NURSING STUDENTS’ ANXIETY RELATED TO PATIENT SUDDEN DEATH

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Abstract

This study was completed to determine the influence of simulation on reducing nursing students’ anxiety levels when faced with sudden patient death. The study also explored how nursing students’ general anxiety levels influence their anxiety levels when faced with the sudden death of a patient. The sample consisted of 52 second-semester sophomore nursing students enrolled at a private, not-for-profit BSN program in west central Illinois. The design was a one-group, pre-test, post-test design using Mezirow’s transformational learning theory and Jeffries’ simulation model. Participants completed the state and trait sections of the State-Trait Anxiety Inventory Scale for Adults (STAI) prior to and after participating in a simulated scenario where a patient suddenly died. Participants were randomly assigned the role of nursing student or observer. Human actors played the role of the patient and the patient’s family members. A debriefing was completed after the simulation. Pearson \( r \) correlation and paired \( t \) tests were completed using SPSS v19. Results showed a statistically significant decrease in anxiety levels after completing the simulation and debriefing (\( t(51)=4.244, p < 0.0005 \)). A positive correlation was present between the students’ general anxiety levels and their anxiety levels when faced with sudden patient death, however this correlation was not statistically significant (\( r=0.174, p\text{(two tailed)}= 0.218 \)). The study results show that simulation can be an effective strategy to decrease students’ anxiety levels when faced with the sudden death of a patient.
Dedication

This thesis is dedicated to my children, Jacob and Matthew, who provided me the motivation to complete my MSN while they were still young.
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CHAPTER 1: INTRODUCTION

There are few certainties in life. However, a certainty is that all individuals face death of a loved one or one’s own death.

A century ago most deaths occurred from accidents or sudden illness. In today’s world, technology has made the world safer and medical advances now treat diseases that were fatal 100 years ago. Despite these advances in safety and medicine, Americans eventually face death.

Currently, most Americans die in a hospital or nursing home whereas few die at home surrounded by their loved ones. In 1997, only 19.5% of deaths in Illinois occurred at home whereas 57.7% occurred in hospitals and 22.9% occurred in nursing homes (Last Acts, 2002). Due to their constant presence in nursing homes and hospitals, nurses are in a unique position to care for patients as well as their families during times of death and dying. Therefore, it is important that nursing education prepares nurses who are competent with caring for the dying, addressing end-of-life care issues and helping families/significant others cope with the death of a loved one in order to provide quality healthcare (American Association of Colleges of Nursing, 2004).

Despite the trend of individuals dying in health care organizations, Dickinson’s (2007) survey of medical and nursing programs indicated that little to no time was spent on end-of-life care in both programs. Of the time spent on end-of-life care in nursing programs, the method of instruction was lecture whereby nursing instructors provided the information with the occasional theologian and social worker as a guest speaker. Few nursing programs used simulation to teach death and dying concepts (Dickinson, 2007).
Background of the Study

There are several sources of anxiety for nursing students when caring for a patient who is dying. For most students, this anxiety focuses on communication and not wanting to make a mistake with the patient’s care (Cooper & Barnett, 2005).

Communication with patients who are dying and their family is a source of great anxiety for nursing students. There is a fear of saying something that will increase the emotional pain of the family. Nursing students also feel anxious about the potential of making a mistake that means the difference between life and death for the patient. They view themselves as caring nurses who are unable to alleviate the patient’s suffering, creating internal conflict and anxiety. For those students who experience a patient death following cardiopulmonary resuscitation, the feeling is that they should have done more for the patient (Cooper & Barnett, 2005). To reduce this anxiety, simulation could be an effective teaching tool.

Research supports simulation as a valuable tool to gain experience and reduce anxiety by allowing students to learn and make mistakes in a safe environment where there is no risk of harming the patient. Students learn from their mistakes because simulation allows faculty to directly point out mistakes and discuss their consequences (Schoening, Sittner & Todd, 2006). Simulation also facilitates gaining experience because students are actively involved with the application of knowledge in a realistic, non-threatening environment. Through active involvement and feedback, positive and negative experiences during simulation can have a constructive impact on students’
learning and anxiety levels, as well as promote the transfer of their knowledge to the care of patients (Jeffries & Rizzolo, 2006).

**Problem**

The problem is to reduce the anxiety level of nursing students when caring for a patient at the time of death. If this anxiety is not reduced, according to Quint (1967), nursing students could develop negative attitudes about the care of the dying patient, causing them to withdraw from caring for dying patients and their families. However, as postulated by Quint (1967), nursing students who learn about death and dying are more likely to adopt positive attitudes about caring for dying patients. Supporting this assumption are findings from studies by Barrere, Durkin, and LaCoursiere (2008) and Mallory (2003) who found that students had a positive change in their death attitudes after participating in end-of-life care education.

**Purpose of the Study**

The purpose of the study is to determine the influence of simulation on nursing students’ anxiety levels while caring for the dying patient. This study will focus on anxiety levels while caring for the patient who dies due to a sudden event. Another purpose of the study is to determine how a student’s general anxiety level influences their anxiety level when faced with a change in patient condition that results in death.

**Rationale of the Study**

Research has found that nursing students have high levels of fear and anxiety about caring for the dying patient (Alkhin, 2006; Cooper & Barnett, 2005; Loftus, 1998; Terry & Carroll, 2008). However, little research exists about nursing students’ feelings
towards caring for a patient who experiences sudden death or how to prepare nursing students to cope with this experience. Therefore, this study is being done to gain insight into students’ anxiety about caring for a patient who experiences sudden death and to determine the influence of simulation on preparing students to cope with this experience. This study will also add to the body of knowledge on preparing students for the sudden death of a patient.

**Significance of the Study**

This study will provide nurse educators with a strategy for reducing students’ anxiety with the care of patients who experience sudden death. This strategy is a simulated scenario that provides a safe environment for the student to make mistakes and learn ways of communicating with family members experiencing grief due to sudden death of a family member (Schoening, Sittner & Todd, 2006). The outcomes of this strategy are to reduce student anxiety and increase student confidence when in a similar, real-life situation. By decreasing students’ anxiety levels, they are less likely to withdraw from caring for a patient who is dying (Mallory, 2003).

**Nature of the Study**

The study is a one group, pre-test, post-test experimental study. The study uses Mezirow’s (1997) transformative learning theory as its conceptual framework. The simulation is guided by Jeffries (2005) simulation model.

**Hypothesis and Research Questions**

The study has two research questions. They are:
Research question 1: Does simulation change the student’s state anxiety when caring for a patient who experiences a sudden death?

Research question 2: Is there a relationship between the student’s trait anxiety and state anxiety that they experience when caring for a patient who experiences a sudden death?

**Definition of Terms**

There are four terms that provide meaning for the research questions. These terms are trait anxiety, state anxiety, simulation and sudden death.

**Trait Anxiety**

“Trait anxiety is the individual’s tendency to be more or less anxious when perceiving a threat and therefore it influences the degree to which the individual responds to an anxiety-provoking event throughout life” (Warning, 2009, p.8).

**State Anxiety**

“State anxiety is a temporary reaction to a perceived threat and goes away when the threat is gone” (Warning, 2009, p.8).

**Simulation**

Simulation is an activity that replicates the clinical environment and is designed to practice skills or foster decision making or clinical reasoning in a safe environment. The activity is student-centered with the instructor serving a supportive role to the student (Jeffries, 2005). A simulation is followed by a debriefing. The debriefing allows participants to reflect on the simulation experience and discuss the rationales for their performance (Henneman & Cunningham, 2005).
Sudden Death

The researcher defines a sudden death as an unexpected death that occurs within twelve hours of a change in a patient’s condition.

Summary

Experiencing the death of a patient is a source of anxiety for nursing students. High levels of anxiety can cause students to have negative feelings toward caring for the dying patient which can lead with them to withdraw from care of the dying. Little research related to strategies to decrease this anxiety has been done. The major focus of this study is to determine the influence of simulation on nursing students’ anxiety when caring for the patient who dies suddenly. The relationship between the students’ trait and state anxiety will also be researched.

Research in this area will provide nurse educators with a strategy for reducing nursing students’ anxiety with the care of patients who experience a sudden death. The outcomes of this strategy are to reduce student anxiety and increase confidence when in a similar, real-life situation.
CHAPTER II: CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

Nursing students’ anxiety related to caring for the dying has been researched and discussed in the literature. However, much of this research is focused on the patient who dies expectedly. There is limited research related to students’ anxiety when faced with the sudden death of a patient or strategies to decrease this anxiety. The goals of this study are to increase knowledge of nursing students’ anxiety when faced with the sudden death of a patient and to provide a strategy to decrease this anxiety. This chapter reviews the conceptual frameworks for the study and a discussion of the literature on nursing students’ anxiety while caring for the dying and simulation as a teaching strategy.

The Dying Patient and Nursing Education: Recommendations by Quint

Caring for a dying patient is an experience that often has a profound impact on the nursing student. This impact has been known since Quint’s 1967 study of the impact of death on hospital staffs, patients, and families. In this study, Quint found that nursing students were uncomfortable talking with patients about dying. As long as the conversation was not specifically about dying, students were comfortable talking to the patient. However, they became anxious when the patient wanted to talk about dying. To avoid their anxiety, students learned ways to avoid conversations about dying (Quint, 1967). For example, Quint (1967) found students limited their contact with the patient or had someone else come into the room with them. Another strategy was to direct conversations away from dying by discussing social topics or the patient’s procedures.

Quint (1967) pointed out that students’ anxiety most likely was due to inexperience with caring for the dying and worrying about how to provide adequate care
to the patient. Other factors influencing students’ anxiety included the patient’s behavior to control his/her emotions or the need to express anger, the family’s behavior to remain stoic or overtly express their grieving, the patient’s knowledge about his/her condition, and the patient’s level of consciousness at the time of death (Quint, 1967). If this first experience with death was negative due to high anxiety, according to Quint, it can cause the student to withdraw from caring for dying patients in the future.

Debriefing and Students’ Anxiety with Dying

Quint (1967) found a difference between students who had a positive first experience with death and those students who had a negative experience. The difference was their willingness to talk about their experience with the dying patient. Those students who had a positive experience were excited to share their experience whereas those students who had a negative experience did not want to talk about it because they felt that any questions about the experience were insensitive. For those students who did not talk about the experience, the consequences were upsetting emotions that could in the future interfere with caring for dying patients. Therefore, the imperative as stressed by Quint was to provide students with the opportunity to talk about their experiences so they receive support and understanding about death and dying. One way of receiving this support and understanding could be the use of simulation and debriefing.

Other Recommendations

Quint (1967) also stressed that nursing curricula must prepare nursing students for the care of the dying patient, and she made several recommendations for this preparation. One recommendation was to create a learning environment in which students could make
and learn from their mistakes when caring for the dying patient. Another recommendation was that nursing students learn how to work with physicians, because lack of communication among nurses and physicians can lead to negative results for dying patients and their families. One other recommendation was that nursing students must develop an understanding of the stages of dying and how to make patient care decisions based on this understanding. To achieve this understanding according to Quint, instructors must provide guidance about how to talk with patients about death, especially when patients want to openly discuss their impending death. Instructors must also be aware of students’ emotional reactions to caring for the dying patient and be ready to help students obtain emotional support (Quint, 1967). One way of providing guidance and assessing students’ needs for emotional support could be the use of simulation and debriefing.

Transformative Learning Theory: The Framework for the Study’s Simulation

The framework for the study’s simulated learning experience with the care of a dying patient was Mezirow’s (1997) transformational learning theory. This theory was selected because its two conditions for learning fit well with simulation.

Learning Condition One: Testing One’s Frame of Reference

Meaningful learning according to Mezirow (1997) occurs when individuals are faced with an event that tests their frame of reference. All individuals have a frame of reference that is built on the summation of their experiences and these frames of reference define who they are and their place in the world.
Ideas that do not fit this frame of reference tend to be rejected and labeled as irrelevant or mistaken unless there is a desire or stimulus to broaden the frame of reference thereby including new ideas and creating a larger viewpoint of the world (Mezirow, 1997). In order to broaden individuals’ frame of reference thereby stimulating learning, individuals must be exposed to experiences that not only challenge and alter their frame of reference but also provide time for critical reflection (Parker & Myrick, 2010).

**Learning Condition Two: Critical Reflection**

Individuals must have a period of reflection in order to incorporate new ideas into their frame of reference. Reflection allows them to thoroughly examine the new ideas and determine how they will change their frame of reference. For this reflection to be effective, three elements must be present during the experience and the reflection. First, the involved individuals must be fully informed and free from coercion. Second, these individuals must have an open mind, be willing to listen to other points of view, and work well with others to come to new conclusions. Third, the educator must be a facilitator, providing the experience, encouraging reflection, and helping individuals come together to create new norms (Mezirow, 1997).

Critical reflection according to Mezirow (1997) is more important than the experience because learning in the form of transforming one’s frame of reference takes place during reflection. Reflection is the key to transformative learning because time is needed to complete the processes of content reflection, process reflection, and premise reflection. Content reflection is the process of taking in ideas and determining how they
relate to one’s frame of reference. After this reflection which occurs during the experience, learners move into process reflection. This reflection determines whether to accept or reject new ideas based on how the new idea might impact one’s way of thinking and problem solving. Premise reflection involves analyzing the assumptions, values, and beliefs that underlie the new idea and determining if they are relevant to one’s frame of reference. Through premise reflection, learners see the narrowness of their frames of reference, and in order to maintain balance in their thinking, they broaden their frame of reference thereby learning (Parker & Myrick, 2010).

**Transformational Learning Theory and Simulation**

Simulation fits well with transformational learning theory because simulation incorporates the theory’s two conditions for learning. The simulated patient scene provides the experience that challenges students’ frame of reference. In this study, the frame of reference involves nursing students’ perceptions about care of the dying patient. The debriefing that occurs after the simulated scenario provides time for critical reflection whereby the instructor and the students use the three reflection processes to change their frame of reference (Parker & Myrick, 2010). In this study, the goal of reflection is to create a positive frame of reference about caring for the dying patient.

**Jeffries’ Simulation Model: Design Framework for the Study’s Simulation**

Jeffries’ (2005) simulation model was used to design the simulation in this study. Each of the five components of the model was used to organize and evaluate the study’s simulation. The five components of the model are teacher factors, student factors, educational practices, simulation design, and outcomes.
Teacher's Role

Teacher factors include the role of the teacher with simulation. This role is not teacher-centered as in the traditional classroom setting but student-centered whereby the role of the teacher is to facilitate students’ learning. When simulation is done for learning purposes, the teacher’s role is to offer support whereas the role becomes that of an observer when simulation is used for evaluation (Jeffries, 2005). Because the purpose of the study’s simulation was to learn about care for the dying patient, the role of the instructor in this simulation was that of facilitator, providing support and feedback.

Students’ Role

Students are expected to be active learners who are responsible for their own learning (Jeffries, 2005). They must also be motivated to learn from the simulation. To be active learners, students must be informed of what is expected during the simulation as well as receive motivation and directions from the teacher. Competition, although a human motivator, should not be used during simulations as it can increase stress and anxiety thereby decreasing students’ learning (Jeffries, 2005). Because the purpose of the study’s simulation was to reduce student anxiety when caring for a dying patient, motivation during the simulation was in the form of support and feedback. Expectations were also discussed so students understood how to be active participants, taking responsibility for their learning.

Educational Practices

Educational practices involve incorporating seven pedagogical principles into simulation—Jeffries, 2005. These principles are active learning, feedback, student-faculty
interaction, collaborative learning, high expectations, diverse learning, and time on task. Incorporating these principles is important because students learn best when they are actively involved in a learning activity whereby they can make connections between different concepts (Jeffries, 2005).

**Feedback.** Feedback must be immediate so students can improve their performance, helping them reach the simulation’s desired learning outcomes. To help students learn about caring for a dying patient, feedback during the study’s simulation was achieved by conducting a debriefing immediately after the simulation.

**Student-faculty interactions.** Student-faculty interactions during simulation facilitate learning in two ways. First, faculty and students have the opportunity to discuss the course content and how it applies to the simulation. Second, students problem solve more effectively when a faculty member is available to answer questions, provide feedback, and discuss alternatives (Jeffries, 2005). To promote learning and decrease student anxiety with care of the dying patient during the study’s simulation, student-faculty interactions involved the faculty member being present during the simulation and debriefing to offer support and provide feedback.

**Collaborative learning.** One purpose of simulation is to allow students to work together to solve problems and make decisions that mimic real life. This collaborative learning also allows students to give and receive feedback about their actions from each other. From this feedback, students can gain a greater understanding of concepts, recognizing there is not always one right way to do things (Jeffries, 2005). To gain this type of insight into the care of a dying patient, the study’s simulation promoted
collaborative learning by having the students care for the simulated patient in pairs. During the debriefing, the students were also allowed to offer feedback about their actions to each other.

**Expectations, diverse learning, and time on task.** High teacher expectations, diverse learning, and time on task are important to simulation (Jeffries, 2005). When teachers have high expectations, students tend to work harder and learn more from simulation. With increasing diversity due to varying ages, gender, and ethnic backgrounds, simulation must address issues from varying perspectives in order to be an effective learning strategy. Realistic time frame and staying on task are also crucial to simulation because long scenarios can lead to fatigue and going off on tangents can distract from learning. To stay on task within a reasonable time while meeting expectations, learning must be facilitated by clear objectives that address a few concepts and ground rules that keep the simulation focused on these concepts (Jeffries, 2005). To keep the study’s simulation focused on the dying patient, students were briefed as to the instructor’s expectations and their roles during the simulation.

**Simulation Design and Outcomes**

Simulations must be designed to promote learning. To promote learning, simulations must incorporate three design principles (Jeffries, 2005). First, objectives must not only be clear in order to guide students’ learning but they must also be appropriate to the students’ level of experience. Simulations that are over-challenging for inexperienced students can lead to frustration thereby detracting from learning and simulations that are under-challenging for experienced students can lead to boredom that
also detracts from learning. Second, students must be informed about the activity so they can become active learners knowing the nature of the activity, amount of time required, role expectations, and outcomes to achieve. Third, simulations as effective learning strategies about real patient problems must recreate the clinical environment as closely as possible (Jeffries, 2005). The simulation was designed to promote learning by creating a realistic environment with human actors playing the various roles. Students were also informed of what was expected of them during the simulation.

**Debriefing**

Debriefing cannot be overlooked (Jeffries, 2005). Debriefing reinforces concepts and the positive aspects of the experience. Using debriefing to reflect on the experience allows students to critically think about their actions and connect theory to practice. Debriefing also allows students to receive feedback from the teacher as well as other students. This feedback increases their awareness about other possible courses of action and broadens their knowledge base thereby promoting learning in a transformative manner.

**Effectiveness of Simulation**

**General Research on the Effectiveness of Simulation**

Research has indicated that simulation is an effective learning strategy to develop problem-solving skills. Jeffries and Rizzolo (2006) found that students had greater opportunities to problem-solve during simulation than students completing a paper and pencil case study. In the same study, they also found that active learning, satisfaction, and
self-confidence were rated significantly higher by students in the high-fidelity simulation group than by students in the case study group.

Other studies have reported that simulation is a valuable teaching method to increase decision-making and communication skills as well as confidence (Kaddoura, 2010; Schoening, Sittner, & Todd, 2006; Swenty & Eggleston, 2010; Wotton, Davis, Button, & Kelton, 2010). In Kaddoura’s (2010) study, simulation increased students’ decision-making skills when discussion helped students learn from their mistakes. Lasater (2007) found that working through problems as they appeared during simulation allowed students to incorporate theory into practice. Schoening, Sittner, and Todd (2006) had similar results, concluding that simulation promotes decision making as the scenario progresses.

Studies have also indicated that simulation increases communication skills through teamwork and collaborative learning (Kaddoura, 2010; Witt, Borden & York, 2010; Wotton et al., 2010). A number of these studies showed that simulation increased students’ ability to effectively share information when they were required to work together, practice giving reports, and communicate with physicians (Witt, Borden & York, 2010; Wotton et al., 2010). Kaddoura (2010) found that students were able to increase their communication skills by providing positive and meaningful feedback to other students.

Simulation as a strategy to increase students’ confidence is supported by research. Schoening, Sittner and Todd (2006) noted that students’ confidence levels increased when they were allowed to make and learn from their mistakes during simulation.
Kaddoura (2010) also noted that confidence increases when simulation provides experiences that are not always available in the clinical setting.

Leighton and Scholl (2009) found that simulation can be used to increase confidence with skill development. In their study, simulation increased nursing students’ confidence with performing cardiopulmonary resuscitation (CPR) and decreased their level of fear related to encountering a person in cardiopulmonary arrest.

Research not only supports the effectiveness of simulation but also supports the importance of debriefing. These studies found that students perceived debriefing as important because it provided time for clarification and further explanation (Wotton et al., 2010). Debriefing also allowed students to learn from each other. Hearing each other’s perceptions about the simulation helped them develop a broader range of thinking (Lasater, 2007).

Research not only supports the effectiveness of simulation as a learning tool but also supports the role of simulation with decreasing students’ anxiety. Bremner, Aduddell and Amason (2008) found that students who participated in a simulation one week before their first clinical experience had lower levels of anxiety than the control group who did not experience simulation for their first clinical experience. This study along with the research on the effectiveness of simulation indicates that the study’s simulation to reduce students’ anxiety with caring for a dying patient could be effective and therefore is worthy of investigation as to its effectiveness.
End of Life Care and Simulation

Leighton and Dubas (2009) used simulation as a teaching strategy in an elective course on death and dying. The simulation consisted of a female patient who had metastatic ovarian cancer, stopped treatment, and her daughter was always present. During the simulation, the patient died as the students cared for her. For those students who had not cared for a dying patient, the simulation was a challenge. However, they felt the scenario made them critically think and was a benefit to learning. Students found the simulation to be realistic thereby adding to their learning. The presence of the patient’s daughter was also viewed as a positive aspect of the simulation, making the simulation more real, giving them the opportunity to practice communication skills with the family, and allowing them to support and assist the family with coping with the loved one’s death (Leighton & Dubas, 2009).

Leighton (2009) recommended that end-of-life simulations be positive experiences so students will feel comfortable with caring for a dying patient in the future. Actions must be taken to protect students from undue psychological stress. Before simulation, students must be informed that the simulated patient may die. The instructor must be prepared to uncover students’ feelings related to personal experiences with death, noting any signs of psychological distress and immediately responding with support. Incorporating a therapist and/or chaplain into the scenario can provide this immediate support (Leighton, 2009).

Although research is limited on using simulation for end-of-life care, research in general on the effectiveness of simulation suggests that simulation could have a positive
influence on students’ care of the patient who is dying. Simulation could provide the student with end-of-life experiences particularly when such experiences are difficult to find or plan for in the clinical environment (Leighton and Dubas, 2009). Simulation would also provide a safe environment in which students could make mistakes without fear of causing harm thereby reducing their anxiety with caring for a dying patient (Schoening, Sittner & Todd, 2006). In light of communications being the major source of anxiety for nursing students when caring for a dying patient, practicing communication skills during simulation could be an effective strategy for reducing student’s anxiety (Kaddoura, 2010; Witt, Borden & York, 2010; Wotton et al., 2010). Simulation along with debriefing provides an avenue for exploring students’ feelings about death and dying, allowing faculty to acknowledge these feelings and provide support (Hamilton, 2010). In light of the research suggesting that simulation could positively influence students’ experiences with end-of-life care, this study is being done to further this research and help confirm that simulation could be used to reduce students’ anxiety with sensitive experiences such as caring for a dying patient.

**Nursing Students’ Experiences with Dying**

Caring for a dying patient causes anxiety for nursing students. Sources of this anxiety are: communicating with patients about death and dying, observing the patient deteriorate and/or suffer prior to dying, and witnessing a sudden death. The death itself does not provoke as much anxiety as caring for the dying patient (Cooper & Barnett, 2005).
The major source of this anxiety is related to communicating with the dying patient and his/her family (Alchin, 2006; Cooper & Barnett, 2005). According to Alchin’s (2006) study, students were hesitant and uncomfortable when initially caring for the dying patient (Alchin, 2006). Cooper and Barnett (2005) found there was a fear of saying something that would cause emotional distress. In Beck’s (1997) study, students expressed anxiety associated with not knowing whether or not to encourage the patient to fight their disease.

Cooper and Barnett (2005) also found that nursing students have higher anxiety when caring for a patient who experiences a sudden death versus an expected death. In their study, students expressed that dying patients received special attention to keep them comfortable during the dying process whereas a sudden death did not allow them the opportunity to provide special attention and comfort. This inability to provide special attention and comfort led to anxiety and a sense of powerlessness. Students in Beck’s (1997) study also expressed powerlessness because they did not have the authority to obtain adequate pain medication. Loftus (1998) found that students wanted to help their patients but felt helpless in not being able to alleviate the patient and/or family members suffering.

The concern with students’ anxiety is that it can lead to their withdrawal from caring for the dying patient (Mallory, 2003). Beck (1997) found that students who experienced caring for the dying patient but did not take a death and dying course expressed feeling anxious throughout the clinical day as well as feeling the desire to withdraw from the care of the dying patient.
Summary

Taking care of a patient at the end of life is an experience that cannot be planned in the clinical environment. End-of-life care is also stressful for students related to their lack of exposure to this experience as well as their fear of making the situation worse for the patient and/or family (Alchin, 2006; Cooper & Barnett, 2005). In light of these feelings and the research on simulation, simulation could be an effective teaching strategy for teaching end-of-life care to nursing students.
CHAPTER III: METHODOLOGY

This chapter will discuss the research methodology beginning with the research design and strategy, variables, limitations of the study and the study’s instruments. The chapter ends with information related to the protection of human subjects and data management.

**Research Design**

The study will be a one group, pre-test, post-test study. This design is used to explore the influence of simulation on students’ anxiety levels when faced with the scenario of a sudden death of a patient. By using the same group of participants before and after simulation, the influence of simulation on students’ anxiety levels can be measured (Burns & Grove, 2001). The assumption is that any decrease in students’ anxiety will be due to the effects of the simulated experience with the sudden death of a patient.

**Study’s Variables**

The study’s independent variable will be the simulation whereby students experience the sudden death of a patient. The study’s dependent variable will be students’ state anxiety levels related to caring for the patient who experienced a sudden death. Trait anxiety will be measured to determine its influence on students’ state anxiety levels.

**Research Strategy**

Participants will complete a pre-test survey to measure their state and trait anxiety before they experience the simulation of a sudden death of a patient. After the simulation, participants will complete a post-test survey to measure any change in their state anxiety.
due to the simulation. The post-test survey will also include a demographic sheet that will collect data to describe the sample.

Participants’ state anxiety levels will be measured before and after simulation because this type of anxiety is situational, changing with life events such as the sudden death of a patient (Spielberger, 1983a). Participants’ trait anxiety will only be measured before simulation because this type of anxiety is stable, does not change, and can influence state anxiety (Spielberger, 1983a). By measuring participants’ trait anxiety, a greater understanding is gained of students’ state anxiety when experiencing the sudden death of a patient.

**Limitations of the Research Strategy**

The research strategy has three limitations. They are testing, unknown individual variables, and participant self-awareness/honesty.

**Testing.** Reliability could be influenced by the multiple administration of the state anxiety scale before and after the simulation (Burnes & Grove, 2001). Participants may be sensitized to the questions and adjust their responses on the post-test. Completing an anxiety instrument could also influence participants’ responses. Reading the word “anxiety” might heighten their awareness regarding the instrument’s questions and skew their responses. Although the word “anxiety” does not appear in the study’s instruments, verbally using this word could heighten participants’ anxiety. Therefore when administering the study’s instruments and conducting the simulation, the word “anxiety” will not be used thereby reducing this threat to reliability. Instead the word “response” will be used when communicating with the participants.
Unknown individual variables. Anxiety levels may be influenced by unknown individual variables. These variables include cultural beliefs related to death and dying, previous experience with death and dying, interpersonal relationships with other students and/or faculty, and previous experience with simulation/role playing. Anxiety levels could also be influenced by how well participants perceived they performed during the preceding clinical time (Warning, 2009).

Participant self-awareness/honesty. The assumption is that participants are aware of their anxiety levels and will accurately complete the study’s instruments. The study also assumes participants will truthfully respond and not purposefully skew their responses.

The Study’s Instruments

Demographic Sheet

A demographic sheet will be used to describe the sample. Information collected includes the participant’s role in the simulation, gender, age, level of education and previous experience with death.

State-Trait Anxiety Inventory for Adults

The study uses the State-Trait Anxiety Inventory for Adults (STAI) to measure participants’ anxiety levels before and after simulation. This inventory was designed by Spielberger (1983a) to measure state anxiety as well as the influence of trait anxiety on the individual’s experience with state anxiety. The researcher purchased the license to use the scale for the study with personal funds.
The inventory consists of two distinct self-report scales. One scale measures state anxiety, the individual’s level of anxiety in a response to an event. The other scale measures trait anxiety, the individual’s tendency to be anxious in response to an event that is perceived as threatening (Spielberger, 1983a).

The state anxiety (S-Anxiety) scale includes twenty statements that measure how individuals feel at a particular moment in time. The trait anxiety (T-Anxiety) scale includes twenty statements that measure how individuals generally feel. Both scales use a four-point Likert scale to rate statements. Ratings result in a score that measures the individual’s state and trait anxiety (Spielberger, 1983a). Examples of the statements are included in Appendix A. The entire scale is not included based on copyright limitations allowing the use of only five items to be reproduced.

The norms for STAI scores were determined using a sample of 855 students enrolled at the University of South Florida. Data were collected from three different groups of undergraduate college students. These groups were retested at intervals of one hour, 20 days, or 104 days. When retested under neutral conditions, S-Anxiety mean scores were similar to or less than T-Anxiety mean scores, an expected result in light of the event being nonthreatening or non-anxiety provoking. However, when retested during an anxiety-provoking event, the stability coefficient for the T-Anxiety scale was relatively high, ranging from .73 to .86 whereas the stability coefficient for the S-Anxiety scale was relatively low, ranging from .16 to .54. This result was expected in that the S-Anxiety scale measures state anxiety, which changes based on the individual’s feelings at the particular moment in time (Spielberger, 1983a). In light of these results, the STAI
will reliably measure participant’s anxiety levels before and after their experience with a simulation involving the sudden death of a patient. The STAI’s normative data are found in Table 1.

Table 1

*Normalizing Data for College Students*

<table>
<thead>
<tr>
<th></th>
<th>Male n=296</th>
<th>Female n=481</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-Anxiety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>36.47</td>
<td>38.76</td>
</tr>
<tr>
<td>SD</td>
<td>10.02</td>
<td>11.95</td>
</tr>
<tr>
<td>Alpha</td>
<td>.91</td>
<td>.93</td>
</tr>
<tr>
<td>T-Anxiety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>38.3</td>
<td>40.40</td>
</tr>
<tr>
<td>SD</td>
<td>9.18</td>
<td>10.15</td>
</tr>
<tr>
<td>Alpha</td>
<td>.90</td>
<td>.91</td>
</tr>
</tbody>
</table>

Spielberger, 1983a, p. 13

**Setting**

The study takes place at a private, not-for-profit institution of higher learning that is located in west-central Illinois. This institution is single-purpose, degree-granting college of nursing that offers a baccalaureate and master’s degree in nursing. The college is accredited by The Higher Learning Commission and The Commission on Collegiate Nursing Education.

The study’s sample is from the institutions’ second-semester fundamentals nursing course. This course is taken at the sophomore level and focuses on increasing communication skills and caring for adults with uncomplicated health issues.
Human actors will play the roles of the patient, two family members and the code team. Drama students from nearby colleges play the roles of the patient and the family members. Nursing faculty from the institution will play the role of the code team. All actors will be prepared for the simulation by being given a written description of the role they will be playing. They will also receive a guideline of the entire simulation to understand the simulation progression. The researcher is to meet with the actors prior to the simulation to discuss the course of the scenario.

While the patient is being prepared for discharge from the hospital, he/she will experience a sudden cardiopulmonary arrest that results in death. The study participants will need to recognize the cardiopulmonary arrest and initiate cardiopulmonary resuscitation. Participants also need to provide emotional support to the family members during the resuscitation efforts. The code team directs the resuscitation efforts and leaves the simulation once the patient dies. After the patient dies, the participants will prepare the body for viewing by the family members and provide emotional support for the family members.

The simulation will be repeated as time allows permitting a greater number of participants to play the role of paired nursing students caring for the patient. The family members’ reaction to the sudden loss will vary in each simulation. This will allow the participants to experience a range of grief responses while limiting the number of family members in each simulation.
Sampling Technique

The study’s sample will be a convenience sample of sophomore level nursing students. This level of student was chosen because these students are more likely to have little to no experience with the death of a patient. Therefore, the influence of previous experience with death and dying on the study’s results will be reduced and results will more likely be related to the study’s simulation of a sudden death of a patient.

The inclusion criterion is a sophomore level nursing student who gives consent to participate in the study and is enrolled in the college’s second-semester fundamentals of nursing course. Exclusion criteria include limited speaking proficiency with English and refusal to be videotaped during the simulation. To achieve a medium effect, a sample size of 60 volunteers will be recruited (Polit & Beck, 2008).

Participants will be recruited from the four clinical groups that make up the clinical portion of the college’s second-semester fundamentals of nursing course. Someone other than the researcher will recruit participants, asking for volunteers before the simulation begins. This person will be someone who has little contact with sophomore students thereby reducing any inadvertent pressure that the researcher might place on students to participate in the study. Undue pressure is possible because all students will participate in the simulation. Only those who voluntarily give consent will complete the instruments.

Simulation Description

The simulation scenario will be that of a patient who experiences a sudden death. The patient will have family members present at the time of the sudden death. The roles
of the patient and family members will be played by human actors. The participants will randomly be assigned to participate in the simulation as either a paired nursing student caring for the patient or an observer. The simulation will be videotaped to allow the participants to watch the simulation during the debriefing.

A debriefing will occur immediately following the completion of the scenario. The discussion will focus on participants’ strengths as well as areas for improvement with nursing care given during the simulation. Participants will also discuss the emotions they felt during the simulation.

**Protection of Participants and Confidentiality**

Participation will be voluntary and all participants will sign a consent-to-participate form. To prevent undue pressure to volunteer, a person other than the researcher who has limited contact with the students will provide information about the study and ask for volunteers before the simulation begins. Volunteers will be informed that they can withdraw from the study at any time.

Confidentiality will be maintained in the following manner. Participants’ demographic sheets and STAIs will be identified by a unique identification number thereby avoiding the use of personal information as identifiers. The code sheet that matches participants’ names to their unique identifier will be kept locked and only the researcher will have access to this information. Consent-to-participate forms, demographic sheets, and STAIs will also be kept locked in a cabinet in the researcher’s office. Only the researcher will have access to these data. Video recordings of the simulation will be destroyed after the debriefing.
A clergyman will be available to offer support during the simulation and debriefing. This support will provide further protection of participants in the event the simulation uncovers any hidden feelings related to death and dying. Materials will also be available to refer participants to further counseling as needed through available resources (Appendix B).

**Data Collection**

They study’s data collection will use the following steps.

1. Each participant will receive a packet of information before the simulation begins. The packet will include an information sheet about the study, the consent-to-participate form, and the study’s instruments. The packet’s envelope will be used to collect the participant’s consent-to-participate form, demographic sheet (Appendix C), and STAI.

2. Someone other than the researcher will review the study’s information sheet, answer questions about the study, and emphasize that participation is voluntary. Before signing the consent-to-participate form, the meaning of consent, the participant’s role in the study, the nature of the study, and risks and benefits of the study will be reviewed.

3. Two copies of the consent-to-participate form will be signed before the simulation begins. One copy will be given to the participant and the other copy will be placed in the envelope to be given to the researcher.

4. The pre-test survey will be administered and then the simulation will take place.
5. The post-test survey will be administered immediately after the simulation and debriefing to only those students who volunteer for the study. Participants will be instructed to place their completed post-test surveys along with their demographic sheets and consent to participate forms in the envelope. They will seal their envelopes and the envelopes will be collected by someone other than the researcher. All envelopes will remain with the person until they are handed to the researcher. The researcher will lock the envelopes in a cabinet, only accessible by the researcher.

**Methods of Analysis**

Data will be entered into SPSS, Version 19 for analysis. Prior to entering the data, each survey will be reviewed for completeness. Incomplete surveys will be destroyed to protect the validity of the results (Spielberger, 1983a).

Frequency statistics will be performed to describe the sample. A codebook will be created to ensure accurate entry into SPSS. Paired t-tests and Pearson r tests will be performed to test the study’s research questions.

**Research Question 1**

Research question 1 is: Does simulation change the student’s state anxiety when caring for a patient who experiences a sudden death? A paired t-test will be completed on each participant’s pre-test and post-test surveys to determine if any changes in the student’s state anxiety levels occur (Polit & Beck, 2008).

**Research Question 2**

Research question 2 is: Is there a relationship between the student’s trait anxiety and state anxiety they experience when caring for a patient who experiences a sudden
NURSING STUDENTS’ ANXIETY RELATED TO PATIENT SUDDEN DEATH

death? Pearson r tests will be completed to determine if a correlation exists between trait and state anxiety (Polit & Beck, 2008).

Interpretation of Results

Research Question 1

A decrease in S-Anxiety scale scores between the pre-test and post-test surveys would indicate a decrease in participants’ anxiety levels after simulation whereas an increase in S-Anxiety scale scores between the pre-test and post-test surveys would indicate an increase in participants’ anxiety levels after simulation (Spielberger, 1983a). Another possible result would be no change in participants’ anxiety levels before and after simulation as indicated by no significant changes in pre-test and post-test survey scores.

Research Question 2

The higher the T-Anxiety scale score the more likely participants will be anxious with stressful or threatening events and the influence of this trait on participants’ state anxiety would be evident by higher T-Anxiety scale scores accompanied by higher S-Anxiety scale scores (Spielberger, 1983a). High T-Anxiety scale scores accompanied by low S-Anxiety scale scores would suggest trait anxiety had little influence on state anxiety.

Summary

The study will use a one group, pre-test, post-test design to explore the influence of simulation on students’ anxiety levels when faced with the scenario of the sudden death of a patient. The independent variable is the simulation while the dependent
variable is the students’ state anxiety levels related to caring for the patient who experienced a sudden death. Students’ state anxiety levels will be measured by using the state portion of the STAI before and after the simulation.

A limitation of the study may be the multiple administration of the state anxiety scale before and after the simulation. Another limitation is unknown individual variables. The participants may be influenced by current or past life experiences that are not known to the researcher. The study will also be impacted if students are unaware of their anxiety levels and are unable to accurately report their level of anxiety.

Protection of participants will include informed consent and protection of confidentiality. The researcher will keep the instruments locked and will code the data to protect the participants’ identities. Video recordings of the simulation will be destroyed after the debriefing. A clergyman will be available during the simulation and debriefing to offer any needed support.

Data will be entered into SPSS, Version 19 for analysis. The research questions will be answered using data retrieved from SPSS.
CHAPTER IV: RESULTS

The purpose of the study was to determine the influence of simulation on reducing nursing students’ anxiety levels while caring for the dying patient. This study focused on anxiety levels while caring for the patient who dies due to a sudden event. Another purpose of the study was to determine how a student’s general anxiety level influences their anxiety level when faced with a change in patient condition that results in death.

The study was a one group, pre-test, post-test study that answered two research questions. This chapter presents the results and analysis of the pre-test and post-test surveys as well as the sample description.

Sample Description

The sample size was 52, consisting of 48 females and 4 male sophomore nursing students who were enrolled in the institution’s second semester fundamentals of nursing course. The age range was 17 to over 40 years, of which the majority of students were between the ages of 17 and 21. Of the 52 participants, 16 had prior experience in healthcare as a certified nursing assistant (CNA), licensed practical nurse (LPN), or EMT/paramedic. Three had other healthcare experience as patient care assistants or hemodialysis technicians. Table 2 summarizes the sample’s demographic data and assigned roles in the simulation.

Assigned Roles

The sample was recruited from the course’s three clinical groups based on the criteria of being a second-semester sophomore nursing student and consenting to be part
of the study. After volunteering for the study, participants were randomly assigned one of two roles in the simulation.

The two roles were nursing student and observer. The seven participants who were assigned to the nursing student role cared for the patient during the simulation while the 45 participants in the observer role watched the simulation.

Table 2

*Sample Characteristics (n = 52)*

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Number of Participants</th>
<th>Percent of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>4</td>
<td>13.5</td>
</tr>
<tr>
<td>Female</td>
<td>48</td>
<td>86.5</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17-21</td>
<td>30</td>
<td>7.7</td>
</tr>
<tr>
<td>22-24</td>
<td>10</td>
<td>92.3</td>
</tr>
<tr>
<td>25-30</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>31-39</td>
<td>6</td>
<td>57.7</td>
</tr>
<tr>
<td>40+</td>
<td>1</td>
<td>19.2</td>
</tr>
<tr>
<td><strong>Healthcare Experience</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No experience</td>
<td>33</td>
<td>11.5</td>
</tr>
<tr>
<td>CNA</td>
<td>2</td>
<td>1.9</td>
</tr>
<tr>
<td>LPN</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>EMT/paramedic</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>63.5</td>
</tr>
<tr>
<td><strong>Assigned Roles</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing Student</td>
<td>7</td>
<td>25</td>
</tr>
<tr>
<td>Observer</td>
<td>45</td>
<td>5.8</td>
</tr>
</tbody>
</table>

*Experience with the Death of a Patient*

Several participants had experience with the death of a patient before the simulation. Of the 13 participants who experienced an unexpected death, eight of these
deaths occurred within six months before the simulation, of which the most recent death was the day before the simulation. Of the 24 participants who experienced an expected death, 12 of these deaths occurred within six months before the simulation, of which the most recent death was two days before the simulation. Table 3 and Table 4 summarize the sample’s experience with unexpected and expected deaths.

Table 3

*Sample's Experience with Unexpected Death (n = 52)*

<table>
<thead>
<tr>
<th>Experience</th>
<th>Number of Participants</th>
<th>Percent of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>39</td>
<td>75</td>
</tr>
<tr>
<td>Yes</td>
<td>13</td>
<td>25</td>
</tr>
</tbody>
</table>

If yes, how long ago was the death before the simulation?

<table>
<thead>
<tr>
<th>Time Frame</th>
<th>Number of Participants</th>
<th>Percent of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within 6 months</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6 months to 1 year</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td>1 – 2 years</td>
<td>3</td>
<td>23.1</td>
</tr>
<tr>
<td>More than 2 years</td>
<td>8</td>
<td>61.5</td>
</tr>
</tbody>
</table>

If yes, was the experience personal or as a healthcare provider?

<table>
<thead>
<tr>
<th>Experience</th>
<th>Number of Participants</th>
<th>Percent of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal</td>
<td>10</td>
<td>76.9</td>
</tr>
<tr>
<td>Healthcare provider</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td>Both</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4

Sample’s Experience with Expected Death

<table>
<thead>
<tr>
<th>Experience</th>
<th>Number of Participants</th>
<th>Percent of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>24</td>
<td>47.1</td>
</tr>
<tr>
<td>Yes</td>
<td>27</td>
<td>52.9</td>
</tr>
</tbody>
</table>

If yes, how long ago was the death before the simulation?

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Number of Participants</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within 6 months</td>
<td>12</td>
<td>50</td>
</tr>
<tr>
<td>6 months to 1 year</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1 – 2 years</td>
<td>4</td>
<td>16.7</td>
</tr>
<tr>
<td>More than 2 years</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td>Other *</td>
<td>4</td>
<td>16.7</td>
</tr>
</tbody>
</table>

If yes, was the experience personal or as a healthcare provider?

<table>
<thead>
<tr>
<th>Experience</th>
<th>Number of Participants</th>
<th>Percent of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal</td>
<td>7</td>
<td>29.2</td>
</tr>
<tr>
<td>Healthcare provider</td>
<td>13</td>
<td>54.2</td>
</tr>
<tr>
<td>Both</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td>Unanswered</td>
<td>1</td>
<td>4.2</td>
</tr>
</tbody>
</table>

* Unanswered or had multiple experiences

Data Analysis

Paired t-tests and Pearson r tests were used to answer the study’s research questions, determining the impact of simulation on participants’ S-Anxiety scale scores as well as the relationship between trait and state anxiety. SPSS, Version 19, was used to calculate these tests.

The researcher took notes of the debriefing discussion. The notes were reviewed to identify the feelings that were expressed as well as identify themes.
Results by Research Questions

Research Question 1

The first research question was: Does simulation change the student’s anxiety when caring for a patient who experiences a sudden death? This question was answered by calculating paired $t$-tests to determine if there was a change in participants’ pre-test and post-test STAI S-Anxiety scale scores before and after simulation.

Overall change in S-Anxiety scale scores. Paired $t$-tests for participants’ pre and post-test S-Anxiety scale scores were calculated to determine changes in overall anxiety levels before and after simulation. Results indicated a decrease in the mean S-Anxiety scale score after the simulation. The mean S-Anxiety scale score before simulation was 55.98 whereas the mean S-Anxiety scale score after simulation was 49.90, representing a difference in scores that was statistically significant ($t(51)=4.244$, $p < 0.0005$). These results as well as mean S-Anxiety scale scores for pre and post tests are in Table 5.

Table 5

| Results and Mean Scores between Participants’ Pre and Post-test S-Anxiety Scale Scores |
|-----------------------------------------|------------------|
| Mean S-Anxiety Scale Scores             |                  |
| Pre-test                                | 55.98            |
| Post-test                               | 49.90            |
| $t$                                     | 4.244            |
| $df$                                    | 51               |
| $p$                                     | $< 0.0005$       |

Change in S-Anxiety scale scores by assigned roles. Paired $t$-tests for participants’ pre and post-test S-Anxiety scale scores were also calculated for assigned roles to determine if the role in the simulation influenced results. Results from these
calculations indicated an increase in the mean S-Anxiety scale score after simulation for those participants who played the role of nursing student during the simulation. Their mean S-Anxiety scale score before the simulation was 52.86 whereas their mean S-Anxiety scale score after the simulation was 54.57. Although there was an increase in S-Anxiety scale scores among these participants, the difference was not statistically significant ($t(6)=-0.618, p=0.559$). However, for those participants who were observers during the simulation, mean S-Anxiety scale scores decreased after the simulation, representing a difference in scores that was statistically significant ($t(44)=4.770, p<0.0005$). Their mean S-Anxiety scale scores were 56.7 before the simulation and 49.18 after the simulation. Table 6 displays these results and the mean S-Anxiety scale scores for participants’ assigned roles.

Table 6

<table>
<thead>
<tr>
<th></th>
<th>Nursing Student Role</th>
<th>Observer Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>52.86</td>
<td>56.47</td>
</tr>
<tr>
<td>Post-test</td>
<td>54.57</td>
<td>49.18</td>
</tr>
<tr>
<td>$t$</td>
<td>-0.618</td>
<td>4.770</td>
</tr>
<tr>
<td>$df$</td>
<td>6</td>
<td>44</td>
</tr>
<tr>
<td>$p$</td>
<td>0.559</td>
<td>&lt; 0.0005</td>
</tr>
</tbody>
</table>

Change in S-Anxiety scale scores by previous experience with death. Another set of paired $t$-tests were calculated to determine if participants’ previous experience with death influenced results. Results from these $t$-tests indicated participants had a decrease in their S-Anxiety scale scores after simulation whether they had no experience with
death or had experience with either an unexpected or expected death. Those participants who had no previous experience with an unexpected death showed a statistically significant decrease in their S-Anxiety scale scores after the simulation ($t(38)=4.636$, $p<0.0005$). However, the decrease in scores for participants who had previous experience with an unexpected death was not statistically significant ($t(12)=0.596$, $p=0.596$). Participants with no previous experience with an expected death showed a statistically significant decrease in their S-Anxiety scale scores after the simulation ($t(26)=4.035$, $p<0.005$). For those participants who had previous experience with an expected death, this decrease in scores was not statistically significant ($t(23)=1.907$, $p=0.069$). These results are shown in Table 7 and 8.

Table 7

Results and Mean Scores between Participants’ Pre and Post-test S-Anxiety Scale Scores by Experience with an Unexpected Death

<table>
<thead>
<tr>
<th></th>
<th>S-Anxiety Scale Scores</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Experience</td>
<td>Experience with Unexpected Death</td>
<td></td>
</tr>
<tr>
<td>Pre-test</td>
<td>56.92</td>
<td>53.15</td>
<td></td>
</tr>
<tr>
<td>Post-test</td>
<td>49.36</td>
<td>51.54</td>
<td></td>
</tr>
<tr>
<td>$t$</td>
<td>4.636</td>
<td>0.596</td>
<td></td>
</tr>
<tr>
<td>$df$</td>
<td>38</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>$p$</td>
<td>&lt;0.0005</td>
<td>0.562</td>
<td></td>
</tr>
</tbody>
</table>
Table 8

Results and Mean Scores between Participants’ Pre and Post-test S-Anxiety Scale Scores by Experience with an Expected Death

<table>
<thead>
<tr>
<th></th>
<th>S-Anxiety Scale Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Experience</td>
</tr>
<tr>
<td>Pre-test</td>
<td>57.56</td>
</tr>
<tr>
<td>Post-test</td>
<td>48.48</td>
</tr>
<tr>
<td>t</td>
<td>4.035</td>
</tr>
<tr>
<td>df</td>
<td>26</td>
</tr>
<tr>
<td>p</td>
<td>&lt;0.0005</td>
</tr>
</tbody>
</table>

Research Question 2

The study’s second research question was: Is there a relationship between the students’ trait anxiety and state anxiety that they experience when caring for a patient who experiences a sudden death? To answer this research question, a Pearson’s $r$ correlation was calculated between participants’ T-Anxiety scale scores and S-Anxiety scale scores to determine any association between participants’ trait and state anxiety whereby the tendency to be anxious influenced anxiety levels during the simulation. A positive correlation was present ($r=0.174$, $p$(two tailed)= 0.218) however, the correlation was not statistically significant.

Debriefing

A debriefing was held after the simulation and it lasted approximately 15 minutes. Participants were asked the following questions. What went well? What could have been done better? How do you feel? Participants were also given the opportunity to ask questions and offer other comments.
Participants were engaged during the debriefing, participating in the discussion. They pointed out aspects of care that were done well during the simulation as well as areas for improvement. Discussion focused on the presence of family members during the resuscitation, how to tell the family that the patient died, options to support the family, and what to do if the patient has a roommate. Facilitating the discussion was the researcher who asked clarification questions as needed.

**Observations during the Debriefing**

Participants displayed various emotional reactions to the simulation. Some participants sat quietly and listened intently during the debriefing. Other participants were more expressive. Near the end of the debriefing, one participant who had taken care of the patient during the simulation expressed “my heart is still pounding.” Other participants had tears in their eyes after watching the simulation and participating in the debriefing. Two participants were quite tearful sharing that the simulation made them reflect on personal experiences.

**Summary**

The first research question was answered positively based on paired *t*-tests calculated for participants’ pre and post S-Anxiety scale scores. Scores decreased after the simulation and therefore simulation changed students’ anxiety.

The second research question was answered negatively based on the Pearson’s *r* correlation calculated for participants’ T-Anxiety scale scores and S-Anxiety scale scores. Although there was a positive correlation between scale scores, it was not statistically significant. In light of this finding, there was no relationship between
students’ trait and state anxiety during the simulation of caring for a patient who had a sudden death.

Discussion during the debriefing revealed that the simulation made an emotional impact on the participants and encouraged them to think about what they would do if in a similar situation. Two themes emerged during the debriefing. The first theme focused on the importance of self-awareness regarding how previous experience can trigger responses to patient situations. The second theme focused on the importance of caring for self.
CHAPTER V: DISCUSSION

The purpose of this study was to determine the influence of simulation on reducing nursing students’ anxiety while caring for the patient who experiences a sudden death. The study’s conceptual frameworks were Mezirow’s (1997) transformative learning theory and Jeffries’ (2005) simulation model. The research design was a one group, pre-test, post-test study. The pre-test consisted of the T-Anxiety and S-Anxiety scales of the STAI. The post-test consisted of the S-Anxiety scale of the STAI. Paired t test was performed on the pre-test and post-test S-Anxiety scores to determine any changes in state anxiety before and after the simulation. Pearson’s r test was performed on the pre-test scales to determine any correlation between the students’ trait and state anxiety.

This chapter presents a discussion of the results. The first section presents the findings related to the research questions followed by the study’s limitations. The chapter ends with implications for research and nursing education.

Summary of Findings and Implications for Simulation

The study’s first research question focused on the influence of a sudden death simulation on nursing student’s anxiety levels related to caring for a patient who experiences a sudden death. The study’s second research question focused on the relationship between state and trait anxiety. Two themes were identified during the debriefing.
Research Question One

Research question one asked: Does simulation change the student’s state anxiety when caring for a patient who experiences a sudden death? Results indicated an overall decrease in the participants’ anxiety after participation in the simulation and debriefing.

The study also found that those students who participated in the simulation in the role of nursing student had an increase in their anxiety level. This increase in anxiety for the role of nursing student could be attributed to three factors. First, these participants had less time than participants in the observer role to reflect on the simulated experience. Second, these participants could have experienced a higher level of anxiety because their role made them highly active members of the simulation. Third, their anxiety could have increased because the simulation was a new experience and/or they had to perform in front of a group. In light of these findings, increasing rather than decreasing students’ anxiety is a potential event when using simulation as a teaching tool. Therefore, strategies need to be in place to reduce students’ anxiety so simulation can be a positive learning experience.

One strategy is to allow students to volunteer to play the nursing student role during a simulation rather than randomly selecting roles as was done in the study. Giving students the opportunity to volunteer for their preferred role would decrease anxiety because it gives them some control during the simulation. Another strategy is to put the observers in a separate room where they watch the simulation through video equipment. This strategy reduces anxiety for those students with an active role in the simulation because they are not performing in front of a live group.
Research Question Two

Research question two asked: Is there a relationship between the student’s trait anxiety and state anxiety that they experience when caring for a patient who experiences a sudden death? Results indicated a positive correlation between participants’ trait and state anxiety although it was not statistically significant. This finding suggests that most participants whether they had high or low trait anxiety were affected by the simulated sudden death of a patient. According to Spielberger (1983), situations of high anxiety such as the sudden death of a patient can influence the correlation between trait and state anxiety whereby individuals with low trait anxiety can experience high anxiety due to the nature of the situation. This correlation between trait and state anxiety implies that anxiety must be addressed during debriefing although the simulation did not appear to create stress for students. Another implication is that more research is needed to determine the relationship between trait and state anxiety in the context of caring for a patient who experiences a sudden death.

Debriefing

Debriefing provided insight into participants’ feelings and can be categorized into two themes that emerged during the debriefing. The first theme focused on the importance of self-awareness whereby previous experiences can trigger responses to patient situations such as the unexpected loss of a loved one. The second theme centered on caring for self, recognizing that caring for patients who unexpectedly or expectedly die can be emotionally draining for the nurse. From these two themes, an implication for debriefing emerges. In order for debriefing to be an effective part of simulation, it must
address the influence of previous experiences on patient care, coping with feelings triggered by patient care events, and maintaining a sense of caring.

**Limitations**

**Pre-Test and Post-Test Survey Timing**

The study involved participants completing the S-Anxiety scale of the STAI as a pre-test and post-test with little time between surveys. Therefore, the participants could have remembered their responses to the pre-test and inadvertently or knowingly adjusted their answers to the post-test. A recommendation for further research into simulation is to use control and experimental groups to reduce the risk of a Type II error (Polit & Beck, 2008).

**Sampling Technique and the Sample**

The study used convenience sampling and therefore the sample might not represent the general population of nursing students (Polit & Beck, 2008). The sample consisted of sophomores enrolled in an undergraduate fundamentals of nursing course thereby reducing the generalizability of results to other populations of nursing students at the undergraduate and graduate level. To increase generalizability, a larger sample that is more representative of the nursing student population is suggested when replicating the study (Polit & Beck, 2008).

The sample was small, resulting in a medium effect of 58.8%. To decrease the risk of sampling error thereby making the results more reliable, a larger sample would be beneficial when replicating the study (Polit & Beck, 2008).
Simulation

The original plan was for drama students trained in acting to play the different roles in the simulation. Due to scheduling conflicts, the plan could not be implemented and the roles were played by faculty and students. Using untrained actors could have influenced the realism of the simulation and therefore influenced results.

The simulations were repeated over three days so the entire sophomore class could participate in the simulation and volunteer for the study. To maintain consistency between the simulations in order to collect reliable data, a script was used and the actors were prepped before each simulation. However, no simulation was exactly the same because participants’ reactions were different for each simulation and the same actors were not used for all simulations. Therefore, results could have been influenced by these variations among the repeated simulations. To promote consistency, a recommendation for future research is to use the same individuals to portray the same roles when repeating simulations.

The simulation was conducted at the end of last clinical day of the semester. Therefore, anxiety associated with completing course assignments and final exams could have influenced results. Results could also have been influenced by participants reflecting on the events of the clinical day and therefore paying less attention to the simulation. To maximize students’ participation in a simulation, a recommendation for future research is to schedule the simulation during lab time or to take the place of a clinical.

The groups participating in each simulation was large due to time constraints with scheduling students for the simulation. Approximately 25 students participated in two of
the three simulations. Having such large groups might have influenced results by placing undo pressure and heightening anxiety for those participants who had active roles in the simulation. The large groups could also have influenced results by decreasing the observers’ ability to see the simulation and be distracted by a large number of students in the room. For introverted participants, debriefing in a large group could have been uncomfortable and therefore they did not share their feelings, influencing results. To increase active participation during simulation and debriefing, a recommendation for future research is to limit group size to six or eight participants. This recommendation is based on a finding from the study. The last simulation had six participants, making it easier for everyone to be actively involved in the simulation and debriefing.

**Research Implications**

This study explored the influence of a simulated patient sudden death of a small homogenous group of sophomore nursing students. An area for future research is to study the influence of this simulation with other populations of nursing students to determine if their anxiety with experiencing a sudden patient death can be reduce by simulation. To provide greater generalizability, samples need to be larger as well as represent the cultural diversity seen among nursing students.

Another area for future research is to follow the participants after the simulation to determine if the decreased anxiety displayed during simulation continues into the clinical area and for how long. The purpose of this research is to determine if simulation is effective, having positively influenced participants’ attitudes toward caring for the dying and reducing a desire to withdraw from caring for the dying patient. Possible
research questions include the following. Does simulation influence nursing students’ anxiety levels up to six months after the simulation? Does simulation influence nursing students’ desire to withdraw from caring for the dying patient? Does simulation positively influence nursing students’ attitudes toward caring for the dying patient?

Future research also includes studying the influence of playing the role of nurse on students’ anxiety levels. In this study, participants were in the role of nursing student or observer. For future studies, participants need to be assigned to the role of the nurse caring for the family and the nurse caring for the patient. This research would help identify sources of anxiety for nursing students with caring for a dying patient.

One more area for future research is to collect qualitative data about caring for the patient who suddenly dies as well as the simulation itself. By exploring participants’ perceptions, insight can be gained into sources of anxiety about caring for the dying patient and feelings about simulation as a learning strategy.

Future simulations must also address the patient who has a terminal diagnosis and eventually dies. The purpose of this research is to explore the influence of simulation on students’ anxiety with caring for a patient who is experiencing the dying process as well as gain insight into attitudes about death and dying.

**Implications for Nursing Education**

This study has two implications for nursing education. The first implication is to be aware that nursing students’ have anxiety about caring for the patient who experiences a sudden death. Being aware of this anxiety will help faculty be better prepared to provide adequate support when a student is faced with this experience in the clinical
setting. The other implication is to incorporate death and dying into nursing curricula, including the care and family support for the patient who suddenly dies. Because a sudden death of a patient is a high anxiety event for the nursing students and planning for this event in the clinical area is not possible, simulation as a planned experience in a safe environment can be an effective tool to learn the knowledge, care, and attitudes associated with death and dying.

**Conclusions**

This study has two conclusions. The first conclusion is that caring for a patient who unexpectedly dies can be a source of anxiety for nursing students. The second conclusion is that simulation can be an effective tool to reduce this anxiety. A recommendation for nursing education that emerges from this study is to incorporate a sudden death simulation into the nursing curriculum as a safe means to address students’ anxiety with this event.
References


APPENDIX A
EXAMPLES FROM STATE TRAIT ANXIETY INVENTORY

**State Anxiety Scale**
*Read each statement and then circle the appropriate number to the right of the statement to indicate how you feel right now, that is, at this moment.*

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not At All</th>
<th>Somewhat</th>
<th>Moderately So</th>
<th>Very Much so</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am tense</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I feel frightened</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I am relaxed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Trait Anxiety Scale**
*Read each statement and then circle the appropriate number to the right of the statement to indicate how you generally feel.*

<table>
<thead>
<tr>
<th>Statement</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel nervous and restless</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I am “calm, cool, and collected”</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

(Spielberger, 1983b, p. 72-73)
APPENDIX B
COUNSELING SERVICES

Culver-Stockton College Counseling and Wellness Services
- Located in Lower Level Johnson Hall Room 125.
- Counselor Hours are 8 a.m. - 5:00 p.m. Evening hours available by appointment.
- Appointments are preferred.
- Please contact Susan Moon to schedule an appointment.

Susan Moon, MA, LPC
Director of Counseling and Wellness Services
Phone: 288-6441
E-mail: smoon@culver.edu

Emergency after business contact information
After 5:00 p.m. and on the weekends, counseling services provides 24-hour crisis response to the College. The counselor can be reached through Campus Security (x6300) or a Community Assistant. If it is a medical emergency, please call 911.

Quincy University Counseling Center
- Located on the first floor of Friars’ Hall
- To schedule an appointment call (217) 228-5432 Ext. 3785 or (217) 779-6559

Emergency contact information
- Quincy University Campus Security: (217) 228-5600
- Contact your RD
- Transitions of Western Illinois 24-hour Crisis Line: (217) 222-1166
- If it is a medical emergency, please call 911
APPENDIX C
DEMOGRAPHIC DATA

Role in Simulation: _____ Nursing Student     _____ Observer

Gender: _____ Male          _____ Female

Age: _____ 19-21 years
       _____ 22-24 years
       _____ 25-30 years
       _____ 31-39 years
       _____ 40 years and above

Highest Level of Education: _____ High School Diploma
       _____ GED
       _____ LPN
       _____ EMT/Paramedic
       _____ CNA/PCA
       _____ Other, specify __________________________

Previous experience caring for a person(s) who died unexpectedly?
_____ No       _____ Yes

If yes, approximately how long ago? ______________________________________

If yes, was the experience personal or professional in nature? __________________

Previous experience caring for a person(s) who died expectedly?
_____ No       _____ Yes

If yes, approximately how long ago? ______________________________________

If yes, was the experience personal or professional in nature? __________________