Baccalaureate Nursing Students' Attitudes Toward End of Life Care: The Impact of Simulation-Based Learning

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Dedication

This dissertation is dedicated to my family, without whom the completion of this work would not have been possible.

St. Francis DeSales is credited with saying, “be who you are and be that well.” My parents believed in the words of St Francis DeSales, instilling a work ethic in me that has carried me through more than twenty years of education and nursing – anything worth doing is worth doing well. My father, who did not have the opportunity to pursue higher education, would have moved heaven and earth to see me achieve this honor. The profound privilege and honor bestowed on me when I was present at my mother’s side for my father’s last days, hours, and minutes of life served as part of the inspiration for this dissertation. My mother, with whom I am close, continues to support my pursuit of being who I am, and being that well.

My husband, Robert, is unwavering in his support and guidance. Regardless of the size of my request or the time and effort required to pursue my dreams, he is always willing to “figure it out” and help me achieve my goals. Our sons, Ryan, Andrew, and Michael watched me spend countless hours seated in front of a computer. Some of the hours were interrupted by a few tears and frustration – mine and theirs. For Robert and the boys, for all the times I was stressed, exhausted, grumpy, and absent, I thank you. Thank you for allowing me the time and presence to pursue this opportunity. I look forward to being less stressed, more rested, and more present for everything that is important to you.

My family is a constant in my life. Their display of unconditional love as I achieve my goals is nothing short of remarkable. I love them for who they are and who they are to me. Thank you seems trite, but I know they understand the deep meaning conveyed in that short phrase. I love you.

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The patients and families for whom I have cared in my 28 years of nursing have had a profound effect on my nursing practice. It has been my privilege to care for patients at all points of the lifespan and in all phases of wellness, disease, and dying, and around the time of death. My experiences caring for patients at the end of life and serving as a resource for other nurses who were providing end of life care inspired this research.

I am extremely grateful for Dr. Linda Denke, my Dissertation Committee Chair. She graciously offered to step in as my chair after Chapter 1 was complete. During the process, she supported me, answered innumerable questions, and believed that I could do this, even when I doubted my capabilities.

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Abstract

All nurses may be obliged to care for patients at the end of life. Baccalaureate nursing education should prepare nurses to provide this care, but best practice for end of life care education has not been established. Nurses are not adequately prepared to care for dying patients and grieving families. This research study explored the effectiveness of low-fidelity simulation-based learning (SBL) activities on improving baccalaureate nursing students' attitudes toward end of life care. Junior-level baccalaureate nursing students participated in this quasi-experimental study. A standardized tool assessed students' attitudes toward end of life care before and after the SBL activities. While a statistically significant difference was not found between the pretest and posttest scores, there is evidence of learning as a result of the low-fidelity SBL activities. Several individual items in the tool showed statistically significant improvement in scores. Other items showed some improvement. These score improvements imply clinical significance, positively impacting the care delivered by the participants to patients at the end of life and their families. The results of this study contribute to the body of knowledge surrounding low-fidelity SBL activities as well as low-fidelity SBL activities in end of life care nursing education.

Keywords: end of life care, nursing education, simulation-based learning, low-fidelity simulation, FATCOD-B

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Chapter I: Statement of the Problem

Death is a natural transition of the human existence. Every person will experience death. Each person's experience with death is unique and serves as education, inevitably influencing their perspective on death and dying. An encounter with death, while a part of the human experience, may not be discussed or emotionally processed (Adesina, DeBellis, & Zannettino, 2014; Cavaye & Watts, 2014; Mooney, 2005). Often, the only preparation for dealing with death is individual personal experience. This is true of the general population and the healthcare professionals (Adesina et al., 2014).

In 2015, nearly three million people died in the United States (World Health Organization, 2018). Deaths within inpatient hospice facilities in the United States in 2015 comprised only 8% of the total deaths reported for that year (Centers for Disease Control and Prevention, 2018). The Centers for Disease Control and Prevention (CDC) (2018) reports that in 2015, more than half, 57%, of all deaths in the United States occurred in a non-hospice healthcare facility, inpatient facility, outpatient facility, emergency department, or long-term care facility in which nurses provide much of the direct patient care. Acute care facilities were the location for 37% of the deaths in 2015 (CDC, 2018). It is inevitable that most nurses will care for a dying patient at some point in their career and will manage the resultant emotional and physical ramifications (Bailey & Hewison, 2014; Cavaye & Watts, 2014; Iranmanesh, Savenstedt, & Abbaszadeh, 2008). It is a moral and professional imperative that nurses receive the preparation they need to care for dying patients and grieving families in all types of healthcare environments.

End of life, according to Harlos (2010) is the time prior to death where the patient experiences a permanent deterioration in meaningful function, including interacting with others and fluid cognitive thinking. The National Institute on Aging (NIA) (2017) defines end of life

care as the care that is given to a patient around the time of death which may span minutes to months. Care at the end of life encompasses physical, spiritual, and emotional support for the patient and their family. End of life care is often provided using a team approach (Adesina et al., 2014). As part of the team, nurses frequently provide direct patient care and may serve as patient advocates. The nurse's role as an advocate at the end of life can encompass the management of pain, provision of emotional support, and aid through the end of life process for the patient and their family (Hebert, Moore, & Rooney, 2011).

The goal of baccalaureate nursing education is to prepare nurses for entry-level professional nursing practice including all stages of the life span (American Association of Colleges of Nursing, 2018). Regardless of the specialty area, most nurses at some point in their clinical practice will be responsible for the care of a patient at the end of life. The American Nurses Association (ANA), in its 2015 position statement regarding end of life care, directed schools of nursing to include the tenets of end of life care in their curricula and to provide the education necessary to prepare graduates to care for dying patients and grieving families (American Nurses Association, 2016). Failing to prepare professional nursing graduates to care for patients at the end of life may be likened to failing to adequately prepare the graduates to provide care across the lifespan.

The American Association of Colleges of Nursing (AACN) detailed the expected outcomes of baccalaureate nursing education, including the expectation that a baccalaureate-prepared nurse should be educated to competently care for a patient and family during the time that end of life issues arise and are resolved (American Association of Colleges of Nursing, 2008). The AACN (2016a) presented a position statement that was directed at end of life education, entitled *Competencies and Recommendations for Educating Undergraduate Nursing*

Students (CARES). These recommendations identify seventeen competencies that are necessary for student nurses to demonstrate adequate preparation for care of patients and families at the end of life. Despite this recommendation, as a result of limited clinical experience directed at end of life care, only some baccalaureate nursing students will have the opportunity to provide end of life care during clinical rotations (Sarabia-Cobo, Alconero-Camarero, Lavín-Alconero, & Ibáñez-Rementería, 2016).

In February 2000, the AACN launched the End of Life Nursing Education Consortium (ELNEC) (American Association of Colleges of Nursing, 2018b). The ELNEC is a national initiative aimed at improving end of life education for nurses. The program was developed to train nursing educators in palliative care and was later expanded to be applicable for practicing nurses (Ferrell, Mazanec, Malloy, & Virani, 2018). The ELNEC curriculum has been used in the United States (US) and internationally to train over 22,500 nurses (American Association of Colleges of Nursing, 2018b). Nurses who have been trained then used their acquired skills to train an additional 675,000 nurses and healthcare professionals (American Association of Colleges of Nursing, 2018b). As a result of a continued lack of preparation for end of life care in prelicensure nursing programs, the ELNEC was later converted to an online format to make it more accessible to nursing students (Ferrell et al., 2018).

In the face of the suggestions made by the American Association of Colleges of Nursing (AACN) regarding the need for end of life education in baccalaureate nursing education and despite the availability of the ELNEC curriculum for undergraduate nursing students, students are not being prepared to care for patients at the end of life (Bailey & Hewison, 2014; Croxon, Deravin, & Anderson, 2018; Garrino, Claudia, Patrizia, & Valerio, 2017; Gillan, Parmenter, van der Riet, & Jeong, 2013; Glover, Garvan, Nealis, Citty, & Derrico, 2017; Lewis, Reid,

McLernon, Ingham, & Traynor, 2016; Shaw, 2017). The emotional toll that results from caring for the dying patient causes students to feel anxious and may lead to feelings of pain or anguish (Lewis et al., 2016). These feelings may be expressed in the students' attitudes towards caring for patients at the end of life, thereby negatively impacting the quality of care delivered to the dying patient and their family (Lewis et al., 2016).

Problem Statement

End of life care is provided in all nursing settings and by all nursing specialties. Researchers determined that student nurses and nurses in clinical practice often approach care of patients at the end of life as a negative experience (Adesina et al., 2014; Croxon et al., 2018; Garrino et al., 2017; Henoch et al., 2017). Their approach to care as a negative experience may be related to the inadequate educational preparation necessary to provide this care (Cavaye & Watts, 2014). Best practice in end of life nursing education has yet to be established (Shaw, 2017).

Simulation is an educational presentation that requires the participants to address circumstances as they would if the circumstances occurred in reality (Munshi, Lababidi, & Alyousef, 2015). Simulated experiences range from tabletop case studies to simulation involving actors in the role of the patient, providing a range of realism for the participants (Munshi et al., 2015). Simulation-based learning (SBL), which is beneficial in nursing education, has shown promise in educating nurses in end of life care (Gillan et al., 2013; Lewis et al., 2016; Sarabia-Cobo et al., 2016; Shaw, 2017). Research into simulation and end of life care to date has utilized a variety of simulation methods from low-fidelity (Sarabia-Cabo et al., 2016) to high-fidelity (Shaw, 2017). Low-fidelity simulation, which is less representative of actual clinical care, includes case studies and immovable manikins (Tosterud, Hedelin, & Hall-Lord, 2013).

The existing research findings do not allow for comparisons to be made among the studies due to the use of different tools to measure potential effect of SBL education on end of life care. The use of different tools to measure the potential effect of SBL education on end of life care by researchers results in a threat to external validity and generalizability of the study findings. Studies reveal that simulation may be an effective tool for teaching end of life care to nursing students (Gannon et al., 2017; Gillan, van der Riet, & Jeong, 2016; Randall, Garbutt, & Barnard, 2018; Sarabia-Cobo et al., 2016; Tamaki et al., 2019). However, a clear relationship between educational method and the provision of end of life care has not been established. Sarabia-Cobo et al. (2016) used a knowledge-based quantitative survey to evaluate learning acquisition following a low-fidelity simulation regarding palliative care. Shaw (2017) used a different quantitative tool to assess student evaluation of a high-fidelity end of life simulation.

Lewis et al. (2016) used Frommelt's Attitude Toward Care of the Dying (FATCOD) to evaluate the difference in student attitudes toward care of the dying before and after simulation-based learning (SBL) activities, showing improvement in student attitudes regarding end of life care following the SBL activities. Additional research in SBL and student attitudes toward end of life care is necessary to define the potential relationship of SBL and student attitudes toward care at the end of life and to begin to set forth a foundation by which to provide basic baccalaureate nursing education. To date, research that has studied SBL activities and its resultant impact on various aspects of end of life care called for further research due to non-conclusive results (Gillan et al., 2013; Lewis et al., 2016; Sarabia-Cobo et al., 2016; Shaw, 2017). It has been shown that a student's attitude toward end of life care is directly related to the quality of care provided by the student (Lewis et al., 2016). Therefore, it is important to conduct research that explores the impact of educational methods on student attitudes toward end of life care. This

study will explore basic baccalaureate nursing preparation for end of life care by exploring the effect of SBL activities on student attitudes toward end of life care.

Purpose of the Study

The purpose of this quasi-experimental quantitative prospective study was to determine how effective low-fidelity SBL activities are at improving nursing students' attitudes toward end of life care.

Research Questions and Hypotheses

Primary research question. The primary research question is, *how effective are simulation-based learning activities at improving junior-level baccalaureate nursing students' attitudes toward end of life care?*

Null hypothesis. The null hypothesis that will be tested states that simulation-based learning activities have no statistically significant positive effect on junior-level baccalaureate nursing students' attitudes toward care of patients at the end of life.

Alternative hypothesis. The alternative hypothesis states that simulation-based learning activities have a statistically significant positive effect on junior-level baccalaureate nursing students' attitudes toward care of patients at the end of life.

Secondary research questions. The secondary research question *what influence do gender, presence of religious beliefs, education, and personal or work experience with end of life care have on junior-level baccalaureate nursing students' attitude toward end of life care?*

The correlation between students' prior experience, personal or professional, with end of life care, their presence of religious beliefs, and prior didactic or simulation-based education regarding end of life and their attitude toward end of life care will be assessed as these

demographics may be predictive of their attitudes toward end of life care (Adesina et al., 2014; Frommelt, 2001; Frommelt, 2003; Hagelin et al., 2016; Henoch et al., 2017; Mallory, 2003).

Null hypothesis. The null hypothesis that will be tested states there is no association among gender, prior experience with end of life, faith tradition, or prior education regarding end of life and students' attitudes toward end of life care.

Alternative hypothesis. The alternative hypothesis states there is an association among gender, prior experience with end of life, faith tradition, or prior education regarding end of life and students' attitudes toward end of life care.

Philosophical Background

Knowledge is gained through observation (Brownell, 2014) and is shaped with the help evidence and data (Creswell & Creswell, 2018). These observations regarding knowledge reflect a postpositivist philosophy (Racher & Robinson, 2003). The *Dictionary of Nursing Theory and Research* (Powers, 2010) describes a postpositivist as a person who believes that science deals in probability, not certainty. Postpositivists, who utilize experimental and quasi-experimental methodologies to study reality, hold a "critical realist ontology and objective epistemologies" (Racher & Robinson, 2003, p. 468). This research study is constructed from a postpositivist perspective.

The ontology of postpositivism, or the "belief about how the world is defined and who people are" (Duffy & Chenail, 2009, p. 23) is rooted in critical realism. Critical realists believe that assertions made regarding reality must undergo critical study to define reality (Racher & Robinson, 2003). Reality exists independently of the researcher. The onus is on the researcher to learn about reality through organized study (Duffy & Chenail, 2009). In addition, objectivity of the researcher is not attainable as a result of the researcher's implicit bias in his observation

(Racher & Robinson, 2003). Since the goal of this research study is to determine how effective simulation-based learning is at improving junior-level baccalaureate nursing students' attitudes toward care of patients at the end of life, the students' reality is the subject of the study. Organized research into the students' reality will help the researcher to understand and define the reality.

Epistemology refers to the understanding of knowing, knowing the world, and to the understanding of how, how people arrive at the ideas and concepts that they believe to be essential (Duffy & Chenail, 2009). Postpositivists believe that knowledge is gained through observation (Brownell, 2014). However, postpositivists acknowledge that observation is not infallible (Brownell, 2014). Part of the fallibility of observation is tied to the theory-ladenness of observation (Brownell, 2014;(Godfrey-Smith, 2003). All observation is viewed through the lens of the observer. As such, the observer brings his theories, biases, and beliefs to the observation. The theory may bias the observation by telling the researcher "what to look for" (Godfrey-Smith, 2003, p. 156) and what to discard. The inability of the researcher to separate his existing beliefs, theories, and biases from their observations leads to theory revision. Theory revision begins the observational process once again. The postpositivist then uses the observation to integrate the theory and thus influence his thinking about what is important.

Observation has two facets in this study. The first observation is the students' life observations. The students' prior observations of patients at the end of life will bias, or shape, their reality (Adesina et al., 2014). Postpositivists believe that observation shapes knowledge. The students will bring knowledge to the research study. The second observation is that conducted by the students who participate in the simulation-based learning activities. The

researcher will observe the students' responses to the study's survey with goals of understanding the students' reality and the impact of simulation-based learning on that reality.

Postpositivists utilize the scientific method for research (Duffy & Chenail, 2009; Godfrey-Smith, 2003; Racher & Robinson, 2003). This research study, employing a quasi-experimental design, is designed from a postpositivist perspective. The postpositivist is reductionist, reducing concepts into distinct, testable hypotheses (Creswell & Creswell, 2018; Powers, 2010). The aim of the study is to determine a method for educating nursing students about caring for patients at the end of life. This broad concept was reduced to studying the effectiveness of simulation-based learning on improving students' attitudes toward end of life care. This attribute of postpositivism relates to the goal of this research which is to determine the relationship between simulation-based learning and junior-level nursing students' attitudes toward care of patients at the end of life.

Theoretical Framework

As the postpositivist believes that observation shapes knowledge, Kolb (1984) believed that experience is the foundation of knowledge. Kolb (1984) defined learning as "the process whereby knowledge is created through the transformation of experience" (p. 41). According to Kolb, discovery and experience are at the heart of learning (Wain, 2017). This study will be framed by Kolb's experiential learning theory. Kolb's theory (1984) states that learning is a process that has its basis in experience. Experiential learning theory was developed from the theories of Dewey, Lewin, and Piaget (Kolb, 1984). From Dewey, Kolb drew the magnitude of experiential learning. From Lewin, Kolb took the integration of theory into practice. From Piaget, Kolb took the influence of experience on cognitive development. Kolb combined elements of all three theorists' theories to create experiential learning theory.

Kolb (1984) believed that knowledge is created by the learner from a combination of experience that the learner brings to the learning environment and experience that is gained in the learning environment. The prior learning that is brought to the new experience is indicative of the continuous process of learning that Kolb envisioned (Hill, 2017). Kolb identified the four phases of the transformation of experience to knowledge as (a) concrete experience, (b) reflective observation, (c) abstract conceptualization, and (d) active experimentation (Hill, 2017).

Experiential learning theory is relevant to nursing education (Chmil, 2016; Fewster-Thuente & Batteson, 2018; Hill, 2017; Lisko & O'Dell, 2010; Poore, Cullen, & Schaar, 2014; Wain, 2017). Due to the nature of the theory and the experience of simulation, experiential learning theory has been used to support simulation-based learning (Chmil, 2016; Chmil, Turk, Adamson, & Larew, 2015; Lavoie et al., 2018; Lisko & O'Dell, 2010). Lavoie et al. (2018) found that Kolb's experiential learning theory provides a foundation for comprehending the manner in which learning occurs in simulation. Kolb's theory gives support to simulation-based learning as he proposed that learning was not fixed. Learners have the opportunity for concrete experience, reflection, and abstract conceptualization during the simulation-based learning experience (Lavoie et al., 2018). Lavoie et al. (2018) found that reflective observation and abstract conceptualization assisted the learner in transforming experience to knowledge.

Simulation-based learning activities are well-supported by Kolb's Experiential Learning Theory. This research study draws on the constructs of Kolb's theory to acknowledge the covariates of experience and knowledge that the student brings to the learning activity. The use of simulation-based learning affords the learner the opportunity to progress through the stages of Kolb's theory. In this study, it is hypothesized that the experience with end of life care will be

transferred to knowledge with the assistance of the simulation-based learning activities. The relationship between Kolb's Experiential Learning Theory and this study is depicted in Figure 1.

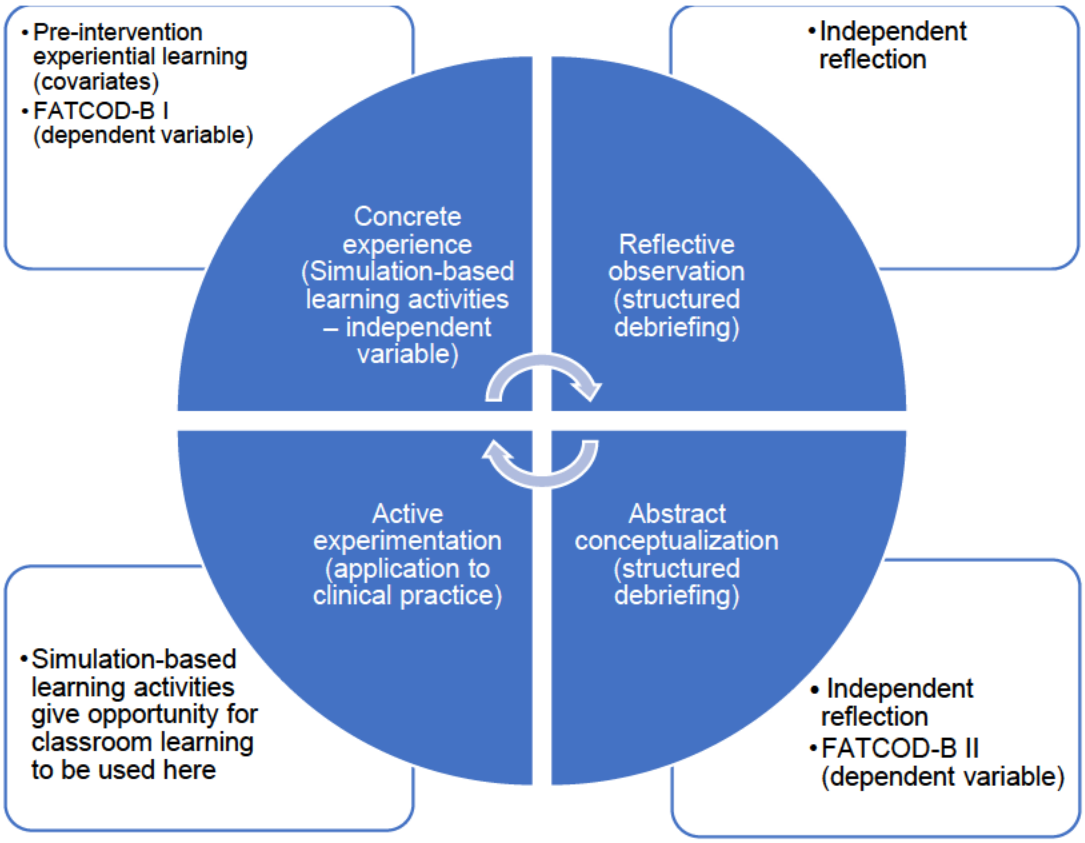

Figure 1: The interaction of this research study and Kolb's (1984) experiential learning theory

Phases of experiential learning theory.

Concrete experience. Concrete experience is the learning environment (Poore et al., 2014). In this study, concrete experience is provided in the simulation-based learning activities (Poore et al., 2014).

Reflective observation. Reflective observation is the learner's reflection on the concrete experience (Poore et al., 2014). Reflective observation and abstract conceptualization assist the learner in transforming experience to knowledge (Lavoie et al., 2018). Reflective observation will occur during the simulation-based learning activities and following simulation as part of debriefing (Poore, et al., 2014).

Abstract conceptualization. Abstract conceptualization refers to the learner's awareness of the magnitude of the learning experience and its impact on the learner's knowledge (Poore et al., 2014). Reflection and abstract conceptualization occur during the structured debriefing following simulation-based learning activities. Structured debriefing is a process that is designed to foster reflection on and evaluation of the simulation-based learning activities (Chmil, 2016). It is likely that abstract conceptualization will be stimulated by debriefing and will continue following the simulation-based learning activities (Poore et al., 2014).

Active experimentation. Active experimentation is the time during which the learner applies what he has learned in real-life situations (Poore et al., 2014). Simulation-based learning activities mimic the real-life situation and offer an opportunity to apply prior experience. Active experimentation using the experience gained through simulation-based learning activities will continue following simulation as the students utilize the knowledge gained as a result of the simulation experience in their clinical practice.

Assumptions and Limitations

The following assumptions are based on a review of the literature and the author's experience with end of life care as a critical care and emergency nurse as well as her experience as a nursing educator in a baccalaureate institution.

1. Attitudes regarding care of the dying patient and their family are either positive or negative.
2. Attitudes regarding care of the dying patient and their family may be assessed in an objective manner.
3. Care of the dying patient and their family may be simulated using simulation-based learning activities.

4. Study participants will voluntarily complete the Frommelt's Attitude Toward Care of the Dying, Form B (Frommelt, 2003), giving honest responses to the questions on the tool.
5. Study participants may have personal or professional experience with death and dying between the two FATCOD-B measurements, impacting the FATCOD-B score.

The limitations for this study, listed below, are the result of a review of the literature relative to the proposed study.

1. The study will be conducted utilizing a quasi-experimental research study.
2. A convenience sample from one baccalaureate nursing program will the used for this quasi-experimental study.
3. The voluntary nature of the study may limit participation in the study.
4. The researcher's schedule may prevent her from being present for the low-fidelity SBL activities.
5. All students will not complete simulation-based learning activities at the same time or on the same day. There will be opportunity for students to communicate with one another regarding the low-fidelity SBL activities thereby influencing participation in or reaction to the SBL experience.

Significance of the Study

Research has determined that, despite advances in nursing education, nurses are unprepared to care for dying patients and their families (Bailey & Hewison, 2014; Garrino et al., 2017; Gillan et al., 2013; Glover et al., 2017; Lewis et al., 2016; Shaw, 2017). As a result of this insufficient preparation (Cavaye & Watts, 2014), nurses may approach care of the dying patient and family as a negative experience (Adesina et al., 2014; Croxon et al., 2018; Garrino et al., 2017; Henoch et al., 2017). Students' attitude toward patient care and the quality of their care are

directly related (Lewis et al., 2016). By evaluating students' attitudes toward care of the dying patient and their family, appropriate education can be targeted with the goal of enhancing the care provided.

Published research has indicated a need for further study into SBL activities and end of life care. (Gillan et al., 2013; Lewis et al., 2016; Sarabia-Cobo et al., 2016; Shaw, 2017). Care of the dying patient and their family is multi-faceted and nurses must be adequately prepared to deliver this care (National Institute on Aging, 2017). Because attitudes toward end of life care are associated with quality of care (Lewis et al., 2016), research into educational methods which affect and improve attitudes toward end of life care is crucial. This study focuses on the use of simulation-based learning activities to improve students' attitudes toward care of the dying patient and their family, thereby improving the quality of care provided to these patients (Lewis et al., 2016).

This study hypothesizes a relationship between end of life education and quality of end of life care. Establishing a relationship between low-fidelity SBL activities and student attitudes toward end of life care will lend support to the need for inclusion of low-fidelity SBL activities addressing end of life care as part of baccalaureate nursing education curriculum. Nursing educators and nursing education administrators may use the results of the study to support the continuance or institution of low-fidelity SBL for their students. The applicability of the results is not limited to academia. The results of this study will be useful for clinical nursing educators. If low-fidelity SBL activities are shown to positively influence student attitudes toward end of life care, it warrants an exploration of the impact of low-fidelity SBL activities on practicing nurses' attitudes toward end of life care. The knowledge gained regarding student nurses' attitudes has the potential to influence nursing education, research and patient care.

Definitions of Terms

Baccalaureate nursing program. A four-year educational program undertaken at a college or university that prepares students for entry-level practice as professional nurses and lays the foundation for advanced educational study in nursing (American Association of Colleges of Nursing, 2018a). Baccalaureate nursing curriculum includes courses in nursing as well as courses in liberal arts, preparing graduates to care for patients across the lifespan (American Association of Colleges of Nursing, 2018).

End of life. The time prior to death where the patient experiences permanent deterioration in meaningful function (Harlos, 2010). The decline may occur over minutes, hours, days, or weeks.

End of life care. Care that is given to a patient around the end of life and encompasses physical, spiritual, and emotional support for the patient and their family (National Institute on Aging, 2017).

Low-fidelity simulation. Simulation-based learning activities that include, but are not limited to, case studies, clinical vignettes, and sample patients (Munshi et al., 2015). Low-fidelity simulation does not involve the use of a manikin.

Simulation-based learning. Method of teaching patient care in which risk to a patient is eliminated (Cant & Cooper, 2017b).

Chapter Summary

Death is a natural transition in life. Nurses may care for patients at the end of life. Baccalaureate nursing education programs, which should prepare nurses to care for patients across the lifespan, should prepare their students to care for patients at the end of life (Bailey & Hewison, 2014; Cavaye & Watts, 2014; Iranmanesh et al., 2008). It is a moral and professional

imperative that nurses be prepared to provide end of life care. The American Association of Colleges of Nursing (AACN) and the American Nurses Association (ANA) provided guidance to assist baccalaureate nursing programs to meet this imperative (American Association of Colleges of Nursing, 2018; American Nurses Association, 2016). Despite the recommendations of these organizations and the availability of the ELNEC curriculum, nurses continue to report being unprepared to care for dying patients and grieving families (Bailey & Hewison, 2014; Garrino et al., 2017; Gillan et al., 2013; Glover et al., 2017; Lewis et al., 2016; Shaw, 2017).

Failure to address student nurses' preparation for end of life care may have negative consequences on the quality of care that nurses can deliver to patients and their families at the end of life (Lewis et al., 2016). A nurse's negative attitude toward end of life care may negatively impact the nurse, patient relationship. Lewis et al. (2016) assert that nurses who do not feel prepared to care for patients' physical needs at the end of life may also not be capable of providing the emotional care and support that is necessary for the patient and family during this time.

Simulation-based learning (SBL) has emerged as a vital and beneficial element in undergraduate nursing education (Cant & Cooper, 2017b). There is an existing body of research regarding SBL activities and end of life care (Gillan et al., 2013; Lewis et al., 2016; Sarabia-Cobo et al., 2016; Shaw, 2017). This research study will contribute to that body of research.

Experiential learning theory (Kolb, 1984) holds that students bring prior experience to the learning environment, and that learning is a process by which experience is transformed to knowledge. This research study, constructed from a postpositivist perspective and with the use of Kolb's (1984) Experiential Learning Theory, will explore the impact of simulation-based learning activities on junior-level baccalaureate nursing students' attitudes toward end of life

care. It is hypothesized that simulation-based learning activities will improve students' attitudes toward end of life care. The ultimate goal is to improve care delivered to the dying patient and family, thereby improving the quality of care (Lewis et al., 2016). The effect of SBL on student attitudes toward end of life care represents an opportunity for pivotal translational nursing research, combining nursing education, simulation, and patient care.

Chapter II: Review of the Literature

The following literature review includes an analysis and critical appraisal of scholarly qualitative and quantitative works from nursing as well as the disciplines of education and psychology. The review of literature begins with a discussion of the necessity of education surrounding end of life care in the curriculum in baccalaureate nursing programs. It proceeds with an appraisal of the literature surrounding nursing students' attitudes and their impact on end of life care. Literature regarding the use of Frommelt's Attitude Toward Care of the Dying, Form B (FATCOD-B) (Frommelt, 2003) to evaluate nursing students' attitudes toward care of the dying patient and grieving family is included in this review. The review of literature continues with a review of the use of simulation-based learning (SBL) activities in baccalaureate nursing education and in the provision of end of life care. Research employing Kolb's (1984) Experiential Learning Theory in relation to SBL activities and using FATCOD-B to evaluate the effect of SBL activities on attitudes toward end of life care is appraised in this portion of the review. Finally, the review is summarized, demonstrating the body of knowledge that supports this research.

Search of the Literature

Searches of the current literature were conducted in the Cumulative Index to Nursing and Allied Health Literature (CINAHL), the education database in ProQuest, and the psychology database in ProQuest. CINAHL contains literature in the disciplines of nursing and allied health sciences. The education database in ProQuest includes literature from the disciplines of education and social sciences. The psychology database in ProQuest contains articles and other literature from the disciplines of psychology, social sciences, and education. Search terms included end of life care, nursing education, simulation-based learning, Frommelt's Attitude

Toward Care of the Dying (FATCOD), and experiential learning theory. Searches were limited to include articles published in the English language in the years 2014 to 2019. The seminal works of Frommelt (2001, 2003), relative to FATCOD and FATCOD, Form B (FATCOD-B) and Kolb (1984) relative to Experiential Learning Theory, were included in the review, though the publication dates were outside the years of review. In addition, the limiters of peer reviewed scholarly articles were added to each of the searches to filter items incongruous with a scholarly review of the literature.

Each article returned in the was reviewed for level of evidence, content, relevance, validity, and usefulness. Duplicates were removed from the articles to be reviewed and 70 articles were found to be suitable for inclusion in the review, including several classical articles. Of the included articles, two offered Level I evidence, seven offered Level II evidence, and 61 offered Level III evidence (Hospital, 2019). Following is the analysis and synthesis of the current literature relevant to the research study.

End of Life Care and Nursing Education

Nursing students must be prepared to provide all aspects of end of life care prior to graduation (American Association of Colleges of Nursing, 2016a). A review of the current literature reveals baccalaureate nursing education does not adequately prepare nurses to care for patients at the end of life. Practicing nurses report little preparation for end of life care in their baccalaureate nursing education (Croxon et al., 2018; Razban, Tirgari, & Iranmanesh, 2015).

Emotional preparation. Care of the patient at the end of life encompasses physical, emotional, and spiritual care. Some nurses indicated a preparedness to provide the physical care without preparation to handle the emotional or the spiritual care of the dying patient and grieving family nor the resultant emotional toll on the nurse (Croxon et al., 2018). Qualitative research

into nursing students' experiences of caring for patients at the end of life reiterates the students' lack of preparation to provide this care. Some students expressed that the fear of the unknown experience is overwhelming (Ek et al., 2014).

A student's belief system may be helpful in approaching an end of life patient encounter and lessening the fear associated with the provision of this care (Adesina et al., 2014). Students often have confidence in the provision of the physical care of the patient, but lack confidence in the provision of the emotional and spiritual care of the patient and family which is necessary at the end of life (Colley, 2016; Garrino et al., 2017; Heise, Wing, & Hullinger, 2018; Hjelmfors, Strömberg, Karlsson, Olsson, & Jaarsma, 2016). Researchers discovered students with experience with end of life care, personal or professional, were more likely to have confidence in the care of the dying patient and grieving family than students without this practical experience (Adesina et al., 2014).

Garrino et al. (2017) found that students who cared for patients at the end of life were forced to consider not only their own deaths, but the deaths of their family members. The students in the study were faced with the reality that there are limits to medicine, and not every patient can be cured. Cavaye and Watts (2014) note that end of life care that is provided at home has unique circumstances and this care may have more of an emotional toll on the student. The emotional toll that results from caring for the dying patient causes students' feelings of angst and apprehension (Lewis et al., 2016). Often, these feelings are expressed in the students' attitudes towards caring for patients at the end of life. Students who fear the dying process and approach dying patients with dread may avoid the dying patient and their family or may approach the dying patient and their families in an impersonal manner, damaging the interpersonal relationship between patient and nurse (Garrino et al., 2017). Students' ability to appropriately care for dying

patients and their families is impacted by the students' attitudes towards death, the dying patient, and the patient's family (Hagelin et al., 2016; Henoch et al., 2017; Lewis et al., 2016). In addition to approaching care at the end of life with a negative attitude, unprepared nurses may distance themselves from the patient and family, focusing on their emotional needs rather than those of the patient and family (Lewis et al., 2016).

Communication and end of life care. It is during the end of life that the relationship between the nurse and the patient is particularly crucial to care delivery (Henoch et al., 2017). Nurses with good communication skills are better equipped to meet the needs of the patient and their family during the end of life (Henoch et al., 2017). Therefore, interpersonal and communication skills are vital to the provision of care at the end of life (Adesina et al., 2014). Doucette et al. (2014) recommend education for student nurses regarding communication and end of life care. A nurse's poor communication skills may leave patients and families in an untenable position, feeling that their emotions are not acknowledged or considered in the dying process (Gillett, O'Neill, & Bloomfield, 2016). Cavaye and Watts (2014) cite inadequate preparation for communication with the dying patient and their family as the causative factor in the students' attitudes toward providing care at the end of life.

Attitude toward end of life care. Data suggesting a correlation between knowledge of end of life care and attitude toward end of life care are mixed with some researchers finding a positive, but not statistically significant, correlation between knowledge and attitude (Razban et al., 2015) and others finding a statistically significant correlation between knowledge and attitude (Wang, 2018). The data suggest knowledge of end of life care is not sufficient preparation for provision of this care in clinical practice.

A variety of research methods and tools were employed to study the knowledge and attitudes of nursing students regarding end of life care. Quantitative research using the Frommelt's Attitude Toward Care of the Dying (FATCOD), Frommelt's Attitude Toward Care of the Dying, Form B (FATCOD-B), and the Palliative Care Quiz for Nursing (PCQN) (Dimoula et al., 2019; Henoch et al., 2017; Wang et al., 2017) are reported, however comparison between the studies is difficult as a result of a lack of the use of a standardized tool. Researchers utilizing FATCOD and FATCOD-B, which measure attitudes toward end of life care, found a positive correlation between attitude toward end of life care and student age, suggesting life experience may play a role in attitude toward end of life care (Dimoula et al., 2019). Wang et al. (2017) noted a positive correlation between attitude toward end of life care and end of life education, the presence of a religious affiliation, and previous experience with end of life.

End of life nursing education consortium (ELNEC). Glover et al. (2017) implemented ELNEC principles and concepts as an elective for senior-level nursing students. Using a pretest, posttest format, the researchers evaluated the students' learning with the use of the ELNEC Knowledge Assessment Test. The ELNEC Knowledge Assessment test assesses the students' knowledge in the "domains of nursing knowledge related to end-of-life care, including nursing care, pain, symptom management, ethical/legal issues, culture, communication, grief and loss, death, and quality of life" (Glover et al., 2017, p. 940). The students showed statistically significant improvement in ELNEC Knowledge Assessment Test scores following ELNEC education (Glover et al., 2017). The research revealed that ELNEC was an effective means of educating nursing students about end of life care. The students' knowledge base regarding end of life care was expanded because of the ELNEC education, but the researchers were not able to determine if the acquired knowledge would translate to clinical practice.

Barreré and Durkin (2014) used a phenomenological approach to study the impact of ELNEC education. The researchers interviewed graduates of a baccalaureate nursing program that used ELNEC and asked questions about the nurses' experiences with end of life care. The limited study showed that the nurses who participated in ELNEC education as students applied the concepts they learned in their practice as nurses.

End of life care in the clinical area. Due to the lack of formal curriculum-based preparation, nursing students who have the opportunity to provide end of life care during clinical rotations are often left unprepared to take advantage of this clinical opportunity by assuming the role of care provider (Croxon et al., 2018). The lack of experience in and preparation for end of life care is one reason nurses are unprepared for, and therefore withdraw from and avoid, the patient at the end of life (Croxon et al., 2018; Garrino et al., 2017; Henoch et al., 2017). In addition, the nurses appear to lack in communication skills with the dying patient and grieving family, potentially leading to the view of care of the patient at the end of life as a negative experience (Croxon et al., 2018; Garrino et al., 2017; Henoch et al., 2017). Many students fear death, negatively impacting their care of patients at the end of life (Hagelin et al., 2016; Henoch et al., 2017).

It was noted students who care for patients at the end of life during a clinical rotation require the support of their clinical instructor (Ek et al., 2014). In addition, debriefing following the provision of this care is necessary to assist the students in dealing with the experience with the patient and their family as well as the student's experience with their emotional response to the provision of end of life care and the care of a body following death (Heise & Gilpin, 2016). Increasing knowledge and preparation for the physical care provided at the end of life are insufficient preparation for end of life care in baccalaureate nursing education. Experienced

nurses recommend an increase in end of life education (Jors et al., 2016). The experienced practitioners recommend not only an increase in classroom time devoted to end of life care, but an increase in experiential learning, role-playing, and discussion groups to prepare students to deliver the holistic nursing care provided to the dying patient and grieving family (Jors et al., 2016).

Research limitations. Reviews of the literature regarding end of life care in nursing education were conducted by Gillan et al. (2014) and Carmack and Kemery (2018). The researchers identified limitations to the research available, including the inability to generalize the results, lack of consistency in research tools, and a lack of qualitative research. At the time of the review, Gillan et al. (2014) noted limited research into the impact of simulation-based learning (SBL) on end of life care and recommended additional research in this area. Carmack and Kemery (2018), however, reviewed nine studies using SBL to enhance instruction on end of life care finding inconclusive results.

While the available research increased, the ability to compare studies or generalize the results remained unchanged as a result of inconsistencies with measurement tools across the studies (Carmack & Kemery, 2018). A literature review conducted by Alt-Gehrman (2017) discovered all methods of education, didactic, experiential, and simulation, improve students attitudes toward end of life care. In contrast to the review by Gillan et al. (2014), Alt-Gehrman (2017) found the method of education to be insignificant. Rather, according to Alt-Gehrman (2017), the provision of the education, not the educational method, impacts the students and prepares them to provide end of life care.

Simulation-Based Learning and Nursing Education

Simulation is an instructional strategy which allows the learner to apply theoretical knowledge to clinical practice in a safe environment (Cant & Cooper, 2017b; Craig, McInroy, Bogo, & Thompson, 2017). In the simulation environment, students may make mistakes without risk to the patient or to the student (Craig et al., 2017). Available patient simulators may present the students with an experience remarkably similar to a clinical scenario. While the simulators breathe and show vital signs, there are limitations to the authenticity which is possible with a simulator (Bland, Topping, & Tobbell, 2014). Experience with simulation in an educational program is shown to increase positive emotions, possibly enhancing learning and the experience of learning (Keskitalo & Ruokamo, 2017).

Application of simulation-based learning to nursing education. Simulation-based learning (SBL) has been widely studied in nursing education (Davis, Kimble, & Gunby, 2014; Landeen et al., 2015; Raurell-Torredà et al., 2015; Reime et al., 2016; Victor, Ruppert, & Ballasy, 2017; Ward, Robinson, & Ware, 2017) and several literature reviews have been conducted and published (Alt-Gehrman, 2019; Cant & Cooper, 2017a, 2017b; Cantrell, Franklin, Leighton, & Carlson, 2017; Lee & Oh, 2015; Olson et al., 2018). Reime et al. (2016) and Raurell-Torredà et al. (2015) found SBL activities to be effective strategies for nursing education. Without risk to the patient, and with the opportunity to review the simulation, SBL activities are designed to prepare student nurses for practice in the clinical area (Victor et al., 2017). Students who experience SBL in their undergraduate education have the opportunity to transfer their knowledge to the clinical area (Alt-Gehrman, 2019; Cant & Cooper, 2017a, 2017b; Lee & Oh, 2015; Ward et al., 2017). A positive association between SBL and knowledge transfer in the clinical area is noted in the literature (Raurell-Torredà et al., 2015; Victor et al., 2017).

Simulation-based learning and clinical performance. In many cases, SBL activities are used as an adjunct to traditional instructional methods, preparing students for practice in all clinical areas, including patient safety (Dubovi, Levy, & Dagan, 2018; Landeen et al., 2015; Reime et al., 2016; Victor et al., 2017). The association between SBL and performance in the clinical area has seen SBL used as a replacement for clinical hours, making SBL attractive to schools that are competing for clinical placement sites (Davis et al., 2014). Some researchers, based on the results of their studies, hypothesize a transference of the learning from the SBL to the clinical area (Raurell-Torredà et al., 2015; Reime et al., 2016). Others found a statistically significant relationship between SBL activities and performance in the clinical area (Victor et al., 2017).

Satisfaction with simulation-based learning. Students and faculty who engage in SBL activities report high levels of satisfaction with the educational strategy (Davis et al., 2014; Landeen et al., 2015). Positive emotions such as enthusiasm and satisfaction, associated with SBL, complement the educational experience of SBL, potentially increasing learning and transferability of skills (Keskitalo & Ruokamo, 2017). Faculty and students report improvement in the area of critical thinking (Landeen et al., 2015). The positivity of the experience for the educators and the students may encourage participation, and lead to the success of subsequent SBL experiences.

Limitations to simulation-based learning in nursing education. While SBL shows promise in nursing education, there are limitations to the results of the existing research. Each original study notes limitations, and researchers conducting reviews of the literature regarding simulation note limitations to the generalization of the results. The lack of a standardized assessment tool across the research studies does not allow for comparison between studies (Cant

& Cooper, 2017a; Lee & Oh, 2015; Olson et al., 2018). In addition, researchers note the use of untested tools in some research studies limits the validity of the results (Cant & Cooper, 2017a; Cantrell et al., 2017). The tools used for evaluation of the effects of SBL learning activities may be developed by the researchers for use in the study and psychometric testing of the tools is not complete (Davis et al., 2014; Reime et al., 2016). This limits the generalizability of the results and threatens the validity of the conclusions drawn by the researchers. Other research is limited by the use of an observer tool to measure student performance and a single researcher completing the observations (Raurell-Torredà et al., 2015). Researchers conducting reviews and meta-analyses of existing research call for the standardization of future research to enable generalization of the results and comparison between studies (Cant & Cooper, 2017a; Cantrell et al., 2017; Lee & Oh, 2015; Olson et al., 2018).

Much of the available literature involves the use of a convenience sample at a single research institution (Olson et al., 2018; Raurell-Torredà et al., 2015; Victor et al., 2017). In addition, there are few research studies published with high levels of evidence (Cant & Cooper, 2017a; Olson et al., 2018). Very little of the published research involves experimental research design or controlled trials (Cant & Cooper, 2017a). While the published literature shows SBL to be an effective educational strategy in undergraduate nursing education (Cant & Cooper, 2017a; Olson et al., 2018), researchers identified the need for additional research into all areas of SBL using methods which allow for high-level evidence and generalization of the results (Cant & Cooper, 2017a; Olson et al., 2018)

Literature reviews identified an abundance of literature into high fidelity simulation (Lee & Oh, 2015) and a lack of research into low fidelity and medium fidelity simulation (Olson et al., 2018). In addition, there is little evidence of the long-term effects of SBL on knowledge or

performance (Cant & Cooper, 2017a). While SBL as an instructional strategy has merits, there are limitations to the reported research into its use in baccalaureate nursing education.

Simulation-Based Learning and End of Life Care

End of life care, which involves practical, spiritual, and emotional care, is difficult to deliver to students using traditional educational strategies (Tamaki et al., 2019). Educational strategies are myriad and testable. Quantitative and qualitative research studies evaluating methods of preparing baccalaureate nursing students to deliver end of life care have been conducted (Bailey & Hewison, 2014; Frommelt, 2001, 2003; Gillan et al., 2013; Henoch et al., 2017; Lewis et al., 2016; Mallory, 2003; Sarabia-Cobo, 2016; Shaw, 2017). As it does in nursing education, simulation-based learning (SBL) shows promise in educating students in end of life care, allowing students the opportunity to practice all facets of care in a safe environment.

Simulation-based learning activities directed at end of life care benefit students with personal or professional experience with end of life as well as students without such experience (Lippe & Becker, 2015). Students report a sense of privilege and honor when caring for dying patients and grieving families in SBL exercises (Gillan et al., 2016). Some students report an increase in self-confidence relative to end of life care as a result of SBL activities (Randall et al., 2018). Gillan et al. (2016) assert it is vital to provide SBL experience involving end of life care to nursing students to prepare them to provide this care in the clinical area

Low-fidelity simulation-based learning. There exists a paucity of research into low-fidelity SBL and end of life care. Low-fidelity SBL, simulation involving case studies and minor role play, was implemented in end of life care education and students' response to the SBL was recorded with the use of researcher-designed tools (Sarabia-Cobo, 2016). Students reported high levels of satisfaction with the SBL, and noted its importance in their learning relative to end of

life care (Sarabia-Cobo, 2016). In addition, students in the study demonstrated increased knowledge regarding end of life care following SBL. The researchers concluded low-fidelity SBL activities are essential for the development of students' communication skills, enabling the students to practice these skills in a safe, controlled environment. The researchers recommended additional research regarding low-fidelity SBL and end of life care.

Simulation-based learning and attitude toward end of life care. Student attitude toward end of life care has a significant impact on the student's ability to care for the dying patient and grieving family (Hagelin et al., 2016; Henoch et al., 2017; Lewis et al., 2016). Students who participate in SBL activities directed at end of life care show a statistically significant improvement in attitude toward end of life care following SBL as measured by Frommelt's Attitude Toward Care of the Dying (FATCOD) and Frommelt's Attitude Toward Care of the Dying, Part B (FATCOD-B) (Dame & Hoebeke, 2016; Lewis et al., 2016; Lippe & Becker, 2015). However, quasi-experimental research design and convenience sampling methods limit generalization of the results of these studies. In a randomized controlled trial examining the effect of SBL on end of life care in baccalaureate nursing students, Tamaki et al. (2019), found the use of standardized patients in high-fidelity SBL increased students' knowledge of end of life care, performance of clinical skills, and self-confidence in the delivery of end of life care.

Interprofessional simulation and end of life care. End of life care is provided using a multidisciplinary approach in the clinical area with several specialty areas involved in the care of the dying patient and grieving family (Gannon et al., 2017). There is little evidence in the literature of interprofessional simulation in end of life care (Gannon et al., 2017; Randall et al., 2018). Gannon et al. (2017) who conducted a study on interprofessional simulation in end of life care found improvement in end of life care knowledge. However, researchers discovered the

improvement was attributable to SBL and not to the interprofessional approach to the learning. In addition, failure to adequately prepare for the SBL activities limited the growth of some participants in the study.

Limitations to simulation-based learning in end of life care. Limitations noted in the literature surrounding simulation-based learning (SBL) in end of life care mirror the limitations noted for SBL in nursing education. Many of the published studies were conducted using convenience samples at a single research institution (Gillan et al., 2016; Sarabia-Cobo, 2016; Tamaki et al., 2019). Tools used in the reported research are inconsistent across the studies, making comparison and generalization difficult (Carmack & Kemery, 2018; Smith et al., 2018). Students' self-report of confidence is open to interpretation and may not be linked to care delivery (Randall et al., 2018). There is little attention paid to end of life care across the lifespan, with most SBL activities focused on the adult patient at the end of life (Randall et al., 2018). A nurse generalist, the product of a baccalaureate nursing educational program, should be prepared to deliver all aspects of patient care across the lifespan, including end of life care. Finally, the scenarios used for the SBL activities are not standardized with some researchers creating SBL scenarios explicitly for use in the SBL environment, and others utilizing validated scenarios (Smith et al., 2018). The wide variation in end of life scenarios further limits comparison between studies.

Frommelt's Attitude Toward Care of the Dying, Form B (FATCOD-B)

Attitudes toward end of life care may be assessed with the use of a quantitative tool, Frommelt's Attitude Toward Care of the Dying (FATCOD) or Frommelt's Attitude Toward Care of the Dying, Form B (FATCOD-B) (Frey, Gott, & Neil, 2013). FATCOD is a tool developed by Frommelt (1991) to assess the attitudes of nurses who were providing care to dying patients and

grieving families. Frommelt (2003) later revised the tool to make it applicable to students in all areas of health education, and named the new tool Frommelt's Attitude Toward Care of the Dying, Form B (FATCOD-B).

Use of FATCOD-B in research. Frommelt's Attitude Toward Care of the Dying, Form B (FATOD-B) is used in nursing and psychological research to determine participants' attitudes toward end of life care (Abu-El-Noor & Abu-El-Noor, 2016; Dame & Hoebeke, 2016; Gurdogan, Kınıcı, & Aksoy, 2019; Hagelin et al., 2016; Wang, 2018; Wang et al., 2017). Several research methods have been employed using FATCOD-B as a research tool.

Interventional research. Dame and Hoebeke (2016) studied the impact of high-fidelity SBL activities on baccalaureate nursing students' attitudes toward end of life care. A pretest, posttest format was used for the study. Repeated measures analysis of variance (ANOVA) testing revealed more positive attitudes toward end of life care as a result of the high-fidelity SBL. Lewis et al. (2016) also studied the impact of high-fidelity SBL activities on baccalaureate nursing students' attitudes toward end of life care. The researchers analyzed the total FATCOD-B scores pre and post SBL using a paired *t*-Test, finding a statistically significant positive impact on FATCOD-B scores. Both studies followed a quasi-experimental design, using the FATCOD-B tool as a pretest, posttest intervention to determine the impact of simulation-based learning activities on participants' attitudes toward end of life care. Neither study explored the correlations between demographic data and FATCOD-B score.

Descriptive research. Gurdogan et al. (2019) explored the relationship between baccalaureate nursing students' scores on the Death Anxiety Scale and the FATCOD-B. The researchers found an inverse relationship between the Death Anxiety Scale and FATCOD-B scores. Further, the researchers determined a reduction in anxiety regarding death may be

associated with a more positive attitude toward end of life care. Abu-El-Noor and Abu-El-Noor (2016) used FATCOD-B to assess nursing students' attitudes toward end of life care. The researchers found a fairly low attitude toward end of life care in the sample of fourth-year baccalaureate nursing students and used their findings to recommend curriculum changes to ensure more comprehensive end of life care education in baccalaureate nursing education. Wang (2018) also recommended changes in baccalaureate nursing curriculum as a result of their study. Wang (2018) found a correlation between the nurse's attitude toward death and their attitude toward care of the dying patient and grieving family with the use of a comparison of scores on FATCOD-B and the Death Attitude Profile-Revised tools.

FATCOD-B and demographics. Studies utilizing FATCOD-B included demographic questionnaires. Demographic information was collected for the participants. Statistical analysis of the FATCOD-B score and the demographic data often reveals significant correlations between the demographic data and attitudes toward end of life care. Gender was not found to be significantly associated with attitude toward care at the end of life (Abu-El-Noor & Abu-El-Noor, 2016; Wang, 2018; Wang et al., 2017). Some researchers found education and experience with end of life have a positive impact on participants' attitudes toward end of life care (Wang, 2018; Wang et al., 2017). Other researchers found personal experience with end of life was not an accurate predictor of attitude toward end of life care (Abu-El-Noor & Abu-El-Noor, 2016). Religious affiliation or beliefs (Wang et al., 2017) and a lack of fear about death (Wang, 2018) were also found to be predictive of a positive attitude regarding care of the dying patient and grieving family.

Experiential Learning Theory and Simulation-Based Learning

Kolb's (1984) Experiential Learning Theory is a historical work based on experience as the foundation of knowledge. As experience factors heavily into the theory, the experiential learning theory serves as the theoretical foundation of several studies using simulation-based learning (SBL) as an educational intervention (Bassah, Cox, & Seymour, 2016; Brown & Bostic, 2016; Chmil et al., 2015; de Oliveira et al., 2015; Fewster-Thuente & Batteson, 2018; Poore et al., 2014; Shin, Sok, Hyun, & Kim, 2015; Victor, 2017; Williams, 2019). The phases of knowledge acquisition identified in Kolb's (1984) theory, concrete experience, reflective observation, abstract conceptualization, and active experimentation, fit with the process of simulation-based learning (Brown & Bostic, 2016; Chmil et al., 2015; de Oliveira et al., 2015; Poore et al., 2014; Shin et al., 2015; Victor, 2017; Williams, 2019).

The phases of Kolb's (1984) Experiential Learning Theory may be entered at any point in the process, but all phases must be included. While researchers agree Kolb's (1984) theory is appropriate for SBL activities and research, the manner in which experiential learning theory is applied to the research differs between studies. Researchers employing Kolb's (1984) Experiential Learning Theory as the framework for their research into SBL equate Kolb's concrete experience to either the didactic experience which lays the foundation for the SBL (Williams, 2019) or the simulation experience (Brown & Bostic, 2016; Poore et al., 2014). There is agreement that reflective observation occurs during debriefing, which follows the simulation experience (Brown & Bostic, 2016; Poore et al., 2014; Williams, 2019). Some authors found debriefing to be a crucial step in the experiential learning process (Johns, Moyer, & Gasque, 2017). Abstract conceptualization occurs prior to SBL activities when the learner reflects on classroom learning to prepare for the SBL activities (Williams, 2019) or is captured in debriefing, allowing the learner to think about the experience, considering changes in practice as

a result of the SBL (Brown & Bostic, 2016; Poore et al., 2014). Finally, active experimentation occurs during SBL activities (Williams, 2019) or serves as the phase of learning in which the learner transfers the learning from SBL to their clinical practice (Brown & Bostic, 2016; Poore et al., 2014).

Kolb's theory as the basis for SBL. Researchers utilizing experiential learning theory as the theoretical basis for their studies found positive outcomes from their experiential learning interventions. Poore et al. (2014) proposed experiential learning theory as the foundation for interprofessional simulation. Based on their research, Poore et al. (2014) deemed experiential learning theory an appropriate theory on which to base simulation-based learning. The researchers added that the use of experiential learning theory expands the learning potential for the participants in the simulation-based learning activities.

Shin et al (2015) studied the impact of SBL utilizing standardized patients on nursing competency, finding an improvement in critical thinking. Shin et al. (2015) determined that an active learning program, with its foundation in experiential learning theory, enhanced students' nursing competency. Victor (2017) studied the effectiveness of a simulation design based on experiential learning theory. The researcher compared clinical nursing judgment development scores of students who completed a nursing program prior to and following the adoption of experiential learning theory-based SBL activities, finding an increase in clinical judgment following the inclusion of experiential learning theory as the foundation for SBL activities (Victor, 2017).

Experiential learning theory was used as the foundation for a study involving low-fidelity simulation (Fewster-Thuente & Batteson, 2018). Fewster-Thuente and Batteson (2018) conducted an interprofessional simulation and used a qualitative approach to study the

correlation between the simulation process and Kolb's (1984) experiential learning theory. The researchers found the stages of Kolb's (1984) theory agree with the simulation process. de Oliveira et al. (2015) used experiential learning theory as the theoretical foundation for their qualitative study. The researchers conducted action research in the setting of simulation-based learning. de Oliveira et al. (2015) found the use of Kolb's theory enriched the SBL experience and enhanced the students' performance in the SBL activities.

Literature Synthesis

The published literature supports the need for the study of simulation-based learning activities related to end of life care in baccalaureate nursing education. Nurses report feeling unprepared to care for patients at the end of life (Croxon et al., 2018; Razban et al., 2015). The role of nursing educators and academic leadership is to provide experiences which assist all students in the provision of end of life care, regardless of age, religion, or experience with end of life. There is an identified need for research involving the use of low- or medium-fidelity simulation-based learning activities in end of life nursing education (Olson et al., 2018). The proposed research will add to the limited body of evidence in the area of low-fidelity simulation-based learning in end of life care education for baccalaureate nursing programs.

While there are inconsistencies and limitations in the existing research into simulation-based learning (SBL) and nursing education, including the provision of end of life care, the body of available evidence supports the use of SBL in nursing education (Alt-Gehrman, 2019; Cant & Cooper, 2017a, 2017b; Davis et al., 2014; Dubovi et al., 2018; Landeen et al., 2015; Lee & Oh, 2015; Raurell-Torredà et al., 2015; Reime et al., 2016; Victor, 2017; Ward et al., 2017). The results of many of the published studies are not generalizable (Cant & Cooper, 2017a, 2017b; Cantrell et al., 2017; Davis et al., 2014; Lee & Oh, 2015; Olson et al., 2018). Additional research

into the use of SBL in end of life care education in baccalaureate nursing programs is necessary to advance the science of SBL education. Kolb's (1984) Experiential Learning Theory is proven to be an effective and appropriate theoretical foundation for research into SBL (Bassah et al., 2016; Brown & Bostic, 2016; Chmil et al., 2015; de Oliveira et al., 2015; Fewster-Thuente & Batteson, 2018; Poore et al., 2014; Shin et al., 2015; Victor, 2017; Williams, 2019).

Determination of the outcome of an educational intervention, such as SBL, may be accomplished with the use of a robust, standardized tool. Frommelt's Attitude Toward Care of the Dying, Form B (FATCOD-B) (Frommelt, 2003) is proven to be such a tool and is appropriate for use in nursing research (Abu-El-Noor & Abu-El-Noor, 2016; Gurdogan et al., 2019; Wang, 2018; Wang et al., 2017). The use of FATCOD-B in interventional (Dame & Hoebeke, 2016; Lewis et al., 2016) and descriptive (Abu-El-Noor & Abu-El-Noor, 2016; Gurdogan et al., 2019; Wang, 2018) research demonstrates its versatility and utility as a research instrument.

The available literature shows a gap in the area of SBL for end of life education in baccalaureate nursing education. The published literature surrounding SBL and end of life care is not sufficient to prove a statistically significant correlation between low-fidelity SBL activities and students' attitudes toward end of life care. As such, there is insufficient support for the use of low-fidelity SBL in baccalaureate nursing education directed at end of life. The proposed research will add to the body of knowledge in this area.

Chapter Summary

A comprehensive review of the literature from the disciplines of nursing, psychology, and education was conducted. Literature identifying the need for baccalaureate nursing education in the area of end of life care was explored. The need for education regarding end of life was evident in the literature as practicing nurses are not prepared to care for dying patients and

grieving families. The use and success of simulation-based learning (SBL) in nursing education, and in the area of end of life care was reported. While there are limitations to the available literature, SBL was shown to be an effective means to educate baccalaureate nursing students in many facets of nursing care, including end of life care. The literature utilizing and examining Frommelt's Attitude Toward Care of the Dying, Form B (FATCOD-B) reveals a robust tool which has been effectively utilized in research surrounding end of life care. Finally, Kolb's Experiential Learning Theory is well documented in the literature as a theoretical framework for SBL as an educational strategy and will support the proposed research study.

Chapter III. Methodology

This research study examined the impact of low-fidelity simulation-based learning activities on students' attitudes toward care of the dying patient and grieving family. This chapter describes the methodology for this research including the design, research questions, study variables, sample, setting, power analysis, data analyses plan, and justifications for each section. The independent variable was a low-fidelity simulation-based learning activity using a case study directed at end of life care. The dependent variables were the scores of baccalaureate nursing students as measured by the Frommelt's Attitude Toward Care of the Dying, Form B (FATCOD-B) (Frommelt, 2003), a quantitative tool that assesses attitude toward end of life care. The association of demographic characteristics included gender, presence of religious beliefs, education, and personal or work experience with end of life care. The selected statistical analyses tested the null hypothesis regarding the impact of low-fidelity simulation-based learning (SBL) on FATCOD-B (Frommelt, 2003) scores and the correlation between demographic variables and FATCOD-B (Frommelt, 2003) scores.

Research Design

Research questions. The primary research question was, *how effective are simulation-based learning activities at improving junior-level baccalaureate nursing students' attitudes toward end of life care?* The secondary research question was, *what influence do gender, presence of religious beliefs, education, and personal or work experience with end of life care have on junior-level baccalaureate nursing students' attitude toward end of life care?*

Design. The study was a quasi-experimental pretest, posttest design comparing scores from Frommelt's Attitude Toward Care of the Dying, Form B (FATCOD-B) (Frommelt, 2003)

before and after end of life care low-fidelity simulation-based learning activities. The timeline for the students is depicted in Figure 2.

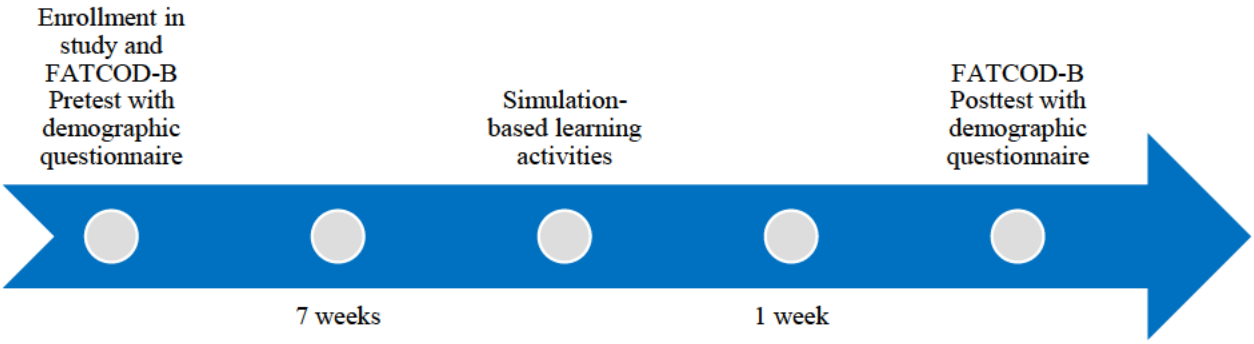

Figure 2: Sequence of events for the research study

Quasi-experimental research seeks to find the impact of the independent variable on the dependent variable (Krass, 2016). Quasi-experimental research design is utilized when the research is not suited to randomization of participants or to the use of a control group (Bloomfield & Fisher, 2019; Krass, 2016). True randomization was not possible for this study due to the course syllabus requirement that all potential participants in the study participate in low-fidelity end of life SBL activities. Neither the impact of the low-fidelity SBL on students' knowledge regarding end of life care nor the impact of the low-fidelity SBL on students' attitudes toward end of life care has been studied or established at the research site. The study took place during the Spring 2020 semester, with students initially completing the FATCOD-B (Frommelt, 2003) early in the semester, and completing the FATCOD-B (Frommelt, 2003) again following simulation-based learning activities.

Because the students were required to participate in end of life simulation activities during the semester, it was determined randomization of the participants and the inclusion of a control group were not feasible.

Variables. The variables for this research study were:

1. Low-fidelity simulation-based learning activities, independent variable.
2. Student attitudes toward end of life care scores, dependent variable.

Ethical considerations. The research process was explained by the researcher to the students enrolled in the Nursing and Adult Health Promotion course. Contact information for the researcher was provided to all students in the course. Students were advised they may contact the counseling center at the university if they found the subject matter of the research tools or simulation-based learning activities to be upsetting. Confidentiality was protected by the researcher with the use of a password-protected distribution list. Identifying information was removed from the survey responses prior to data analysis.

Setting and Sample

Setting. This study was conducted at a small, private, liberal arts, Catholic university in the northeastern United States. The total enrollment of the university, including undergraduate, graduate, and distance learning students, is 3,081. The sample for this study was drawn from a junior-level baccalaureate nursing course.

Sample. The population of interest for this research study was baccalaureate nursing students. Men comprise only 12% of the baccalaureate nursing population (American Association of Colleges of Nursing, 2017). Approximately one third, or 31.5%, of the students in baccalaureate nursing programs are ethnically diverse, while 68.5% of the students are white (American Association of Colleges of Nursing, 2017). The sample for this study was drawn from

a junior-level baccalaureate nursing course offered at a small, private, liberal arts university in the northeastern United States. The student body demographics show a three to one female to male ratio, and 21% of the students represent a racial or ethnic minority, closely representing the demographics of the population of interest (American Association of Colleges of Nursing, 2018). The student enrollment in the course of interest for the Spring 2020 semester was 107 students.

Methodology. The Institutional Review Boards at the host university and Wilkes University were petitioned for approval to conduct the research.

A convenience sample of junior-level, baccalaureate nursing students was recruited for participation in this research study. Convenience sampling is a nonrandom sampling method in which members of the target population are easily accessible to the researcher and available during the time of data collection (Etikan, Musa, & Alkassim, 2016).

The researcher was employed as a nursing instructor at the host university but did not serve as the instructor for the course which includes the end of life simulation-based learning activities. In addition, the researcher did not teach any previous or concurrent courses taken by the students in the sample.

Course details. Junior-level, baccalaureate nursing students at the host university are required to take a course in Nursing and Older Adult Health Promotion. The course is designed to educate students about the health issues in the older adult population as well as the changes in older adults that are attributable to the aging process. Simulation-based learning regarding end of life care is included in the Nursing and Older Adult Health Promotion course each semester. The SBL is led by the simulation coordinator and dedicated simulation staff. All the simulation staff, including the simulation coordinator, are proficient in low-fidelity simulation. Students at the host university who were enrolled in Nursing and Older Adult Health Promotion in the Spring

2020 semester were informed about the study and asked to volunteer to participate in the research study.

Inclusion criteria. Students who were taking the Nursing and Older Adult Health Promotion course in the Spring 2020 semester were eligible for participation in the study.

Exclusion criteria. Students who were not taking the Nursing and Older Adult Health Promotion course in the Spring 2020 semester were ineligible for participation in the study.

Sample size. Calculation of the sample size requires consideration of the power, the effect size, and the α. The power refers to the likelihood the null hypothesis will be correctly accepted by the test (Kellar & Kelvin, 2013). The effect measures the magnitude or size of the significance of the difference that is calculated between the independent variables' effect on the dependent variable (Mays & Melnyk, 2009; Spurlock, 2017). The α is the likelihood of committing a type I error with the statistical calculations and the *p*-value is the value which is defined as statistically significant for the test (Kellar & Kelvin, 2013).

An a priori power analysis was conducted using G*Power3 (Faul, Erdfelder, Lang, & Buchner, 2007) to test the difference between the two paired group means using a one-tailed test, a medium effect size (d = .5), and an α of .05. Results of the power analysis showed a sample size of 27 was required for a power of .8. A second power analysis was conducted for the multivariate regression involving the influence of the demographic characteristics on the FATCOD-B (Frommelt, 2003) scores. Previous research regarding the influence of demographic characteristics on FATCOD-B (Frommelt, 2003) scores revealed an adjusted R^2 of .200 (Wang et al., 2017). Using the adjusted R^2 and a residual variance ($1 – R^2$) of .98 from previous research, and five variables, an a priori power analysis using G*Power3 (Faul et al., 2007) was conducted.

The effect size, based on the adjusted R^2 and residual variance, was determined to be .2040816. With an α of .05, the required sample size was calculated to be 51 for a power of .8.

Sampling method. The sample characteristics were representative of the characteristics of the population, baccalaureate nursing students. However, the use of a convenience sample does not give all members of the population equal probability of being selected for the study (Sedgwick, 2013). The lack of equal probability in representation that is characteristic of a convenience sample leads to the results of the study being suggestive of the general population, but not generalizable to the population (Etikan et al., 2016). Despite this limitation to the study, the results will contribute to the body of knowledge regarding low-fidelity simulation-based learning activities and end of life nursing education.

Instrumentation and Materials

Instrument. Student attitudes toward care at the end of life impact the delivery of this care (Hagelin et al., 2016; Henoch et al., 2017; Lewis et al., 2016). The assessment of student attitudes toward end of life care may be accomplished with the use of the quantitative tool, Frommelt's Attitude Toward Care of the Dying, Form B (FATCOD-B) (Frommelt, 2003). Written permission to use FATCOD-B in research was requested and received from the author of the tool, Dr. Frommelt (Appendix C).

Frommelt's Attitude Toward Care of the Dying (FATCOD) is a tool developed by Frommelt in 1989 to assess the attitudes of nurses who were caring for patients and families at the end of life (Frommelt, 2003). In 2003, Frommelt revised the tool, renaming it FATCOD-B, to be relevant for students in a variety of health profession programs. The tool consists of 30 Likert-type questions, scored on a five-point scale aimed at determining attitudes toward caring for a patient and family at the end of life (Frommelt, 2003; Henoch et al., 2017). FATCOD-B contains

20 items related to the care of the dying patient and 10 items that relate to the care of the dying patient's family (Dame & Hoebeke, 2016). There are an equal number of positively and negatively worded items in the tool (Frommelt, 2003). Items 1, 2, 4, 10, 12, 16, 18, 20, 21, 22, 23, 24, 25, 27, and 30 are positively worded statements (Frommelt, 2003). The remaining items are worded negatively (Frommelt, 2003).

Participants rate their response to each of the 30 items using the responses, SD=Strongly Disagree, D=Disagree, U=Uncertain, A=Agree, and SA=Strongly Agree. Items with positive wording are rated on a scale from one for Strongly Disagree to five for Strongly Agree (Frommelt, 2003). Negatively worded items are scored with reverse scoring (Frommelt, 2003). The FATCOD-B has a score range of 30 through 150 (Wang, Li, Yan, & Li, 2016). A higher score is indicative of a more positive attitude toward care of the dying person and their family (Wang et al., 2016).

Since its inception in 2003, FATCOD-B has been translated into Japanese, Swedish, Spanish, Italian, Persian, and Hebrew (Wang et al., 2016). The psychometrics of the tool have been reported in the literature, showing FATCOD-B to be a robust tool for use in research (Abu-El-Noor & Abu-El-Noor, 2016; Henoch et al., 2014; Henoch et al., 2017; Iranmanesh et al., 2008; Loera et al., 2015; Mastroianni et al., 2015; Wang et al., 2016).

Reliability. The test-retest reliability was reported to be .69 by Iranmanesh et al. (2008) for the Persian version of the tool, and .959 by Wang et al. (2016) for the Chinese version of the tool. Frommelt (2003) reported an interrater agreement of 1.00 and the Pearson's coefficient of the reliability test of .9269 to support her use of the FATCOD-B in her research. Abu-El Noor and Abu-El Noor (2016) reported an interrater agreement of 1.0. Cronbach's alpha has been

reported between .601 and .83 (Abu-El Noor & Abu-El Noor, 2016; Henoch et al., 2014; Henoch et al., 2017; Iranmanesh et al., 2008; Mastroianni et al., 2015; Wang et al., 2016).

Validity. Frommelt (2003) reported a content validity index of .92 and Wang et al. (2016) found a content validity index of .92, supporting Frommelt's (2003) findings. Loera et al. (2015) performed a confirmatory factor analysis and Rasch validation study on the Italian version of FATCOD-B for medical students. The researchers examined FATCOD-B as consisting of two dimensions – attitude toward care of the patient at the end of life and "normative beliefs about the dying person and family members" (Loera et al., 2015). The researchers calculated Cronbach's alpha for the first dimension, attitude toward the patient, to be .80, and Cronbach's alpha for the second dimension, normative beliefs, to be .53. The researchers reasoned that the loss of validity regarding the medical students' normative beliefs was the result of the students' inexperience with care of dying patients. In contrast, the confirmatory factor analysis conducted by Wang et al. (2016) identified seven (7) factors, with Cronbach's alpha .610-.863 for each of the factors. Wang et al. (2016) determined that the Cronbach's alpha results were significant for each factor. Wang et al. (2016) calculated a content validity index of .92 for FATCOD-B.

Demographic questionnaire. Included with the FATCOD-B (Frommelt, 2003) was a demographic questionnaire (Appendix A). The questionnaire asked participants to disclose their age, gender, presence of religious beliefs, educational experience with end of life care, work experience with end of life care, and personal experience with end of life. Previous research examined the impact of gender on the student's attitude toward end of life care (Abu-El-Noor & Abu-El-Noor, 2016; Frommelt, 2003; Wang, 2018; Wang et al., 2017). The impact of education and experience with end of life care was explored in published research studies (Abu-El-Noor & Abu-El-Noor, 2016; Wang, 2018; Wang et al., 2017). Existing research also investigated the

relationship between religious affiliation and attitude toward end of life care (Wang et al., 2017). The results of this research study will contribute to the body of evidence related to demographic characteristics and the degree to which they predict the attitude toward care of the dying patient and grieving family.

Data Collection Procedures

Procedure. The 107 students enrolled in the Nursing and Older Adult Health Promotion course were invited to participate in the research study on the first day of class in the Spring 2020 semester. Regardless of their decision to participate or not participate in the study, all students enrolled in the Nursing and Older Adult Health Promotion course participated in the required low-fidelity end of life SBL activities. One hour was allotted for the low-fidelity end of life SBL activities. The simulation coordinator and simulation staff utilized the low-fidelity SBL activity associated with the study.

For the purposes of this research study, a Qualtrics account was provided to the researcher by the host university. The consent to participate in the research and the research instruments, FATCOD-B (Frommelt, 2003), and the demographic questionnaire, were all contained in a survey whose delivery was facilitated by Qualtrics (Appendix A). The demographic questionnaire collected information regarding the participants' age, gender, presence of religious beliefs, education, and personal or work experience with end of life care. The participants were informed the answers to the demographic questions were requested, but not required. The participants were advised if they were not comfortable answering any question, they could skip the question and proceed with the next question in the questionnaire. The first question in the Qualtrics survey was the consent form. The survey was designed to disallow progress in the survey if the participant did not give consent to participate in the research

(Appendix A). Internet Protocol (IP) addresses were not collected by the Qualtrics electronic polling software. All data in the Qualtrics account were accessible to the researcher in a password-protected account. The Qualtrics administrators at the host university had access to the data but required the researcher's permission prior to accessing the information. At no time during the study was permission requested to access the password-protected file.

The researcher presented the research study to all sections of the Nursing and Older Adult Health Promotion course on the first day of class by reading a prepared statement describing the study (Appendix B). The students were advised their participation in the research required no more than 30 minutes for each completion of the FATCOD-B (Frommelt, 2003). During her visit to the class, the researcher requested the students' participation in the study. All students were advised of their need to give informed consent prior to their participation in the study. Following the researcher's classroom visit during the first week of the Spring 2020 semester, all students enrolled in the Nursing and Older Adult Health Promotion course were sent a link to the Qualtrics survey containing the consent and the data collection instruments, FATCOD-B (Frommelt, 2003) and the demographic questionnaire. This completion of FATCOD-B (Frommelt, 2003) served as the pretest in the study.

In week eight of the semester, all students who were taking Nursing and Older Adult Health Promotion participated in low-fidelity simulation-based learning (SBL) activities directed at end of life care. One week after participation in the low-fidelity SBL activities, the study participants were sent a link for the second FATCOD-B (Frommelt, 2003), completing the posttest.

Simulation activity. Simulation-based learning (SBL) has emerged as a viable and useful method of educating nurses (Davis et al., 2014; Landeen et al., 2015; Raurell-Torredà et al.,

2015; Reime et al., 2016; Victor et al., 2017; Ward et al., 2017). Standards for SBL have been set forth by the International Nursing Association for Clinical Simulation and Learning (2016). The use of simulation-based learning in end of life care has been researched, but has produced poorly generalizable results (Carmack & Kemery, 2018; Gillan et al., 2016; Sarabia-Cobo, 2016; Smith et al., 2018; Tamaki et al., 2019). In addition, there is a marked lack of research into low-fidelity SBL and end of life care. This study helped to fill the gap in the literature related to low-fidelity simulation-based learning activities directed at end of life care. There is no existing standard regarding low-fidelity SBL in end of life care (Smith et al., 2018). Existing research utilizes a variety of end of life case studies, many of which were created for the purpose of the research study and are applicable for high-fidelity SBL (Smith et al., 2018). Therefore, replication of these case studies is not possible.

The case study used for the low-fidelity SBL in this study was adapted from the National League for Nursing's (NLN) Advancing Care Excellence Series (2019). The End of Life Nursing Education Consortium (ELNEC) curriculum case studies were reviewed and deemed to not be an appropriate fit for the purpose of this research as the case study would be used in isolation without the ELNEC curriculum. The Advancing Care Excellence Series was developed by the NLN to improve the quality of nursing care delivered to at-risk patient populations (NLN, 2019). The Advancing Care Excellence for Seniors (ACE.S) is one branch of the Advancing Care Excellence Series and deals with the complex and unique issues encountered in the care of older adults (NLN, 2019). ACE.S seeks to educate nurses and nursing students in the areas of "individualized aging, complexity of care, and vulnerability during life transitions" (Tagliareni, Cline, Mengel, McLaughlin, & King, 2012, p. 146). The case studies available on the ACE.S website are considered to be public domain. Communication from the NLN regarding the use of

the case study is found in Appendix D. The Julia Morales and Lucy Grey Case Study, published in the ACE.S area of the NLN web site for use by practicing nurses and nursing educators, was utilized in this research study (Cato, 2019). Details of the Case Study are located in Appendix E.

The only report of use of this case study in the literature is by Kopka, Aschenbrenner, and Reynolds (2016). However, the article is published in a National League for Nursing (NLN) publication and is not the product of a research study.

Prebriefing. Prebriefing is a directed experience which prepares the student for the low-fidelity SBL experience, giving them the necessary foundation for success in the low-fidelity SBL activities (Chmil, 2016; Leigh & Steuben, 2018). Prebriefing, according to the International Nursing Association for Clinical Simulation and Learning (INACSL) (2016a), is an essential for simulation-based learning experiences. Prebriefing allows the SBL leaders to orient the students to the simulation environment, present the simulation rules, and provide background information that is necessary for a successful simulation experience (INACSL, 2016a). Students completed a presimulation reading assignment prior to their arrival for the low-fidelity SBL to prepare them for the low-fidelity SBL experience. The reading consisted of the assigned textbook reading for the course, directed at end of life issues. During prebriefing, the simulation leaders oriented the students to the simulation environment, assigned roles as necessary for the case study, reviewed the rules for the simulation environment, and read Julia's Monologue (Appendix E).

Simulation experience. In response to Julia's Monologue, the students were advised that the setting for the case study is a home health visit for Julia. During the visit, Julia inquired about hospice services, but her son asked her to complete an additional round of chemotherapy. Julia's partner supported her wishes for hospice. The SBL leaders asked the students several questions directed at the assessment of Julia, her son, and her partner. The students considered the physical,

emotional, and spiritual needs of the patient and her family. The second scenario occurred several weeks later when Julia was near death. The students were directed to consider Julia's imminent death and its impact on her family. Students discussed signs and symptoms of impending death and the support Julia's partner may need around the time of death.

Debriefing. Following the low-fidelity SBL experience, the students participated in debriefing, lasting approximately 30 minutes. The INACSL (2016b) identifies debriefing as an essential component of simulation-based learning. Debriefing is structured to enhance the transfer of knowledge and promote self-awareness (INACSL, 2016b). Debriefing was led by the Simulation Coordinator or an experienced simulation leader (INACSL, 2016b). During debriefing, the students were asked to consider their thoughts and feelings regarding the care of patients at the end of life. Cato (2019), the author of the case study, suggests time be given to allow the participants to consider the self-care the nurse must practice following the death of a patient. The leaders facilitated discussion and identified any gaps in the students' performance during the low-fidelity SBL exercise (INACSL, 2016b).

Data Analysis

Data collected during the research study included the pretest and posttest FATCOD-B (Frommelt, 2003) scores and demographic questionnaires. The pretest, posttest scores were ordinal variables as they are based on responses to Likert-like questions (Kellar & Kelvin, 2013). Apart from age, which was reported as a discrete interval variable, the demographic characteristics were of nominal scale with two possibilities for each characteristic. Analysis of the collected data included descriptive statistics of the sample and the impact of the low-fidelity simulation-based learning (SBL) activities on the FATCOD-B (Frommelt, 2003) scores. The correlation of gender, prior experience with end of life, faith tradition, or prior education

regarding end of life care with their attitude toward end of life care and FATCOD-B scores was to be determined with analysis of the collected data.

To test the main hypothesis, data was collected for each participant prior to the introduction of the independent variable, low-fidelity simulation-based learning activities, and after the independent variable. Therefore, each student had two data points, indicating a connection between the two samples. This allowed for the creation of matched pairs of data and the paired *t* -Test could be used to test the hypothesis. If any of the paired *t*-Test assumptions were violated, the nonparametric Wilcoxon Matched-Pairs Signed Rank Test could be utilized to analyze the data contained in the matched pairs. A multivariate regression analysis was to determine if the demographic characteristics identified in the demographic questionnaire were significantly associated with the FATCOD-B (Frommelt, 2003) score.

Rationale. The paired *t*-Test is appropriate for *repeated measures design*, or research that involves assessment of the same sample at least two times (Gray, Grove, & Sutherland, 2017). With repeated measures designs, the data are placed in matched pairs and each pair's data is analyzed (Kellar & Kelvin, 2013). The paired *t*-Test has assumptions which must be met prior to proceeding with the test (Green & Salkind, 2017; Kellar & Kelvin, 2013). There must be two, independent measures of the dependent variable (Green & Salkind, 2017). The test score was measured twice in this study with the use of a pretest and a posttest, meeting an assumption of the paired *t*-Test. The data were of interval measurement, using a scale with meaningful order and equal intervals between the numbers (Kellar & Kelvin, 2013), meeting another assumption for the paired *t*-Test. Green and Salkind advise the difference between the pretest and posttest scores should have a normal distribution in the general population and advise a sample size of at least 30 to produce a valid significance score. The distribution of the scores was determined

during data analysis. Normal distribution of the scores was not found, violating an assumption of the paired *t*-Test. Therefore, the paired *t*-Test was abandoned in favor of its nonparametric alternative, the Wilcoxon Matched-Pairs Signed Rank Test (Kellar & Kelvin, 2013).

The nonparametric Wilcoxon Matched-Pairs Signed Rank Test was used in place of the paired *t*-Test because the data did not meet the normality assumption of the paired *t*-Test (Kellar & Kelvin, 2013). The Wilcoxon Matched-Pairs Signed Rank Test requires that the data meet some assumptions (Kellar & Kelvin, 2013). The measurements of the variable of interest must be related. The participants' responses to the FATCOD-B (Frommelt, 2003) were recorded twice, before and after low-fidelity simulation-based learning activities and matched pairs were created with matching of the respondents' data. The ordinal data collected in this study met the assumption that the data be of ordinal or higher scale. Finally, meeting the final assumption, the 30 data pairs collected exceeds the five pairs of data required to conduct the Wilcoxon Matched-Pairs Signed Rank Test (Kellar & Kelvin, 2013).

Regression analysis is a statistical test that describes the linear dependence of the dependent variable, given one or more independent variable(s) (Kellar & Kelvin, 2013; Tripepi, Jager, Dekker, & Zoccali, 2008). The correlation between the variables is studied in a regression analysis (Kellar & Kelvin, 2013; Tripepi et al., 2008). In this study, the correlation between the FATCOD-B (Frommelt, 2003) score and the participant's gender, faith tradition, education related to end of life care, and experience with end of life care was planned with the use of linear regression analysis. However, the 30 matched pairs were not sufficient to conduct the linear regression analysis. G*Power3 analysis (Faul et al., 2007) noted that 51 pairs of data were required for α of .05 and power of .8 in the linear regression analysis.

Descriptive statistics. The participants' answers to the questions in the demographic questionnaire provided the data for the descriptive statistics. The percentage of the sample who are included in each demographic characteristic was calculated.

Chapter Summary

Investigation of the current literature in the area of low-fidelity SBL and end of life care identified a need for additional research in this area. A convenience sample of baccalaureate nursing students from a small, private, Catholic university in the northeastern United States was invited to participate in the research study. All students taking the Nursing and Older Adult Health Promotion course, regardless of their participation in the research study, participated in low-fidelity SBL activities adapted from a case study available from the National League for Nursing (Cato, 2019). The research study explored the impact of the low-fidelity end of life SBL activities on the students' attitudes toward end of life care. Frommelt's (2003) FATCOD-B was used to assess the students' attitudes toward end of life care before and after the low-fidelity SBL activities and the scores were compared with the use of the Wilcoxon Matched-Pairs Signed Rank Test during data analysis. An insufficient number of matched pairs in the data prevented the statistical analysis of the correlation between the demographics, gender, presence of religious beliefs, education, and personal or work experience with end of life care, and attitude toward end of life care. The quasi-experimental research design and convenience sampling method limited the generalizability of the research findings; however, the findings of the proposed research will add to the body of knowledge relative to low-fidelity SBL and end of life care (Bloomfield & Fisher, 2019; Etikan et al., 2016)

Chapter IV: Findings

The purpose of this quasi-experimental quantitative prospective study was to determine the impact of low-fidelity simulation-based learning (SBL) activities on nursing students' attitudes toward end of life care. The primary research question, *how effective are simulation-based learning activities at improving junior-level baccalaureate nursing students' attitudes toward end of life care* and the secondary research question, *what influence do gender, presence of religious beliefs, education, and personal or work experience with end of life care have on junior-level baccalaureate nursing students' attitude toward end of life care* were explored with statistical analysis of the collected data. Frommelt's Attitude Toward Care of the Dying, Form B (FATCOD-B) (Frommelt, 2003) was utilized to assess students' attitudes toward end of life care in a pretest, posttest format. The findings are presented, analyzed, and interpreted in this chapter.

Data Collection and Analysis

A total of 107 junior-level, baccalaureate nursing students who were taking Nursing and Older Adult Health Promotion were recruited for participation in this prospective study. Forty-seven students, or 43.92% of the students in the Nursing and Older Adult Health Promotion course, completed the pretest. In addition to the FATCOD-B (Frommelt, 2003), the pretest included seven demographic questions. Age, gender, presence of religious beliefs, previous education on death and dying, previous work experience caring for terminally ill persons, and previous experience with the loss of someone close to the participant were assessed in the pretest. During week eight of the semester, all students in the Nursing and Older Adult Health Promotion course, regardless of their participation or nonparticipation in the study, took part in low-fidelity simulation-based learning activities aimed at end of life care. One week after the low-fidelity simulation-based learning activities, the posttest survey was distributed to the study

participants. The posttest reassessed the participants' attitudes toward end of life care, the participants' work experience caring for terminally ill persons, and their experience with personal loss. Of the 47 participants who completed the pretest, 35, or 74.46%, completed the posttest.

Matching of the pretest and posttest data was completed by the researcher following collection of the posttest surveys. Each survey completed on the Qualtrics platform included the participant's email address. Data were exported from Qualtrics to Excel® spreadsheets. Pretest and posttest data were alphabetized according to email addresses. The lists of email addresses for the pretest and posttest data sets were compared. Twelve email addresses in the pretest data set did not appear in the posttest data set. All pretest data associated with those 12 email addresses were removed and were not included in the statistical analysis of the data. Each of the 35 remaining email addresses was assigned the same number in the pretest and posttest data sets to form matched pairs. The email addresses, used solely for the creation of matched data pairs, were removed from the data sets.

Prior to data analysis, the data were filtered. Examination of the data in the matched pairs revealed four participants who indicated experience with the loss of someone close to them at the pretest. However, those four participants noted that they had no experience with the loss of someone close to them at the posttest. The discrepancy regarding experience with the loss of someone close to them caused their data to be removed from the data set. One participant's data were removed when the time report for the survey indicated the participant completed the 33-item posttest in 88 seconds. The remaining 30 matched pairs were analyzed for this study. The data collection and filtering process is depicted in Figure 3. Analysis of the 30 matched pairs was completed following the filtering of the data.

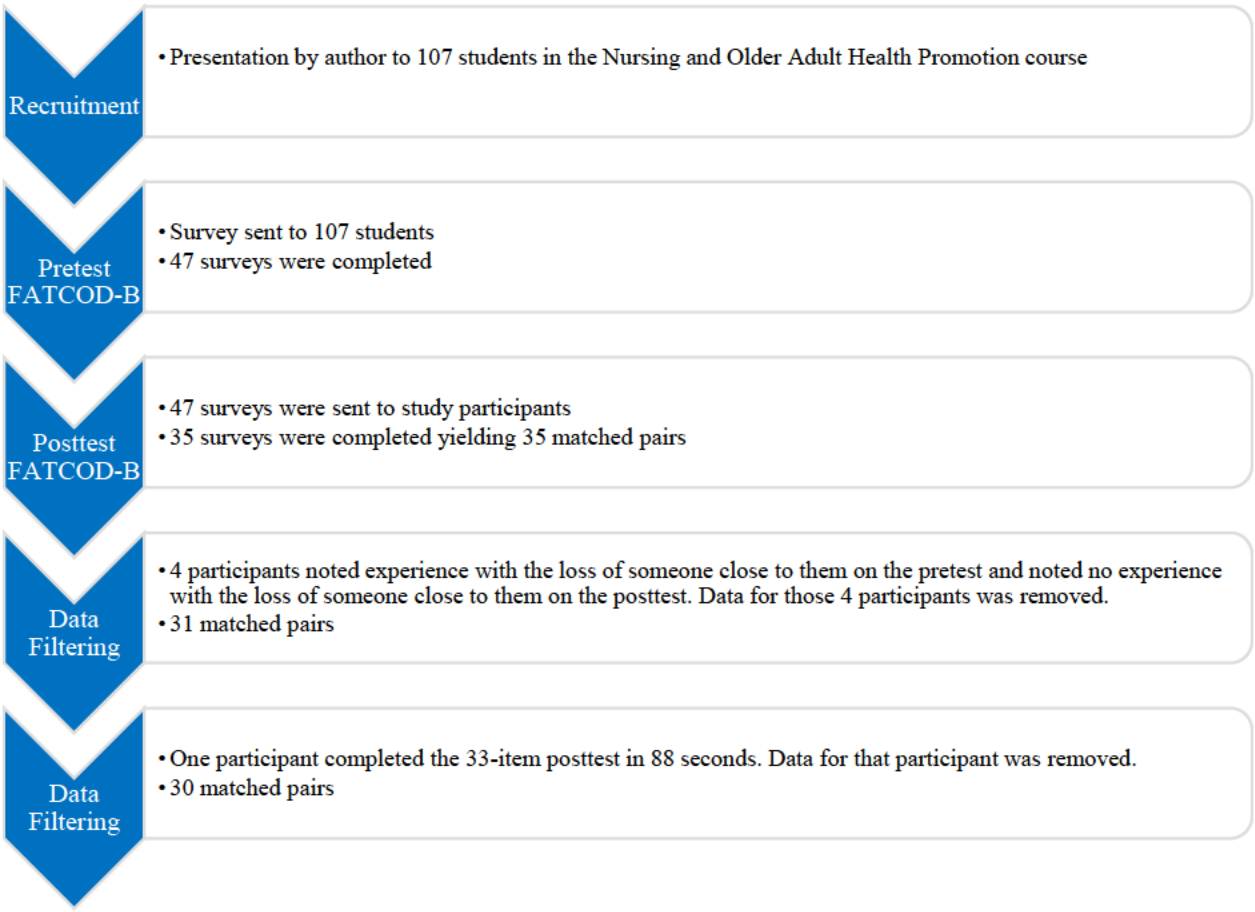

Figure 3. Data collection and filtering.

The data were uploaded to IBM SPSS® 26. A significance level of .05 was used for all statistical analyses. The power analysis, with a significance level of 0.5 and alpha of .80, determined the sample size of 51. Therefore, due to this limited match samples, the planned linear regression analysis test could not be run (Green & Salkind, 2017).

The Shapiro-Wilk statistic was used to test the normality of the distribution of the differences between the pretest and posttest scores (Kim, 2013). The Shapiro-Wilk statistic for the difference between the pretest and posttest scores, calculated by SPSS, was .927 (df=35, p=.022), indicating the data were not of normal distribution (Cantrell et al., 2017). The abnormal distribution required the use of a nonparametric test.

Further supporting the use of a nonparametric test was the ordinal data collected by the FATCOD-B (Frommelt, 2003). The data were of ordinal scale due to the use of a Likert scale to measure the participant's responses to each of the items in the FACTOD-B (Frommelt, 2003) tool (Kellar & Kelvin, 2013). Ordinal data are best analyzed with the use of nonparametric tests, such as the Wilcoxon Matched Pairs Test (de Winter & Dodou, 2010; MacFarland & Yates, 2016).

Sample

The demographic characteristics of the participants are shown in Table 1. Twenty-six females (86.7%) and four males (13.3%) participated in the study. The percentage of men in the study closely mirrors the percentage of men (12%) that comprises enrollment in all baccalaureate nursing schools (American Association of Colleges of Nursing, 2018a). The majority of the participants (73.3%) were between the ages of 21 and 25. Ninety percent of the participants indicated they have religious beliefs. A little more than half (60%) of the participants had received information related to death and dying in a previous course. In the pretest, 33.3% of the participants had experience caring for patients at the end of life. There was a small increase in the number of participants who had experience with end of life care at the time of the posttest with 40% of the participants indicating experience caring for patients at the end of life. One participant did not respond to the posttest question regarding caring for patients at the end of life. The remainder of this participant's data were included in the analysis. The overwhelming majority (93.3%) of the participants have personal experience with loss, indicating that they have lost someone close to them. This descriptor did not change between the pretest and the posttest.

Table 1

Participant Characteristics

Characteristic	n	%
Age		
20 – 25	22	73.3
26 – 30	3	10
31 – 35	4	13.3
36 - 40	1	3.3
Gender		
Male	4	13.3
Female	26	86.7
Presence of religious beliefs		
I have religious beliefs.	27	90
I do not have religious beliefs.	3	10
Death and dying education		
Information dealing with death and dying was presented to me in a previous course.	18	60
No information dealing with death and dying was presented to me in a previous course.	12	40
Experience caring for terminally ill persons and their family members (Pretest)		
I have cared for terminally ill persons and their family members.	10	33.3
I have no experience caring for terminally ill persons and their family members.	20	66.7
Experience caring for terminally ill persons and their family members (Posttest)		
I have cared for terminally ill persons and their family members.	12	40
I have no experience caring for terminally ill persons and their family members.	17	56.7
No response	1	3.3
Loss of someone close to participant (Pretest)		
I have lost someone close to me.	28	93.3
I have no previous experience with the loss of someone close to me.	2	6.7
Loss of someone close to participant (Posttest)		
I have lost someone close to me.	28	93.3
I have no previous experience with the loss of someone close to me.	2	6.7

Primary Research Question

The primary research question *how effective are simulation-based learning activities at improving junior-level baccalaureate nursing students' attitudes toward end of life care* is answered with the results of the following statistical analyses.

FATCOD-B scores. The pretest and posttest scores are displayed in Table 2. Nineteen of the participants showed an increase in score between the pretest and the posttest. The pretest mean was 120.13 (±8.324) with a maximum possible score of 150. The posttest mean, assessed after the low-fidelity simulation-based learning activities, was 120.77 (±8.472) with a maximum possible score of 150. Eleven participants showed a decrease in FATCOD-B (Frommelt, 2003) score between the pretest and the posttest, two participants' scores remained the same, and 17 participants' scores increased after the low-fidelity simulation-based learning activities.

Table 2

Matched Pairs FATCOD-B Pretest and Posttest Results

Participant	Pretest	Posttest	Difference
	FATCOD-B score		
1	118	120	+2
2	122	119	-3
3	120	126	+6
4	125	113	-12
5	111	129	+18
6	118	124	+6
7	131	122	-9
8	125	132	+7
9	121	117	-4
10	111	115	+4
11	121	119	-2
12	122	125	+3
13	126	123	-3
14	116	116	0
15	117	115	-2
16	112	115	+3
17	137	127	-10
18	127	130	+3
19	110	115	+5
20	126	131	+5

21	108	96	-8
22	115	127	+12
23	120	113	-7
24	122	125	-3
25	113	115	+2
26	135	122	-13
27	132	139	+7
28	105	110	+5
29	130	130	0
30	108	113	+5
	Range		
	105-137	96-139	
	M (SD)		
	120.13 (8.324)	120.77 (8.472)	

The Wilcoxon Matched-Pairs Signed Rank Test for the FATCOD-B (Frommelt, 2003) scores, shown in Table 3, which tested the null hypothesis, indicated no significant difference between the pretest and posttest scores, $Z=232.5$, $p=.501$. The results of the statistical analysis support retaining the null hypothesis. Low-fidelity simulation-based learning activities do not have a statistically significant positive effect on junior-level baccalaureate nursing students' attitudes toward end of life care.

Table 3

Wilcoxon Matched-Pairs Signed Rank Test for FATCOD-B Mean Scores

Null hypothesis	Z	*p*
Simulation-based learning activities have no statistically significant positive effect on junior-level baccalaureate nursing students' attitudes toward care of patients at the end of life.	232.5	.501

Note. The significance level is .050.

Individual scores. The data were analyzed to assess for a significant difference between pretest and posttest scores for each item in the FATCOD-B (Frommelt, 2003) tool. The results of this analysis are shown in Table 5. Of the 30 items in the tool, the Wilcoxon Matched-Pairs Signed Rank Test showed a statistically significant difference in scores for five items. Item 3, *I would be uncomfortable talking about impending death with the dying person*, had a pretest average of 2.80 and a posttest average of 3.43 (Z=221, *p*=.037) with a statistically significant increase in score between the pretest and posttest. Item 16, *Families need emotional support to accept the behavior changes of the dying person*, had a pretest average of 4.80 and a posttest average of 4.37 (Z=0, *p*=.005) with a statistically significant decrease in score between the pretest and posttest. Item 25, *Addiction to pain relieving medication should not be a concern when dealing with a dying person*, had a pretest average of 3.10 and a posttest average of 3.67 (Z=121, *p*=.032) with a statistically significant increase in score between the pretest and posttest. Item 27, *Dying persons should be given honest answers about their condition*, had a pretest average of 4.33 and a posttest average of 4.63 (Z=40.5, *p*=.021) with a statistically significant increase in score between the pretest and posttest. Item 30, *It is possible for nonfamily caregivers to help patients prepare for death*, had a pretest average of 3.90 and a posttest average of 4.33 (Z=108, *p*=.027) with a statistically significant increase in score between the pretest and posttest.

Table 4

FATCOD-B Individual Item Scores

Item	Pretest Average	Posttest Average	Difference	Z	*p*
1. Giving care to the dying person is a worthwhile experience.	4.67	4.47	-.20	7.00	.206
2. Death is not the worst thing that can happen to a person.	3.43	3.57	+.14	50.00	.356
3. I would be uncomfortable talking about impending death with the dying person.	2.80	3.43	+.63	221.00	.037*

4. Caring for the patient's family should continue throughout the period of grief and bereavement.	4.50	4.40	-.1	18.00	.564
5. I would not want to care for a dying person.	4.20	4.03	-.17	33.50	.376
6. The nonfamily caregivers should not be the one to talk about death with the dying person.	3.80	3.60	-.2	86.00	.450
7. The length of time required giving care to a dying person would frustrate me.	4.27	4.27	0	58.00	.905
8. I would be upset when the dying person I was caring for gave up hope of getting better.	3.03	3.03	0	68.00	1.000
9. It is difficult to form a close relationship with the dying person.	4.27	3.90	-.37	24.00	.062
10. There are times when the dying person welcomes death.	4.30	4.33	+.03	64.00	.796
11. When a patient asks, "Am I dying?" I think it is best to change the subject to something cheerful.	4.03	4.00	-.03	49.00	.816
12. The family should be involved in the physical care of the dying person.	4.10	4.00	-.1	15.00	.317
13. I would hope the person I'm caring for dies when I am not present.	3.20	3.33	+.13	73.50	.415
14. I am afraid to become friends with a dying person.	3.80	3.97	+.17	69.00	.279
15. I would feel like running away when the person actually died.	3.90	3.77	-.13	65.00	.565
16. Families need emotional support to accept the behavior changes of the dying person.	4.80	4.37	-.43	0.00	.005*
17. As a patient nears death, the nonfamily caregiver should withdraw from his/her involvement with the patient.	4.17	4.20	+.03	48.50	.822
18. Families should be concerned about helping their dying member make the best of his/her remaining life.	4.40	4.37	-.03	34.00	.675
19. The dying person should not be allowed to make decisions about his/her physical care.	4.33	4.57	+.24	43.50	.330
20. Families should maintain as normal an environment as possible for their dying member.	4.17	4.13	-.04	36.00	.796
21. It is beneficial for the dying person to verbalize his/her feelings.	4.63	4.63	0	27.50	1.000

22. Care should extend to the family of the dying person.	4.43	4.37	-.06	32.50	.564
23. Caregivers should permit dying persons to have flexible visiting schedules.	4.20	4.37	+.17	37.00	.320
24. The dying person and his/her family should be the in-charge decision-makers.	4.13	4.07	-.06	99.50	.825
25. Addiction to pain relieving medication should not be a concern when dealing with a dying person.	3.10	3.67	+.57	121.00	.032*
26. I would be uncomfortable if I entered the room of a terminally ill person and found him/her crying.	3.43	3.20	-.23	56.00	.519
27. Dying persons should be given honest answers about their condition.	4.33	4.63	+.3	40.50	.021*
28. Educating families about death and dying is not a nonfamily caregiver responsibility.	4.13	4.07	-.06	59.00	.952
29. Family members who stay close to a dying person often interfere with the professional's job with the patient.	3.67	3.70	+.03	60.00	.618
30. It is possible for nonfamily caregivers to help patients prepare for death.	3.90	4.33	+.43	108.00	.027*

Note. The significance level is .050. *p<.05

Secondary Research Question

The secondary research question, *what influence do gender, presence of religious beliefs, education, and personal or work experience with end of life care have on junior-level baccalaureate nursing students' attitude toward end of life care*, could not be answered due to an insufficient sample size. The planned linear regression analysis of the data required a minimum of 51 pairs of data for α of .05 and power of .8 per the G*Power3 analysis (Faul et al., 2007).

Chapter Summary

The collected data were analyzed to answer the research questions and support retaining or rejecting the null hypothesis. The demographic characteristics showed the participants to be young and female with religious beliefs. The planned statistical analysis was adapted to fit the available data when preliminary analysis showed the data to be abnormally distributed. The

paired *t*-Test, which requires a normal distribution, was replaced by the nonparametric, Wilcoxon Matched-Pairs Signed Rank Test. The results of the Wilcoxon Matched-Pairs Signed Rank Test showed no statistically significant difference between the pretest and posttest FATCOD-B (Frommelt, 2003) scores, supporting the null hypothesis*, low-fidelity simulation-based learning activities have no statistically significant positive effect on junior-level baccalaureate nursing students' attitudes toward care of patients at the end of life*. Five individual items in the FATCOD-B (Frommelt, 2003) showed a statistically significant difference between the pretest and posttest scores with four item scores showing a statistically significant increase between the pretest and posttest and one item score showing a statistically significant decrease between the pretest and posttest scores.

The overall results of the study indicate that low-fidelity SBL are minimally effective in significantly improving students' attitudes toward end of life care. However, students who participated in low-fidelity simulation-based learning activities are prepared to converse with the dying patient about their impending death. Participants have a more positive attitude toward the administration of pain-relieving medication without concern regarding addiction to the pain-relieving medication at the end of life. Students who participated in the study believe honesty is important in communicating with patients at the end of life. Further, they believe that nonfamily caregivers are helpful in preparing patients for the end of life. In a dynamic healthcare environment, one that is currently impacted by the restrictions surrounding the novel coronavirus, Covid-19, their recognition that they, as nonfamily caregivers, are integral to end of life care, will impact the care they deliver to patients at the end of life. Finally, because of their participation in the low-fidelity simulation-based learning activities, the students were more comfortable with discussion surrounding the end of life.

The low-fidelity simulation-based activities have resulted in better preparation for the healthcare workers who will, at some point in their careers, care for a patient at the end of life and deal with the resultant emotional and physical impact of that care (Bailey & Hewison, 2014; Cavaye & Watts, 2014; Iranmanesh et al., 2008). The students understand that having a nurse at the bedside at the end of life, whether or not the family is present, is enough presence for the patient.

Chapter V: Conclusions

Baccalaureate nursing programs prepare nurse generalists to provide basic care for patients across the lifespan (American Association of Colleges of Nursing, 2018a). Not only have the American Nurses Association (American Nurses Association, 2016) and the American Association of Colleges of Nursing (American Association of Colleges of Nursing, 2016a) asserted the importance of this preparation, it is a moral imperative that the persons who are likely to provide end of life care be adequately prepared to deliver such care (Bailey & Hewison, 2014; Cavaye & Watts, 2014; Iranmanesh et al., 2008). Unfortunately, current research shows that nurses continue to be unprepared to provide care for the dying patient and grieving family (Bailey & Hewison, 2014; Croxon et al., 2018; Garrino et al., 2017; Gillan et al., 2013; Glover et al., 2017; Lewis et al., 2016; Shaw, 2017), despite the work completed 20 years ago by Ferrell (American Association of Colleges of Nursing, 2018b) with the establishment of the ELNEC program.

The literature supports the use of simulation-based learning (SBL) activities in nursing education (Alt-Gehrman, 2019; Cant & Cooper, 2017a, 2017b; Davis et al., 2014; Dubovi et al., 2018; Landeen et al., 2015; Lee & Oh, 2015; Raurell-Torredà et al., 2015; Reime et al., 2016; Victor, 2017; Ward et al., 2017). Most of the existing research into SBL activities in nursing education examine the use of high-fidelity simulation (Lee & Oh, 2015) and there is a dearth of literature examining the use of low-fidelity simulation (Olson et al., 2018). Research into the use of SBL activities in end of life nursing education suggests it is effective in improving nursing students' attitudes toward end of life care (Dame & Hoebeke, 2016; Lewis et al., 2016; Lippe & Becker, 2015). Attitude toward end of life care has been associated with the quality of care delivered to dying patients and grieving families (Lewis et al., 2016).

This quasi-experimental research study, constructed from a postpositivitst perspective and with the scaffolding of Kolb's experiential learning theory, was conducted to address the gap in the literature surrounding the use of low-fidelity simulation-based learning activities to prepare baccalaureate nursing students to provide care to patients at the end of life and their families. A convenience sample of students was recruited to complete Frommelt's Attitude Toward Care of the Dying, Form B (FATCOD-B) (Frommelt, 2003) before and after the students participated in low-fidelity SBL activities.

Research Questions

The primary research question, *how effective are simulation-based learning activities at improving junior-level baccalaureate nursing students' attitudes toward end of life care* and the secondary research question, *what influence do gender, presence of religious beliefs, education, and personal or work experience with end of life care have on junior-level baccalaureate nursing students' attitude toward end of life care* were explored with the use of this research study.

Findings

Sample. Almost all of the students who participated in the research study were females (86.7%) between the ages of 20 and 25 (73.3%). These demographics were representative of the general population of nursing students (American Association of Colleges of Nursing, 2018a). Most of the students (90%) indicated that they have religious beliefs. Ninety-three-point three percent of the participants acknowledged personal experience with the loss of someone close to them. More than half of the participants (60%) had information about end of life care presented to them in a previous course, but nearly the same number (66.7%) noted that they had not provided end of life care in clinical practice.

Primary research question. The score range for FATCOD-B (Frommelt, 2003) is 30-150 (Wang et al., 2016). In this study, the mean score on the FATCOD-B (Frommelt, 2003) pretest was 120.13 (±8.324) and the posttest mean was 120.77 (±8.472). A higher score is indicative of a more positive attitude toward care of the dying patient and grieving family, indicating the participants in this study had fairly positive attitudes toward end of life care prior to the educational intervention (Wang et al., 2016). Seventeen participants (56.67%) showed an increase in FATCOD-B (Frommelt, 2003) scores when compared to the pretest scores, 11 students (36.67%) showed a decrease in FATCOD-B (Frommelt, 2003) scores between the pretest and the posttest, and two participants (.07%) showed no change in score between the pretest and the posttest. Further analysis of the data revealed no statistically significant increase in FATCOD-B (Frommelt, 2003) scores between the total pretest and posttest scores.

The scores for individual items in the FATCOD-B (Frommelt, 2003) tool were compared for statistically significant differences between the pretest and posttest scores. Five items showed statistically significant differences between the pretest and posttest FATCOD-B (Frommelt, 2003) scores. Items 3, *I would be uncomfortable talking about impending death with the dying person*, 25, *addiction to pain relieving medication should not be a concern when dealing with a dying person,* 27, *dying persons should be given honest answers about their condition*, and 30, *it is possible for nonfamily caregivers to help patients prepare for death* had statistically significant increases between the pretest and posttest scores. The statistically significant increases are indicative of significantly more positive attitudes toward the statements in items 25, 27, and 30 (Wang et al., 2016). Item 3, which is negatively worded, is subject to reverse scoring (Frommelt, 2003). The reverse scoring indicates that the participants disagreed more with the statement in Item 3 in the posttest when compared to the pretest score. Item 16, *families need emotional*

support to accept the behavior changes of the dying person, had a statistically significant decrease between the pretest and posttest scores. The decrease indicates the participants had significantly less positive attitudes toward the statement in this item (Wang et al., 2016).

Secondary research questions. The sample size did not allow for the statistical analysis to answer the secondary research question.

Discussion of the Findings

The mean FACTOCD-B (Frommelt, 2003) scores in this study, pretest mean 120.13 (±8.324) and posttest mean 120.77 (±8.472), are similar to the scores found by Frommelt (2003) with a mean of 118.0 and Henoch, Daneilson, Strang, Browall, and Melin-Johanssn (2013) whose mean was 125.5 (±8.2), and Lewis et al. (2016) whose mean pretest score was 119.6 (±11.6). The positive attitudes toward end of life care in the pretest and posttest are congruent with the findings of Campbell, Trojanowski, and Smith (2020), Frommelt (2003), Henoch et al. (2013), and Lewis et al. (2016).

The findings of this quasi-experimental study support the null hypothesis, *simulation-based learning activities have no statistically significant positive effect on junior-level baccalaureate nursing students' attitudes toward care of patients at the end of life*. This is discordant with the statistically significant increase in FATCOD-B (Frommelt, 2003) scores found in previous research studying the impact of high-fidelity SBL (Campbell et al., 2020; Dame & Hoebeke, 2016; Lewis et al., 2016; Lippe & Becker, 2015). The findings of this study suggest that low-fidelity SBL activities are less effective than high-fidelity SBL activities in producing a significant increase in FATCOD-B (Frommelt, 2003) scores. However, the positive attitudes toward end of life care shown in the pretest score with 19 of the 30 items scoring 4 or higher, indicating a positive attitude, allowed little opportunity for an increase in scores. This is

supported by the findings of Campbell et al. (2020) whose participants' results showed a score of 4 or higher on 13 of the 30 items in the FATCOD-B (Frommelt, 2003). The increase in FATCOD-B (Frommelt, 2003) scores in this study, though not statistically significant, coupled with the positive attitudes reflected in the pretest FATCOD-B (Frommelt, 2003) indicate an emotional readiness to appropriately care for patients at the end of life and their families (Hagelin et al., 2016; Henoch et al., 2017; Lewis et al., 2016).

Individual item scores. Item 3 in the FATCOD-B (Frommelt, 2003) states, *I would be uncomfortable talking about impending death with the dying person* (Frommelt, 2003). Item 3 showed a statistically significant increase in score between the pretest and posttest. Lewis et al. (2016) showed a similar increase in the score for Item 3 following the implementation of high-fidelity SBL in their study. The participants in Campbell et al.'s (2020) study also had a statistically significant increase in their scores on Item 3 following SBL activities. The results in this study support those found in the literature. In addition, the significant increase in the item score indicates a readiness to talk about death with the dying patient. This small shift in attitude toward end of life care indicates the participants are less uncomfortable talking about death with a dying person or reaching out to the dying individual. Therefore, the participants may not avoid communication with the dying person during end of life care, when communication between the nurse and the patient is crucial to the delivery of care (Henoch et al., 2017).

Doucette et al. (2014) recommends education directed at communication at the end of life for nursing students. A nurse's poor communication skills during the end of life process may leave the patient and their family feeling that their emotions are neither important nor considered in the dying process (Adesina et al., 2014; Gillett et al., 2016). The statistically significant increase in the scores for this item suggest that the low-fidelity SBL activities in this study

support open communication between the nurse and the dying patient, and between the nurse and the grieving family.

Item 9 in the FATCOD-B (Frommelt, 2003) states *it is difficult to form a close relationship with the dying person.* The students' scores on this item decreased between the pretest and posttest. The significance of the difference approaches the significance level of .05. The decrease in score on this item, in congruence with Lewis et al.'s (2016) and Campbell et al.'s (2020) findings, indicates the participants agreed more with the statement following SBL activities. This is also is indicative of a less positive attitude toward the dying patient. However, the participants agree there is a difficulty in this area. As a result of their participation in the low-fidelity SBL activities, the participants have expanded their knowledge of interactions with the dying patient and have an awareness of their inadequacy as a care provider for the dying patient.

At the time of the posttest, 56.7% of the participants indicated they had experience caring for patients at the end of life and their families. The complexity of the care, including the physical, emotional, and spiritual aspects of that care were unfamiliar to many (33.3%) of the participants. Previous research conducted by Ek et al. (2014) and Lewis et al. (2016) found students to be fearful of the implementation of end of life care and its emotional toll. Other research reported participants had confidence in their ability to provide the physical care of the patient but lacked confidence in the emotional and spiritual aspects of care of the patient and their family (Colley, 2016; Garrino et al., 2017; Heise et al., 2018; Hjelmfors et al., 2016). Students' experiences with the low-fidelity SBL activities and their experiences in the clinical area may have raised their awareness of the complexity of care at the end of life, including the emotional aspect of that care. The increased awareness led students to acknowledge their inadequacy in this area.

The SBL activities utilized in this study were adapted from the National League for Nurses (NLN) Advancing Care Excellence for Seniors (ACE.S) unfolding case studies and involved a patient who was receiving hospice care at home (National League for Nursing, 2019). Cavaye and Watts (2014) noted that end of life care provided at home involves unique circumstances which may have a higher emotional toll on the students than end of life care which is provided in an inpatient setting due to a lack of resources in the home. The authors add that specialization in end of life care, which requires education and preparation, is often required of nurses who provide care in the home (Cavaye & Watts, 2014). However, the graduate nurse generalist is often ill-prepared to deliver this care in isolation, increasing the emotional toll on the new nurse (Cavaye & Watts, 2014).

While the emotional and spiritual aspects of end of life care are not a focus of the case study, there are minor references to the emotional aspect of this care in the directed debriefing at the end of the SBL activities (Appendix E). The decrease in participants' attitude toward forming a close relationship with the dying person indicates the SBL activities (Cato, 2019) may need to be further adapted to direct the participants and simulation faculty to consider and include the emotional and spiritual care involved in end of life care.

Item 16 in the FATCOD-B (Frommelt, 2003) states f*amilies need emotional support to accept the behavior changes of the dying person*. This is the only item in the tool that showed a statistically significant decrease in score between the pretest and posttest. Campbell et al. (2020) reported a decrease in this item score following SBL, though the decrease was not statistically significant. Lewis et al. (2016), who do not report the statistical significance of the difference in scores, show an increase in this item score between the pretest and the posttest. The decrease in score between the pretest and posttest in this study indicates the participants, who had a fairly

positive response to this statement in the pretest, were significantly less positive about the statement on the posttest. The low-fidelity SBL activities did not include behavior changes in the dying patient (Cato, 2019). It is unknown whether this change in score is related to the score on Item 9 where the students indicated they would have difficulty forming a relationship with the dying patient or were unsure of the needs of families with regard to a dying family members' behavior changes.

Hebert et al. (2011) describe the nurse's role at the end of life as that of an advocate for the patient and their family who manages pain, provides emotional support, and assists throughout the end of life process. The provision of emotional support is part of communication, which is important for the patient and the family at the end of life (Adesina et al., 2014; Doucette et al., 2014; Gillett et al., 2016; Henoch et al., 2017). The participants in the study progressed through Kolb's (1984) stages of experiential learning. Some abstract conceptualization was likely ongoing following structured debriefing (Poore et al., 2014). Abstract conceptualization is the phase of experiential learning theory that assists the learner in transforming experience to knowledge (Lavoie et al., 2018). Viewed through the lens of Benner's (2001) novice to expert model, the participants in this research study are novice caregivers for the end of life. As such, they have the skills necessary to complete tasks but may not have the experience necessary to transcend the tasks and navigate the spiritual and emotional aspects of end of life care (Benner, 2001). However, each experience they have with end of life care, in a classroom, simulation lab, or clinical setting, provides the novice with experience that will assist in building knowledge and, therefore, competence (Kolb, 1984).

Item 25 in the FATCOD-B (Frommelt, 2003) states, *addiction to pain relieving medication should not be a concern when dealing with a dying person.* Participants in the study

had a statistically significant increase in scores for this item between the pretest and posttest. Campbell et al. (2020) report an increase in scores for this item, though it was not statistically significant. Lewis et al. (2016) also report an increase in the score for Item 25. The statistically significant increase in score in this study indicates there was learning as a result of the low-fidelity SBL activities. The use of pain medication without concern for addiction is supported in the End of Life Nursing Education Consortium (ELNEC) curriculum (American Association of Colleges of Nursing, 2018b). The literature shows that nursing students possess neither the knowledge nor the attitude to effectively manage pain (Hroch, VanDenKerkhof, Sawhney, Sears, & Gedcke-Kerr, 2019). However, the results of this study indicate that participants are less likely to withhold pain medication in a dying patient due to concerns surrounding addiction to the medication.

Item 27 in the FATCOD-B (Frommelt, 2003) states, *dying persons should be given honest answers about their condition*. The participants had a statistically significant increase in score for this item between the pretest and posttest. Campbell et al. (2020) and Lewis et al. (2016) report an increase in this item score following SBL activities, though neither reports the increase as statistically significant. In item 3, the participants showed a statistically significant improvement in scores in response to a regarding discussing a patient's impending death. In this item, the participants indicate they believe that discussions with the dying person should include honest answers and open communication about their condition, therefore, improvement in this score further supports the students' commitment to communication at the end of life (Henoch et al., 2017).

Item 30 in the FATCOD-B (Frommelt, 2003) states, *it is possible for nonfamily caregivers to help patients prepare for death*. The participants had a statistically significant

increase in scores for this item between the pretest and the posttest. This agrees with the findings of Lewis et al. (2016) and Campbell et al. (2020) who also report an increase in this item score. Care and support at the end of life may be provided by family, friends, clergy, and medical and nursing staff. It is important that students recognize the role played by nonfamily caregivers. Nurses, as part of a team of caregivers for patients at the end of life, are nonfamily caregivers (Adesina et al., 2014). In some cases, neither family nor friends are present at the patient's bedside at the time of death, therefore nonfamily caregivers help to prepare patients for death. It is important that students recognize the significance of the role of the nonfamily caregiver as most nurses, in the course of their career, will care for patients at the end of life (Bailey & Hewison, 2014; Cavaye & Watts, 2014; Iranmanesh et al., 2008).

Philosophical background. This study was conducted from a postpositivist perspective. Postpositivist research uses evidence and data which is gained through observation (Brownell, 2014; Creswell & Creswell, 2018). Observation in this study included the students' life experiences which were brought to the study and influenced the pretest FATCOD-B (Frommelt, 2003), the participants' observation during the low-fidelity SBL activities, and the researcher's viewing and interpreting the data. The scientific method and use of a quasi-experimental research design is supported by postpositivism (Creswell & Creswell, 2018; Powers, 2010).

Theoretical framework. Kolb's experiential learning theory (Kolb, 1984) served as the theoretical framework for this study. Kolb (1984) believed that experience forms the foundation of knowledge. Experiential Learning Theory has been used successfully to frame studies regarding SBL activities (Bassah et al., 2016; Brown & Bostic, 2016; Chmil et al., 2015; de Oliveira et al., 2015; Fewster-Thuente & Batteson, 2018; Poore et al., 2014; Shin et al., 2015; Victor, 2017; Williams, 2019). Fewster-Thuente and Batteson (2018) successfully used Kolb's

theory to frame a study into the use of low-fidelity SBL. This research study adds to the body of knowledge supporting Kolb's experiential learning theory (1984) for use in studies using SBL. The phases of Experiential Learning Theory (1984) align with the phases of SBL, providing appropriate support for the activities in this study (de Oliveira et al., 2015; Fewster-Thuente & Batteson, 2018).

This research study used Kolb's (1984) belief regarding experiential learning to guide the use of low-fidelity SBL activities in the participants' process of knowledge acquisition. The continuous cycle of learning, including prior and new experiences, envisioned by Kolb fits well with SBL (Hill, 2017). The four phases of the transformation of experience to knowledge identified by Kolb are (a) concrete experience, (b) reflective observation, (c) abstract conceptualization, and (d) active experimentation (Hill, 2017). Kolb identified concrete experience as that which the learner brings to the learning experience as well as that which the learner encounters in the learning experience (Hill, 2017). Concrete experience is provided in the low-fidelity SBL activities (Poore et al., 2014) and includes the participants' experience with end of life care prior to the low-fidelity SBL activities (Hill, 2017). Reflective observation, the participant's reflection on the learning experience, occurs during debriefing (Poore et al., 2014). Abstract conceptualization, which assists the learning in transforming the experience to knowledge, occurs during debriefing and may continue following the debriefing (Poore et al., 2014). Active experimentation, the act of applying the new learning to clinical situations will occur following the low-fidelity SBL activities (Poore et al., 2014). Due to the cyclical nature of experiential learning, according to Kolb, active experimentation occurred during the low-fidelity SBL activities, when the participants applied their prior experience with end of life care (Hill, 2017).

All students in the Nursing and Older Adult Health Promotion course, regardless of study participation, completed the low-fidelity simulation-based learning activities. Each student in the Nursing and Older Adult Health Promotion course participated in one low-fidelity SBL session. To accommodate the number of students in the course, several low-fidelity SBL sessions were held over a two-day period. The staggered participation in the low-fidelity simulation-based learning activities allowed for discussion of the simulation among the students, continuing the simulation experience in the reflective observation and abstract conceptualization phases of experiential learning theory (Kolb, 1984).

Limitations. There are several limitations to this research study. The research was conducted with the use of a quasi-experimental research method. Quasi-experimental research does not include the use of a control group (Gray et al., 2017). The lack of control group threatens the internal validity of the study and does not permit the generalization of the results of the study (Gray et al., 2017).

A convenience sample of junior-level students from a single baccalaureate nursing program was recruited for the purpose of this research study. Convenience sampling is a nonrandom sampling method in which members of the target population are easily accessible to the researcher and available during the time of data collection (Etikan et al., 2016). The use of a convenience sample does not give all members of the population equal probability of being selected for the study (Sedgwick, 2013). The lack of equal probability in representation that is characteristic of a convenience sample leads to the results of the study being suggestive of the general population, but not generalizable to the population (Etikan et al., 2016).

Students' participation in the research study was voluntary. The voluntary nature of the participation may have had an impact on recruitment and attrition. Students were asked to

participate in the study but were not required to do so. One hundred seven students were approached regarding participation in the study. The response rate was 43.92%, or 47 students. Prior to the end of data collection for the posttest FATCOD-B (Frommelt, 2003), a global Pandemic was declared by the World Health Organization. In response to this Pandemic and its effects in the greater Philadelphia area, the university at which this research study was conducted made the decision to cancel classes, clinical experiences, and lab experiences for one week. Following this week, all university instruction resumed in an online format. The uncertainty students faced may have had an impact on their willingness to complete the posttest. This uncertainty may also have impacted their responses to the items in the FATCOD-B (Frommelt, 2003). The drop rate for this study was 25.53% with 35 participants completing the posttest. The data generated by participants who completed the pretest, but did not complete the posttest, were removed from this study. The data for 30 matched pairs were used for statistical analysis.

The small sample size for this study thwarted the planned statistical analysis. Without the loss of participants due to attrition and data abnormalities, the pretest response of 47 participants was not sufficient for the regression analysis. Due to the small sample, the regression analysis, planned to explore the impact of participant characteristics on attitude toward end of life care, could not be completed.

As the result of a schedule conflict, the researcher was unable to be present to monitor or observe the low-fidelity SBL activities. The Simulation Coordinator, who was blind to students' participation or nonparticipation in the research study, supervised the low-fidelity SBL activities with the simulation staff. The information related to the low-fidelity SBL activities was provided to the Simulation Coordinator by the researcher. This information was amended by the Simulation Coordinator to include information which indicated the dying patient was receiving

suboptimal care, delivered by the patient's family, at home. Specifically, it was added that Julia, the patient in the case study (Cato, 2019), was found to be sitting on a pad that was soaked with urine, and had developed a pressure ulcer on her sacrum. This information was not included in the case study provided to the simulation coordinator but was distributed to all students who participated in the low-fidelity SBL activities. From this added information, the students may have inferred that the patient's needs were poorly met by her family caregivers. The students' responses to the items relative to the students' attitudes toward the family of the dying patient in the posttest FATCOD-B (Frommelt, 2003) tool may have been impacted by the alterations made to the case study. The magnitude of the impact of the amendments to the case study is immeasurable.

Implications for the Discipline of Nursing

The results of this research study have implications for the discipline of nursing. The results indicate junior-level baccalaureate nursing students have a positive attitude toward end of life care. While there was no statistically significant difference between pretest and posttest scores, there are several items which showed statistically significant increases in scores and others which showed slight increases in scores that were not significant. The results of this research study contribute to the body of knowledge regarding low-fidelity SBL activities, end of life nursing education, and the use of low-fidelity SBL activities in end of life nursing education. Statistically significant results were not apparent in the pretest and posttest scores, but the results have clinical significance based on the learning that took place, although the increase in some questions did not reach statistical significance (Connelly, 2014; Polit, 2017; Wilkinson & Winter, 2014).

Participation in this research study has impact on the participant's clinical practice. Posttest responses to the items in the FATCOD-B (Frommelt, 2003) tool indicate an openness to honest conversation with the dying patient and grieving family relative to the end of life. The participants are more likely to administer pain medication to the dying patient without concern for the risk of addiction, indicating that patients' pain at the end of life may be better controlled. Pain control is one aspect of the nurse's role at the end of life (Hebert et al., 2011). Nonfamily caregivers, according to the participants, are an asset in end of life preparation for the dying patient and grieving family. As a result of their participation in this study, the students are better prepared to meet the physical and emotional needs of patients at the end of life and their families.

Recommendations for nursing education. It is imperative that nurses be prepared to care for patients at the end of life (American Association of Colleges of Nursing, 2016b). Preparation for end of life care is the responsibility of schools of nursing and nursing educators. Best practice in nursing education related to end of life care has not yet been established (Shaw, 2017). Because end of life care is not comprehensively addressed in nursing textbooks, with a mere 18% of textbooks devoted to end of life care, (Ferrell, Malloy, Mazanec, & Virani, 2016), nurse educators must include the content related to end of life care in alternate formats. The advent of ELNEC (American Association of Colleges of Nursing, 2018b) in 2000 has not significantly improved students' preparation to deliver end of life care (Bailey & Hewison, 2014; Croxon et al., 2018; Garrino et al., 2017; Gillan et al., 2013; Glover et al., 2017; Lewis et al., 2016; Shaw, 2017). Simulation-based learning activities provide a means to prepare nursing students to provide end of life care in an environment that is safe for the students and for the simulated patients (Cant & Cooper, 2017b; Craig et al., 2017).

Preparation for end of life care should include SBL learning activities. Research clearly supports the use of high-fidelity SBL activities to prepare nursing students to care for the dying patient and grieving family (Gillan et al., 2016; Lippe & Becker, 2015; Randall et al., 2018). The results of this study contribute to the body of evidence surrounding low-fidelity SBL activities and the impact of low-fidelity SBL on junior-level baccalaureate nursing students' preparation to provide end of life care to dying patients and grieving families. There is clinical significance in the research findings which support the implementation of low-fidelity SBL in end of life nursing education.

Recommendations for future research. Existing literature reports the impact of high-fidelity SBL activities on nursing students' preparation for end of life care (Dame & Hoebeke, 2016; Lewis et al., 2016; Lippe & Becker, 2015). There is a paucity of evidence surrounding low-fidelity SBL and the impact of low-fidelity SBL on the preparation for end of life care. Future research into the impact of SBL activities on nursing students' attitudes toward end of life care should include low-fidelity SBL activities. Use of the NLN ACE.S Case Study (Cato, 2019) and FATCOD-B (Frommelt, 2003) will allow for comparison between the studies and will evaluate the learning outcomes of the study. Future research should also investigate the impact of low-fidelity SBL activities on nursing students' preparation to provide care in other areas of nursing.

The limitations of this research study, including the small sample size and alteration of the simulation materials, imply the study should be repeated. In future research, the researcher should consider a larger sample size, offering the study to students who have completed the Nursing and Older Adult Health Promotion course and stratifying the data based on the student's level in the nursing program. In the future research study, the researcher should be more present

for the distribution of simulation materials and the simulation activities to ensure the simulation is implemented in a manner congruent with the research study.

The researcher should assess the study participants near the end of their nursing program to assess the longevity of the FATCOD-B (Frommelt, 2003) and individual item score changes. This research will assess the sustainment of the changes over time.

Given the items in the FATCOD-B (Frommelt, 2003) tool that are not addressed in the case study (Cato, 2019), further adaptation of the case study is necessary in future research. The case study does not include the spiritual or emotional aspects of care delivery at the end of life (Hebert et al., 2011). Addition of these aspects of care will enhance the SBL experience, providing a more authentic representation of reality.

This quasi-experimental study's findings may be suggestive of the population of interest, but are not generalizable to the population (Gray et al., 2017). In addition, the convenience sample used for this research study limits the application of its findings to the general population (Etikan et al., 2016). Future research should involve randomized samples and an experimental approach. In this approach, the death and dying scenario would be offered to the experimental group as low-fidelity SBL activities and offered to the control group in an altered format. Randomization and experimental research offer high-level evidence to support or refute the use of low-fidelity SBL activities in end of life care education for nursing students (Johns Hopkins Hospital, 2019).

The FATCOD-B (Frommelt, 2003) tool provided a good assessment of the participants' attitudes toward end of life. However, the tool does not allow for the inclusion of the lived experience of the participants. Future research should consider the inclusion of qualitative

methodology to assess the participants' experience with the end of life SBL activities. This may be accomplished with the use of a qualitative or mixed methods study.

Chapter Summary

The results of this research study add to the body of knowledge surrounding SBL and end of life care in nursing education. The lack of statistically significant increase in FATCOD-B (Frommelt, 2003) scores between the pretest and posttest suggest that, in end of life care education for junior-level baccalaureate nursing students, low-fidelity SBL is not an effective means for producing a significant impact on FATCOD-B (Frommelt, 2003) scores. While the differences between the pretest and posttest scores did not reach significance, the differences between the pretest and posttest scores for five individual items in the FATCOD-B (Frommelt, 2003) tool did reach significance. The improvement in some scores, while not statistically significant, are clinically significant, indicating that learning did take place.

Today's healthcare environment is dynamic. In the clinical setting, new graduate nurses are expected to communicate with the interdisciplinary team and caregivers, provide better than average pain management to the satisfaction of their patients, provide supportive care without the presence of the families in the era of care with restrictions surrounding Covid-19, and combine all areas of care and communication to effectively care for dying patients and grieving families (Adesina et al., 2014; Hebert et al., 2011). The learning that occurred as a result of the students' participation in the low-fidelity SBL activities in this study will impact the participants' nursing practice as new graduates in the hospital setting where more than 85% of new graduate nurses practice (National Council of State Boards of Nursing, 2018) and where 57% of all deaths in the United States are reported to have occurred (Centers for Disease Control and Prevention, 2018).

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Appendix A

Qualtrics Survey

Dissertation Survey

Survey Flow

Block: Informed Consent Statement Block (1 Question)

Branch: New Branch
If
If Informed Consent Wilkes University Passan School of Nursing Phd in Nursing Program 84 W. South... No Is Selected

EndSurvey:

Branch: New Branch
If
If Informed Consent Wilkes University Passan School of Nursing Phd in Nursing Program 84 W. South... Yes Is Selected

Standard: Survey Instrument Block (13 Questions)

Page

Break

Start of Block: Informed Consent Statement Block

Q1.1 Informed Consent

Wilkes University

Passan School of Nursing

PhD in Nursing Program

84 W. South Street Wilkes-Barre, PA 18766

Letter of Informed Consent

Title of Study: Baccalaureate Nursing Students' Attitudes Toward End of Life Care: The Impact of Simulation-Based Learning

Principal Investigator: Kristin Sagedy MSN, RN, CEN

Phone: XXX-XXX-XXXX

Email: XXXXXXXXX.edu

Dear Student: You are invited to participate in a research study conducted by Kristin Sagedy as a graduate student to earn the Doctor of Philosophy in Nursing degree from Wilkes University. You should read the information below and ask questions about anything you do not understand before deciding to participate. If you agree to participate, you will be asked to sign this form, and you will be given a copy of the form.

Background and Purpose of the Study: This study is designed to examine the effect of simulation-based learning activities on junior-level, baccalaureate nursing students' attitudes

toward end of life care. All nurses may care for patients at the end of life. There is a correlation between the nurse's attitude toward end of life care and the quality of care that is provided by the nurse. Simulation-based learning activities have shown promise in preparing nursing students for end of life care. This study is designed to determine whether simulation-based learning activities improve junior-level, baccalaureate nursing students' attitudes toward end of life care.

Study Procedures and Time Involvement: If you agree to participate, you will be asked to complete the Frommelt's Attitude Toward Care of the Dying, Form B and a demographic questionnaire in the first week of the semester. A link to the online surveys will be sent to you to give you access to the surveys. It should take no more than 30 minutes to complete the form. Included in the form will be questions about basic demographic information and questions regarding your personal and professional experience and education with end of life care. All students will participate in simulation-based learning activities during week eight (8) of the semester. One week after your participation in simulation-based learning activities, you will be asked to complete Frommelt's Attitude Toward Care of the Dying, Form B a second time. A link to the online surveys will be sent to you to give you access to the surveys. It should take no more than 30 minutes to complete the form. This study will last for the first ten weeks of the Spring 2020 semester.

Benefits and Risks: There are no direct benefits to you for participating in this research. However, your participation will help us to determine if simulation-based learning activities have an impact on nursing students' attitudes toward end of life care. You may discover that completing the survey is upsetting. Some people have difficulty discussing or thinking about end of life care. Please speak with a researcher if you have difficulty with the subject matter of the survey. You will not receive any compensation, now or in the future, for your participation in this

study. The results of this research study may be used to determine the teaching method for end of life care in the baccalaureate nursing curriculum.

Confidentiality: In the unlikely event that it becomes necessary for the Institutional Review Board to review your research records, XXXXXXX University will protect the confidentiality of those records to the extent permitted by law. Your research records will not be released without your consent unless required by law or a court order. The data resulting from your participation may be made available to other researchers for future research purposes not detailed within this consent form. In these cases, all identifying information will be removed from the record. There will be nothing in the record that indicates your participation with this research study in any way. If the results of this research are presented at a scientific or nursing conference, all identifying information will be removed and your name will not be associated with the research in any way.

Participant's Rights: Your participation is voluntary and you have the right to withdraw your consent or discontinue participation at any time without penalty or loss of benefits to which you are entitled. You can choose not to participate. There are no alternatives to participating, except not participating. You will participate in simulation-based learning activities regardless of your decision to participate or not participate in this study. Your decision to participate, to not participate, or to withdraw your consent to participate will have no academic impact to you.

Contact Information: If you have any questions or concerns about this research study, contact the principal investigator, Kristin Sagedy at XXX-XXX-XXXX or XXXXXXX.edu or Dr. XXXXXXXXX at XXX-XXX-XXXX- or XXXXXXXXX.edu, who is the faculty member supervising this research. If you have questions, concerns, or feel your rights have been violated as a research participant, you may contact the chair of the Wilkes University Institutional Review

Board (IRB), Dr. XXXXXXXXXX, at (XXX) XXX-XXXX or chair of the XXXXXXX University Institutional Review Board, Dr. XXXXXXXX, at (XXX) XXX-XXXX. If you find the content or subject matter of the questionnaire or simulation activities to be upsetting, you may contact the Counseling Center at XXXXXX University for assistance. The Counseling Center, located on the Second Floor Campus Center, Rooms 202 & 204 may be reached at (XXX)XXX-XXXX or XXXXXXX.edu.

Statement of Consent: I have read the above information and agree to participate.

- ○ Yes (1)
- ○ No (2)

End of Block: Informed Consent Statement Block

Start of Block: Survey Instrument Block

Q2.1 Age

- ○ 20-25 years (1)
- ○ 26-30 years (2)
- ○ 31-35 years (3)
- ○ 36-40 years (4)
- ○ 41-45 years (5)
- ○ 46-50 years (6)

Q2.2 Gender

- ○ Male (1)
- ○ Female (2)

Q2.3 Religious beliefs

- I have religious beliefs. (1)
- I do not have religious beliefs. (2)

Q2.4 Previous education on death and dying

- Information dealing with death and dying was presented to me in a previous course. (1)
- No information dealing with death and dying was presented to me in any other course. (2)

Q2.5 Previous work experience in dealing with terminally ill persons

- I have cared for terminally ill persons and their family members. (1)
- I have no experience caring for terminally ill persons and their family members. (2)

Q2.6 Previous personal experience with loss

- ○ I have lost someone close to me. (1)
- ○ I have no previous experience with the loss of someone close to me. (2)

Page Break

Q2.7 In these items, the purpose is to learn how nonfamily caregivers feel about certain situations in which they are involved with patients. All statements concern the giving of care to the dying person and/or his/her family. Where there is reference to a dying patient, assume it to refer to a person who is considered to be terminally ill and to have six months or less to live.

Please mark the statement that corresponds to your own personal feelings about the attitude or situation presented.

Please respond to all 30 statements on the scale.

Q2.8	Strongly disagree (1)	Disagree (2)	Uncertain (3)	Agree (4)	Strongly agree (5)
Giving care to the dying person is a worthwhile experience. (1)	○	○	○	○	○
Death is not the worst thing that can happen to a person. (2)	○	○	○	○	○
I would be uncomfortable talking about impending death with the dying person. (3)	○	○	○	○	○
Caring for the patient's family should continue throughout the period of grief and bereavement. (4)	○	○	○	○	○
I would not want to care for a dying person. (5)	○	○	○	○	○

Page Break

Q2.9	Strongly disagree (1)	Disagree (2)	Uncertain (3)	Agree (4)	Strongly agree (5)
The nonfamily caregivers should not be the one to talk about death with the dying person. (1)	○	○	○	○	○
The length of time required giving care to a dying person would frustrate me. (2)	○	○	○	○	○
I would be upset when the dying person I was caring for gave up hope of getting better. (3)	○	○	○	○	○
It is difficult to form a close relationship with the dying person. (4)	○	○	○	○	○
There are times when the dying person welcomes death. (5)	○	○	○	○	○

Page Break

Q2.10	Strongly disagree (1)	Disagree (2)	Uncertain (3)	Agree (4)	Strongly agree (5)
When a patient asks, “Am I dying?” I think it is best to change the subject to something cheerful. (1)	○	○	○	○	○
The family should be involved in the physical care of the dying person. (2)	○	○	○	○	○
I would hope the person I’m caring for dies when I am not present. (3)	○	○	○	○	○
I am afraid to become friends with a dying person. (4)	○	○	○	○	○
I would feel like running away when the person actually died. (5)	○	○	○	○	○

Page Break

Q2.11	Strongly disagree (1)	Disagree (2)	Uncertain (3)	Agree (4)	Strongly agree (5)
Families need emotional support to accept the behavior changes of the dying person. (1)	○	○	○	○	○
As a patient nears death, the nonfamily caregiver should withdraw from his/her involvement with the patient. (2)	○	○	○	○	○
Families should be concerned about helping their dying member make the best of his/her remaining life. (3)	○	○	○	○	○
The dying person should not be allowed to make decisions about his/her physical care. (4)	○	○	○	○	○
Families should maintain as normal an environment as possible for their dying member. (5)	○	○	○	○	○

Page Break

Q2.12	Strongly disagree (1)	Disagree (2)	Uncertain (3)	Agree (4)	Strongly agree (5)
It is beneficial for the dying person to verbalize his/her feelings. (1)	○	○	○	○	○
Care should extend to the family of the dying person. (2)	○	○	○	○	○
Caregivers should permit dying persons to have flexible visiting schedules. (3)	○	○	○	○	○
The dying person and his/her family should be the in-charge decision-makers. (4)	○	○	○	○	○
Addiction to pain relieving medication should not be a concern when dealing with a dying person. (5)	○	○	○	○	○

Page Break

Q2.13	Strongly disagree (1)	Disagree (2)	Uncertain (3)	Agree (4)	Strongly agree (5)
I would be uncomfortable if I entered the room of a terminally ill person and found him/her crying. (1)	○	○	○	○	○
Dying persons should be given honest answers about their condition. (2)	○	○	○	○	○
Educating families about death and dying is not a nonfamily caregiver responsibility. (3)	○	○	○	○	○
Family members who stay close to a dying person often interfere with the professional's job with the patient. (4)	○	○	○	○	○
It is possible for nonfamily caregivers to help patients prepare for death. (5)	○	○	○	○	○

End of Block: Survey Instrument Block

Appendix B

Descriptive Statement Regarding the Research Study

"I am Professor Kristin Sagedy. I am an Instructor in the School of Nursing and Allied Health Professions and the Program Coordinator for the Fast Track Part-Time Evenings and Weekends Program. I am currently working toward a PhD in Nursing at Wilkes University and am here today to describe a research study I will conduct during the spring 2020 semester. The research conducted in this study will provide the data for my doctoral dissertation.

I am conducting a study of the impact of instructional strategies on the delivery of end of life education in baccalaureate nursing programs. Specifically, I am studying the impact of simulation-based learning activities on students' attitudes toward end of life care. Nursing and Older Adult Health Promotion includes a simulation-based learning experience directed at end of life care. Everyone in the course is required to participate in the simulation-based learning. Students who are enrolled in Nursing and Older Adult Health Promotion in the Spring 2020 semester are eligible to participate in the research study. If you choose to participate in my research study, you will complete an online consent form and a questionnaire containing six demographic questions and 30 items related to death and dying. It will take no more than 30 minutes to complete the questionnaire. You will be asked to complete the questionnaire twice during the semester, once now and again one week after the end of life simulation.

Please be assured, your participation in the research is not mandatory, nor will your participation or non-participation have any impact on your grade in this course. The questionnaire is not a test. There are no correct or incorrect answers in the questionnaire. You are being asked for your honest responses to the questions in the questionnaire. If you choose to consent to participate in the research study, you may withdraw your consent at any time and

without penalty. Your confidentiality will be protected to the extent permitted by law. Your email address will be coded with your completion of the surveys to allow for matching your pretest and posttest scores. The code will be contained in a password-protected file accessible only to the Qualtrics administrators and me. The administrators must request permission to access the codes.

There are minimal benefits to your participation in the research study. You will be asked about end of life care which may give you a first opportunity to think about your feelings regarding care provided at the end of life. Participating in this study may give you opportunity to explore your feelings about end of life care. Your participation in the research study carries minimal risk to you. You may discover that completing the survey is upsetting. Some people have difficulty discussing or thinking about end of life care. Please speak with a member of the Counseling Center if you have difficulty with the subject matter of the survey.

The research study is approved by the Institutional Review Boards at Wilkes University and at XXXXXXXX University. The faculty sponsor of the research is Dr. XXXXXXX, an adjunct Professor at the Passan School of Nursing, Wilkes University. If you have questions regarding the research and its oversight, please contact the Chair of the Institutional Review Board at Wilkes University, Dr. XXXXXXXX, at (XXX) XXX-XXXX, or the Chair of the Institutional Review Board at XXXXXXXXX University, Dr. XXXXXXX, at (XXX)-XXX-XXXX or XXXXXXX.edu.

If you have any questions regarding the research or your contribution to the science of nursing, I am happy to try to answer them. You are free to contact me at any time to ask questions about the research. I have a business card with my contact information for each of you. I am happy to share the results of the research with anyone who requests it at the completion of

the study. My dissertation will be submitted to ProQuest for publication and will be available on that platform. You have access to ProQuest through the XXXXXXXX University Library page.

Thank you for your time and attention today. Thank you for considering your participation in nursing research."

Appendix C

Permission to Use FATCOD-B in Research

Kay Frommelt <XXXXXXXXXXX.com> Sat, Dec 15, 2018, 8:19 PM

to me

Dear Kristin,

I am assuming that you have a copy of the FATCOD, Form B, and the scoring instructions. Therefore I am hereby giving you permission to use this tool in your research.

Best of luck with your studies.

Katherine H Murray Frommelt, PhD, RN, PDE, CGC, FT

Sent from my iPad

On Dec 15, 2018, at 3:16 PM, Sagedy, Kristin <XXXXXXX.edu> wrote:

Good afternoon Dr. Frommelt

Thank you for accepting my invitation to connect on Linked In and for providing me with an email address to communicate with you. I included Dr. XXXXXXX, the Chair of my Dissertation Committee, on this email.

I am a student in the Wilkes University PhD in Nursing Program and am preparing to conduct original research for my dissertation. My research entails exploring the effect of simulation-based learning activities on baccalaureate nursing students' attitudes toward end of life care.

I write to you today to request permission to use FATCOD-B in my research.

I appreciate your time and consideration and look forward to your response.

Thank you,
Kristin Sagedy

--

Kristin M. Sagedy MSN, RN, CEN
PhD Student
Wilkes University
Passan School of Nursing

Appendix D

Communication from the NLN Regarding the Case Study

Good morning

I am a PhD in Nursing student at Wilkes University. My research will be focused on the impact of low-fidelity simulation-based learning activities on baccalaureate nursing students' attitudes toward end of life care. I am considering adapting the Julia Morales and Lucy Grey simulation for use in my study.

Does my use of the simulation in my study require permission? If so, to whom should I direct my request.

Thank you,
Kristin Sagedy

--
Kristin M. Sagedy MSN, RN, CEN
PhD Student
Wilkes University
Passan School of Nursing

Andrea L. Browning Mon, Oct 21, 11:29 AM (7 days ago)

to me

Dear Kristin,

Thank you for your inquiry. The NLN considers the ACE.S content to be in the public domain and you do not need to obtain permission to use or adapt the cases for non-commercial use. You are welcome to use the Julia and Lucy case as needed. We would appreciate an acknowledgement to the NLN and a note if the content is modified/adapted.

Regards,
Andrea

Andrea Browning | Program Manager | National League for Nursing | www.nln.org | XXXXXXXX.org | Tel: XXX-XXX-XXXX | 2600 Virginia Avenue NW, Washington, DC 20037

Appendix E

Julia Morales and Lucy Grey Case Study

Adapted from the ACE.S Case Study on the NLN Website (Cato, 2019)

Presimulation assignment

- Students will complete the assigned reading on end of life issues in Touhy & Jett's *Ebersole and Hess' gerontological nursing & healthy aging* (2018).

Prebriefing – developed according to the INACSL Standards (2016a) and presented to the students during prebriefing

- Simulation should be approached as if it were a real patient care environment.
- Confidentiality regarding all aspects of the simulation-based learning (SBL) experience is an expectation and will be maintained for all aspects of the SBL experience, including Prebriefing and Debriefing.
- Respect for the students, the instructors, and for one another is an expectation for the duration of the SBL experience.
- The goal of the SBL is to discover areas in which there is room for improvement. We expect the students will make mistakes, but the purpose of the SBL experience is not to find mistakes. Rather, the goal is to find areas of opportunity and address those areas in real time to effect change.
- Though the scenario is fictitious, please make every effort to remain present in the scenario as if it were unfolding in front of you with a patient in your care.
- Expectations for participation
    - Active participation by the students
    - Response to questions posed by SBL leaders

- Julia's Monologue (Cato, 2019) will be read to the students

Julia Morales Monologue Script

My name is Julia Morales and I just turned 65-years-old. My life has not been a traditional one. I have always believed in following your dreams and being true to yourself, that's what my parents taught me. When I look back over my 65 years on this earth, I feel happy and proud with what I have accomplished, and I don't need any pity. Of course, I was shattered when I learned I had lung cancer four years ago. But I fought a good fight. I followed all the recommendations my doctor had for me. I did the radiation and all the chemotherapy. I even got complementary treatment from a naturopathic doctor. It's just that we all know it's not doing any good anymore. I'm ready to stop all the treatment and just let go. It hurts to breathe; it hurts to move. Everything hurts. But like I said, I don't need any pity.

I've had a really great life. Would have liked to stick around a little longer, but I know it's not to be. Still, I think my folks would be pretty proud to see what I've done. They got married young, right out of high school, and my Dad left Ohio to go off to war. He left Mom behind and fought in Korea for two years. My Dad was a strong person, he had terrible experiences in Korea and lived to tell about it. My mom worked hard as a teacher while he was gone, and when he got back, they had me, their only child. They did so much for me. Whatever I was interested in, they encouraged. We were a close family, took a lot of trips together, that's how I got the traveling bug.

They wanted me to go to college to be a nurse, or a teacher. I went because they saved money and encouraged me. But I never really wanted to be a nurse or a teacher. I got a degree in business instead and ran a small nursery. My folks were happy because I was happy. Then when I was about 50, I got tired of the business end of it, so I sold it to a young couple, and continued to

work for them. I loved the place and the job. Still do. Just haven't had the strength to work for the past six months.

I had a few relationships in college, got married for a short time right after I graduated. Had my son, Neil, he's 42 already. But that didn't last. We got divorced when Neil was little, I raised him on my own. I still talk to my ex on occasion. He remarried, though I never did. I had a few relationships, and always lots of friends. I met Lucy over 20 years ago when she moved in next door. We've been together ever since. We've traveled all over in the past 20 years. She would never have gone without me doing the planning, but she's enjoyed it as much as I have. We've been to Japan, Italy, Ireland, and all over the US. She has a bad knee and had surgery. She's a little unstable and I worry about that. We had to stop taking the long trips.

I've been pretty healthy too, until this cancer. I smoked for about 10 years, after college. Then I quit. We didn't really know then that it was dangerous. Nobody knew. I was surprised when I got lung cancer. At first, we thought I had pneumonia. But it never got better, and after the bronchoscopy they found lung cancer. I did the radiation treatment and the chemotherapy. For some of it I had to be in the hospital a few days, which just about killed me. Never did like hospitals, ever. But the treatment makes you so sick you want to die. And the bad thing is, it didn't cure the cancer. We tried a few different treatments but no more. Nothing good came out of it. I just felt weak and sick, and the cancer got worse.

I'm ready to stop all this. I just want to be here in this house that I love. I'm comfortable here. Lucy is here, and she understands. She doesn't like to see me so sick either. She does a good job taking care of me, and we're doing OK. She seems sad a lot of the time, and I worry about how she will carry on without me. My son Neil keeps researching, looking for clinical trials. He would like me to try more treatment, but even the doctor says there's not much more

they can do, besides keep me comfortable. I don't think Neil is ready for what's coming. I'm tired, and I'm just ready to let things happen naturally. Do you think that's giving up?

Simulation experience

- Simulation Scenario 1 (Cato, 2019)
    - Home health nurse visits the home. Julia's monologue serves as the basis for the scenario.
        - Julia asks about hospice services. Her son, Neil, is adamant she should try one more round of chemotherapy.
        - Lucy is supportive of Julia's decision and tries to comfort Neil.
- Questions and possible answers based on Simulation Scenario 1 (Cato, 2019)
    - What are Julia's strengths?
        - Julia is in a committed relationship and has support from her partner and other family members. She has no financial concerns. Julia has good memories of her childhood and her life in general (reminiscence). She seems to have a feeling of accomplishment with what she has done. She seems to have come to terms with her disease and prognosis. Julia believes she has done everything she could to fight her disease.
    - What are your concerns for this patient?
        - Pain (current and future), respiratory status, weakness, son Neil's acceptance of Julia's choices, Neil's lack of preparation for Julia's end of life, end-of-life planning and decision-making, legal issues related to Julia and Lucy's relationship, Lucy's health issues
    - What is the cause of your concern?

        - Julia has had side effects from her treatment. She says she is weak. Her prognosis is poor. Lucy may have physical issues that make it difficult to provide all of Julia's physical care. Conflict is possible between Lucy, Julia, and Julia's son. Julia's death will leave her partner Lucy alone.
    - What information do you need?
        - Assess Julia's functional status.
        - Explore Julia and Lucy's knowledge base regarding disease progression and management.
        - Obtain legal information related to advance directives, durable power of attorney, and other issues related to end-of-life care.
        - Find out if they're ready to discuss legal matters and end-of-life care.
        - Find out specific names of medications to check for possible side effects or interactions.
        - Find out what services are available to them.
        - Explore their understanding of the role of hospice and the services it provides?
    - What is Julia experiencing?
        - Julia is experiencing the physical discomfort related to her lung cancer: primarily pain and weakness. She has concerns for her partner and her son. She regrets her past smoking history. She seems to be willing to stop all treatment even though she knows her death will result.
- Simulation Scenario 2 (Cato, 2019)
    - Hospice visit to Julia's home.

        - Julia's pain is controlled with fentanyl patches, and she is being repositioned every 2 hours. Her skin is intact. Lucy believes Julia looks comfortable, her respirations have been around 8 and irregular, heart rate in the 80's. Julia has not been communicating verbally for the past few days, but Lucy has been at her bedside reading and talking to her most of the time. Julia is expected to die very soon, and Lucy is aware. Neil will arrive this afternoon after not visiting for the last three days.

- Questions and possible answers based on Simulation Scenario 2 (Cato, 2019)
    - What are your concerns for Julia?
        - Pain control, work of breathing, agitation
    - What support might Lucy need?
        - Be mindful of Lucy's health needs, offer emotional/spiritual support, necessities – food, drink, time/permission to use the restroom
    - What should the nurse prepare Lucy for?
        - Changes in Julia that signify imminent death, consider funeral planning
    - What signs or symptoms alert the nurse that death is imminent?
        - Change in level of consciousness
        - Slow, irregular respiratory rate with periods of apnea
        - Bradycardia and or an irregular cardiac rhythm
        - Hypotension
        - Cool, mottled extremities

Debriefing

- Remind the students of the assurance of confidentiality in debriefing

- Allow time for reflection and processing of the case study
- How will you manage your emotions and self-care after the death of a patient?
    - Healthy coping behaviors
- Identify any performance shortfalls in the students' participation in the case study

(INACSL, 2016b)

Appendix F

Institutional Review Board Approvals

Wilkes University IRB *Exempt Determination Notification*

To: Kristin Sagedy
From: Wilkes University IRB
Subject: IRB Exempt Determination - 144: Baccalaureate Nursing Students' Attitudes Toward End of Life Care: The Impact of Simulation-Based Learning
Date: 12/10/2019

The Wilkes University IRB has reviewed the application **144: "Baccalaureate Nursing Students' Attitudes Toward End of Life Care: The Impact of Simulation-Based Learning "** and determined that it is **Exempt** from IRB review according to 45 CFR 46.104(d)(1) on 12/10/2019.

Please note that any changes to your protocol may affect its exempt status. Contact the IRB at IRB@wilkes.edu to discuss any changes you may wish to make.

Thank you.

Wilkes University Institutional Review Board

Dr. XXXXXXXXX, IRB Chair
Assistant Professor of Education
(XXX) XXX-XXXX

To: Kristin M. Sagedy, MSN, RN, CEN

XXXXXXXXXX, Ph.D., RN, CCRC

From: XXXXXXXXXX, Ph.D.

Chair, Institutional Review Board

XXXXXXX University

Date: December 18, 2019

RE: 19-9_Baccalaureate Nursing Students' Attitudes Toward End of Life Care: The Impact of Simulation-Based Learning

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This letter serves as official notification from the XXXXXXXXXXX Institutional Review Board concerning your research application, #19-9, titled “Baccalaureate Nursing Students' Attitudes Toward End of Life Care: The Impact of Simulation-Based Learning." This study has been approved under EXPEDITED status.

You may begin data collection as proposed in your application. The authorization to recruit participants for this study is in effect for one year from the date contained in this letter and is eligible for extension. A request for extension must be received by the XXXXXXX University IRB chair in writing accompanied by a completed "Annual Status Report" form no later than 30 calendar days prior to the next IRB meeting date before the expiration of this authorization. The "Annual Status Report" form can be found on the University web site under About XXXXXXX > Research-IRB > Annual Status Report.

Should you fail to receive approval to continue the study prior to the expiration date, all research activity must cease until an approval to extend the study is obtained.

If, for any reason, the approved study methods change, regardless of how minor the changes, except to eliminate immediate apparent harm to study participants, you are required to notify the IRB chair in writing using the IRB Project Amendment Form, which can be found on the University web site under About XXXXXXX. > Research-IRB > IRB Project Amendment Form. Please be advised that XXXXXXX University and the IRB accept no responsibility for liabilities associated with this study. All responsibility rests with the principal investigator(s).

We wish you all the best for your successful completion of this research project. If you have any questions or concerns, please do not hesitate to contact me at XXXXXXX.edu or XXX-XXX-XXXX.

XXXXXXX, Ph.D.

Chair, Institutional Review Board

XXXXXXX

CC: Dr. XXXXXXX