretical Foundation

Theory and Foundation

The theoretical foundation of this study was Lazarus and Folkman's theory of stress and coping. Lazarus and Folkman's (1984) theory categorized coping as *emotion focused,* which regulates emotional response, and *problem focused,* which uses behavior to change the situation. Both of these categories of coping are appropriate for a study of

otherwise-successful students who fail due to performance anxiety. Within this framework, the emotion focused and problem focused categories provided relevant and accessible means of evaluating nursing students' coping capabilities and can be applied in future studies and in teaching students coping skills to overcome performance anxiety. Lazarus' (1966) model of processing stress took concepts such as behavioral change (and consequential success or failure within that change), stress adaptation, and coping mechanisms and illuminated the concepts giving them definition, processes, and components to test and measure (see Figure 1) (as cited in Lazarus & Folkman, 1984). In my research, Lazarus' theory of stress and coping provided an appropriate lens through which to view the stress process when discussing stress and interventions because this model focuses on coping mechanisms, adaptation, and the consequences of the lack thereof (Lazarus & Folkman, 1984).

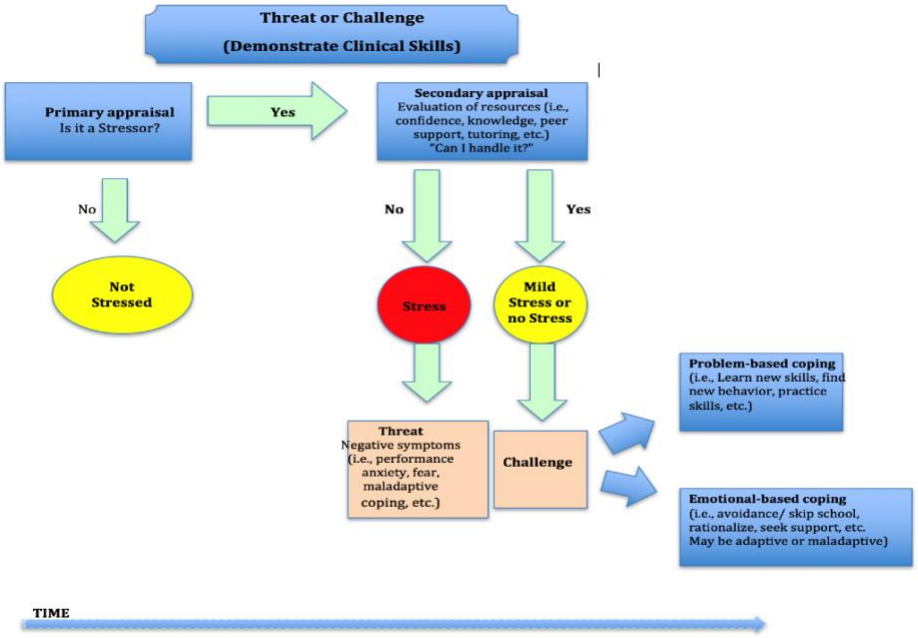

Figure 1. Diagram adapted from Lazarus and Folkman's transactional theory of stress and coping

Strengths of the stress model are the emphases on cognitive approaches, unlike Seyles' general adaptation syndrome model of stress, which focused on physical responses to stress (Vanitha, Suresh, Chandrasekar, & Punita, 2017). Additional strengths of Lazarus and Folkman's (1984) model are that it is adaptable to individual differences and that it addresses alternative techniques for, and responses to, dealing with stress (Biggs, Brough, & Drummond, 2017). A primary weakness of this model is its lack of research-based evidence for the appraisal theories. Also, there are an infinite number of factors that determine stress, making it difficult to adequately label these factors (Biggs et al., 2017). Each model reviewed for this research had strengths and drawbacks; the appraisal theory was the most applicable to guide research on individual experiences with stress.

Major Theoretical Propositions

Lazarus and Folkman's (1984) appraisal theory evolved from Lazarus' transactional model of stress, which proposed that there is a transaction between person and environment that causes stress. Lazarus (1966) proposed that people appraise the demands of the situation and that negative stress reactions happen when the demands exceed the available resources. In Lazarus' (1966) model, the stress is defined by the person's perception, not by the actual event or the response. An example to illustrate this proposition is the student who states that they are unable to demonstrate a skill for evaluation even though they have practiced the demonstration successfully without someone observing them. In this case the student has appraised that they do not have the

resources (e.g., confidence, courage, memory of the skill, etc.) to complete the demonstration.

Additional propositions in Lazarus and Folkman's (1984) theory included that there are several appraisals of the situation. The authors stated there is a primary appraisal that includes an evaluation of the level of threat, the type of encounter (positive or negative), and the degree to which the threat is harmful or challenging (Lazarus & Folkman, 1984). The theorists proposed that when the situation is appraised as threatening, negative consequences such as illness, anxiety, fear responses, and negative physical responses can occur (Lazarus & Folkman, 1984). An example is seen in the research participant who stated that she began sweating and shaking even though she was prepared for the skills demonstration and had done it successfully several times while practicing. The authors stated the secondary appraisal occurs when the individual assesses available resources and can choose internal resources such as will power, or some inner strength or external resource, such as support from peers or professionals (Lazarus & Folkman, 1984). An example of the secondary appraisal is the same participant described above who stated after sweating and shaking she began saying her mantra and relaying on her will power to succeed. The theory was based upon the assumption that there are two types of coping depending on the person's perception of control over the situation: problem based and emotional based coping (Lazarus & Folkman, 1984). The examples of the participant described above shows positive emotion based coping leading to success. Problem based coping occurs when there is a perception of control and the person can manage the stress by clearly understanding the problem,

generating solutions, and learning ways to subsequently cope with the stress and establish a new behavior (Lazarus & Folkman, 1984). The theoretical assumptions were that emotional based coping occurs when the individual perceives a lack of control over the situation, and subsequently a lack of resources; additionally, the individual may use coping mechanisms such as avoidance, distancing (e.g., "It doesn't matter"), acceptance (e.g., "I didn't pass that course, but I have three other courses I can focus on"), seeking professional counseling, or engaging in negative coping skills such as substance use (Lazarus & Folkman, 1984). Emotion and problem based coping were observed during my research as participants described techniques they used to change their emotional state and physical resources they relied on to succeed (e.g., practicing with family members and watching videos).

Application of Theory in Literature

Lazarus and Folkman's (1984) theory of appraisal and stress has been used in a variety of studies related to nursing and nursing education. To narrow down the field of applicable studies, the search-inclusion criteria were restricted to studies that used the stress theory in prelicensure nursing education, testing in nursing programs, and the simulation setting in nursing programs. There were not enough studies found to restrict the search to only those using qualitative methodology, nor to only those that focused on the simulation setting with common variables.

Al-Ghareeb, Cooper, and McKenna (2017) used the stress appraisal theory to explain the transaction between the individual and the situation that can lead to stress and anxiety in the simulated setting in undergraduate education. Their integrated review of 11

articles focused on the effects of stress and anxiety on undergraduate health professionals' performance in simulation settings and attended to the physical consequences of stress, such as impaired memory and a decreased ability to concentrate (Al-Ghareeb, Cooper, & McKenna, 2017) . Their review showed that simulation settings affect nursing students both physiologically and psychologically, and that through the learners' appraisal, clinical performance was improved or inhibited (Al-Ghareeb et al., 2017). Contrasting perceptions were identified and indicated a lack of understanding regarding the positive and negative effects of stress in the simulation setting (Al-Ghareeb et al., 2017). Al-Ghareeb et al. (2017) research supported the relevance of application of the stress appraisal theory to my research on students experiencing performance anxiety in the simulation setting.

Labrague, McEnroe-Petitte, Al Amri, Fronda, and Obeidat (2017) used Lazarus and Folkman's (1984) stress theory as a basis for integrative review of coping strategies that undergraduate nursing students utilize when faced with stress and anxiety during clinical training. In their theory, Lazarus and Folkman presented problem focused and emotion focused strategies that people use when faced with stress. Nursing students employed problem focused coping such as technical problem solving, took measures to increase confidence, and sought support (Labrague, McEnroe-Petitte, Al Amri, Fronda, & Obeidat, 2017). The study had implications for nursing education such as the desirability of implementing a mentoring program and other support during clinical training to strengthen positive coping skills, and proactively planning for stressors (Labrague et al., 2017). As with the research by Al-Ghareeb et al. (2017), Labrague et al. also supports the

relevance of the appraisal theory to my research with nursing students and an exploration of coping skills and problem solving techniques.

Raymond and Sheppard (2018) used Lazarus' stress theory to define stress in undergraduate nursing students as a transactional relationship between environment and person while resources are appraised. The authors used the theory and definition to illustrate impediments to academic performance due to high levels of stress, and showed that stress in nursing programs is linked with loneliness, lack of a sense of belonging, and decreased self-efficacy (Raymond & Sheppard, 2018). Raymond and Sheppard (2018) used several stress assessment scales to evaluate nursing student stress in their quasi-experimental research on a mentoring program and the effects on perceived stress and loneliness. Results showed a significant reduction in first-year nursing students' perceived stress and loneliness and an increase in self-efficacy and sense of belonging (Raymond & Sheppard, 2018). Raymond and Sheppard's (2018) research showed the appraisal theory is appropriate for my research exploring performance anxiety in nursing students in a unique and specific setting.

McCarthy et al. (2017) conducted quasi-experimental research based on Lazarus and Folkman's (1984) cognitive model of stress and coping. The researchers examined the impact of a psycho-educational intervention that focused on coping with stressful events with first year undergraduate nursing and midwifery students (McCarthy et al., 2017). The researchers used the model to define coping as cognitive and behavioral strategies people use to manage stress (McCarthy et al., 2017). Students appraised a situation and applied coping mechanisms to mitigate negative emotions and completed

academic tasks using Lazarus and Folkman's coping mechanisms that are problem focused or emotional-focused (McCarthy et al., 2017). Nursing and midwifery students were given a 4-month class on coping with stressful events as part of the undergraduate (prelicensure) education. Results showed a significant increase in coping skills as measured with the COPE Inventory Questionnaire, which measured problem focused, emotion focused, social support, and avoidant coping dimensions of coping mechanisms (McCarthy et al., 2017). Each study reviewed above presents their application of the stress appraisal theory and illustrates its relevance to my research exploring performance anxiety in nursing students in the simulation setting.

Rationale for Theory

The theoretical framework for this study was also based on Lazarus' (1966) transactional model of stress and coping. The theory was developed in 1966 to explore the interaction between stressors, psychological and physiological well-being, and the requirement of action to restore homeostasis (Lazarus, 1966). The transactional model of stress framework is appropriate for research on negative stress in nursing students because it is a process-oriented model based on the influence of previously existing variables and their impact on each encounter the subject has; this is relevant in cases of performance anxiety in the simulation setting as nursing students appraise the task at hand and evaluate their ability to carry out the task as illustrated in the research by Al-Ghareebet al. (2017), McCarthy et al., (2017), Raymond and Sheppard's (2018), and Labrague et al.. The model of stress and coping was later further developed and clarified as having categories of coping by Lazarus and Folkman (1984).

Within the transactional stress and coping framework, Lazarus and Folkman (1984) provided categories of coping as emotion focused, which regulate both emotional and problem focused responses which use behavior to change the situation. Both categories of coping (problem focused and emotion focused) are appropriate for examination of otherwise successful students who fail in a nursing program due to performance anxiety. The categories provided a relevant and accessible means of evaluating nursing students' coping capabilities as well as teaching students new coping skills. The frameworks developed by Lazarus (1966), and Lazarus and Folkman described the encounter with stress the primary appraisal, the transition to a state of anxiety or stressed where the student is unable to function, or to a state of challenge where the student can use problem-based or emotional-based coping skills as the secondary appraisal The transactional model is appropriate for use with nursing students, because it focused on development of coping mechanisms and positive adaptation. The stress appraisal model provided a lens with which I was able to explore the participants' experience with performance anxiety in the specific simulation setting. Additionally it supported the exploration of coping techniques.

Stress and Coping

Performance anxiety is a term used to describe adverse physical and psychological sensations while performing a task, sensations that may or may not impair performance (Thomas & Nettelbeck, 2013). The term, performance anxiety has historically been applied to a variety of circumstances, most commonly performing arts but also includes athletic performance, test taking, and public speaking (Thomas &

Nettelbeck, 2013). In prelicensure nursing programs, nursing students demonstrate skills in the simulation setting in high-stakes testing situations (Oermann & Gaberson, 2016). Like settings in the performing arts, the simulation setting may be equipped with two-way mirrors, video equipment, microphones, or an audience of one or more instructors observing the student perform a task such as venipuncture (Oermann & Gaberson, 2016). As they perform tasks to demonstrate clinical competency, students are performing in ways relevantly similar to the performances of dancers, musicians, and actors. Often, they are required to verbalize key terms or concepts as they perform the practiced and specific steps (Oermann & Gaberson, 2016).

Literature Review Related to Key Variables and/or Concepts

Concept of Performance Anxiety

A review of performance anxiety in the simulation setting and studies of its impact on student success offered a detailed view of performance anxiety in nursing students and the differences between anxiety occurring in simulation, in general test performance, and in the clinical setting (Al-Ghareeb et al., 2017). Understanding various forms of anxiety that may occur in nursing students allows researchers and nurse educators to approach students in ways that are specific to their needs.

Owens, Stevenson, Hadwin, and Norgate (2014) presented cognitive interference theories when they wrote about trait anxiety interfering with cognitive performance. Owens et al. tested an interaction hypothesis on 96 adolescents to measure anxiety, memory, and cognitive performance by applying the attentional control and the processing efficiency theories which propose that anxiety inhibits memory function and

task performance. The results indicated that elevated anxiety can lead to poor memory ability, and subsequently, poor educational outcomes. A similar study by Schnell, Rohrmann, Ringeisen, and Raufelder (2015) incorporated different theories to guide the study while examining a comparative topic; the researcher's utilized Schwarzer's theory of self-regulatory goal attainment processes and Bandura's self-efficacy theory. Like Owens et al., Schnell et al. (2015) worked with adolescents to examine the impact of anxiety on cognitive function, memory, and goal setting and found negative effects on performance in all three areas when subjects were assed to have high levels of anxiety. These studies applied different theories to guide the approach but both illustrated impaired functioning related to anxiety in academic settings.

Kameg, Szpak, Cline, and Mcdermott (2014) applied Kolb's experiential learning theory in a study examining the impact of nursing student anxiety on therapeutic relationships and task completion and found that the ability to form therapeutic relationships was impaired and that the use of standardized patients (versus simulation settings) decreased anxiety. Flott and Linden (2015) also used Kolb's theory to examine nursing students in clinical learning environments and reported that anxiety negatively affected learning outcomes and student self-confidence, although their study focused on exploring the clinical learning environment and the ability to complete tasks in the clinical setting. Both studies illustrated that Kolb's theory can guide studies whose goal is to improve understanding of how nursing programs can create more meaningful classroom, simulation, and clinical experiences while simultaneously supporting student success.

Concept of Appraisal

The concept of appraisal, with respect to stress processes by Lazarus (1966), was a key factor for understanding stress-relevant transactions in this research. This concept is based on the idea that emotional processes (including stress and performance anxiety) are dependent on personal expectations about the significance and outcome of a specific encounter (Lazarus, 1966). This concept helped explain why, although objectively equal for a variety of individuals, an environment or task can be may produce for individual students a difference in quality, intensity, and duration of a reactive emotions such as stress or anxiety, for some, to the point of not being able to complete a task (LePine, Zhang, Eean, & Rich, 2016). Appraisals generate and maintain emotions (LePine et al., 2016). Situational factors determine how an individual appraises an environment. The prominent factors are motivational dispositions, goals, values, and generalized expectancies.

Zhao, Lei, He, Gu, and Li (2014) conducted a study to explore coping strategies of undergraduate nursing students in the clinical setting. The authors noted that high-stress situations often lead to negative physiological states such as sleep disorders, headaches, nausea, poor concentration, poor memory, and performance anxiety. They performed a cross-sectional survey to examine stress and coping strategies and found that the level of appraisal directly determined the level of stress and the type of coping strategies employed by the individual. The authors were able to assess the primary appraisal in subjects who evaluated the environment as the subject assessed if the environment was considered harmful or beneficial, threatening or challenging. The

secondary appraisal was observed in subjects seeking? trying? to evaluate their resources (personal, physical, or social), and the authors noted that when the subject assessed adequate resources or coping strategies, stress was controlled to a manageable level.

Hamaideh, Al-Omari, and Al-Modallal (2017) conducted a study using purposive sampling and a questionnaire to assess stress and coping in undergraduate nursing students. In addition to exploring how students appraise situations leading to perceived stress, the authors examined variables that best predicted perceived stress levels and coping strategies. Some of the variables that predicted higher stress levels were gender (female more than male), and "way of choosing nursing," meaning stress levels were higher when the vocation was chosen for the subject rather than for fulfillment (Hamaideh, Al-Omari, & Al-Modallal, 2017, p.197). The authors found that nursing students appraised situations as stressful resulting in feelings of pressure and anxiety, which resulted in the application of coping strategies. Both Zhao et al. (2014) and Hamaideh et al. (2017) found that when events are appraised as stressful, negative emotions such as anxiety and negative physiological traits such as headaches and nausea may arise.

Appraisal of a situation or environment generally results in an emotion that, in turn, drives reactions (Lerner, Li, Valdesolo, & Kassam, 2015). Emotions are drivers to decision making, and since emotions are positive or negative, subsequent actions can match (Lerner et al., 2015). As part of the appraisal theory and appraisal leading to anxiety (among other emotions), Lazarus (1991) discussed anxiety as being comprised of nine negative emotions (anger, fright, anxiety, guilt, shame, sadness, envy, jealousy, and

disgust), and four positive emotions (happiness, pride, relief, and love). Lazarus (1991) maintained that reactions driven by anxiety are based on appraisals related to personal goals as the culmination of the protection of ego versus existential threats. Lerner, Li, Valdesolo, and Kassam (2015) identified themes during a comprehensive literature review of theories and evidence on emotion and decision making from 1970 to present. The themes aligned with Lazarus' (1991) appraisal theory: as people appraise the environment, appraisals lead to emotions, and emotions drive decision making. Part of the decision making involves coping and the strategies employed for it.

Concept of Coping

The concept of coping is directly related to the concept of appraisal and the resulting emotions (Lazarus, 1991). Many approaches in coping research align with Lazarus and Folkman (1984) who define *coping* as reactions (both cognitive and behavioral) that mitigate and master external and internal demands. A systematic literature review was performed by Stunden, Halcomb, and Jefferies (2015), and while illustrating that students were better prepared for the clinical setting when tested in the simulation setting, four themes related to anxiety, simulation, and coping emerged. The review identified that nursing students reported negative anxiety before or during the assessment, that preparation for the simulation setting is a coping strategy, that the simulation setting causes anxiety in and of itself, and that the simulation setting is a valid setting for testing clinical skills.

Ratanasiripong, Park, Ratanasiripong, and Kathalae (2015) conducted a study to investigate the effectiveness of two coping strategies in undergraduate nursing students;

similar to those of Stunden et al. (2015), their results indicated that nursing students experience negative levels of stress and anxiety while preparing for the clinical setting, and that coping strategies help the student manage negative emotions (Ratanasiripong, Park, Ratanasiripong, & Kathalae, 2015). Ratanasiripong et al. (2015) specifically tested biofeedback and mindfulness programs as coping strategies, but they showed that coping can be positive or negative reactions resulting from perceived high demands.

Straud, McNaughton-Cassill, and Fuhrman (2015) conducted a study on coping using college students and administered questionnaires focused on personality and coping. The study supported Lazarus' theory that people react to negative emotions with emotion-based and/or problem-based coping. Similarly to Lazarus, the authors discussed emotion-based coping as the internal efforts a person employs to minimize emotional discomfort, while problem-based coping includes the strategies applied to influence the situation (Straud, McNaughton-Cassill, & Fuhrman, 2015). Lazarus (1984) maintains that coping is a direct result of an individual's appraisal and perception of threat.

Synthesis of Studies Related to the Research Questions

Performance anxiety, stress and coping are recurring themes in nursing students' experience with testing in the simulation setting. While mild anxiety may help performance by sharpening concentration, moderate-to-severe anxiety can interfere with performance. Negative anxiety occurs in nursing education just as it does in many other professions (Thomas & Nettlebeck, 2013). Thomas and Nettlbeck (2013) explained that performance anxiety can occur in a variety of settings, including performing arts, athletic, and testing environments. Al-Ghareeb et al. (2017) confirmed that performance anxiety is

a phenomenon affecting every profession. Effects of performance anxiety on learning and interference with cognitive performance are related to anxiety and can negatively impact cognitive function, memory, and the ability to set goals (Owens, et al., 2014; Schnell, et al., 2015). Each of these articles discussed performance anxiety as a phenomenon that occurs in direct relation to an event, thus differentiating it from baseline anxiety, which is not associated with one particular circumstance (Anxiety and Depression Association of America, 2015).

Additional themes in this research are stress and the coping skills used by students when they experience feelings of negative stress or anxiety. Lazarus (1966) wrote about the foundational concept and theory of appraisal, which is the perception of a stressor and the subsequent evaluation of the resources to navigate the task. Zhao et al. (2014) conducted a study to illustrate the appraisal process when they examined the coping strategies of nursing students in the clinical setting. They found the students described the stressors as harmful, beneficial, threatening, or challenging. Similarly to Zhao et al., Hamaideh et al. (2017) conducted a study to explore stress and coping in undergraduate nursing students and found that students often coped with stressful events with negative somatic symptoms such as headache and nausea. Positive coping strategies such as biofeedback and mindfulness exercises were identified as techniques students used to manage negative stress in the clinical setting (Ratanasiripong et al., 2015). Each of these studies focused on preparation for the clinical setting or activities in the clinical setting, and although preparation included activities in the simulation setting, the studies did not address evaluating skills performance in the simulation lab. A review by Stunden et al.

(2015) also found a lack of research on the emotional and psychological effects of testing in the simulation setting and stated the simulation setting can cause stress although it is a valid setting for skills assessment. My research worked to fill these gaps in the literature by applying the framework to a specific population and their experiences.

Summary and Conclusions

The cognitive interference theories, self-efficacy theory, and experiential learning theory discussed above were appropriate to examine functional outcomes (i.e., the ability to complete a task) with anxiety, but the transactional model of stress and coping specifically explores the interaction between stress and psychological and physiological well-being (Lazarus & Folkman, 1984). The benefit of applying Lazarus' theory in this study was the ability to guide the exploration of the process of nursing students with anxiety appraising the simulation setting and coping by employing problem focused or emotion focused reactions. McCarthy et al. (2017) applied Lazarus' theory to a study on the impact of anxiety on problem-solving abilities in undergraduate nursing students and were able to explain coping strategies as emotional- or problem focused as they explored coping strategies.

Lazarus' (1966) transactional theory of stress and coping categorizes coping as problem focused, which uses behavior to change the situation and emotion focused, which regulates emotional response. Both categories of coping are appropriate for a study to explore otherwise successful students who fail due to performance anxiety. Within this framework, the problem focused and emotion focused categories provided a relevant and accessible means of evaluating nursing students' current coping capabilities as well as

teaching these students new coping skills. Lazarus' theory took concepts such as behavioral change (and consequential success or failure within that change), stress adaptation, and coping mechanisms and illuminates the concepts giving them definition, as well as processes and components to test and measure. Lazarus' (1966) transactional model provided a lens through which to view the stress process when discussing stress and interventions because this model focuses on coping mechanisms and adaptation.

There was sufficient evidence to acknowledge the importance of using the simulation setting to prepare for the clinical setting in nursing education. However, there was a paucity of research on performance anxiety occurring in the simulation setting. Cant and Cooper (2014) conducted an integrative review combining experimental and non-experimental research to thoroughly review the evidence about the simulation setting. The authors noted the primary drawbacks of simulation focused on cost and technical challenges; anxiety directly related to performing tasks in the simulation setting was not reviewed (Cant & Cooper, 2014). The NCSBN published a study with results that indicated up to 50% of clinical experiences can be replaced with simulation in prelicensure nursing education; like others, the study addressed only the drawbacks of technical difficulties with simulation, not potential emotional and psychological drawbacks such as anxiety (Hayden et al., 2014). My research fills a gap in understanding by focusing specifically on anxiety that occurs during the nursing student's performance in simulation settings. A qualitative descriptive research design facilitated understanding whether and how students experience anxiety, and it provided a holistic account while

presenting personal perspectives involved with the simulation setting. Chapter 3 details the methodology, research design, and rationale.

Chapter 3: Research Method

Introduction

The overarching purpose of this study was to describe vocational nursing students' experience of demonstrating skills in a simulation setting, specifically to gain insight into performance anxiety, to determine whether or not performance anxiety existed in this population of interest within the simulation setting and to identify the coping techniques employed during testing. The simulation setting was explored for anxiety specific to the setting and distinguishable from students' ability to work with patients and complete testing in traditional settings (e.g., computerized testing). Performance anxiety was generally defined as an experience of physical, emotional, or behavioral symptoms when thinking about, just before, or during demonstrating clinical skills in the simulated setting while an instructor observes for assessment purposes (Anxiety and Depression Association of America, 2010-2015).

Chapter 3 presents the qualitative research design and rationale for selection of this design, the role of the researcher while collecting and analyzing data, and the methodology including identification of the population as vocational nursing students in level two or higher of a vocational nursing program in central Texas. This chapter also provides detailed information on the instrumentation (interviews), procedures for recruitment, data analysis, and issues of trustworthiness. Ethical procedures including institutional review board (IRB) procedures and protections of data and treatment of data are also presented.

Research Design and Rationale

Creswell's (2014) format for qualitative central questions, and Ravitch and Carl's (2016) recommendation of identifying core constructs guided the formation of the research questions, which are as follows:

1. If performance anxiety is noted in the simulation setting, is it significant in vocational nursing students while they are demonstrating skills?
2. How do vocational nursing students describe anxiety experienced during skills assessments in simulation settings?
    a. Do nursing students describe anxiety in the simulation setting in a way that is similar or different to other settings (clinical setting and computerized exams)?
3. How do nursing students describe the coping skills that they employ when feeling anxiety during skills assessments in simulation settings?

For this study, I employed qualitative descriptive methodology to capture the participants in their natural setting of nursing school. To explore how students experience simulation anxiety in the simulation setting, the research tradition engaged was descriptive inquiry. The methodology aimed to provide a holistic account while simultaneously presenting personal perspectives in addition to various experiential factors involved in the simulation setting (Creswell, 2014). Face-to-face and telephone interviews using semistructured interview questions designed to invite opinions and personal views on the topic were conducted with nursing students (Creswell, 2014).

Descriptive inquiry offered a sensitivity to the experience of the subjects and to how their perceptions about the simulation setting were produced. Descriptive inquiry was particularly appropriate to recognize the nuances of the subjects' current and previous experiences (Chunfeng Wang & Geale, 2015). The data collected from subjects were their personal stories of their experience of demonstrating skills in the simulation setting; using a descriptive format helped the researcher understand the details of the participants' points of view (Chunfeng et al., 2015). This research acknowledged the participants' experience as an influx continuum where a participant's opinion and point of view can change over time. My exploration of this subject was an effort to describe and interpret the experiences of student nurses who may have been negatively affected by anxiety in the simulation setting rather than to explain or predict their experience.

This study required a moderate time commitment from participants. Consent was projected to take 3 to 5 minutes for the participant to read the form, ask questions, sign the form, and return it to the researcher. The interviews took place on the phone or in person on site at a college in central Texas. Interviews were scheduled to take up to (but not exceed) 45-60 minutes per participant. I scheduled days for data collection to accommodate collecting data from 12-20 participants or until saturation was reached, meaning until further coding was not feasible and until the data illustrated rich, multilayered descriptions that provided new information. The rationale for the number of participants is discussed in the sampling strategy.

Role of the Researcher

I was the instrument of data collection. Because there was a human element acting as a data collection tool, the possibilities of ethical issues were heightened (Creswell, 2013). Ethical issues in this research included mitigating my opinion and possible bias. To proactively prevent the possible insertion of my opinion in qualitative procedures was crucial because since this methodology employed descriptive data and diverse strategies of inquiry that were largely subjective (Creswell, 2013). My positionality, reflexivity, and bias were part of introspection and regular, rigorous reflection, made part of the research process not only to ensure quality research, but also to protect participants. Moore (2012) discussed ways a researcher can impact participants (positively and negatively) or be intrusive on the participant experience (e.g. during observation or interview), and the importance of mindful introspection and respect for the participant's experience. Ethical conduct was a heightened concern in interviews where there was an established relationship; strategies such as reflexivity, affirming trust, self-disclosure, and emphasizing confidentiality became foundational (McDermid, Peters, Jackson, & Daly, 2014). There were no dual roles in this research, but it was acknowledged that I am a nursing professor similar in role to the professors that the participants worked with. I did not work at the college where I conducted the study.

Clandinin (2013) discussed the risks of changing stories in both narrative and descriptive research. It is human nature and part of normal memory function to remember events differently at different parts of life (Clandinin, 2013). The author recommended emphasizing the conceptual foundation within the interview process; that is, to highlight

the relationship between the participant and their world, place, events, and feelings (Clandinin, 2013). I worked to think relationally when analyzing descriptive data. I understood that people describe events differently over time and participants may have done the same as they recalled their experience in the simulation setting; this reflection was necessary to decrease bias. The relational aspects of subjective data connected to relational ethics in this descriptive inquiry and required that as the researcher, I acknowledged the collaborative ways participants interacted with the world around them.

Descriptive and narrative forms of inquiry are based on the phenomenon of experiences as told by participants; the data is lodged in the culture, politics, family structure, and social aspects that surround the person telling the story (Clandinin, Caine, & Lessard, 2018). It was important to note that ethical matters occurred over time during both descriptive and narrative inquiry processes and could not be addressed at only one particular point of the research process (Clandinin et al., 2018). Ethical stances may have shifted as I moved through the inquiry and required constant vigilance and respect for what was meaningful to the participant. How the researcher listens and responds to the telling of a story may shape the participant and the reader making this type of research an ethical undertaking (Clandinin et al., 2018). I continued to engage in reflexivity by journaling my introspection at every part of the research to focus on respect for the process, the participants, and readers.

Methodology

Participant Selection Logic

The population I selected was students enrolled (full-time) in a vocational or associate degree nursing program. The accessible population was students enrolled (full-time) in a nursing program (vocational nursing) at a certificate program in central Texas.

Sampling Strategy

Purposive sampling was used as the most appropriate method for this research because it included participant selection for the enhancement of the understanding of an experience, theory, or concept (see Devers & Frankel, 2000). I recruited participants from all levels of a vocational nursing program except those students who had not demonstrated a skill in the simulation lab for assessment purposes. Recruitment was via an invitation noted on flyers in the department and an invitation announced by program instructors 2 weeks prior to the interviews (See Appendix A).

With the instructor's permission at the selected college, I announced to several classes that a study on anxiety in the simulation setting was taking place and that students were invited to participate. I provided flyers with a brief description of the study and a statement that participation was optional, voluntary, and in no way affiliated with the nursing program or grading. Students who were interested in participating in this study were asked to complete a demographic data sheet (See Appendix B). Demographic data included age, gender, ethnicity, program level, and whether they had demonstrated skills in the simulation lab for testing purposes. Exclusion criteria were entry-level students who had not been assessed by an instructor while demonstrating skills in the simulation

lab and students who stated they had no anxiety during performance of skills in the simulation setting during assessments. Inclusion criteria were all other full-time students attending the vocational nursing program. The participants' descriptions of anxiety that occurred while demonstrating skills in the simulation setting were the key data for analysis.

There is no statistical formula for calculating an appropriate sample size in qualitative research; therefore, it was helpful to have defined sampling parameters and defined data saturation (Miles, Huberman, & Saldana, 2014). Parameters included (a) the setting: nursing program, level of student, simulation lab; (b) participants: nursing students with demographics listed above, experience with testing (asked student to self - report test anxiety), attributes such as age, race, beliefs, education); and (c) events: academic successes (did the student perceive that they were able to pass exams easily), previous experience with testing in the simulation lab; and processes: passing exams and skills assessments, studying in the simulation lab, test preparation, assessment review) (see Miles et al., 2014). I aimed to explore anxiety specific to the simulation setting, so it was important to identify whether the student had anxiety as a baseline trait, in all testing situations, or just when tested in simulation settings.

The sample size for the proposed study stayed emergent and flexible, but the target size was 12-20 nursing students attending a vocational nursing program in central Texas. The actual size could have been smaller or larger to accommodate greater depth versus breadth. Data from 12-20 nursing students is adequate to capture the range of student experiences in simulation settings since so little is known about anxiety in such

settings at this time. Population size was adjusted due to reaching saturation (Patton, 2015). Data saturation was achieved when interviews revealed the same experiences and data became redundant.

Guest, Bunce, and Johnson (2006) found that 12 interviews of a homogenous group is the appropriate amount needed to reach saturation. Conceptually, saturation may be the desired endpoint of data collection, but operationally the decision to stop interviewing is a function of several factors, including the interview structure and content; the more unstructured and variable the content, the more interviews are required (Guest, Bunce, & Johnson, 2006). The heterogeneity of the group also affects sample size; the more heterogeneous, the more interviews are required (Guest et al., 2006). Mason (2010) stated the researcher's experience, fatigue, and personal beliefs affect sample size. Mason (2010) found that the more interviews, the more defensible the researcher believes the research will be. Thus, I increased the population size to include up to 20 subjects.

Instrumentation

Interviews took place at the nursing program in a classroom assigned by the instructor designated by the program administrator. If a face-to-face interview could not be arranged, telephone interviews were conducted. Eligible students who wanted to participate made appointments during the time I was available on their campus (availability time was adjusted as needed). Data collection tools used for the in-person and phone interviews were a computer, a small audio recorder, ExpressScribe (audio player software to assist with transcription of recorded interviews), and the interview

template/ script, which separated parts of the interview from interview questions and organized information by question (See Appendix C). Interviews were recorded on a small cordless recording device that was able to be connected to a computer so audio files could be transferred to ExpressScribe for the transcription process. A $10 gift card was given to each participant as a token of appreciation for completing the study. If there was technical difficulty with the recording device, I had a second device as a backup. I used an interview template or script to organize information and support the coding process (See Appendix C). If recruitment had resulted in too few participants, the invitations would have been extended a second time by posting flyers again. Participants were asked if they are available for follow-up questions should clarification be needed during coding. I stressed that follow up was also voluntary. Participants exited the study at the end of their interviews after being asked if they had any questions.

Researcher-Developed Instrument

The data collection instrument is the series of questions I asked participants (See Appendix C). I designed the questions to reveal whether vocational nursing students experience performance anxiety while demonstrating clinical skills in the simulation setting, if they described their anxiety differently in simulation settings than they do in other settings such as the clinical and computerized testing settings, and how the students describe their coping techniques. Following the process of self-examination recommended by Clandinin, Caine, and Lessard (2018), my reflections on the relational ethics of this study provided the foundation for questioning and probing in a way that invites perspectives both similar and different from my own. In my reflections, I

examined my experience as a nursing professor testing students who have been in the simulation setting by having them perform skills, observing students who are strong in other settings (clinical, classroom, and computerized testing), who struggle in the simulations setting, and subsequently needing to withdraw them from the nursing program.

Clandinin et al. (2018) described a Japanese interviewer collecting robust and relevant data by examining how the interviewer's experience travelling and nursing shaped him as a person and affected how he asked questions during a qualitative design inquiry with homeless adults in Japan. Clandinin et al. stated that keeping reflexive notes throughout the research affected how the interviewer offered space for the participants to engage, participate, and listen. Inspired by recommendations by Clandinin et al., I regularly and rigorously examined my personal experiences of feeling challenged by performing skills while being observed and those times when I welcomed the opportunity to demonstrate skills and receive feedback. Generally, I am enthusiastic to perform in front of an audience and thrive on teaching and speaking opportunities, although I can recall feeling nervous when I was a student demonstrating skills I did not feel prepared to demonstrate. I continued to examine and acknowledge my experiences throughout the research process.

The interview questions were developed during a research class and were tested on classmates. I interviewed five classmates; four were able to describe their experiences as a nursing student demonstrating skills while being evaluated in a simulation setting. One classmate had no experience as a nursing student and could only apply the questions

to an experience of public speaking when his supervisor was in the audience. These sample interviews supported that the interview questions were relevant to this study's purpose and research questions. I also discussed the interview questions with the associate director and qualitative methodology advisor in the Center for Research Quality at Walden University in addition to several other Ph.D. credentialed faculty and researchers. The questions were further developed with suggested probing and follow-up questions to elicit additional information that makes a participant's perspective robust and clear to the researcher and reader.

Data saturation was identified when all the data and participant perceptions that were important and relevant to the research questions were recognized, the research questions were answered and documented, and the collection of additional data became repetitive. Capturing all variations of perceptions and accounts of performance anxiety in the simulation setting supported content validity and the credibility of the study. Brinkmann (2014) stated that interviews can be viewed as one of the most valid instruments for data collection due to dialogism. The author also stated that semistructured interviews are one of the most common forms of acquiring knowledge in the human and social sciences, including nursing and psychology (Brinkmann, 2014). I appreciated the interviews as data that illustrated unique experiences from each of the participants'' point of view. Additional interviews were conducted after data saturation was reached and although the data became redundant I continued to appreciate exploring the unique features and experience of each participant.

Data Collection Procedures

The data collection tool selected for this project was interviews, which were conducted face-to-face or via telephone. Rubin and Rubin (2012) discussed styles of interviewing and emphasized the importance of establishing trust and rapport between the interviewer and interviewee whether interviewing in person or by telephone. Both in-person and phone interviews should incorporate responsive interviewing skills based on a mutual relationship formed among participants, with responses highlighting the interviewee, not the interviewer (Rubin & Rubin, 2012). Mealer and Jones (2014) also emphasized the importance of establishing a connection with the participant and the therapeutic use of communication (both verbal and non-verbal such as the use of silence) in telephonic interviewing; a good rapport helps to mitigate communication barriers and foster honest disclosure. During in-person interviews non-verbal communication includes proxemics (control of personal space), kinesics (facial expression, posture, and gesturing), chronemics (use and timing of therapeutic silence), and paralinguistics (speed, pitch, and volume of voice); phone interviews do not include the first two techniques since there is an absence of visual cues and visual perception of judgment (Mealer & Jones, 2014). Face-to-face interviews were preferred for this study with telephonic interviews used as a backup. Kinesics are discussed in the findings where relevant.

Data Analysis Plan

Data collected included transcripts, notes, and other types of notations; management was essential. Transcripts were coded, meaning they were assigned words or short phrase that represent the data and assign meaning to it (Ravitch & Carl, 2016). I

defined the codes so they remained consistent throughout the data. The codes were a way of interpreting data and a way for the researcher to think critically about the data (Ravitch & Carl, 2016). Once the codes were in place, they were grouped together into categories. Rubin and Rubin (2012) cautioned the researcher may insert their opinion rather than the meaning intended by the subject when labeling concepts; this researcher used reflexivity as a reflection to limit possible influence of personal bias.

Data was coded with the help of a web-based program called NVivo. Data were fully encrypted during storage and when moving between their servers and the researcher's computer (QRS International Pty Ltd, 2017). I was able to export data at any time for local storage, but NVivo provided nightly backups to keep data safely stored (QRS International Pty Ltd, 2017). NVivo offered technical support, security for data, and organization tools.

Issues of Trustworthiness

Ravitch and Carl (2016) discussed the importance of taking a relational approach to research to allow for reflexivity because it supports intellectual humility and a willingness to engage in dialogue about what is not known with the same enthusiasm as about what is known. Relational aspects require a systematic examination of how the researcher processes being involved in research. This humility and transparency are foundational to trustworthiness for the subjects, the reader, and credibility of the study. Reciprocity is a pattern of giving and taking between people that incorporates ethical behavior and respect and involves providing assurances to subjects (how data will be

treated), validating peoples' experiences, advocating for participants, and being fully present for the participants as they share their time and experiences.

Credibility and Confirmability

Specific interventions I took to ensure credibility and confirmability include reflexivity as self-reflection about the research process, respect, clear presentation of information to participants, articulation and maintenance of confidentiality and anonymity, offering consent forms in clear language that clearly explains risks, and providing explanations of how findings will be discussed and how information will be used (Ravitch & Carl, 2016). An additional measure to ensure credibility was data saturation. Mason (2010) stated that saturation happens when all the data and participant perceptions that are important are recognized, the research questions are answered and documented, and the collection of additional data would become repetitive. Capturing all variations of perceptions and accounts of performance anxiety in the simulation setting supports the credibility of this study.

Transferability

Transferability is a weakness in the interview design and threat to credibility; this can be caused by variation in participant selection. In this study, variations have been identified as: baseline mental health issues such as anxiety disorder, selection of the students (random versus convenience sampling), students' perceptions of the lab surroundings (i.e., a change in the surroundings from one assessment to another), life stressors that may affect the student on any given day, life experience (i.e., history of trauma), and motivation (extrinsic versus intrinsic). Frankfort-Nachmias, Nachmias, and

DeWaard (2015) discuss extrinsic factors as greatly affecting participants beginning with the selection process. In the data collection process, interview questions will identify and address the variable listed above (See Appendix C, Data Collection Tool: Interview Questions).

Dependability

Dependability is assured by an external audit of data accuracy; the dissertation committee acts as the readers and additional reviewer(s). Carcary (2009) stated dependability and trustworthiness are emphasized when the reader can audit the events, influences, and actions of the researcher. My dissertation committee can easily identify my perceptions and possible biases, my specific methodology in collecting data, and the sequence of events in data collection.

Ethical Procedures

Important ethical issues in research include anonymity and confidentiality. These were a concern for my research on nursing students with situational anxiety. The students I interviewed attended a vocational nursing program in central Texas. An example is a participant who is the only male nursing student; a pseudonym and age change may not protect his identity if the nursing program is identified in any way (Johnston, 2015). Johnston (2015) wrote that a breach in confidentiality negatively affects the researcher-participant relationship and the overall trust in researchers. The author recommends omitting all demographic data (age, gender, diagnosis, location, job title, etc.), discussing location in very broad terms, and omitting all personal characteristics not directly related to the topic. Participant coding will be part of methodology to protect subject anonymity.

Minimizing harm is a concern for the participant and for the researcher as there is a risk of vicarious traumatization when listing to a description of personal trauma; Mealer and Jones (2014) recommend journaling, and debriefing with fellow researchers to mitigate this risk of secondary trauma and compassion fatigue. To protect privacy and confidentiality, electronic data were encrypted, and notes were de-identified with codes assigned to participants. Ravitch and Carl (2016) also discussed the importance of rapport, protecting privacy, and minimizing harm during qualitative interviews. The authors state that respect is central to cultural and context, and the researcher should be transparent during conversation; while rapport and transparency are paramount, so are professional boundaries so that data is not skewed by bias. Reciprocity is a balance of give-and-take as a step towards equity, to ensure that researchers are giving to participants rather than only taking from them.

An email exchange with the Executive Director of the Nursing Department for the Community College indicated no IRB process for the college. The director wrote: "We don't have a formal IRB process. You just need to submit your proposal to us to be approved. I will also want to see the results of your study." Correspondence with the director of the simulation lab indicated that I should make an appointment to bring flyers and announcements to the college several weeks before data collection. All participants were able to stop the interview at any time without consequence. If participants had left the study before data collection was complete, then the invitations to participate would have been extended to the next semester's cohort.

Summary

Qualitative interviews have ethical issues that need to be considered, but the processes should be meaningful and generative as the dimensions of ethics are addressed. Informed consent was requested before the participants provided any data. The forms included identification of the researcher, institution, purpose of the study, benefits of participating, level and type of participant involvement, notation of any risks to the participant, guarantee of confidentiality, assurance that the participant could withdraw at any time, and provision of names of persons to contact if questions arise (Creswell, 2014). I collected data during face-to-face and telephonic interviews and which were recorded on a device and saved on a computer for data analysis. All participants were assigned a number to protect anonymity. Data were analyzed with coding procedures and the use of Nvivo software for additional coding. Trustworthiness was supported by interventions such as self-reflection about respect, clear presentation of information to participants, articulation and maintenance of confidentiality and anonymity, offering consent forms in clear language that clearly explain risks, and providing explanations of how findings will be discussed and how information will be used (Ravitch & Carl, 2016). Specific codes, categories, and themes that emerge from the data will be presented in Chapter 4.

Chapter 4: Data

Introduction

The overarching purpose of this qualitative descriptive study was to describe vocational nursing students' experience of demonstrating skills in a simulation setting, specifically to gain insight into performance anxiety, to determine whether or not performance anxiety exists in this population of interest within the simulation setting, and to identify the coping techniques employed during testing. The following research questions guided this study: (a) If performance anxiety is noted in the simulation setting, is it significant in vocational nursing students while they are demonstrating skills? (b) How do vocational nursing students describe anxiety experienced during skills assessments in simulation settings? (b1) Do nursing students describe anxiety in the simulation setting in a way that is similar or different to other settings (clinical setting and computerized exams)? (c) How do nursing students describe the coping skills that they employ when feeling anxiety during skills assessments in simulation settings? Lazarus' (1966) transactional theory of stress and coping guided this study and helped inform the understanding from the students' perspective on the psychological challenges experienced in the simulation setting. This chapter discusses the study setting, participant demographics, data collection methods, data analysis, evidence of trustworthiness, study results, and answers to research questions.

Study Setting

This study was conducted at a vocational nursing program in a community college in central Texas. Interviews were conducted in person, via phone, via Skype, and via

FaceTime. Face-to-face interviews were conducted in a private room next to the vocational nursing main classroom. The building serves the vocational and associate degree nursing programs. There were no known personal conditions that influenced participants or their experience of skills assessment in the simulation lab at the time of the study. Phone, Skype and FaceTime interviews were conducted while I was in a private room in my home and participants verbalized they were alone and in a private space where they were comfortable and would be uninterrupted during the interview. Interviews took place without interruption except one that began on FaceTime but due to the participant's technical difficulty with her internet connection had to be discontinued and restarted by phone a few minutes later. At the time of the study's data collection, the participants were in their first semester of the vocational program, and the program appeared stable and staffed with full-time and adjunct instructors.

I recruited participants through promotional flyers (Appendix A), via my introduction to the class and the instructor's follow-up announcement. The executive director of the nursing department asked me to work with one instructor to recruit participants. I was invited to speak to one class of 57 students at the end of their last class of the week (Thursday afternoon) for 5-10 minutes. I introduced myself to the class, talked about the purpose of the study, distributed flyers, and invited participants to interview immediately following the class. The majority of students (at least 50) raised their hands indicating they would like to sign up and participate, but when the instructor announced class was over, they all left. Three had signed up to interview the following week. Two students stated they would interview immediately, but neither stayed that day.

The next week the instructor announced the study at the beginning of class and again before a break, posted flyers in the classroom and passed around a sign-up sheet, and 19 additional students signed up to participate. Seventeen total students completed an interview. I contacted each participant via email and text to schedule interviews. Participants indicated their preference of interviewing in person, by phone, Skype or FaceTime. Participants received a reminder text the morning of the scheduled interview.

Demographics

Informed consent was obtained and demographic information was collected at the start of each interview. Participants needed to be a full-time student attending the vocational nursing program at the college in central Texas and had been assessed by an instructor while demonstrating a skill in the simulation lab to be eligible for my study. Exclusion criteria were entry-level students who had not been evaluated by an instructor while demonstrating skills in the simulation lab, and students who stated they had no anxiety during the performance of skills in the simulation setting during assessments. I was limited to entry-level vocational nursing students since the program administrator preferred I work with one class and the entry-level students were most accessible. There was a cross-section of students from different age groups, professional backgrounds, marital status, and ethnicities but not from different levels of the nursing program. All research participants were female students. The ages of the student participants ranged from 20 years to 43 years. All participants had demonstrated at least two skills in the simulation setting for assessment purposes. Interviews revealed that 12% of participants

had experience demonstrating skills in a simulation setting prior to attending the nursing program. See Table 1 for the demographic characteristics of the research participants.

Table 1

Participants (P) Demographics

	Age	Gender	Marital Status	Racial/ Ethnic Category	Demonstrated a skill in sim lab for evaluation purposes	Program Level
P1	22	Female	Married	Caucasian	Yes	1
P2	24	Female	Married	Caucasian	Yes	1
P3	33	Female	Divorced	Native American	Yes	1
P4	37	Female	Widowed	Irish/Scottish	Yes	1
P5	25	Female	Single	Latino	Yes	1
P6	43	Female	Divorced	Caucasian	Yes	1
P7	31	Female	Single	Caucasian	Yes	1
P8	20	Female	Single	Caucasian	Yes	1
P9	36	Female	Single	African American	Yes	1
P10	20	Female	Single	Caucasian	Yes	1
P11	20	Female	Single	African American	Yes	1
P12	20	Female	Single	Latino	Yes	1
P13	24	Female	Single	Latino	Yes	1
P14	25	Female	Divorced	African American	Yes	1
P15	43	Female	Separated	Asian	Yes	1
P16	27	Female	Single	Caucasian	Yes	1
P17	28	Female	Married	African	Yes	1

Data Collection

After receiving IRB approval and before my data collection, I contacted the executive director of nursing at the college in central Texas for permission to post recruitment flyers and to schedule a time to introduce myself to a class of students. The director requested to read my proposal and several days later scheduled a time for me to speak to the class. The director asked me to work with an instructor to access students and distribute flyers. I was invited to speak to one class of 57 students at the end of their last class of the week for 5-10 minutes. I introduced myself to the class, talked about the purpose of the study, distributed flyers, and invited participants to interview immediately following the class. The instructor announced the study again the following week and distributed flyers and a sign-up sheet. The recruitment period was three weeks.

Participants signed a sheet that was distributed by their instructor. I contacted each person to schedule the interview and the morning of the interview I sent a reminder text of the time and mode (in-person, phone, Skype, or FaceTime). I conducted a total of 17 interviews from June 29, 2019, to July 22, 2018. Twenty-two students signed up to participate. One declined after initial contact by emailing me. One student did not respond to any attempts of contact (email and text), one student canceled citing phone problems and declined to reschedule, and two students scheduled interviews, communicated via text message but did not respond to confirmation texts and emails and did not show up to the appointment. Each interview took from 20 to 45 minutes to complete with an average length of 37 minutes. At the start of each interview, I reviewed the study purpose, consent form, and demographic form. Participants were informed the

interview would be audio recorded for transcription purposes and that they would be identified as participant number 1, 2, 3, etc.. I assured participants that the recording would not be available to the public and that they would not be identifiable by their answers. The student participants were thanked at the end of the interview, and they received a $10 Amazon gift card for participating. Each participant received a follow-up thank you e-mail for their participation four weeks after the interviews were conducted.

The data were collected using both a Sony digital recorder and the Rev recording application on a tablet. Notes were also taken during interviews noting eye and body movements, voice tone, and cadence. After each interview, I wrote memos to capture my thoughts and impressions of the interview. A data collection tool was used for each interview (see Appendix C). At the conclusion of each interview, I summarized key points that were shared to validate the participants' thoughts. After the interviews, the recordings were digitally transferred to my password-protected computer. After the audio transfer, I transcribed the tape using ExpressScribe. Analysis of the data was done throughout the data collection process. I conducted a total of 17 interviews, and no new codes or themes were identified after the 14th interview, indicating that saturation was reached at 14 participants. Seventeen interviews were completed to support findings, to emphasize the importance of the volunteers' willingness to participate (I did not want to turn any volunteers away), and to ensure that data saturation was achieved.

I offered several interview sessions at various times to accommodate participants' schedules and availability. I intended for my participants to be a cross section of the nursing program to include students from each but administration indicated the level one

class had the most students and was the most accessible at the time the interviews took place. There were no unusual circumstances such as faculty changes, program changes, or changes in how the program conducts assessments in the simulation setting encountered during data collection.

I used NVivo to conduct data analysis and the analysis and word clouds that were generated matched my findings as the research instrument. The words clouds displayed the most frequently used words visually but did not reflect the importance of common phrases stated during the interviews (See Appendix E). I listened to interview recordings several times to capture comments and phrases and reviewed transcripts for further examination of codes and categories. With NVivo, the feature references are the number of characters as a percentage of the total source (not words), and coverage is calculated as a percentage of the total source coded to the node. The characters are collected from all data sources and were not helpful to a more significant, broader theme development, so references and coverage are not included in this study. I found it more relevant to manually calculate the percentage of participants contributing to nodes and codes; I consulted with a Walden qualitative tutor who concurred that manual calculations and coding could be substituted for NVivo features during data analysis.

Data Analysis

I wrote memos during data collection to record my thoughts on the emerging data. The interviews were transcribed verbatim before analysis in NVivo. I established codes both during the interviews in my memos and during analysis of transcripts. Codes consisted of words and phrases. The results of the data analysis were organized by

research question. See Table 2 for codes and themes that emerged during data analysis and the number of participants who contributed data to each code and theme. Preset themes were related to the data collection instrument and memos created during data collection. A preset theme pertaining to Research Question 2 on how nursing students describe anxiety experienced during skills assessments in the simulation lab compared to assessments in other situations (computer testing or clinical setting) included *nervous* and *nerve-wracking*. Analysis showed these as the most frequently occurring by number of participants (occurred in 94% of participants); the code: *checkoff observation causes increased anxiety* was noted during transcription review to be the most common, also occurring in 94% of participants.

Table 2

Data Analysis Codes and Themes

Code (italicized and indented) or theme (standard font, not indented); quotes indicate participant words/ phrases. Not all codes are listed here; additional codes noted in results	*N* of participants contributing to code or theme
RQ1: If performance anxiety is noted in the simulation setting, is it significant in vocational nursing students while demonstrating skills?	
Participants reported that they experienced significant anxiety in relation to the following factors while demonstrating skills in the simulation setting:	
completed skills checkoffs	12
getting a "heads-up"	2
no student warnings (sub-theme)	15
"what's at stake"	14
working with a mannequin	14
RQ2: How do vocational nursing students describe anxiety experienced during skills assessments in simulation settings? Sub-question (a): Do nursing students describe anxiety in the simulation setting in a way that is similar or different to other settings (clinical setting and computerized exams)?	
checkoff anxiety is described as "nervous" or "nerve-wracking"	16*
additional anxiety	1
related experience	4
comparing to other situations	17*
checkoff anxiety not felt elsewhere	7
computer testing causes less anxiety	11
checkoff observation causes increased anxiety	16

(*table continues*)

Code (italicized and indented) or theme (standard font, not indented); quotes indicate participant words/ phrases. Not all codes are listed here; additional codes noted in results	*N* of participants contributing to code or theme
high anxiety in other observed situations	5
paper exams cause less anxiety	6
working with patients causes less anxiety	7
familiarity lessens anxiety	10
RQ3: How do nursing students describe the coping skills that they employ if feeling anxiety during skills assessments?	
during assessments	16*
"breathing" and "focus"	8
"going slow"	1
"helping others"	1
"positive self-talk"	8
relationship with instructor	2
visualization	1
Pre-assessment	13*
"clinical hours"	1
"memorization"	1
"practice"	6
"practicing on people"	7
"sim lab practice"	5
taking advantage of available resources	5
suggestions for producing less anxiety	4

Note. An asterisk (*) beside a number indicates that the total number of sources or data units indicated for the theme includes the number of sources or data units for all codes included in the theme (i.e., these are the values for the aggregated NVivo nodes).

I recorded interviews using a digital recorder and transferred the recordings to my computer after each interview. I created transcripts within 24 to 48 hours of each interview and immediately wrote down my initial thoughts in a notebook. I reviewed transcripts for initial analysis of pre-established codes and emerging themes. When all interviews were complete, I continued with a more focused coding strategy and examined data items that were unexpected. The preset codes were helpful to focus analysis on relevant codes.

Axial coding helped identify relationships and hierarchies of nodes, codes, and subcodes. I read all the transcripts again to determine relationships between interviews. I also identified theoretical codes to examine the direction of the study in alignment with the guiding theory. Reflecting on the transactional theory of stress and coping was noted to be directly related to themes of coping techniques and resources that help a student move past anxiety to be successful with the skills assessment.

After the data were transcribed and the open and axial coding was completed, I scheduled an appointment with a Walden qualitative tutor to review how to run queries and display results with NVivo software. I uploaded the transcripts into NVivo 10 for Windows for further analysis. I was able to sort data, run queries, examine themes, and illustrate results visually as a word cloud (See Table 3). Word frequencies were identified, and the word clouds highlighted the most frequently used words among all participant responses (my interview questions were omitted). Although NVivo displayed my transcribed interviews and provided an efficient way to move data into themes, nodes, and codes, I found my open and axial coding to generate information that could easily fit

with codes. NVivo provided a more detailed view of data elements that did not add to answering the research questions such as the number of characters in a participants sentence.

Another example is seen in Table 2 as 100% of participants reported that they experienced significant anxiety related to various factors while demonstrating skills in the simulation setting; one factor was completing the skills check off. NVivo generated data stating that 12 participants and 12 data elements contributed to the theme of *anxiety* while completing a skills check off. The absence of some participants from the "Completed skills checkoffs" theme does not mean that the remaining participants did not experience anxiety related to skills demonstrations but that their anxiety was associated primarily with specific aspects of the simulation that was better represented by other RQ1 themes and codes. Portions of participants' responses that dealt primarily with the overall structure and content of the skills checkoffs they had undergone are coded under "completed skills checkoffs" as subcodes. Portions of participants' responses that dealt primarily with anxiety associated specifically with "what's at stake," "getting a heads-up," or "working with a mannequin" are coded under those themes, respectively. Seventeen out of 17 participants are included in at least one of the RQ1 nodes.

There were no discrepant cases although one participant denied experiencing anxiety during check offs in the simulation setting and stated “I don't get super anxious, so I feel like it's not that hard for me to deal with... I just do it because it doesn't really bother me in the first place.” suggesting some anxiousness. The participant goes on to state “I'm definitely more calm when I'm taking a test than I am with a

checkoff, just because the checkoff is that they're watching you and you have to get it right." Later the participant discusses being excited to get checked off because it will verify her results; she's enthusiastic and upbeat, which was different from the rest of the participants. When I asked about coping techniques, the participant revealed some anxiety. She stated "I don't cope with it at all, I just push it to the back of my mind. I'm like, Why are you freaking out? You know you got this. You just push it to the back of your mind, because you getting nervous is not going to fix it, it's not going to help you" thus illustrating she was a discrepant case and met the inclusion criteria of experiencing anxiety during check offs in a simulation. It should be noted that there were technical difficulties during this interview (screen freezing several times and had to repeat questions and ask her to repeat her answers), which did not occur in any other interview.

Evidence of Trustworthiness

This study received IRB approval from Walden University and approval from the host site. My approval number from Walden was 06-22-18-0573165. The host site provided an email from the program administrator stating approval (no number). Credibility, transferability, dependability, and confirmability were established and maintained throughout the data collection process.

Credibility and Confirmability

Specific interventions I took to ensure credibility and confirmability were: reflexivity as self-reflection about the research process by journaling, respect for participants time and experience by listening attentively and accommodating their schedule, clear presentation of information to participants by confirming that they

understood the nature of the study and offering time for questions. Additional measures included articulation, and maintenance of confidentiality and anonymity, offering consent forms in clear language that clearly explained risks, and providing explanations of how findings will be discussed and how information will be used (Ravitch & Carl, 2016). An additional measure to ensure credibility was data saturation. Credibility was also achieved through validation of participants' answers and triangulation of the information (Carter, Bryant-Lukosius, DiCenso, Blythe, & Neville, 2014). I read back direct quotes and asked for further clarification during interviews to avoid misunderstanding or misinterpreting statements. I read previous interviews to capture corroborating experiences. Capturing all variations of perceptions and accounts of performance anxiety in the simulation setting supports the credibility of this study (Carter et al., 2014).

Confirmability was achieved through a detailed account of how data were collected, analyzed, and processed (Carter et al., 2014). I provided a rationale that explained how codes were created and merged based on the analysis. My journal contained reflective thoughts throughout the process including my experience with interacting with instructors, program administrators, traveling to the research site, and surroundings during interviews. I also included thoughts on the importance of this topics. Key points were summarized and confirmed with study participants at the end of each interview.

Transferability

Transferability was achieved with descriptive information about the participant during the interview. Participants described their academic background, some discussed

variations such as baseline mental health issues, perceptions of the lab surroundings (i.e., a change in the surroundings from one assessment to another), life stressors, life experiences (i.e., history of trauma), and motivation (extrinsic versus intrinsic) (Frankfort-Nachmias et al., 2015). I also provided a detailed description of the setting and study conditions. Semi-structured questions were asked, and direct quotes were shared. Detailed accounts of the events were captured in my journal, but I provided a database that makes transferability judgments possible on the part of potential readers (Frankfort-Nachmias et al., 2015).

Dependability

Dependability is assured by an external audit of data accuracy (Carcary, 2009). The dissertation committee acted as the readers and additional reviewer(s). My dissertation committee could easily identify my perceptions and possible biases, my specific methodology in collecting data, and the sequence of events in data collection. Data were collected in a systematic way using an interview protocol. All interviews were audio recorded and transcribed. Field notes were written after each interview and impressions of data were elaborated on in my journal. The results of the study include verbatim accounts of participants' views.

Data Analysis Results

Participants were asked a total of seven questions related to their perception of demonstrating skills in the simulation setting. The following section highlights the study results in the participants own words. There were three research questions with question two having a sub-question. Each of the questions correlated with the questions within the

data collection tool. Based on the results, ten themes resonated throughout each interview. Themes centered on completing skills check offs, getting a "heads up" from previous students, realizing what was at stake, working with mannequins, feeling nervous, comparing the simulation setting to other settings, familiarity, coping skills during assessments, resources used pre-assessment, and suggestions for decreasing anxiety. The themes generated were in alignment with Lazarus' Transactional Model, which provided a lens through which to view the stress process when discussing stress and interventions because the model focused on coping mechanisms and adaptation. The benefit of applying Lazarus' theory was the ability to guide the exploration of nursing students experiencing anxiety in the simulation setting and their descriptions of coping by employing problem focused or emotion focused reactions.

Research Question 1

If performance anxiety is noted in the simulation setting, is it significant in vocational nursing students while demonstrating skills? The first research question correlated with questions two, three, four, and five of the data collection tool (see Appendix C). The participants were asked a series of questions about how previous students described check offs to them (if anyone did), how the participant described check offs, being observed, and anxiety they felt during check off assessments in the simulation setting. The following is a list of codes that emerged from these questions: checkoff anxiety, nervous, nerve-wracking, high anxiety, at stake, and warning. The participants (P) responded to these questions by stating the following examples:

- “It's just nerve-wracking. Like, I'm like I'm totally going to get this wrong…” “I'd say anxious…” “Very nervous” (P1).
- “I had one of my teachers watching me and it was so nerve-wracking, I was like shaking and then I kept forgetting things. And I was like, "Oh, I forgot that," and then, "I gotta go back to that," and "okay, no I forgot that, yeah." So it was just trying to remember everything that we're supposed to be doing as part of each checkoff. It is a difficult task” “It’s like judgment. Like being critiqued, being judged for forgetting stuff and it was more so my part than the instructor's part. It wasn't really their part, it was like I was like, I had the anxiety about it” (P2).
- “It was really nerve-wracking and plus the patient of course was a mannequin so there wasn't much interaction... I was shaking when I finally got done” “Sometimes I couldn't think. You know when you're being watched like that, I just felt ... it's like everything would go blank. I'd have to stop and really think, "Oh geez what do I do now? What do I do now?" It's not that I didn't know what to do. It's just that it erased out of my mind” (P6).
- “We know we have to get it right. It's really important to us to get it right” “when I get nervous I start to get hot, a little bit, and sometimes I think that interferes with how I demonstrate the skill” “It's very nerve-wracking. I think it causes people's nerves to get the best of them. And maybe mess up” (P12).

- “My palm instantly sweating, my heartbeat was rapidly beating, and it's almost like if I fail this checkup, I won't be a nurse, and possibly I might get kicked off the school. Nursing practice, the school in practice-wise it still matters throughout the course, so it is not just simple that any other major students can expect. This is more tense, and that's why every single course, the checkup is really mean to the students. It wasn't just like, for example, psychology students have to perform or present something to other students, it was more like you pass or you don't, and if you don't pass it's going to be a big deal for you” “I felt really, really nervous. I wasn't familiar with what we were doing. Other than being to the doctor myself and seeing them do it. And I do have to say that it looks a lot easier than it really was. Yeah, I was just really nervous” (P15).
- “My stomach felt kind of butterfly-ie. 'Cause I had to pay attention to my breathing. 'Cause if you breathe too loud, you can hear it in the stethoscope” “I had to watch my own breathing and kind of control my breathing. My stomach was queasy and then it kind of makes your ... when you get the queasy stomach, it makes your legs feel kind of floaty“ “I thought like I was on the spot. I was very anxious. I've done many things, but to do something and somebody watches, and really your education is at stake, I was very anxious” (P16).
- “I was shaking a little bit, but I was trying to cover it up so my instructor wouldn't see. I was sweating a little bit too” “That one was more nerve-

> wracking 'cause it was a longer check off. Um, and when I did it the, uh, instructor didn't talk for the patient, (laughs) so I just talked to the mannequin without, um, having anything back. So, that was awkward" "Mm, it, it made me nervous being watched by someone who's done this a thousand times, and I was probably shaky. But, I feel more nervous ... Like, we, we've gone to clinicals, and I feel more nervous with a real patient to ... I'm actually doing it to, versus a mannequin" (P17).

Participants reported that they experienced significant anxiety and described adverse physical reactions that interfered with their ability to demonstrate skills effectively. The codes helped formulate the following themes: anxiety while completing skills check offs, anxiety related to not having a "heads-up" or warning from previous students, anxiety when thinking about what was at stake, anxiety while being watched, and anxiety while working with mannequins to demonstrate skills in the simulation setting.

Research Question 2

How do vocational nursing students describe anxiety experienced during skills assessments in simulation settings? Sub-question: Do nursing students describe anxiety in the simulation setting in a way that is similar or different to other settings (clinical setting and computerized exams)? The simulation setting was explored for anxiety specific to the setting and distinguishable from students' ability to work with patients and complete testing in traditional settings (e.g., computerized testing). The second research questions correlated with interview questions three, four, five, and seven. These questions on the data collection tool centered on describing anxiety felt in the simulation setting versus

other assessment setting such as taking an exam or working with patients. The following is a list of codes that emerged: high-anxiety, nerve-wracking, familiarity, being watched, comparing, and testing. The participants responded to these questions by stating the following examples:

- “Yeah, yeah, like I said, having - 'Cause when you're doing checkoff it's one person looking directly at you and that's really nerve-wracking because it's like, their sole focus is on you. Versus when you're in a classroom full of people, you, versus two people, a whole variety of people. So when I was on checkoff I feel like the anxiety was definitely more intensified because just how my sole focus when I take a test on a computer or on paper, that's my sole focus. A teacher looking at me during checkoff, that's their sole focus. So they're watching me, watch my check. So I think it's, yeah, definitely more anxiety when the teacher's watching me by myself versus over the whole class. Over the whole class it's like, I mean it's not as high anxiety, it's up there but it's more or less, it's slightly under it” (P3).
- “When you're doing a skills check off, first you are having to talk professionally to the patient, quote on quote. And then, while you’re talking you’re also forgetting to listen. And then thinking in your head, okay what am I actually supposedly listening to. And then, you're also being watched. And you're having to tell the instructor what you're doing. And then remembering, all at the same time what pattern you're wanting to

go down. Okay, I'm supposed to do this, this, this, and this. Did I remember everything in this area? All at the same time. You remember several things all at the same time. So it's a little bit different [than taking an exam] in that regard. A lot more complicated, at least for me" (P4).

- "I think it was just specific to that setting because having someone watch you, especially doing a skill that you're not used to doing on a daily basis is something way more intimidating than any other experience I can think of…" "It's different. I feel like in the checkoffs, I feel a little bit more intimidated because I just have these eyes watching me and I'm just like, "Don't look at me," but you know. It's something that's a little weird. You're just not used to it. You're not used to people watching you doing something specifically, and you have to make sure you have to do it on point. But in exams, you don't have anybody watching you. I don't feel that intimidation. I don't feel that nervousness. I don't feel like someone's watching me the whole time, so I don't feel so nervous. An exam, compared to a checkoff ... Checkoffs are definitely way more intimidating, more scary than exams" (P5).
- "Working with a mannequin is more difficult, I'm more nervous. In a situation where there's a live body with me ... I've had people come into the ER and you could tell they were distressed. Take them back to the ER, and yell for a doctor or nurse and they stop breathing, I'd start bagging them. I know what to look for. You see what I'm saying? I have done

intensity that I was able to follow through and then the doc, he started getting his equipment together to get ready to intubate. I pull the bag out and said, "You intubate." We got him intubated. I put it back together and started bagging again. You see what I'm saying? It's just all ... But that wasn't ... It was an adrenaline rush but it's like it came natural to me. I knew what to do in that situation. And that's what's so strange with me. I do not feel nervous with patients but I do with mannequins" (P6).

- "I have felt nervous in other situations, is when I know I'm being observed. I think anytime anybody's in a situation where they're being observed, especially when it's for a grade or like a pass or fail type situation, it's just automatically just going to make you nervous…" "The nervousness I feel when I'm taking a test is really the nervousness, not maybe knowing the material or forgetting the material, compared to when I'm being observed and somebody is actually watching me, it makes me nervous to the point where instead of concentrating on what I'm doing, I'm more so concentrated on them watching me and I end up maybe forgetting a step or not doing as good as I would have done had I not been watched" (P7).
- [When asked about feeling nervous while performing a task on a patient] No, not at all. Because it's like part of what you're doing, your job. I mean interacting with a patient. So it comes easy because you're talking and you're just going to let them know, "Okay, I'm just going to check your

blood pressure." And it just goes easily. It's like a flow. So I'm not nervous or anything. It's just with the checkoffs because they just watch you…"

"Yeah, it's a different nervousness. The computer test, I just want to make sure that I don't click out the test before I'm done. The checkoff nervousness is just, even though you know what you're doing, having someone stand there watching your every move, it just kind of makes you a little nervous, it's just a different type of nervousness" (P9).

- "When you're testing on an exam, there's nobody really watching you. And the computer is what's going to grade you. Not the professor. And whenever you're taking a test, your answers are multiple choice. So you have a little room for leeway there. Whenever you're taking an online exam or a paper exam" (P16).

Participants described anxiety in the simulation setting as different than what they experience when taking exams or working with patients. The anxiety described in the simulation setting was described as more intense, increased, and has more adverse physical symptoms. The codes helped form the following themes: checkoff anxiety, related experiences, comparing testing situations, being watched, and familiarity.

Research Question 3

How do nursing students describe the coping skills that they employ when feeling anxiety during skills assessments in simulation settings? The third research question correlated with questions five, six and seven on the data collection tool. This question focused on coping skills and resources the participant identified as helpful to mitigate the

negative effects of anxiety. The codes that emerged were: breathing, focus, slow, helping, positive, self-talk, relationship, visualization, memorization, and practice. The participants responded to the questions by stating the following examples:

- "For me, it's my positive mantra is like, it's actually a song. So I use this song, it's called Whatever It Takes by Imagine Dragons so it's like anytime I start getting stressed I just think about that song and I'm like okay. And so I just repeat that over and over and over and over and over in my head. And it kind of, and then I just, you know, basically kind of like what the teacher was doing and just like, okay, and just remind myself that I need to breathe. Mostly it's my positive mantra" (P3).
- [Referring to YouTube videos] "They gave me what I needed to know exactly beforehand. They helped you so much before you actually do your checkoffs. And before in my experience, the instructors didn't help out as much whenever they helped us trying to get ready for checkoffs" "They made you practice in the lab. They made sure they put that time aside for the lab. They made sure that you do it in front of them before you actually do the checkoff, so they can make sure that they can do some cues or they can tell you what you need to work on. They really make sure that you know what you're doing before you even do the checkoff by itself. So they can try to help you as much as they can. Before I feel like I didn't have so much assistance and so much support. But they did, and I really like that" "the clinical time that our staff gives us. I believe that helps a lot because

it gives me an idea of what the checkoff is actually going to be in that setting, in the same room, in that same environment. That helps a lot. Also going through YouTube videos to get an extra feel of what a checkoff is, or just watching a skill from somebody else in their point of view. I think that also does help, along with sitting in lecture and listening to the instructors talk about it. Hearing their point of view in the actual hospital setting, I think also does help. And the support from the staff, the support from the students, really helps. And I'm going along with family just supporting every decision I make in my nursing career. But I don't really think ... It's the clinical hours that they let us use in order to practice. I think that's number one" (P5).

- "I definitely had a lot of family support. A lot of preparation time. I put a lot of time into studying and making sure that I comprehend the material that I'm learning" [On what helped the most] "I want to say my memorization. I just memorized the steps and I did a lot of practicing before I actually did the checkoff" (P7).
- "I practiced on my family a couple days before" "I think the biggest thing for me was remembering to be confident. They're always telling us that we need to be confident, go in the room knowing what we're doing. And even though I felt those emotions, I didn't show those emotions. I just kept remembering, be confident and you know what you're doing" (P12).

- "I also got to practice on my family. So, I think that really helped me" "I watched videos on YouTube…" "the books that we study, they kind of help" (P13).
- "I mean, every time I came home I did it on my family members. They were calm and made me to pay attention to listen to the blood pressure, the [inaudible 00:07:49], and the readings, get them right. So, I just really practiced a lot on my family members and my class" (P17).

The themes that emerged from questions regarding coping techniques and resources were preparedness, watching videos to prepare, practice, determination, and family support. These themes were similar to those identified in question two but with more emphasis on what it takes to be successful in a checkoff. One hundred percent of participants were successful with all checkoffs at the time of the interview, but not all on the first attempt. Eighteen percent of participants were unsuccessful on the first attempt of at least one checkoff but were successful on the second attempt.

Summary

In my journal reflections, I examined my experience as a nursing professor testing students in the simulation setting by having them perform skills and observing students who are strong in other settings (clinical, classroom, and computerized testing) struggle in the simulations setting, and subsequently needing to withdraw them from the nursing program. My reflections on the relational ethics of this study provided the foundation for questioning and probing in a way that invited perspectives both similar and different from my own. One hundred percent of vocational nursing student participants described their

experience to indicate that performance anxiety is significant in the simulation setting while they are demonstrating skills and described a variety of negative and distracting physical and emotional symptoms. Participants described the anxiety they feel in the simulation setting in similar ways to performance anxiety described in other fields such as sports and the arts. One hundred percent of participants described anxiety in the simulation setting in a way that is different to other settings (clinical setting and computerized exams), and they listed coping skills and resources that are also seen in other fields such as sports and the arts.

Both categories of Lazarus' coping (problem-based and emotion-based) were appropriate for a study to explore otherwise successful students who fail due to performance anxiety in the simulation setting as participants described their coping skills as one or other category. Participants listed problem-based coping such as practicing the skill, asking questions, and deep breathing. Participants also listed emotion-based coping skills such as thinking about positive affirmations, feeling determined, and focusing on feeling positive. The use of qualitative analysis in my study helped identify themes and specify anxiety occurring in simulation as a different experience than anxiety that may occur in other settings of the nursing program. Chapter 5 will provide an interpretation of findings, discuss limitations, recommendations, and implications for social change and applications to practice.

Chapter 5: Findings

The use of simulation in nursing education supports learning and the evaluation of skills performance (Hayden et al., 2014). Some students experience anxiety in the simulation setting and research is beginning to focus on the many elements of the simulation experience including the risk of emotional drawbacks (Najjar et al., 2015). When otherwise successful students fail a competency assessment in the lab simulation setting, they might be experiencing anxiety directly related to performing a skill in an artificial setting with an audience observing. Performance anxiety includes traits such as worry and emotionality and these traits might prevent students who pass in other areas of the program from demonstrating knowledge effectively in a simulation setting (Rokenes et al., 2014). My research focused on nursing students experiencing performance anxiety in the simulation setting with the purpose of exploring the significance this phenomenon can have on the participant and their ability to successfully demonstrate skills in an assessment.

The overarching purpose of this study was to describe vocational nursing students' experience of demonstrating skills in a simulation setting, specifically to gain insight into performance anxiety , to determine whether or not performance anxiety exists in this population within the simulation setting, and to identify the coping techniques employed during testing. The nature of this study was qualitative methodology to capture the participants in their natural setting of nursing school. The researcher was a key instrument in observing behavior and interviewing participants directly (see Creswell, 2014). Qualitative descriptive research was consistent with understanding how students

experience anxiety; it provided a holistic account and presented personal perspectives in addition to various factors involved with the simulation setting (Creswell, 2014).

The results of my study showed that 100% of vocational nursing student participants described their experience to indicate that performance anxiety is significant in the simulation setting while they are demonstrating skills and described a variety of negative and distracting physical and emotional symptoms. Participants were consistent in the way they described the anxiety they feel in the simulation setting, and the descriptions were similar to performance anxiety described in other fields such as sports and the arts. One hundred percent of participants described anxiety in the simulation setting in a way that is different to other settings (clinical setting and computerized exams), and they listed coping skills and resources that are also seen in other fields such as sports and performing arts.

Interpretation of the Findings

The results of this study coincide with the literature on nursing student stress in the simulation setting. For example, Oermann and Gaberson (2016) and Thomas and Nettlbeck (2013) documented that prelicensure nursing students demonstrate skills in simulation settings and experience similar performance anxiety to other professions such as performing arts and sports. The authors also discussed the anxiety as having an intense and negative physical impact during the performance of tasks (Thomas & Nettlbeck, 2013). Additionally, Owens et al. (2014) and Schnell, et al. (2015) discussed the effects of performance anxiety on learning and its interference with cognitive performance. The authors stated performance anxiety could negatively impact cognitive function, memory,

and the ability to set goals. In both studies, the authors identified ongoing themes of performance anxiety stress and coping skills used to mitigate the negative effects. There is a paucity of literature on performance anxiety in the simulation setting; none of the studies reviewed in my search contradicted my results.

Hayden et al. (2014) conducted the NCSBN National Simulation Study, which was a landmark study that examined simulation use in pre-licensure programs. The study highlighted the multiple benefits of simulation and addressed the drawbacks of technical issues, but did not mention the impact of psychological stressors such as performance anxiety that occur in the simulation setting. My results indicated that performance anxiety is significant and should be considered a drawback to simulation. In addition to all participants describing anxiety in the simulation as different from what they experienced in other settings, participants described anxiety experienced in the simulation setting in similar ways that other fields such as performing artists and athletes described performance anxiety. The results indicated that the phenomenon of performance anxiety exists and is significant in student nurses in the simulation setting. Thomas and Nettlbeck (2013) and Al-Ghareeb et al. (2017) explained performance anxiety can occur in a variety of settings, and can negatively impact cognitive function. Participants in my study provided examples of negative impacts on cognitive function with statements such as "being prepared, but then forgetting the steps" of the skill, and feeling increasingly "confused" due to "being watched." Participants also described coping to mitigate the negative effects of anxiety in alignment with Lazarus and Folkman's (1984) Theory of Stress and Coping.

The Theory of Stress and Coping posits the proposition of coping as problem-based and emotion-based Participants gave examples of practicing the skill, asking questions, and deep breathing which is consistent with problem-based coping. Participants in my study described emotion-based coping skills such as thinking about positive affirmations, feeling determined, and focusing on feeling positive. The use of qualitative analysis helped identify themes during data analysis, and specify the anxiety that occurs in simulation as a different experience than anxiety that may occur in other settings of the nursing program.

Additional propositions in Lazarus and Folkman's (1984) theory included that there are several appraisals of the situation. Interview questions 2 and 3 that asked participants to describe their experience in a check off and describe the feeling of being observed explored the occurrence of appraisals as described by Lazarus. Participants clearly described the initial appraisal as realizing what was at stake; an example is the statement "could be withdrawn from the nursing program." Others discussed family expectations and personal goals. Because the demonstration of skills in the simulation setting was high-stakes testing, the situation as described by Lazarus and Folkman was viewed as a threat leading to anxiety with negative physical responses such as rapid heart and respiratory rates, sweating, and shaking.

Lazarus and Folkman describe the secondary appraisal as an assessment of resources. Participants described internal resources as "determination," and "commitment," and external resources such as "family support," "reassuring instructors," and "friends." Additional coping strategies were similar to the integrative review

conducted by Labrague et al. (2017). Participants in my study were faced with stress and took measures to increase confidence such as positive self-talk, practice on classmates and family members, and sought support from their family, friends, and instructors.

The study results confirmed the presence of performance anxiety in the simulation setting and indicated that it is significant for vocational nursing students. It is more intense and different from anxiety experienced in exams or with patients. Studies by Owens, et al. (2014) and Schnell et al. (2015) discussed the negative impact anxiety could have on cognitive function. My study was consistent with these findings as participants described decreased cognitive function (confusion and decreased memory) with situations they described as nerve-wracking.

Limitations of the Study

This study used purposive sampling in one location, so it is not transferable to other populations beyond vocational nursing education. Biases due to being a nurse and pre-existing assumptions were addressed in reflexive exercises seen in my journaling and note taking throughout the research process.

A potential weakness in the interview design and threat to quality was the honesty of participants. The answers of all participants were similar in nature because each described their check off in similar ways as he or she described the setting and procedure; their collective answers created themes, which supported the assumption of honesty. A study weakness was the variables identified as baseline mental health issues such as anxiety disorder, life stressors that may have affected the student on any given day, life experience (i.e., history of trauma), and motivation (extrinsic versus intrinsic). Extrinsic

factors could have significantly influenced participants in all phases of research including participant selection and positive or negative personal events that participants may have been experiencing at the time of the interview (Frankfort-Nachmias et al., 2015). Probing questions during the data collection process assisted with identifying and addressing these variables. Another weakness was that all participants were entry-level students who had only experienced two to three assessments in the simulation setting. This homogeneity does not address if participants' experiences change over time as they progress through the nursing program. The group was homogenous in terms of level of study in nursing school and heterogeneous in terms of life experience and previous experience in healthcare. The homogeneity may have been a drawback as it limited the variety of experiences; alternatively, including students in different levels of studies may have caused confusion during the interview due to the different levels of prior simulation experience.

Recommendations

Research illustrates that there are many benefits to the use of simulation in nursing education including increasing readiness for practice, increasing confidence with skills, and providing a safe space for students to practice skills (Hayden, et al., 2014). Though the National Council of State Boards of Nursing (NCSBN) published a 2014 study with results that supported replacing up to 50% of clinical experiences with simulation in prelicensure nursing education, the study addressed drawbacks of technical difficulties with simulation, not potential emotional and psychological drawbacks such as anxiety (Hayden et al., 2014). The results of my study indicated there are psychological

drawbacks that can be addressed within the curriculum (Aebersold & Tschannen, 2013). Hicks et al. (2009) discussed drawbacks to the use of simulation in nursing education as the lack of responsiveness of equipment, lack of realism of mannequins, and the instructor's ability or inability to use the equipment effectively. The authors stated that when these disadvantages are prominent, it may not be appropriate to use simulation for high-stakes testing. Stephens (1992) discussed the complex phenomenon of anxiety in nursing students including its characteristics, antecedents, and consequences which include cultural factors, financial factors, personal expectations, family expectations, history, motivational factors, and preparedness.

Simulation has become a standard learning activity in nursing programs. The problem identified by this study was that nursing students might experience anxiety in the simulation setting that is distinctly different than in other settings (i.e., clinical and computerized testing) and comparable to performance anxiety in other professions. Regina de Souza Teixeira et al. (2014) discussed student anxiety during the performance of clinical skills occurring when assessments are completed in the simulation setting with an instructor observing. Medeiros et al. (2014) cite Lehrer et al. (1990); Mor et al. (1995); and Kenny et al. (2004) in defining performance anxiety as "a group of disorders that affect individuals in several situations such as public speaking, sports activities, mathematic calculations or artistic activities like dancing, theater, and music" (p. 381). Medeiros et al. (2014) summarized the definition of *performance anxiety* as distressing feelings related to performing to an audience.

Assessment Techniques

In pre-licensure nursing programs, nursing students demonstrate skills in the simulation setting in high-stakes testing situations (Oermann & Gaberson, 2016). Like settings in the performing arts, the simulation setting may be equipped with two-way mirrors, video equipment, microphones, or an "audience" of one or more instructors observing the student perform a task such as venipuncture (Oermann & Gaberson, 2016). As they perform tasks to demonstrate clinical competency, students are performing in ways relevantly similar to the performances of dancers, musicians, and actors. Future research should include exploring performance anxiety and student success when assessed in the simulation settings by video equipment or two-way mirrors, thus removing the "audience" that triggers performance anxiety.

Performance Coaching

Participants described the anxiety they feel in the simulation setting in similar ways to performance anxiety described in other fields such as sports and the arts. One hundred percent of participants described anxiety in the simulation setting in a way that is different to other settings (clinical setting and computerized exams), and they listed coping skills and resources that are also seen in other fields such as sports and the arts. Future research should focus on the usefulness of coaching students similar to the coaching that students receive in sports and performing arts.

Implications

Positive Social Change

Study findings can contribute to positive social change by impacting pedagogy as faculty may change how they prepare students for testing in simulation settings and may change how skills are assessed in the simulation setting so that students could derive the intended benefit of gaining skills to prepare for patient care. Positive social change may come from compassionate faculty who are sensitive to performance anxiety in the simulation setting being able to better support student success. Faculty sensitivity should aim to graduate compassionate, confident, and empowered professional nurses.

Recommendations for Practice

This research filled a gap in understanding by focusing specifically on anxiety that occurred during the nursing student's performance in simulation settings. This project was unique because it addressed a limited area of simulation. The results can provide educators a starting point from which to create interventions to support students experiencing performance anxiety. It is important that faculty identify students who are struggling and apply techniques aimed at decreasing the negative consequences of performance anxiety such as nausea, headache, and psychological stress that lead to an inability to complete the performance of skills (freezing) (Prato & Yucha, 2013). Recommendations include providing education for faculty to recognize performance anxiety in the simulation setting and continued research on interventions. Faculty can be trained to coach students to mitigate the negative effects of performance anxiety and

possibly other stressors that affect the students' progression. Nursing programs should explore alternative methods for assessing skills in the simulation setting.

Conclusion

Simulated clinical scenarios have become an evidence-based technique for skills acquisition in nursing education, but they may also add to the academic stress in the form of performance anxiety. When otherwise successful students fail a competency assessment in the lab simulation setting, it may be because they experience anxiety due to the requirement of performing a skill in an artificial setting with an audience observing. Simulation has become a standard learning activity in nursing programs. The problem identified by this study was that nursing students might experience anxiety in the simulation setting that is distinctly different than in other settings (i.e., clinical and computerized testing) and comparable to performance anxiety in other professions. There may be interventions that can support these students and help them go on to be competent nurses.

Research illustrates that there are many benefits to the use of simulation in nursing education including increasing readiness for practice, increasing confidence with skills, and providing a safe space for students to practice skills (Hayden, et al., 2014). Simulation is not only staying in nursing, it is growing at a rapid pace, but asking students to perform a scenario in a static situation without interaction may not be the most effective way to assess skills competency. Nursing faculty should be armed with the tools to recognize and support the successful student who struggles with performance

anxiety and students should be provided with options to demonstrate skills and competency.

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Appendix A: Research Announcement Flyer

PARTICIPANTS NEEDED FOR
performance anxiety in clinical simulation study

YOU ARE INVITED TO JOIN MY RESEARCH STUDY BY SHARING YOUR PERSPECTIVE ABOUT PERFORMANCE ANXIETY IN YOUR CLINICAL SIMULATION EXPERIENCE

You are eligible to participate in this study if

- you are enrolled in a Vocational Nursing Program and
- have completed at least 1 evaluation in the simulation lab ("check off").

As a participant in this study, you would be asked to participate in an interview that may last up to 45 to 60 minutes.
The results of this study will be used to increase the understanding of performance anxiety in the clinical skills lab.

Participation is optional, voluntary and is not affiliated with the nursing program or grading.

In appreciation for your time, you will receive a
$10 Amazon Gift Card

For more information about this study, or to volunteer for this study,
please contact:
Vanessa Nichols, MSN, RN, CNE
at
or Email:

This study is being done as a requirement for completion of PhD program and has been reviewed and approved by the Research Ethics Review Board of Walden University
No conflicts of interest were identified

Appendix B: Demographic Data Form

Demographic Data Form

Instructions: Please do not write your name on this form. The form will be coded with a number to protect your identity and confidentiality. The information will allow the researcher to provide an accurate description of the sample. Please provide a response for each of the following questions:

1. What is your age? _____

2. What is your gender?

Female ○ Male ○

3. What is your marital status?

Single ○ Married ○ Separated ○ Divorced ○ Widowed ○

4. With which racial or ethnic category do you identify?

African American ○ Asian/Pacific Islander ○ Caucasian ○ Latino ○ Other: _____

5. Have you demonstrated a skill in the simulation lab for evaluation purposes ("check off") while enrolled in the current program at least once?

Yes ○ No ○

6. What is your current program level? (1, 2, 3, etc.) _____

Appendix C: Data Collection Tool: Interview Questions

Date:

Time:

Interviewee Code #:

Location of Interview (telephone, in-person):

Parts of the Interview	Interview Questions
Introduction	Hi, my name is Vanessa. Thank you very much for participating in this interview. The purpose of this interview is to talk about the experience of demonstrating a skill or task in the simulation setting while someone observes and evaluates your demonstration. This interview may take 45-60 minutes. After the interview, I will be examining your answers for data analysis. Your answers will be shared with my instructor and summarized in my dissertation and possible future publication. However, I will not identify you in my documents, and no one will be able to identify you with your answers. You can choose to stop this interview at any time. Also, I need to let you know that this interview will be recorded for transcription purposes. The recordings will be secured in a locked file cabinet. Do you have any questions? Are you ready to begin?
Question 1:	1. Tell me about your previous experience with demonstrating skills in a simulation setting.

Question 2:	2. Before you came into your first simulation course in this program, did others describe their experiences with simulation testing? a. Discuss what they shared (was it about a skill, the environment or an instructor). b. How did you feel when you heard their experience?
Question 3:	3. I'd like to hear about your experiences in the simulation setting. Please describe one of your "checkoff" experiences where you had to demonstrate a skill for an instructor who was grading you? a. Please tell me about the demonstration, who watched, and why they were observing you (what was at stake)?
Question 4:	4. Please describe how you felt while being observed? How did it make you feel being watched? If anxious, have you had the anxiety before in other situations?
Question 5:	5. Sometimes students experience anxiety, sometimes students don't. Tell me about one simulation experience where you felt anxious, if there was one. a. Describe a simulation experience where you did not feel anxious. b. Describe the coping techniques you employed?
Question 6:	6. Describe the resources you had for the demonstration. Examples of resources include preparation time, practice time, knowledge, confidence, family support, motivation, etc., can you discuss the resources you had? a. What resources helped you the most while you were demonstrating the skill?
Question 7:	7. Tell me about other testing measures you have experienced in nursing. b. Please describe how you felt while completing that type of testing? c. Descfibe any differences between the feeling of taking an exam and demonstrating the skill in front of an observer? d. Talk more about what might have been different?
Close	Thank you for your answers. Do you have anything else you'd

	like to share about demonstrating a skill in front of an instructor, or taking an exam? Do you have anything else that sheds additional light on your experiences and simulation used to test skills?

Appendix D: Signed Letter of Permission to Conduct Research

TEMPLE COLLEGE
HEALTH PROFESSIONS

May 31, 2018

Vanessa Nichols
Walden University
Re: Research Request

Dear Ms. Nichols,

I am writing on behalf of Tracey Cooper, Temple College Executive Director of Nursing, in regards to your request to conduct a research study using students in our vocational nursing program. Temple College does not have a formal IRB process, but we have reviewed your proposal and give permission to proceed with the study. You may invite students to participate by providing flyers that we will hang and distribute. You have permission to interview students either on campus or via phone, whichever is most convenient to the student. As part of the agreement, you will share your results with Temple College prior to any publication.

If you have any questions, please feel free to contact me or Ms. Cooper any time. Good luck with your research.

Kind Regards,

Shelley M. Pearson, Ed.D. R.T. (R) (M) ARRT.
Associate Vice President, Health Professions

Appendix E: Word Cloud