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Faculty Competence in Facilitating Clinical Simulation

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Walden University
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Abstract

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MSN, Walden University, 2013

BSN, Howard University, 2007

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Clinical simulation is a teaching strategy to assist nursing students to connect classroom knowledge to the clinical setting. Teaching clinical simulation requires special training, but many nursing faculty who teach clinical simulation do not receive clinical simulation training. The purpose of this study was to determine if the effects of formal versus informal simulation training impacted nursing faculty's self-ratings of their competency in facilitating simulation and identify areas for needed educational support. A quantitative descriptive approach was used and grounded in the National League for Nursing and Jefferies (NLN/JSF) theoretical framework. This framework focuses on the relationship between teacher, student, and educational experience. Data on 102 faculty members from prelicensure nursing programs in Maryland completed the Debriefing Assessment for Simulation in Healthcare (DASH-SV) survey. Data analysis using the independent-samples *t*-test revealed no significant difference in nursing faculty's perceptions regarding how they facilitate clinical simulation between nursing faculty who are formally trained to teach clinical simulation and those who are not. However, there was a significant difference in one element of the DASH-IV which measured the skill of helping students achieve or sustain good performance. The data will contribute to the nursing simulation literature by providing a better understanding of what faculty members perceive as their strengths and weaknesses in teaching clinical simulation. The findings of this study can influence positive social change in nursing by providing nursing administrators with information about faculty perceptions of clinical simulation and influence decisions on training of nursing faculty in using clinical simulation.

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Dedication

This dissertation is dedicated to all those who helped and supported me throughout my Ph.D. journey, especially my husband Francis Miezan Seme, who supported me all around and took over my role at home, and to my oldest daughter Samantha, my son Christopher, and my youngest Rosemarie. I also want to dedicate this to the memory of my father, George A. Kronziah, who taught me the importance of education and how to act as a lady, and to my mother, Mary A. Kronziah, who did not receive any formal education but valued education highly—she was homeschooled by her father and her children. And to the entire Richter Family in Accra, Ghana, who facilitated my migration to the United States. A special thanks to all my loving family and colleagues at the Montgomery College Nursing Program who supported me during my Ph.D. journey.

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Chapter 1: Introduction to the Study

Introduction

The use of simulation has been in existence for over a decade. Simulation has been used for training in the aviation, the military, and healthcare industries. Simulation, according to the Society for Simulation in Healthcare (SSH) (2015), is the imitation or representation of one act or system by another. Healthcare simulation has four primary purposes: To educate, assess, research, and use the health system to facilitate patient safety (SSH, 2015). Clinical simulation can provide healthcare educators the opportunity to provide a student-centered experiential environment, engaging and preparing the student for real-world practice (Jeffries, 2014).

In order to use this new teaching strategy with successful outcomes, faculty members have to learn and become competent in facilitating clinical simulation. Between part time and full-time faculty members; full time faculty receive formal training before facilitating clinical simulations. In regard to formal training for part time and adjunct faculty members, they have difficulties in attending formal training due to scheduling conflict with their full-time jobs. Additionally, according to the American Association of Colleges of Nursing (AACN, 2010), aging nursing faculty are reluctant to be immersed in the technology of clinical simulation. The National Council of State Boards of Nursing (NCSBN) highlighted the importance of faculty competence to provide high quality simulation in undergraduate nursing programs so that students will derive benefits from these simulated clinical experiences (Alexander et al., 2014). Additionally, Jeffries (2007) suggested that faculty should be competent in integrating simulation into the

curriculum, adhering to best practices, using technology with managing complex simulators, knowing how to provide a safe environment, and modeling professional integrity, as well as providing cues, supporting, and debriefing, which are crucial skills faculty need to possess. Faculty development ensures that staff, instructors, and anyone using clinical simulation acquire the training and knowledge to develop, implement, and evaluate clinical simulation scenarios (Jeffries & Battin, 2012).

This study was conducted to determine if the effects of formal versus informal simulation training impact nursing faculty's self-ratings of their competency in facilitating simulation and identify areas for needed educational support. The results of this study will be disseminated through two major simulation organizations, the SSH and the International Nursing Association of Clinical Simulation and Learning (INACSL). On a local level, information would be passed on to the Maryland Community College Simulation Users Network (MCCSUN) and the Simulation Users Network (SUN)Currently, nursing programs are challenged with limited clinical placement, and using clinical simulation would provide a safe alternative, provided it is facilitated following best practices. The aforementioned reasons would create positive social change in nursing education, patient outcomes, and health care systems in the United States and the world.

Background

A main objective of a nurse's professional education is obtaining clinical knowledge and skills in a clinical setting. Clinical experiences are obtained as nursing students provide care for patients at clinical sites, such as hospitals and clinics. However, securing these live clinical experiences has become very difficult for nursing programs to secure due to increased competition for clinical sites in many nursing schools (Richardson, Goldsamt, Simmons, Gilmartin, & Jeffries, 2014). Therefore, clinical simulation has been incorporated into the nursing curriculum as an alternative to live clinical experience. However, nursing education programs are cautioned to start gradually and progressively increase the quantity of clinical simulation as they gain proficiency in these strategies (Alexander et al., 2015).

Clinical simulation is an effort to mimic or approximate all of the essential characteristics of clinical situations so that the circumstances in real clinical practice are more readily understood and managed (Jeffries, 2007). Simulation is a learning pedagogy that can be integrated for the prelicensure registered nurse (RN) and licensed practical nurse core curriculum. Clinical simulation also offers students relevant clinical learning experiences in high volume, high risk, and low incidence situations seldom seen during community clinical placements (Jaeger, 2012). The use of clinical simulation in nursing education enhances knowledge and skills for nursing students to close the gap that currently exists between teaching and practice (Skrable & Fitzsimons, 2014). Using clinical simulation will enable nursing education to offer unique and critical experiences that students on occasion cannot attain in a clinical unit with the necessary competence.

Research on the topic of clinical simulation has focused on how simulation is being used as a clinical substitute and its impact on students' clinical reasoning, content comprehension, and integration of clinical simulation into the curriculum (Breymier et al., 2015; Foronda et al., 2013). The available literature supports the use of simulation as a substitute for live clinical experiences, as well as the impact of simulation on students' clinical reasoning, content comprehension, and integration of simulation into the curriculum. Making certain that faculty understand and are comfortable in implementing clinical simulation across the curriculum is important (Jeffries, Thomas Dreifuerst, Kardong-Edgren, & Hayden, 2015). Faculty development in evaluating clinical simulation is important to facilitate the student's learning by providing cues, support, and debriefing (Jeffries, 2007). There is a need for a study that focuses on faculty-perceived competence, its effects on facilitating simulation, and its effect on student outcomes

Problem Statement

A main objective of a nurse's professional education is obtaining clinical knowledge and skills in a clinical setting. Clinical experiences in sites such as hospitals and clinics are limited due to increased competition for clinical site spaces in many other nursing schools (Richardson et al., 2014). Clinical simulation has been incorporated into the nursing curriculum as an alternative to live clinical experience. It mimics or approximates all of the essential characteristics of clinical situations so that the circumstances in real clinical practice are more readily understood and managed (Jeffries, 2007). The primary role of skills lab faculty is to teach students skills and also facilitate clinical simulation by using a manikin. Nursing students are not required to make

decisions that affect patient care because they are precepted or supervised by a clinical instructor. Simulation use in nursing education affords the nursing student the opportunity to act and reason like a nurse preparing for clinical practice and to gain more experience in high volume, high risk, and low incidence situations seldom seen during community clinical placements (Jaeger, 2012).

In order for nursing students to benefit from clinical simulation, nursing faculty should be competent at facilitating clinical simulation. The literatures revealed that there have been a few studies on the outcome of the use of clinical simulation (Foronda, Liu, & Bauman, 2013; Jeffries & Battin, 2012; National League of Nursing [NLN], 2014). Alexander et al. (2015) provided significant data to support the use of simulation, and, its benefits to nursing students, using trained faculty is the key success and according to the NCSBN study, having faculty trained in facilitating clinical simulation promotes consistency for all students.

In order for clinical simulation to be an effective teaching strategy, nursing faculty need to be competent in facilitating clinical simulation. Faculty competence is required by the NCSBN (Alexander et al., 2014) to provide high quality simulation in the undergraduate nursing program so that students will derive benefits from these simulated clinical experiences. Jeffries (2007) stressed that faculty should be competent in integrating simulation into the curriculum, adhering to best practices, using technology and managing complex simulators, knowing how to provide a safe environment, and modeling professional integrity. Providing cues, support, and debriefing are crucial skills faculty need to possess to provide a solid experience.

Lack of faculty preparation regarding how to implement simulation into a curriculum may be a substantial obstacle to student success (Alexander et al., 2015). Additionally, faculty may not be aware of their own lack of competence and what training they need in order to be effective in teaching clinical simulation. The lack of faculty competence can impair their ability to consistently and properly evaluate student learning in clinical simulation (Hayden et al., 2014).

There is a lack of studies focused on the correlation between faculty competence in conducting clinical simulation and student outcomes such as the opportunity to solve problems, acquire knowledge, and attain appropriate skill levels. Students' experience varies in quality depending on the nursing faculty's competence in teaching clinical simulation (Parker, McNeill, & Howard, 2015).

Clinical simulation at Montgomery College has been used for many years. However, there are variations in faculty competency regarding facilitating clinical simulation. A recent survey conducted at the college at the end of the semester revealed that students reported inconsistency in facilitating clinical simulation by faculty in the nursing program, which could be attributed to the lack of faculty competence in facilitating simulation, thereby preventing the students from successfully achieving the intended outcomes. This problem is not isolated to only Montgomery College. It is a statewide problem as evidenced by discussion at the MCCSUN.

Purpose of the Study

The purpose of this study was to determine how formal versus informal simulation training relates to nursing faculty's self-rating of their competency in

facilitating simulation and identify areas for needed educational support. A simulation competency survey was distributed to faculty facilitating clinical simulation in nursing programs located in Maryland. The research approach was quantitative to gather and analyze regarding faculty self-perceived using the DASH-SV to assess competence. The independent variable was whether the nursing faculty had formal simulation training or not, and faculty perception of competence was the dependent variable. The covariates in the study included the age of the faculty and the number of years of experience teaching in nursing education and using clinical simulation.

Research Question

RQ1: What is the relationship regarding the perception of competency in nursing faculty who facilitate clinical simulation between faculty who have been formally trained in clinical simulation and those who have not?

H_0: There is no relationship regarding the faculty perception of competency in nursing faculty who facilitate clinical simulation between those who have been formally trained and those who have not.

H_1: There is a relationship regarding the perception of competency in nursing faculty who facilitate clinical simulation between those who have been formally trained and those who have not.

Theoretical Framework

The research was grounded in the NLN and Jeffries simulation theory (NLN/JST). The NLN/JST is a simulation theory that consists of three major components: Outcomes, contextual elements, and design elements (Jeffries & Rogers, 2007). The outcomes of

nursing simulation include knowledge acquisition, skill performance, learner satisfaction, critical thinking, and self-confidence. Contextual elements are the students and teachers, their backgrounds and experiences, as well as educational practices embedded in a particular setting. This study addressed the contextual factors of faculty competence related to best practices in teaching clinical simulation. Within the construct comprised of outcomes including distinct and assessable knowledge, skills, and attitudes that are essential for patient safety and quality patient care (Meakim et al., 2013).

Nature of the Study

This quantitative correlational descriptive study used a self-assessment of clinical competency in simulation. The Debriefing Assessment for Simulation in Healthcare (DASH)-SV short form was the self-assessment tool that would be used to survey faculty. Faculty rated their experiences and feelings about their level of competence in conducting clinical simulation. Completing the self-assessment tool was congruent with the concept of comprehensive curriculum evaluation where the effectiveness of specific teaching processes is evaluated through faculty self-reflection, critical observation, and their students' outcomes. The descriptive quantitative study adds to the use of program evaluation by nursing schools to regularly assess overall effectiveness of their teaching and learning practices, a standard of CCNE accreditation which requires faculty to be scholastically and experientially equipped to teach their section (CCNE, 2013). The independent variable was the formal simulation training. Faculty's perception of competence was the dependent variable. The covariate in the study included the age of

the faculty and how many years of experience teaching in nursing education and using clinical simulation.

One hundred and two faculty members were the planned sample for the study. The sample was comprised of faculty from Maryland, including all 26 pre-licensure nursing programs in the state's universities and community colleges. The DASH-SV form was used to gather data from faculty who teach clinical simulation. The DASH-SV form asks instructors to rate six elements and behaviors of simulation which include: Setting the stage for learners, behaviors to be exhibited by the facilitator, including introducing self and inviting others to share information, clarifying the simulation objectives, establishing a fiction contract, explaining logistics, and setting the stage for respect for all participants (Simon, Reamer, & Rudolph, 2012). Engaging learners in context behaviors includes stating the topic area to be covered and the limitations of the simulators and environment (Simon et al., 2012). Setting the stage for an organized debriefing featuring an in-depth discussion of personal reflections, facilitators will address the feelings of the participant and provide information that starts the conversation by asking inviting questions (Simon et al., 2012). Helping the students identify what could have been improved, the facilitator asks a question based on what actions were observed (Simon et al., 2012). Improving poor skills or the thinking process is accomplished by the facilitators expressing positive behaviors and ending with what must be improved or done differently and identifying the gap that exists between what students have been taught, expected actions and the actual actions students portray during a scenario (Simon et al., 2012). Facilitators can encourage participants to maintain

excellent performance by expressing behaviors regarding their approach to during the scenario the next time and ensuring that objectives of the scenario have been met (Simon et al., 2012). The DASH-SV evaluates strategies and techniques faculty use to conduct debriefings when teaching clinical simulation from the beginning of a clinical simulation experience to the end (Simon et al., 2012). Computer software SPSS was used to analyze data.

Definitions

Clinical Simulation: Clinical simulation is defined as an effort to mimic various or approximately all of the essential characteristics of clinical situations so that the circumstances in real clinical practice are more readily understood and managed (Jeffries, 2007).

Competence: Standardized requirement for an individual to properly perform a specific role. It encompasses a combination of discrete and measurable knowledge, skills, and attitudes that are essential for patient safety and quality patient care (Meakim et al., 2013).

Debriefing: A formal stage in the simulation learning process where the educator or the instructor and learners reexamine the simulation experience and foster the development of clinical judgement and critical thinking skills designed to guide learners through a reflective process about learning (SSH, 2014).

Faculty: The members of administrative staff who are teaching and those members with academic rank in their respective colleges.

Faculty Development: Systemic process of preparing educators to provide educational content of experience and improve their skills (Palaganas, Maxworthy, Epps, & Manconi, 2015).

Facilitator: An educator who helps learners accomplish goals and keeps systems running smoothly during the simulation process (Hanley & Belfus, 2002, Jeffries, 2007).

Formal training: Training and knowledge acquired from attending a workshop for scenario writing, implementing, and evaluating scenarios (Jeffries & Battin, 2012).

High-Fidelity Simulation (HFS): Also called the human patient simulation, HFS is a concentrated teaching strategy that integrates realistic interactive scenarios with lifelike manikins and follows the simulation activity immediately with debriefing (Shinnick, Woo, & Mentes, 2011).

Informal Training: Learning from trial and error, or watching someone perform the skill (Palaganas et al., 2015),

Perceived Competence: The degree to which faculty believe they can do what is expected of them in regards to their capability of facilitating simulation (Thomas & Mackey, 2012).

Safe Environment: An environment that empowers students to learn, practice, and repeat skills as often as necessary to correct mistakes without penalty (Palaganas et al., 2015).

Simulation: A technique used to replicate a real event with the intention of practicing, learning, and gaining understanding of a system (SSH, 2014).

Assumptions

An assumption of this study was that clinical simulation is valued as a clinical learning tool as it is integrated into nursing education. Another assumption was that all faculty members participating in the study will answers questions honestly.

Scope and Delimitations

The scope of the study included nursing faculty who facilitate clinical simulation for prelicensure nursing programs in Maryland. The study was conducted during a period of one month. The targeted population of the study was 400 nursing faculty who teach clinical simulation in the state of Maryland. The variables in the study included the perception of competency of the faculty in their ability to teach clinical simulation and the training received, which is categorized as being formal or informal. The survey was sent to faculty via email.

Significance

This study focused on determining how nursing faculty rate their competence in facilitating clinical simulation, as studies show that student outcomes in clinical simulation are linked to faculty competence in clinical simulation. Parker et al. (2015) concluded that faculty and staff who facilitate simulation need to have a dialogue about their own knowledge and attitudes regarding the simulation environment so that they can improve their facilitation skills. This research will contribute data to the nursing simulation literature by better understanding what faculty members perceive as their strengths and weaknesses in teaching clinical simulation. These data may inform nursing leadership regarding the training and development needs of faculty. The results of this

study could be used as evidence that sustainable training programs for faculty are needed. Information will be shared with the SSH and the INACSL, who, in turn, will disseminate it to the MCCSUN and SUN. Data from the study could contribute to positive social change by empowering and educating faculty to be effective when facilitating clinical simulation that would provide a higher quality of clinical simulation in undergraduate nursing programs.

Summary

Different contributing factors, such as clinical site shortage and the growing emphasis on providing a student-centered approach to teaching, has led nursing faculty to use clinical simulation in nursing education. The increase in the use of clinical simulation has led to a closer look at what the effects of faculty-perceived competence have on the outcome of that facilitation and whether they need to receive some form of formal training. The outcome of the role of the facilitator affects the outcome of the simulation. A closer look of the educator is necessary so that there could be a provision for necessary training.

In the next chapter, available data on simulation research is explored. A current review of the literature on simulations in nursing education and faculty-perceived competence and student-perceived competence supports this research study.

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Chapter 2: Literature Review

Introduction

Nurse educators are encouraged to use clinical simulation in nursing education due to a lack of clinical placements. Clinical simulation has been incorporated into the nursing curriculum as an alternative to live clinical experience. Faculty members assume the role of facilitator to provide the students the necessary tools to learn. Unfortunately, there is a gap between faculty competence in conducting clinical simulation and outcomes, including the opportunity to solve problems, acquire knowledge, and attain appropriate skill levels (Alexander et al., 2015; Foronda et al., 2013; Jeffries & Battin, 2012; NLN, 2014). In addition, there are still variations in how faculty approach facilitating clinical simulation. Their approach depends on whether the faculty received formal education in facilitating clinical simulation. Faculty members without formal training may not be aware of their lack of competence and what training they need to be effective in facilitating clinical simulation. The purpose of this study was to determine the effect of formal versus informal simulation training on nursing faculty's self-rating of their competency in facilitating simulation and identify areas for needed educational support. This chapter focuses on the review of literature search that is relevant regarding faculty facilitating clinical simulation, studies that utilize the NLN/JF theory, and the key variables for the study.

Literature Review Strategy

A literature review was conducted on current research related to simulation use in nursing education, faculty development, and faculty best practices. Due to the lack of

current literature on those subjects, a few older articles from 2009 and 2010 were used. Search engines included Human Systematic Review, CINAHL Database, PsycInfo, ERIC Database, Cochrane Library, Research Methodology, and PubMed. The following keywords were used to search: *Faculty*, *nursing professional*, *competence*, *simulation*, *clinical simulation*, *faculty development*, and *learning methods*. The search resulted in the following themes: Education, nursing, associate program implementation simulations, and utilization of teaching methods. Literature search results were restricted to research studies conducted in the past 5 years. The following is a brief description of the search results.

Theoretical Foundation

The research was grounded in the NLN/JST. This theory has five constructs: Student, teacher, educational practices, simulation design characteristics, and outcomes (Jeffries & Rogers, 2007). The NLN/JST described a direct relationship between the faculty (facilitator) and the learner. The interaction between the faculty and the learner is intertwined because of the trust that is established between them. The faculty and learner's relationship is enhanced by the quality of the simulation, through buying-in to the authenticity of the experience and suspending disbelief (Jeffries, Rodgers, & Adamson, 2015). The faculty has some attributes which include but are not limited to skills, educational techniques, and preparation (Parker & Myrick, 2012; Parsh, 2010). The related components are: the students and teachers, their backgrounds and experiences, and educational practices rooted in a particular setting. The outcomes of nursing simulation include knowledge acquisition, skill performance, learner satisfaction,

critical thinking, and self-confidence (Meakin et al., 2013). The NLN/JST was an outcome of the first large multi-site nursing study supported by the NLN and Laerdal Medical (Jeffries, 2007). Many subsequent studies have used one, two, or all five constructs of the original theory to guide the expanding body of research. The outcomes of nursing simulation include knowledge acquisition, skill performance, learner satisfaction, critical thinking, and self-confidence (Meakim et al., 2013). This study addressed the contextual factors of faculty competence related to best practices in teaching clinical simulation. It comprised a blend, including clear and assessable knowledge, skills, and attitudes that are essential for patient safety and quality patient care (Meakim et al., 2013).

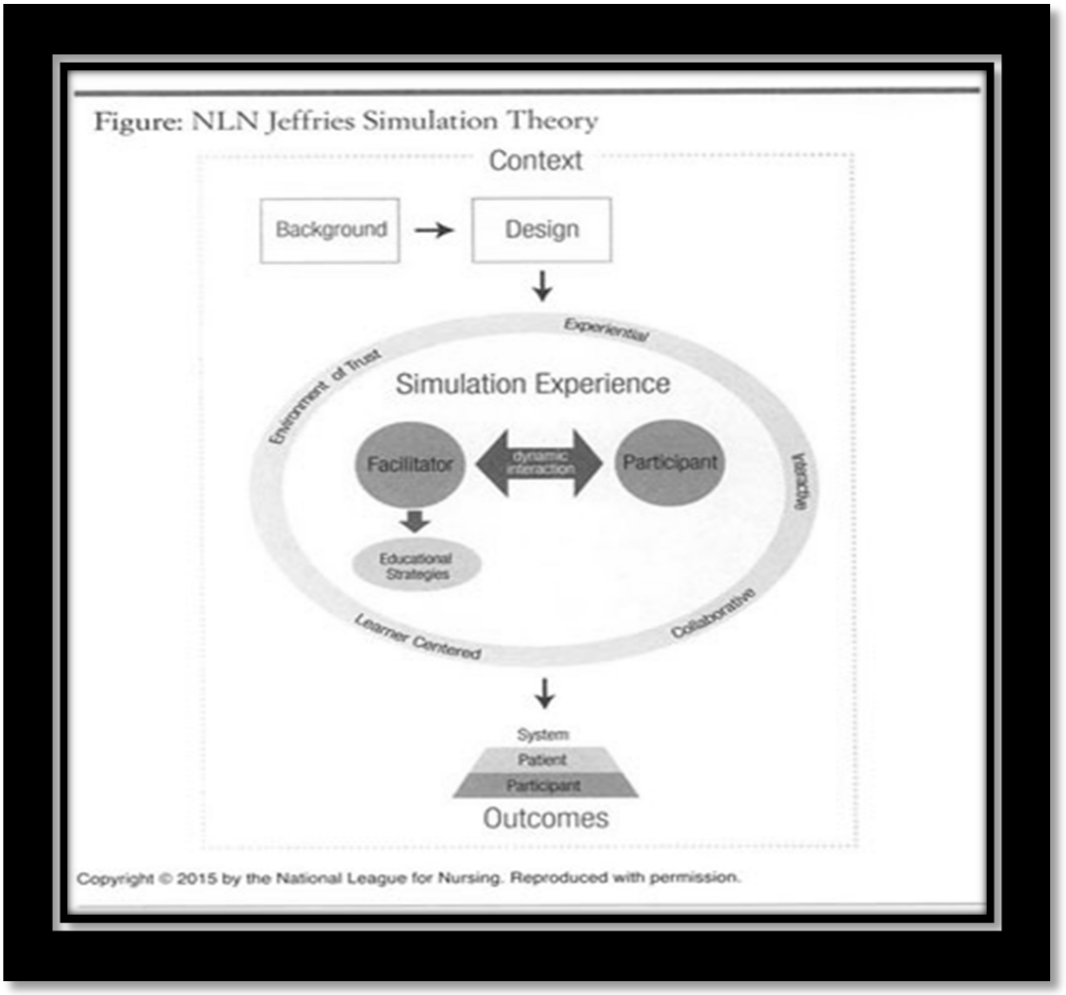

*Figure 1. NLN/JST theory, (Jeffries, 2016) (*see Appendix A*).*

LaFond and Van (2012) conducted a critical analysis of the NLN/JST framework and concluded that NLN/JST provides a guide to the construction and implementation of simulation experiences resulting in positive student outcomes. Both the learners and instructors expressed contentment using simulation. In the analysis, they realized that there is not enough literature to support that knowledge is transferred from clinical simulation to clinical practice. The NLN/JST drove faculty to create and implement the

clinical simulation experiences which brought about positive student outcomes. There is still the need for further, thorough research.

The NLN/JST was chosen because it provides best practices guidelines for simulation-based instruction and improved outcomes (Cook et al., 2013). Furthermore, the NLN/JST offers a strong foundation for research and education and enables future discovery of best practices in clinical simulation. The framework developed into theory through collaboration with the NLN as a systematic review of the literature indicated support of the components, namely the facilitator and participant of the NLN/JST, and suggested modifications or additions to the existing variables in the framework (Jeffries, 2016). The framework has been applicable for use in interdisciplinary simulations and useful for nurse educator preparation (Reese, Jeffries, & Engum, 2010; Young & Shellenbarger, 2012). There is still the need for further investigation into the interactions between the concepts and the variables in the framework.

Literature Review Related to Key Variables

History of Clinical Simulation

Simulation is not a new technology. For many years, the military and aviation industry have used simulation for training and evaluating their employees. The aviation industry has used high tech real life simulators to train their pilots. The evolution of simulation started in 1917 in aviation training, from sitting and gliding on a task trainer, until 1930, with a simulated airplane built with all the controls for students' training purposes. Although simulation was in use for aviation training in different ways, it was still undergoing research to show its benefits and for the buy-in of the aviation

population. The aviators understood and appreciated the importance of acting out scenarios before implementing them in live situations. The buy-in for simulated flight as a useful training aid had to undergo further development in the science of flying in the 1930s. Due to the better outcomes gained from the aviation simulation experience in the 1930s, the US Air Force military hospital staff developed the use of real actors and specialized mannequins to implement complex scenarios to facilitate military nurses' giving safe and competent care (Eaves & Flagg, 2001).

Clinical Simulation in Nursing Education

Simulation has become a significant part of the education of students and healthcare workers, especially in medicine and nursing. Simulation has been used in a variety of ways in the practice setting and in the classroom setting (Aebersold & Tschannen, 2013). The use of simulation in nursing education began in the 1950s in the skills Laboratory (LAB) for students to learn skills with mannequins. They started using task trainers, mannequins, and standardized patients to practice skills such as communication, health teaching, and assessment (Jeffries, 2012).

The manikin concept advanced from low and medium fidelity to the use of high fidelity simulators (HFS) within the nursing field. Simulation is classified as: low fidelity, medium fidelity, and high fidelity. The low fidelity mannequins are used for students to practice psychomotor skills. The medium fidelity manikins provide somewhat realistic computer-generated programs that allow students to assess and implement treatments. The HFS is a sophisticated manikin that mimics real-life scenarios using

advanced computer programs which allow students to monitor change in conditions (Jeffries, 2007).

Many studies have been conducted on the effectiveness of clinical simulation as a substitute for live clinical experiences. The National Council of State Boards of Nursing (NCSBN) completed a key longitudinal study across the United States to determine how many simulations should be accepted in nursing education. The study was conducted in three phases (Alexander et al., 2015). There were ten pre-licensure nursing programs chosen to participate. In Phase I, a survey was used to assess the use of simulation, equipment types, and faculty development. The study also evaluated the use of simulation to replace live clinical experience in a healthcare facility. Phase II was comprised of performing a randomized, controlled, multi-site, longitudinal study of three levels of simulation usage in place of clinical hours. Instructors were randomly assigned to student groups which were allocated to 10, 25, or 50 percent of simulation usage, and one group of students who went to the clinical site. In Phase III, the cohorts were followed in the clinical environment for the first six months after graduation. The emphasis for the follow-up of graduates into practice was to determine retention of clinical knowledge and the clinical judgment of the new nurses after graduation (Hayden et al., 2014). The results of the NCSBN study produced simulation guidelines which showed that simulation-based education could be substituted for 50 percent of live clinical experience but must be conducted by qualified faculty using established policies and procedures (Hayden et al., 2014).

Other studies revealed that the use of simulation in nursing education enhanced the acquisition of knowledge and skills for nursing students to close the gap that currently exists between education and practice (Skrable & Fitzsimons, 2014). Using simulation in nursing education allows faculty to offer the unique and critical experiences that students, on occasion, could not obtain on a clinical unit to achieve the necessary competence. Richardson, Goldsamt, Simmons, Gilmartin, and Jeffries (2014) conducted a qualitative study that compared the different amount of simulation in undergraduate clinical courses. Results indicated that replacing simulation for traditional clinical hours could be a justifiable and pedagogically sound choice to increase faculty capacity in teaching.

The existing state of the science reveals that simulation typically leads to enhanced knowledge and skills. Learners and instructors articulate elevated levels of satisfaction using the method. Though most studies emphasize short-term benefits accomplished in the simulation situation, an insignificant amount of research exists to support the transfer of simulation learning to clinical practice (Nestel, Groom; Eikeland-Husebø, and O'Donnell, 2011). Simulation use has been suggested as a teaching strategy which is more effective that the traditional lecture. Kirkman (2013) conducted a series of studies to explore the possibility of undergraduate students' transferring skills and knowledge learned from lecture and HFS to the health care clinical setting. Nurse raters were trained to supervise and observe students in the clinical setting as a follow up for the care of patients that were mimicked during the clinical simulations. Findings revealed that there was a greater transfer of knowledge and skills in the hospital clinical setting after the HFS and indicated that HFS is a very effective teaching tool (Kirkman, 2013).

Formal versus Informal Simulation Training

Formal simulation training is training, and knowledge acquired from attending workshops for scenario writing, implementing, and evaluating scenarios (Jeffries & Battin, 2012). Challenges to the use of clinical simulation include training faculty members in the uses of simulation. According to Jones, Fahrenwald, and Ficek (2013), there was very little research on faculty training programs that could assist them to facilitate simulation using high fidelity patient simulator. The Summer Simulation Training Fellowship (SSTF) was a program piloted in training faculty that facilitated clinical simulation using pre-and post-survey testing using a single group design (Jones, Fahrenwald & Ficek, 2013). The survey examined the efficacy of the SSTF program; the results indicated that two-thirds of the faculty had previously received hands on training with simulation and more than half had attended educational programs on simulation. The limitation to the study was that further exploration was needed on the reliability and validity of the survey and the subjects studied were inclined to use simulation (Jones et al., 2013).

The Standards of Best Practice (INACSL) suggested that faculty who facilitated simulation demonstrate a commitment to quality and implementation of rigorous evidence-based practices in healthcare education to improve patient care (INACSL Standards Committee, 2016). The facilitator should be familiar with the clinical scenarios and the technology of the high-fidelity simulator (Smitten, 2013). Moreover, the facilitator needs a strong foundation and knowledge in order to provide a meaningful simulation experience. Although guidelines have been established to guide faculty to

facilitate simulation, about 80 percent of nursing faculty receive their training while on the job (Breymier et al., 2015). It is, therefore, imperative for faculty to be trained and knowledgeable about simulation before they participate in developing, implementing, and evaluating simulation scenarios (Jeffries & Battin, 2012). An integrative review on simulation outcomes revealed that educators are expected to explore their scenarios to make sure that the simulation produces the intended outcomes (Foronda, Liu, & Bauman, 2013). Jeffries (2007) proposed that more research into simulation in nursing education is needed. Faculty members who have an awareness of their own perception of competence can guide the training program for faculty to successfully facilitate simulation for better student outcomes (Hallmark, 2015).

One of the stakeholders of clinical simulation is the International Nursing Association for Clinical Simulation and Learning (INACSL). The INACSL Standards of Best Practice (2016) suggested that nursing faculty adhere to a set standards of best simulation practices that are evidence-based as a college implements clinical simulation as a teaching strategy (INACSL Standards Committee, 2016). The standards discussed the nurse educator assuming the role of the facilitator. According to Meakim, et al. (2013), facilitation is a method and strategy that occurs throughout (before, during, and after) simulation-based education (SBE) in which a person helps to bring about an outcome by providing guidance. A facilitator is a trained individual who provides guidance, support, and structure at some or all stages of simulation-based learning, including prebriefing, simulation, and/or debriefing (Meakim, et al., 2013).

Conducting simulation-based experience requires a facilitator who has the education, skill, and ability to guide and support, while seeking out approaches to assist student participants in accomplishing projected outcomes. The faculty is expected to maintain the necessary skills to remain efficient and to engage in continuing education in and assessment of facilitation skills (INACSL Standards Committee, 2016). During clinical simulation, the facilitator role of the faculty is very important because the faculty provides the students with the instructions and direction to enhance learn. Therefore, the attitude of the faculty can impede the students' learning.

In addition, successful facilitation of clinical simulation depends on a proper debriefing. Debriefing is a formal stage in the simulation learning process whereby the educator or the instructor and learners reexamine the simulation experience and foster the development of clinical judgment and critical thinking skills designed to guide learners through a reflective process about learning (SSH Accreditation, 2014). Debriefing, which happens immediately after the scenario, is a process that assists with transfer of knowledge (Shinnick et al., 2011). Debriefing enhances the opportunity for students to reflect and relate information acquired during the clinical simulation learning event to clinical practice (National League of Nursing, 2011). Demonstrating debriefing knowledge is a skill that a facilitator must have that is important for clinical simulation in nursing education (Jeffries, 2007).

With the increased focus on simulation in nursing programs, many administrators and nurse educators are seeking education and direction for how to provide successful simulation experiences for students (Hallmark, 2015). Faculty development for

simulation users is an essential component of this education. Faculty development in simulation thus becomes a critical element of effective clinical simulation activities. The study found, in fact, that when organized, a sufficiently prepared faculty with the proper resources, commitment, anticipation, and vision is integrated into the prelicensure nursing program, outstanding student outcomes are accomplished (Hayden et al., 2014).

Faculty Competence

Faculty competence is defined as a standardized requirement for an individual to properly perform a specific role. It encompasses a combination of discrete and measureable knowledge, skills, and attitudes that are essential for patient safety and quality patient care (Meakim, et al., 2013). Faculty facilitating simulation can have a significant impact on students' outcomes.

Simulation is a learner-centered pedagogy that depends primarily on the relationship between faculty and students and faculty competence (Brackney & Priode, 2014; Cheng et al., 2015; Husebo et al., 2013; & Rudolph et al., 2013). Research revealed that faculty competence is necessary when facilitating clinical simulation. The perceived competence of the faculty in facilitating clinical simulation would shed light on their feelings and best practices and how to best assist them to improve competence. It suggested that competent faculty could nurture positive learning atmospheres for their students (Del Prato, 2012). Therefore, faculty members were responsible for identifying their personal deficiencies in order to meet their students' learning needs and objectives.

Wiseman, Haynes, and Hodge (2013) stated that there were several elements involved in facilitating clinical simulation which demonstrated competent faculty. These

elements included the planning and practice of the scenarios by faculty that would yield a successful clinical simulation experience. Another element was using a theory, an essential systemic way to achieve the intended outcome. The clinical simulation process may include an orientation to the simulator, a clear communication of the objectives, participants' roles, and the expectations for the scenario. It is necessary that the participants have a complete understanding of the process. The participants are encouraged to be in charge and empowered during pre-briefing and debriefing (Lioce, 2014).

The amount of faculty training needed by faculty to facilitate clinical simulation may be underestimated. Educators use a framework of policies and processes to conduct clinical simulation. They do so to assist them in identifying and adequately addressing student issues such as safety, professional behavior, professional integrity, and accountability (INACSL Standards Committee, 2016). The faculty role in the clinical simulation is to facilitate the student learning process.

Lack of faculty competence can minimize the benefits of clinical simulation. Although students expressed overall satisfaction with their learning and reported an increase in self-confidence after participating in clinical simulation (Swenty & Eagleston, 2011), Ganley and Linnard-Palmer (2012) found that some nursing students did not feel safe during simulation training. Students experience safety in academia when they can perform without fear of negative consequences. Nursing students expressed that they felt their faculty did not prepare them sufficiently to perform assessments or interventions correctly during clinical simulation activities. Faculty competence would be necessary for

the use of clinical simulation in assisting the students to master the intended skills. The facilitator guides the students in identifying positive actions, which would promote better patient outcomes, supporting a change of behavior to meet the learning objectives if these objectives have not been achieved (Boese et al., 2013).

Harder et al. (2012) interviewed faculty from BSN Nursing programs conducting clinical simulations. The results from the study indicated that the instructors believed they were not qualified enough and were not comfortable with the technology of the simulation process (Harder et al., 2012). Yet, most clinical simulations require faculty to use technology to supplement clinical activities that mimic real situations that engage the learner. The use of HFS in nursing provides students with nurse to patient interaction using realistic scenarios in a safe environment.

Fink (2013) offered several ideas to support faculty who wish to improve their teaching. These ideas included being cognizant of the need to change; the need to fully understand what simulation is and what it is not; and for faculty to be certain their efforts to learn about teaching and to become effective teachers is appreciated (Fink, 2013).

Facilitating High Fidelity Simulation (HFS)

Nurse educators use clinical simulation in an effort to mimic various or approximate all of the essential characteristics of clinical situations so that the circumstances in real clinical practice are more readily understood and managed (Jeffries, 2007). High Fidelity Simulation (HFS) is operated by electronic software in the scenario which interacts with the humans (Brewer, 2011) and provides clinical learning opportunities to enhance students' learning. Rutherford-Hemming (2012) asserted that

high-fidelity simulation has enabled students to acquire experiences that resemble clinical situations, permitting students to make errors in a safe environment.

Clinical simulation scenarios must have consistency. To achieve this consistency, faculty members must be competent in simulation pedagogy and be subject matter experts who run a theory-based debriefing. There must also be an adequate number of faculty members to sustain the student and the equipment that provides a lifelike situation (Hayden et al., 2014).

High Fidelity Simulation has been identified by many studies as being an effective strategy to simulate clinical scenarios for nursing students. Students rated the clinical simulation as most helpful and it assisted them to understand their role as future nurses (Brackney & Priode, 2014; Husebo, Dieckmann, Rystedt, Soreide & Friberg, 2013; Thidemann & Soderhamn, 2013). HFS facilitation includes four phases: pre-work, pre-briefing, simulation, and debriefing. The pre-work includes the assigned readings and psychomotor skills that students are required to practice before participating in the clinical simulation activity (INACSL Standards Committee, 2016). The orientation phase happens immediately before the scenario starts, and occurs when the facilitator establishes a safe learning environment and clearly communicates the objectives for the scenario (Page-Cutrara, 2015; INACSL Standards Committee, 2016). The simulation phase occurs when life-like scenarios use HFS which mimics the authentic nursing process (Smitten, 2013). The final phase includes the debriefing, which happens immediately after the simulation experience and allows the students to reflect on the simulation experience, summarize their performance, and receive feedback (Mariani et

al., 2013). Researchers indicated that students recognized “knowing how,” “confidence,” and “understanding roles” as their lessons from the experience. Students categorized the simulation as being helpful (Brackney & Priode, 2014).

HFS provides students the opportunity to assess and implement interventions while using critical thinking abilities in a safe environment and to use their clinical skills to make independent decisions about patients. The INACSL standard of best practices must be utilized when facilitating clinical simulation (INACSL Standards Committee, 2016). The INACSL requires faculty (facilitators) to have a strong foundation of simulation in order to provide an effective simulation experience and better outcomes for the students. The faculty must be comfortable with simulation content and have reviewed the INACSL Standard of Best Practice for Facilitation which asserts that the facilitator must be well-informed in simulation pedagogy, have expertise in the facilitation method, and be involved in simulation development. The faculty must provide the students complete preparation for the simulation content, skills, and practice before simulation. In addition, students must receive clear learning objectives and goals before the simulation, which influences the experiences during the pre-brief, the simulation, and debriefing (INACSL Standards Committee, 2016). The faculty has an essential role in the debriefing, affecting the quality of the students’ learning. An efficient and effective faculty will offer a supportive environment that encourages a productive debriefing, consisting of faculty competent in debriefings; an environment favorable to learning (privacy, trust, open communication, self-analysis, and reflection); facilitation by the

person who observed the simulation; a structured framework of debriefing; and the objectives and outcomes of the simulation experience (Decker et al., 2013).

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Benefits of Using Clinical Simulation

Clinical simulation allows faculty to provide students with an alternative to real life experiences which otherwise the students would not have. These experiences include delegating, making priorities, caring for multiple patients, and caring for diverse, older, and pediatric populations (Tagliareni, 2017). Adamson (2011) asserted that clinical simulation offers students an alternative or supplement to a traditional clinical education. Shepherd et al. (2010) performed a quasi-experimental study that compared student's performance after clinical simulation experience. The outcome of the research suggested that the students had multiple learning opportunities during the clinical simulation experience which were not possible in a clinical setting. Pok Ja, Deok Jeon, and Suk Koh (2015) conducted a meta-analysis using all of the nursing literature available on the use of clinical simulation. Results showed that there were enhancements in the students' knowledge, communication skills, self-efficacy, clinical competency, and motivation.

Burbach, Barnason, and Thompson (2015) performed a study using Think-Aloud Strategies to Capture Clinical Reasoning during High Fidelity Patient Simulation. They concluded that teaching nursing students to think aloud during simulation allowed faculty to notice students’ questions in the environment and thus to identify learning gaps and the impact of stress or anxiety on performance. Waxman (2010) suggested that the clinical simulation learning environment would never replace actual clinical experience, but it could provide a safe and non-threatening environment for students to practice skills before going to the real clinical setting. Nursing faculty plan and design clinical simulation to prepare students for the dynamic healthcare world by developing the

student's critical thinking and comfort level with the real clinical setting (Harder, 2010; Smith-Stoner, 2009; Weaver, 2011). Nursing educators facilitate students' critical thinking skills by adding clinical simulation using human patient simulators, which can be used for teaching and evaluating students outcomes (Weaver, 2011; Harder, 2010).

Challenges of Using Clinical Simulations in Nursing Education

Leading clinical simulation also provides challenges to the nurse educator. Adamson (2010) conducted a two-phase descriptive method study. The first phase consisted of a survey of deans and directors regarding the cost associated with faculty training in simulation. The second phase surveyed faculty about their perception of simulation. Out of the 74 faculty members who were contacted, 24 completed the survey, and 17 of the respondents indicated that they used simulation in their courses. Nursing faculty identified the barriers in integrating clinical simulation in nursing education as: a lack of time to prepare for clinical simulation; a lack of support from the deans and directors; and a lacked of appropriate equipment. Results from the study showed that faculty lacked appropriate training, which affects motivation and initiative for teaching clinical simulation.

Davidson and Rourke (2012) surveyed faculty about their learning needs. These knowledge and skills included facilitating simulation, and their study concluded that faculty do not understand the roles and responsibilities of being a clinical instructor and simulation facilitator. The responsibilities that faculty needed more knowledge about included the use of simulation equipment, available resources used in facilitating clinical simulations.

Duval (2012) conducted an exploratory study and found that faculty had different levels of training: 39 % had on the job training; 26 % had formal education; 11.2 % were self-taught; and 18.5 % had no training. Other challenges in the use of clinical simulation included faculty buy-in, lack of confidence, fear of technology, lack of knowledge, and uncertainty of skill expertise level in using clinical simulation in nursing education (Duval, 2012).

Summary

Clinical simulation offers students relevant clinical learning experiences in high volume, high risk, and low incidence situations seldom seen during community clinical placements (Jaeger, 2012). In order to achieve positive outcomes, the faculty who facilitate clinical simulation must provide positive learning atmospheres for their students (Del Prato, 2012). Faculty members are responsible for identifying their personal deficiencies in other to meet their students' learning needs and objectives. During clinical simulation, the facilitator role of the faculty is very important because the faculty provide the students with the instructions and direction to learn. Research has indicated that benefits (Duval, 2012; Waxman, 2010) and challenges to using clinical simulation include lack of faculty competence, formal training, and administrative support (Adamson, 2010; Harder, 2010; Smith-Stoner 2009).

Faculty development in using and evaluating clinical simulation is essential to facilitate the student's learning by providing cues, support, and debriefing (Jeffries, 2007). The available literature supports the use of simulation as a substitute for live clinical experiences, as well as the impact of simulation on students clinical reasoning,

content comprehension and integration of simulation into the curriculum. Despite encouraging results from previous studies, there is a gap in the literature addressing faculty competence and how formal versus informal training of faculty can influence their facilitation skills. Data gathered from this study would provide information from faculty in different nursing programs across the state of Maryland to determine the effect of the type of training on faculty members' confidence in conducting clinical simulation. Perceptions from this study would support institutions to create sustainable training programs for faculty The aim of this study was to determine the effect of formal versus informal simulation training on nursing faculty's self-rating of their competency in facilitating simulation and to identify areas for needed educational support. The next chapter addresses the research methodology of the study

Chapter 3: Research Method

Introduction

The purpose of this descriptive quantitative research study was to determine the impact of formal versus informal simulation training on nursing faculty, the correlation between training and faculty's self-rating of their competency in facilitating simulation, and identify areas for needed educational support. This chapter contains an explanation of the research design, the population, sampling procedures, procedures for recruitment, participation, and data collection, instrumentation and operationalization of constructs, of the DASH SV, threats to validity, and ethical methods. This correlational descriptive quantitative study investigated faculty working in prelicensure nursing programs in Maryland, and identified the faculty perceptions of their competence in facilitating clinical simulation. This study evaluated the differences in competency between those with formal and informal training and described the differences between these two groups regarding self-competency by testing for a correlation.

Research Design and Rationale

A correlational descriptive study is a type of quantitative research using surveys, which can include a significant sample and offer detailed insights into the experiences of the study participants. Descriptive research is used to make a systemic analysis and determine causal relationships. This design is used to gain more information and provide a detailed and accurate picture of the phenomenon as a means of pinpointing areas for enhancement (Simon & Goes, 2013).

The independent variable was the formal simulation training; faculty perceptions of competence was the dependent variable. Covariates in the study included the age of the faculty and the number of years of experience teaching in nursing education using clinical simulation. This descriptive quantitative research involved gathering data, describing events, and describing the data collected comparing those who have had formal training and those faculty who have not. Using this approach provided a better understanding of the research question regarding the differences in the faculty perception of competency between faculty who have been formally trained in clinical simulation and those who have not.

Faculty training is important to facilitate and support students during clinical simulation (Adamson, 2010; Jansen et. al., 2010; and Waxman et.al., 2015). Faculty who are unprepared begin to realize that implementation of and preparation for simulation is time consuming and demanding. Faculty feel a lack of support in utilizing the simulation equipment as a barrier to implementing clinical simulation (Adamson, 2010). There is a lack of literature providing faculty insights on their competence or the effects of formal versus informal training. Gathering data may provide information to support more widespread formal training of faculty who teach clinical simulation and determine the training needed to make clinical simulation experiences more effective for nursing students (Zigmont, Kapus, & Sudikoff, 2011).

Methodology

Population

The population for this study was nursing faculty in Maryland who teach clinical simulation in BSN or ADN nursing programs. According to the Maryland Board of Nursing (MBON, 2016), there are eleven BSN degree programs, fifteen Associate Degree programs, and one direct entry MSN program. The faculty for the 28 pre-licensure programs comprises 408 full-time faculty members and 658 part-time faculty members (Beroz, 2016). There is no information on how many faculty are dedicated to facilitating clinical simulation.

The target population was those nursing faculty who have attended the faculty Train the Trainer simulation program in Maryland. The target population size was estimated to be 1,066 total nursing faculty. I obtained the list of all the nursing programs and faculty email addresses from the MBON of faculty who facilitate clinical simulation on regular or irregular basis in prelicensure in the state of Maryland.

Sampling and Sampling Procedures

The sample were recruited from 28 prelicensure nursing BSN and ADN programs in Maryland with a total of 1,066 faculty members. To qualify for the study, the participant must be teaching clinical simulation in the state of Maryland. The recruitment process begun with an open invitation email to all the faculty members from all of the prelicensure nursing programs in Maryland. The invitation clearly stated that the survey used the DASH-SV and participating in the study was voluntary and confidential. A

nonprobability sample was used to identify the sample. All faculty members were invited by email to determine if they use clinical simulation.

Inclusion and Exclusion Criteria

The inclusion criteria required that participants were members of the nursing faculty from one of the targeted nursing programs in the state of Maryland who taught clinical simulation. Nursing faculty members who did not teach nursing in the state of Maryland as well as administrators and nursing faculty who did not facilitate clinical simulation were not eligible to participate in the study. Participation in the study was voluntary, and the faculty were informed that neither their participation nor the results of the study would have any effect on their duties as faculty.

The sample size was based on a sufficient number of faculty to identify differences in the sample from the population at a 95% expected confidence level. An adequate sample size was calculated a priori by conducting a power analysis for an independent *t*-test. The power analysis for a two-tailed independent *t*-test was conducted in G*POWER to determine a sufficient sample size was 51 for each group using an alpha of 0.05, the power of 0.8, and the effect size of 0.5.

Procedures for Recruitment, Participation, and Data Collection

A general announcement was sent to all of the deans and directors of prelicensure colleges in Maryland via email, notifying them of the date of the survey and the purpose of the study to alert the faculty about the survey. The survey included information regarding voluntary participation, the benefit of the research, and how each person could withdraw from the study without any penalty. The purpose of the research and a

description and explanation of the procedure were stated. The contact information of the researcher was included, and consent was needed to participate in the study. Data were collected anonymously through an online survey using Google Docs. The participants were offered the opportunity to request the results of the study by emailing the researcher. When participants completed the survey, their participation ended.

Instrumentation and Operationalization of Constructs

The DASH-SV form was used to gather data from faculty who teach clinical simulation. The DASH-SV is used to assess instructors and rate six elements and behaviors of simulation which include: Setting of the stage for learners, behaviors to be exhibited by the facilitator, introducing oneself and inviting others to share information, clarifying the simulation objectives, establishing fiction contracts, explaining logistics, and setting a stage for respect for all participants (Simon et al., 2012). The DASH-SV evaluates the strategies and techniques faculty use to conduct debriefings when teaching clinical simulation from the beginning of a clinical simulation experience to the end (Simon et al., 2012).

Reliability and Validity

The DASH-SV instrument has been used to synthesize results from aviation debriefing based on the theory that related domains logically transfer to debriefing and a behaviorally anchored rating scale (Brett-Fleegler et al., 2012). The DASH-SV integrates findings from “aviation debriefing, clinical teaching and learning, formative assessment; adult, experiential, and organizational learning; and the emotional, behavioral, and

cognitive-behavioral foundations for mobilizing change in adults" (Brett-Fleegler et al., 2012, p. 290).

The DASH-SV elements were evaluated from 5,000 debriefings in Asia, North America, Europe, Central America, and South America. Content validity was developed in an iterative process using field experts. The DASH-SV instrument is intended to assess facilitation and debriefing quality in various simulation settings and educational objectives throughout health care disciplines (Brett-Fleegler et al., 2012).

Psychometric evaluation of the DASH-SV instrument was conducted for content and usability. An expert panel examined the influence of scripted debriefing. The feedback from the group was used to refine element titles, with the removal of some aspects of other components and the establishment of new elements in 2008. Next, 114 international health care educators took part in a 4.5-hour, web-based, collaborative DASH-SV rater training program (Brett-Fleegler et al., 2012). The scores from both sessions were used to evaluate the reliability and validity of the tool. The 114 raters assessed the Interrater reliability across the six elements and for the overall mean of the six elements. Both the correlation coefficients, indicating the sum of the rater variance to the total of rater variance, and the overall differences were calculated. Internal consistency was measured using Cronbach's alpha. Intraclass correlation coefficients for all six elements were around 0.60 with an overall mean of 0.74. The Cronbach's alpha was 0.89 across the webinar rater data set, indicating a high level of internal consistency (Brett-Fleegler et al., 2012). A Cronbach's alpha of 0.70 or higher is considered acceptable in most social science research situations (Lance, Butts, & Michels, 2006).

The DASH-SV instrument overall was considered to yield reliable data in a health care simulation setting (Brett-Fleegler et al., 2012). Permission to use the tool was granted by the Center for Medical Simulation for the purpose of educational research and the agreement was to share the study's results with the Center for Medical Simulation (see Appendix B).

Operationalization

In this study, the independent variable was the type of simulation training questions. Faculty's perception of competence was the dependent variable. Clinical Simulation training is knowledge acquired from attending a workshop for scenario writing, implementing, and evaluating scenarios (Jefferies & Battin, 2012). Faculty were asked to identify if they had formal or informal training for teaching clinical simulation and for how many years they have used clinical simulation as a teaching strategy. The covariate in the study included the age of the faculty and the number of years of experience teaching in nursing education using clinical simulation.

Formal training for teaching clinical simulation**:** training and knowledge acquired from attending a workshop for scenario writing, implementing, and evaluating scenarios (Jeffries & Battin, 2012). Informal training for teaching clinical simulation, learning from trial and error or watching someone perform the skill (Palaganas, Maxworthy, Epps & Mancini, 2015).

Faculty Perception of Competence in Teaching Clinical Simulation

Faculty perception of competence in teaching clinical simulation is the degree to which faculty believe they can do what is expected of them regarding their facilitating

clinical simulation (Thomas &Mackey, 2012). The DASH-SV (as described above) was used to operationalize faculty's perception of competence in teaching clinical simulation.

Data Analysis Plan

The Statistical Package for the Social Sciences (SPSS) for Windows was used to analyze the data that was collected by using independent t-test to determine the difference between the variables of faculty simulation training and faculty perceived competence. To maximize the tool, the target score was five or higher on the Likert Scale of 1-7 to determine faculty competence. The DASH-SV score reflects: 5= *mostly effective or good*; 6=*consistently effective or very good*; and 7= *extremely effective or outstanding* (Simon et al., 2012). An independent t-test was used to test for differences between the two groups to be compared. A testing hypothesis is commonly used in research to make predictions on outcomes of the relationship among variables (Creswell, 2012).

H_0: There is no relationship in the perception of competency in nursing faculty who facilitate clinical simulation between those who have been formally trained and those who have not.

H_1: There is a relationship in the perception of competency in nursing faculty who facilitate clinical simulation between those who have been formally trained and those who have not.

Descriptive statistics (mean and standard deviation) were collected and analyzed to describe the sample and to separate the respondents into two groups of those who have had formal training and those faculty who have not. A t test and chi square were used to analyze descriptive statistics depending on data level.

Threats to Validity

Several attributes of the study could affect internal validity. For this study, efforts were in place to control all extraneous variables that could affect the internal validity, such as the deans had no access to the survey results for individual respondents and the survey results were anonymous. The threats to this descriptive study were very minimal. Using the DASH-SV minimized threats because this tool has good validity and reliability. However, the tool involved faculty's self-reporting their perception of the simulation facilitation about the use of the six elements and how they implemented that element.

Bias

The chance for bias was minimal because this was a correlational descriptive study using a survey. Measures were in place to control the bias and to reduce the chance of influencing the results of this study. The participants used a self-rating tool, DASH-SV. The survey was deposited via email into a Google document. Informed consent was obtained, and participants were notified that the results of the study would not be shared with their employer and that their responses were anonymous.

Sampling

The external validity involved the selection of the study participants from the pre-licensure nursing programs in Maryland. The result of the study was not generalizable to all pre-licensure programs outside of Maryland. The results of the study would be applicable in the state of Maryland pre-licensure nursing programs.

Ethical Procedures

Before the data collection began, approval from the Institutional Review Board (IRB) was obtained from Walden University. IRB approval from Montgomery College was obtained to email data of faculty who have participated in the Train the Trainer (see Appendix F). Before participating in the study, all the participants had access to information about the study. If the participants agreed to the information, they gave their informed consent via a click. The document included the purpose of the study, how the information would be kept confidential, and my contact information for concerns or questions. The survey was numerically coded so that no identity would be revealed. There were no incentives from the college related to the outcome of the study.

Summary

Chapter Three discussed a summary of the methodology and design used in this research study. A descriptive quantitative research using a nonprobability with a convenience sample was used on faculty who facilitate clinical simulation in pre-licensure nursing programs, using DASH-SV tool. Before data collection began, informed consent was obtained from the faculty who volunteered to answer the survey. The descriptive research method was best suited for the study to gain more information and to provide a detailed and accurate answer to the study question. Permission was obtained from the Center for Medical Simulation to use the DASH-SV tool for this study, which is for educational research, and they asked for the results of the study to be shared with the Center for Medical Simulation. The data collected was kept confidential and

stored safely in a password-protected Google drive to be shared with the Center for Medical Simulation.

Chapter 4: Results

Introduction

The purpose of this descriptive quantitative research study was to determine how formal versus informal simulation training related to nursing faculty's self-rating of their competency in facilitating simulation, and identify areas for needed educational support. The descriptive correlational quantitative research methodology was best suited to make a systemic analysis and determine causal relationships. Data collected in the study were transferred from a Google forms spreadsheet to SPSS for analysis. By using text, tables, and figures, the research questions were analyzed, and findings were reported. Chapter 4 is organized in the following sections: (a) data collection, (b) a summary of results, (c) detailed analysis, and (d) the summary.

Data Collection

The data collection began in July of 2017 after the Institutional Research Board (IRB) granted approval # 07-10-17-0315310. I collected faculty information from the MBON. Recruitment lasted for 3 months. By the end of the first month period, reminder emails were sent weekly to the group address. During the last 2 weeks of data collection, follow up phone calls were made to those faculty with listed phone numbers. The data collection was closed by the week of September 10th, 2017. The response rate initially was very slow, which may have indicated individuals were out of the office, since many nursing faculty do not work during the summer months. The sample for the study was calculated in G*Power as 102, meaning the two groups would each have 51 participants.

The final number of participants was 59 faculty with informal simulation training and 43 faculty with formal training.

Baseline Descriptive and Demographic Data

The general demographics were gathered from 102 faculty who facilitate clinical simulation in the state of Maryland. Frequencies and percentages were calculated for age, gender, and race of the faculty. Most participants in the sample were female (87.2%). A majority of the nursing faculty were in their fifties. Fifty-nine percent of the faculty were white, 2% were Hispanic, 1% were Indigenous, 29% were African American, 2.2% were Asian, and 4% were other.

Table 1

Frequency and percentages for Faculty Demographics

	Faculty Characteristics	n	%
Age	18-24	1	1
	25-29	1	1
	30-34	7	6.9
	35-39	8	7.8
	40-44	10	9.8
	45-49	9	8.8
	50-54	24	23.5
	55-59	21	20.6
	60-64	15	14.7
	65 over	6	5.9
Gender			
	Female	88	86.3
	Male	14	13.7
Race			
	White	59	57.8
	Hispanic	2	2
	Indigenous	1	1
	African American	30	29.4
	Asian	8	7.8
	Other	4	3.9

Note. $N = 102$

The two groups represented what type of clinical simulation training faculty received (formal versus informal). Faculty's perception of competence was the dependent variable which was determined by the six elements on the DASH-SV. There were six elements of the DASH-SV which were also statistically analyzed. Element/rating 1 was the instructor setting the stage, or establishing an engaging learning environment. Element/rating 2 was the instructor maintaining engagement. Element/rating 3 was the instructor structuring debriefing in an organized way. Element/rating 4 was provoking students' self-reflection through an in-depth discussions of their performance. Element/rating 5 was identifying

and exploring student strengths and weaknesses. Element /rating 6 was helping students achieve or sustain good performance through constructive faculty feedback.

Results

An independent-samples *t*-test was conducted to compare perception of competency in nursing faculty who facilitate clinical simulation between those who have been formally trained and those who have not. The *t*-test results revealed that there was a no significant difference in the scores for faculty with informal training (*M* = 5.31, *SD* = 1.369) and faculty with formal training *(M* = 5.53, *SD* = .928); *t (100*) *p* =-.917) (see Table 2). The null hypothesis was retained, which says that there was no relationship regarding perception of competency in nursing faculty who facilitate clinical simulation between those who have been formally trained and those who have not.

Table 2

Group Statistics

DASH-SV	Statistics	*N*	Mean	St Deviation	Std Error Mean	*t*	*P*
	INFORMAL	59	5.31	1.369	.178	100	-917
	FORMAL	43	5.53	938	.141	99.543	-973

Table 3

Formal/Informal Category Distribution of participants

	Frequency	Percent	Valid Percent	Cumulative Percent
INFORMAL	59	57.8	57.8	57.8
FORMAL	43	42.2	42.2	100
Total	102	100.0	100	

Faculty without formal training had a higher frequency (57.8 %) than faculty with formal education (42.2 %) (see Table 3). The results revealed that there were no statistical differences between the two groups. The null hypothesis that there is no relationship regarding perception of competency in nursing faculty who facilitate clinical simulation between those who have been formally trained and those who have not was retained.

Analysis of DASH-SV Elements

The DASH-SV divides the dependent variable of faculty perceptions of competence into six elements regarding how faculty rate themselves. Each element was analyzed individually.

Analysis of Element 1: The Instructors Setting the Stage

Element/rating 1 was the instructors setting the stage, or establishing an engaging learning environment. Results of the independent samples *t*-test showed that the mean element rating 1 faculty with informal training (M = 5.32, SD = 1.514) and faculty with formal training (M = 5.65, SD = 1.131) (t (100) = -1.257, - p = .139). There was no significant statistical difference between the two groups. Table 4 gives details on the independent *t*-test.

Table 4

Results of Element 1: Instructor Setting the Stage

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
ELEMENT 2	Equal variances assumed	2.226	0.139	-1.201	100	0.232	-0.329	0.274	-0.873	0.214

Analysis of Element 2: The Instructor's Maintaining Engagement

Element/rating 2 is labeled as the instructors maintaining engagement.The results of the independent t-test showed there was not a significant difference in the scores for faculty with formal training (*M*= 5.56, *SD*=1.380) and faculty with informal training (*M*=5.60, *SD*=1.40); *(t (-100)* = -.102, *p* = .651) on this subscale. Table 5 provides details on the independent *t*-test.

Table 5

Results of Element 2: Instructor maintaining engagement

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
ELEMENT 2	Equal variances assumed	206	651	-102	100	0.919	-0.028	0.278	-0.581	0.524

Analysis of Element 3 Structuring Debriefing in an Organized Way

Element /rating 3 was labeled as the instructor structuring debriefing in an organized way. For faculty ratings in Element rating 3 faculty with informal training (M = 5.25, SD = 1.493) and faculty with formal training (M = 5.30, SD = 1.245 9) (*t* (98.119) = -177, *p*=.252). There was no significant statistical difference between the two groups. Table 6 shows the results of the independent t- test.

Table 6

Element 3: Structuring Debriefing in an Organized Way

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
ELEMENT 2	Equal variances assumed	1.330	252	-172	100	0.864	-0.048	0.279	-0.603	0.506

Analysis of Element 4: Instructor Provoking Students' Self-Reflection

Element/rating 4 was labeled as provoking students' self-reflection through an in-depth discussion of their performance. There was no significant difference in the scores for faculty with formal training (M = 5.24, SD = 1.406) and faculty with informal training (M = 5.37, SD = 1.328, (t (93.489) = -494, p=741). On average, between faculty with formal training and those without, the numbers were approximately the same. Table 7 gives details on the independent t-test.

Table 7

Element 4 The Instructor's Provoking Students' Self-Reflection

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
ELEMENT 2	Equal variances assumed	0.110	0.741	-489	100	0.626	-0.135	0.275	-0.681	0.412

Analysis of Element 5: Identifying and Exploring Student Strengths and Weaknesses

Element/rating 5 was identifying and exploring student strengths and weaknesses. For this element faculty rated themselves as faculty with informal training or formal training. Results of the independent samples t-test showed that the mean element rating 5 faculty with informal training (M = 5.17, SD = 1.522) and faculty with formal training (M = 5.49, SD = 1.121, (t *(99.982*) = -1.219, p =.135). The mean rank for the formal training and informal training revealed that there is no significant statistical difference between the two groups. Table 8 gives details on the independent t-test.

Table 8

Element 5: Identifying and Exploring Student Strengths and Weaknesses

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
ELEMENT 2	Equal variances assumed	2.242	0.137	-1.163	100	0.248	-0.319	0.274	-0.863	0.225

Analysis of Element 6: Helping Students Achieve or Sustain Good Performance Through Constructive Faculty Feedback

Element/rating 6 was helping students achieve or sustain good performance through constructive faculty feedback. The results showed how faculty rated themselves with informal training (M = 5.32, SD = 1.414) and with formal training (M = 5.65, SD = 1.131). The independent t-test revealed a statistically significant difference at the .05

level of significance *(t (100)* = -1.896, *df* = 100, *p* = 0.043). Table 9 gives details on the independent t-test.

Table 9

Element 6: Helping Students Achieve or Sustain Good Performance Through Constructive Faculty Feedback

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
ELEMENT 2	Equal variances assumed	12.133	0.001	-1.163	100	0.61	-0.469	0.247	-0.959	0.022

Summary

Chapter 4 provided the results of the analysis of the research question and hypotheses. Descriptive statistics and independent *t*-tests were used to analyze these data. These results provided a comparison of the differences between the faculty who are formally trained and those are not formally trained to teach clinical simulation. Results revealed no significant differences among those faculty who facilitate clinical simulation which are formally trained and those who are not. The interpretation of results and implications will be described in detail in Chapter 5

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this descriptive quantitative research study was to determine the impact of formal versus informal simulation training on the nursing faculty, explore the correlation between training and faculty's self-rating of their competency in facilitating simulation, and identify areas for needed educational support. This study was conducted to determine how formal versus informal simulation training relates to nursing faculty's self-rating of their competency in facilitating simulation and identify areas for needed educational support. One question and two hypotheses guided this study. This quantitative research methodology used the DASH-SV, which is a Likert scale survey instrument, to measure faculty competence in facilitating clinical simulation. Data collected in the study were transferred from Google forms spreadsheets to SPSS for analysis. The research question focused on faculty's perception of their competence in facilitating clinical simulation.

The DASH-SV tool was used to measure faculty perceptions. The main hypotheses revealed no statistically significant differences, indicating that there was no relationship regarding the perception of competency in nursing faculty who facilitate clinical simulation between those who have been formally trained and those who have not. Each of the six DASH-SV subscales was analyzed separately. Elements 1-5 revealed no statistically significant differences between the two groups of faculty. However, Element 6 showed there was a statistically significant difference, indicating that there

was a relationship regarding the perception of competency in nursing faculty who facilitate clinical simulation between those who have been formally trained and those who have not in helping students achieve or sustain good performance through constructive faculty feedback.

Interpretation of the Findings

The results of the study have confirmed that there exists a gap that faculty without formal education may not be aware of their lack of competence and what training they need so that they can be effective in facilitating clinical simulation. Faculty members who have an awareness of their own perception of competence can guide the training program for faculty to successfully facilitate simulation for better student outcomes (Hallmark, 2015). The results confirmed one of the main challenges to the use of clinical simulation, which is training faculty members regarding the use of a high-fidelity patient simulator (Jones, et al., 2013). The research question was designed to compare the perception of faculty who have formal training and those who have not when facilitating clinical simulation. The result of the study confirmed that gap for faculty without formal education regarding their awareness of their lack of competence and what training they need to effectively facilitate clinical simulation.

Element 1: The Instructors Setting the Stage

The purpose of this element was to explore the relationship between the instructor's ability to set the stage for clinical simulation scenario for students and the faculty's perception on how effective they were in setting the stage. The data showed no significant difference in the perception of formally trained versus informally trained

faculty. The results of the research questions contradicted the literature supporting the need for faculty to be trained in order to provide an engaging learning experience for students during clinical simulation. In order to achieve positive outcomes, the faculty who facilitate clinical simulation must provide a positive learning atmosphere for their students (Del Prato, 2012).

The INACSL requires that faculty have a strong knowledge of simulation in order to provide an effective simulation experience and better outcomes for students. The faculty must be comfortable with simulation content and have reviewed the INACSL standards of best practice for facilitation, which assert that the facilitator must be well-informed in simulation pedagogy, have expertise in the facilitation method, and be involved in simulation development (INACSL, 2016). The simulation faculty is accountable to ensure detailed facilitation so that each experience is conducted seamlessly. The facilitator influences the simulation experience by providing an extensive orientation prior to engaging in clinical simulation.

Element 2: The Instructors Maintaining Engagement

It is important for faculty to maintain a safe environment in clinical simulation, meaning that it is acceptable and safe for learners to make mistakes in simulation without fearing harm to actual patients or their own academic success. The ability of the nursing faculty to maintain student engagement and a safe environmental context for learning for the students is crucial. Faculty are to provide a student-centered environment where learners feel comfortable to share their thoughts without fear or feeling ashamed. The literature supports the importance of faculty engagement and providing the students with

open communication and a level of trust (Decker et al., 2013; Hayden et al., 2014; Zigmont et al., 2011). The results of my study contradicted the literature which has showed that faculty supporting learners in clinical simulation need expert skills in preparing learning activities, anticipating how learners will need support, and responding to any unexpected challenges that learners experience during clinical simulation.

Element 3: Was the Instructor Structuring Debriefing in an Organized Way?

This element explores faculty's perception of how they structured the debriefing in an organized way using conversations that guided the discussion logically from point to point. The results of my study contradicted literature prioritizing trained faculty as those best prepared to lead debriefing in an organized manner with experience

(Dreifuerst, 2012; Mariani et al., 2013). However, there is a need for faculty to understand their roles about their learning needs in teaching clinical simulation (Davidson & Rourke, 2012).

Element 4: The Instructor's Provoking Students' Self-Reflection

This element focused on using concrete examples to provoke in-depth discussions that lead students to reflect on their performance. The data showed no significant differences in the perception of faculty who were formally trained and those who were not. The literature supports trained faculty's using open-ended questions that allow students to reflect on their performance (Waxman, 2010). The results of my study contradicted the literature which has showed that the debrief should be facilitatedby a person(s) competent in the process of debriefing. Educators facilitate exploration of

possibilities and alternative viewpoints to help the learner shapes new conceptualizations about their actions (Forneris & Fey, 2018, INACSL Standards Committee, 2016).

Element 5: The Instructor's Identifying and Exploring Student Strengths and Weaknesses

This element compared faculty perceptions of identifying if students did well and why. The data showed that there were no significant differences between faculty who havebeen formally trained and those who have not. The literature supports that faculty training is needed to lead a process of reflection and help the students understand their performance and what they need to improve upon. Providing feedback for students hasbeen shown to improve on their future performance (Fronterio & Glynn, 2012, Shinnick et al., 2011). The results of my study contradicted the literature which has showed that trained faculty are the experts to provide a positive experience in identifying strengthsand weaknesses to improve future performance. A trained educator leads a debriefing thatpromotes understanding and supports transfer of knowledge, skills, and attitudes with a focus on best practices to improve the development of the participant's professional role (Kolbe, Grande, & Spahn, 2015).

Element 6: Helping Students Achieve or Sustain Good Performance

The results showed a significant difference between the faculty who have been trained and those who have not been formally trained. This result supports a formal faculty training that prepares faculty to use constructive feedback to assist students in achieving and sustaining good performance (Decker et al., 2013; Boese et al., 2013; Simon et al., 2012). A skill that must be developed with practice and gain expertise. The

results of my study supported the literature which has showed that trained faculty are able to provide support for learners to help them understand why they took particular actions, to continue with good actions, and to reflect on what the student would do differently the next time. To effectively facilitate simulation experience requires faculty to be comfortable and to understand how to implement clinical simulation (Jeffries, 2014, Jeffries, Thomas Dreifuerst, Kardong-Edgren, & Hayden, 2015).

Theoretical Findings

The NLN/JST theory described a direct relationship between the faculty (facilitator) and the learner. The theory comprises a blend of outcomes, including clear and assessable knowledge, skills, and attitudes that are essential for patient safety and quality patient care (Meakim et al., 2013). The interaction between the faculty and the learner is intertwined because of the trust that is established between the two. The NLN/JST was chosen because it provides best practices guidelines for simulation-based instruction and improved outcomes (Cook et al., 2013).

Though there were no significant differences in perception between the faculty who were formally trained and those who were not formally trained in five of the six elements, there was a significant difference in Element Six, which confirmed the theory that there is a direct relationship between the faculty and students. This study addressed the contextual factors of faculty competence related to best practices in teaching clinical simulation.

The study examined some faculty attributes which include, but are not limited to skills, educational techniques, and preparation (Parker & Myrick, 2012; Parsh, 2010).

The related components are: the students and teachers; their backgrounds and experiences; and educational practices rooted in a particular setting. The outcomes of nursing simulation include: knowledge acquisition; skill performance; learner satisfaction; critical thinking; and self-confidence (Meakin et al., 2013). The theory was supported because consideration of best practices in facilitating clinical simulation involves integrating best practices for learners and helps faculty understand that participants' characteristics influence how learners view simulation.

Limitations of the Study

The limitations of the study included lack of generalizability to nursing faculty outside of Maryland. The participants for the study were recruited using a non-probability sampling technique, leaving out the inability to randomize the selection of participants. The sample for the study was 102, but the power analysis was not achieved since 59 faculty with informal simulation training and 43 faculty with formal training responded. The sample targeted a specific group and was voluntary and self-reported so that they could rate themselves without having the true meaning of the DASH-SV. The study did not include students' assessment of the faculty to get a different perspective. The sample was not representative of the entire population of faculty who facilitate clinical simulation.

Recommendations

This study could be repeated nationwide using a larger sample and adding students to strengthen the available research. Since the results did not capture the perceptions of all nursing faculty across the nation, it would be useful to gather more

information with intervention and including student's perceptions on how faculty training affects their simulation outcomes. Educators are expected to explore their scenarios to make sure that the simulation produces the intended outcomes (Foronda, Liu, & Bauman, 2013). There is consistent literature which provides evidence of support through positive faculty demeanor and respect (Klunklin et al., 2011).

This research contributed data to the nursing simulation literature by better understanding what faculty members perceive as their strengths and weaknesses in teaching clinical simulation. The data may inform nursing leadership regarding the training and development needs of faculty and create sustainable training programs. The results of this study could be used as evidence that sustainable training programs for faculty are needed. Since many faculty members indicated that they did not receive formal training in facilitating clinical simulation, it would be advisable to conduct a follow-up study that would measure faculty perception with intervention and to have students evaluate faculty before and after their faculty receive simulation training (Decker et al., 2013). Mariani et al., (2014), reported that faculty identified a major barrier to using simulations was limited time available for faculty to train and to gain the expertise to facilitate clinical simulation.

Implications: Positive Social Change

The use of clinical simulation is on the increase, and even more, the need to increase faculty with simulation expertise. There is still a need to develop the skills necessary, for simulation for faculty members are not all instinctively skillful but need to be developed and fostered. The knowledge in facilitating clinical simulation skills is

required to be a viable pathway for developing simulation leaders (Ng & Ruppel, 2016). This research will affect positive change on an individual and organizational level because the data from my study provides more data which will contribute to the nursing simulation literature and provide a better understanding of what faculty members perceive as their strengths and weaknesses in teaching clinical simulation. The data may inform nursing leadership regarding the training and development needs of faculty. The results of this study could be used as evidence that sustainable training programs for faculty are needed. Information will be shared with the Society for Simulation in Healthcare (SSH) and the International Nursing Association for Clinical Simulation (INACL Standards Committee, 2016, Jefferies & Battin, 2012).

Conclusion

In conclusion, the available literature supports the use of simulation as a substitute for live clinical experiences, as well as the impact of simulation on students' clinical reasoning, content comprehension, and integration of simulation into the curriculum. Faculty development in using and evaluating clinical simulation is essential to facilitate the students' learning by providing cues, support, and debriefing (Jeffries, 2007, Foisy-Doll, & Leighton, 2018)). Faculty facilitating simulation can have a significant impact on students' outcomes.

Although the literature supports formal training for faculty who facilitate clinical simulation, this study identified the impact of how faculty perceived competence when facilitating clinical simulation between two groups, faculty who received formal training and those who have not. There was no significant difference between the two groups.

Findings of this study will assist nursing leadership in nursing education to create a sustainable training program for faculty to facilitate clinical simulation successfully.

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Appendix A: NLN/ Jeffries theory Approval Letter

RE: NLN Jeffries Framework

Amy McGuire [redacted] on behalf of Copyright Permission [redacted]

Tue 1/3/2017 12:37 PM

To Rose Kronziah [redacted];

Dear Rose, Thank you for your inquiry. We are pleased that you have decided to use this instrument in your research study. NLN's simulation instruments are available for download from the NLN website: http://www.nln.org/professional-development-programs/research/tools-and-instruments/descriptions-of-available-instruments.

Please review the caveats that accompany permission for use of NLN's research instruments here: http://www.nln.org/newsroom/copyright-permissions (scroll to bottom of page).

If I can be of any further help, please let me know.

Regards, Amy

Amy McGuire | Administrative Coordinator | National League for Nursing | www.nln.org |
[redacted]202-909-2509 | 2600 Virginia Avenue NW, 8th Floor, Washington, DC 20037

NLN

National League for Nursing

The Voice for Nursing Education

Appendix B: DASH-SV Survey Tool Permission

RE: [dash] DASH-SV

Rose Kronziah <rose.kronziah@waldenu.edu>

Thu 3/16/2017 10:17 AM

Archive

To:Rossi, Gary <[redacted]>

Thank you!

on Mar 16, 2017 9:56 AM, "Rossi, Gary" <[redacted]> wrote:

Dear Rose,

I am very sorry that we didn't respond to your initial email. Somehow it fell through the cracks. You have our permission to use the DASH S-V for your research study. We'd ask that you send us a copy of your research results and anything you publish. Please use the following copyright notice and citation for the DASH-SV.

COPYRIGHT NOTICE

Center for Medical Simulation, Boston, MA 02129, 2017 All rights reserved. https://harvardmedsim.org.

HOW TO CITE THE DASH

Simon R, Raemer DB, Rudolph JW. Debriefing Assessment for Simulation in Healthcare (DASH)O — Student Version, Long Form. Center for Medical Simulation, Boston, Massachusetts. https://harvardmedsim.org/media/DASH.SV.Long.2010.Final.pdf. 2010. English, French, Japanese.

Simon R, Raemer DB, Rudolph JW. Debriefing Assessment for Simulation in Healthcare (DASH)O — Student Version, Short Form. Center for Medical Simulation,

Boston, Massachusetts.

https://harvardmedsim.org/_media/DASH.SV.Short.2010.Final.pdf. 2010. English, French, German, Japanese.

Good luck with your research.

Best,

Gary

Gary M. Rossi

Chief Operating Officer

Appendix C: Informed Consent

Faculty Competence in Facilitating Clinical

INFORMED CONSENT FORM

Study Title: Faculty Competence in Facilitating Clinical Simulation

You are being asked to take part in a research project because you are a member of the nursing faculty of a pre-licensure nursing program in the state of Maryland and be teaching clinical simulation. I am a student at Walden University working on my Doctor of Philosophy (PhD) degree in nursing. This research project is part of my degree. It is important that you read and understand the principles that apply if you agree to participate in the research project described below:

Purpose of the Research

The purpose of this study is to determine how formal versus informal simulation training relates to nursing faculty's self-rating of their competency in facilitating simulation and to identify areas for needed educational support.

DESCRIPTION AND EXPLANATION OF PROCEDURES

Taking part in this research is entirely voluntary. If you agree to participate in this study, you will be asked to complete an online survey which should take you approximately 15-20 minutes to complete. This survey is anonymous so you will not need to include your name.

RISKS/DISCOMFORTS: There are no anticipated risks with participation in this research.

BENEFITS: You may not benefit from taking part in the research but the knowledge obtained may help others. This research will contribute data to the nursing simulation literature by better understanding what faculty members perceive as their strengths and weaknesses in teaching clinical simulation. Data from this study could contribute to positive social change by empowering and educating faculty to be effective when facilitating clinical simulation.

ALTERNATIVES: You do not have to participate in this research project.

FINANCIAL INFORMATION: There are no costs associated to participating in this research.

You will not be paid for your participation in this research.

Privacy:

Records coming out of this study will not share the identities of individual participants. Details that might identify participants, such as the location of the study, also will not be shared. Even the researcher will not know who you are. The researcher will not use your personal information for any purpose outside of this research project. Individual survey results will only be used by the researcher for the purposes of research and will not be sold. Data will be kept secure by using a password-protected, secure Google Docs account and computer storage. The survey results will not be linked to participants' names or other identifying information. Data will be kept for a period of at least 5 years, as required by the university.

Withdrawal or Consent: Your consent to participate in this study is completely voluntary. Due to anonymity of the study, once a survey is submitted it would be impossible to withdraw but you may discontinue participating at any time.

The approval number for this study is 07-19-17-0315310 and it expires on July 9th, 2018.

Questions: If you have questions about this study please contact the investigator, Rose Kronzial-Serna, at [redacted]

If you have any questions about your rights about this study, please contact the Walden University IRB, at [redacted]

Please print a copy of the consent form for your records.

* CONSENT

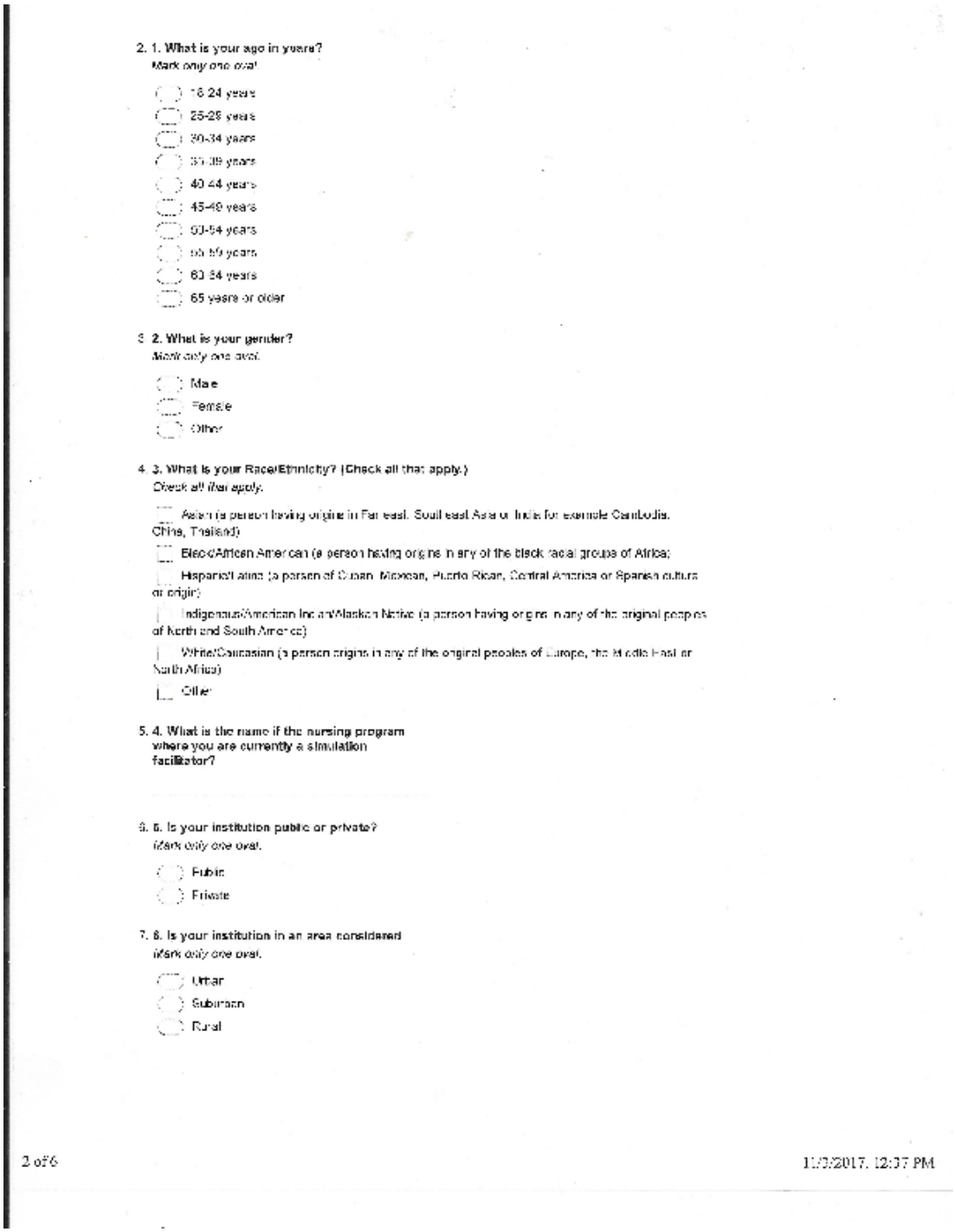
1. I have read the nature and purpose of the above- described procedure and the risks that are involved in this study. I agree to participate in the study.

   Check all that apply.

   - [ ] I Agree to participate
   - [ ] Do not wish to participate

DEMOGRAPHICS

Appendix D: Demographic Information



2. 1. What is your age in years?
Mark only one oval.

- 18-24 years
- 25-29 years
- 30-34 years
- 35-39 years
- 40-44 years
- 45-49 years
- 50-54 years
- 55-59 years
- 60-64 years
- 65 years or older

3. 2. What is your gender?
Mark only one oval.

- Male
- Female
- Other

4. 3. What is your Race/Ethnicity? (Check all that apply.)
Check all that apply.

- Asian (a person having origins in Far east, South east Asia or India for example Cambodia, China, Thailand)
- Black/African American (a person having origins in any of the black racial groups of Africa)
- Hispanic/Latino (a person of Cuban, Mexican, Puerto Rican, Central American or Spanish culture or origin)
- Indigenous/American Indian/Alaskan Native (a person having origins in any of the original peoples of North and South America)
- White/Caucasian (a person origins in any of the original peoples of Europe, the Middle East or North Africa)
- Other

5. 4. What is the name if the nursing program where you are currently a simulation facilitator?

6. 5. Is your institution public or private?
Mark only one oval.

- Public
- Private

7. 6. Is your institution in an area considered
Mark only one oval.

- Urban
- Suburban
- Rural

2 of 6 11/2/2017, 12:37 PM

7. 7. What percent of your time is spent as the primary simulation facilitator?

9. 8A. How is simulation utilized at your school of nursing? (Check all that apply).
Check all that apply.

- Formative Evaluation
- Summative Evaluation
- High Stakes Testing
- Other

10. 8B. If "Other" was selected in question 8A, please write in answer here:

11. 9. Are you certified as a Healthcare Simulation Educator (CHSE)?
Mark only one oval.

- Yes
- No

12. 10. Which of the following training programs have you participated in? (Check all that apply).
Check all that apply.

- Simulation facilitator training online
- Simulation facilitator training in-person
- NLN SIRC program modules
- Local Hospital or Sim Center training
- No formal training

13. 11A. In what type of program are you primarily teaching in your role as a simulation facilitator?
Mark only one oval.

- Accelerated Baccalaureate Degree Program
- Associate Degree
- Traditional 4-year Baccalaureate Degree Program
- Other

14. 11B. If "Other" was selected in question 11A, please write it out here:

Debriefing Assessment for Simulation in Healthcare (DASH) Instructor Version©

Directions:

Please provide a self assessment of your performance for the introduction and debriefing in this simulation-based
exercise. Use the following rating scale to give a score to each of the six "Elements." For each Element, component
Behaviors are given that would indicate positive performance in that Element. Do your best to rate your overall
effectiveness for the whole Element guided by the Behaviors that define it. If a listed Behavior is not applicable (e.g.
how you handled upset people if no one got upset), just ignore it and don't let that influence your evaluation. You may
have done some things well and some things not so well within each Element. The Element rating is your

Appendix E: DASH-SV Tool

overall
impression of how well you executed that particular Element.
Element 1 assesses the introduction at the beginning of the simulation-based exercise. Elements 2 through 6 assess the
debriefing.

Rating Scale

Rating	1	2	3	4	5	6	7
Descriptor	**Extremely Ineffective/ Detrimental**	Consistently Ineffective/ Very Poor	Mostly Ineffective/ Poor	Somewhat Effective/ Average	Mostly Effective/ Good	Consistently Effective/ Very Good	**Extremely Effective/ Outstanding**

Element 1 - I set the stage for an engaging learning experience

15. **Rating Element 1**
Mark only one oval.

1 2 3 4 5 6 7

Element 2 - I maintained an engaging context for learning

- I clarified the purpose of the debriefing, what was expected of the participants, and my role (as the instructor) in the debriefing
- I acknowledged concerns about realism and helped the participants learn even though the case(s) were simulated
- I showed respect towards the participants
- I ensured the focus was on learning and not on making people feel bad about making mistakes
- I empowered participants to share thoughts and emotions without fear of being shamed or humiliated

16. **Rating Element 2**
Mark only one oval.

1 2 3 4 5 6 7

Element 3 - I structured the debriefing in an organized way

- I guided the conversation such that it progressed logically rather than jumping around from point to point
- Near the beginning of the debriefing, I encouraged participants to share their genuine reactions to the case(s) and I took their remarks seriously
- In the middle, I helped the participants analyze actions and thought processes as we reviewed the case(s)

• At the end of the debriefing, there was a summary phase where I helped tie observations together and relate the case(s) to ways the participants could improve their future clinical practice

17. Rating Element 3
Mark only one oval.

1 2 3 4 5 6 7

Element 4 - I provoked in-depth discussions that led them to reflect on their performance

• I used concrete examples—not just abstract or generalized comments—to get participants to think about their performance
• My point of view was clear. I didn't force participants to guess what I was thinking
• I listened and made people feel heard by trying to include everyone, paraphrasing, and using nonverbal actions like eye contact and nodding etc
• I used video or recorded data to support analysis and learning
• If someone got upset during the debriefing, I was respectful and constructive in trying to help them deal with it

18. Rating Element 4
Mark only one oval.

1 2 3 4 5 6 7

Element 5 - I identified what they did well or poorly – and why

• I provided concrete feedback to participants on their performance or that of the team based on accurate statements of fact, and my honest point of view
• I helped explore what participants were thinking or trying to accomplish at key moments

19. Rating Element 5
Mark only one oval.

1 2 3 4 5 6 7

Element 6 - I helped them see how to improve or how to sustain good performance

• I helped participants learn how to improve weak areas or how to repeat good performance
• I was knowledgeable and used that knowledge to help participants see how to perform well in the future
• I made sure we covered the most important topics

20. Rating Element 6
Mark only one oval.

1 2 3 4 5 6 7

Appendix F: Montgomery College IRB

MONTGOMERY COLLEGE

Office of Institutional Research & Effectiveness

Institutional Review Board

June 12, 2017

MEMORANDUM

TO Rose Kronziah-Seme MSN, RN

FROM Lauren Walker *for Robert Lynch, IRB Chair and Director OIRE*

SUBJECT Institutional Review Board Approval

We have reviewed your application to conduct the study – *Faculty Competence in Facilitating Clinical Simulation* and gladly **approve** the application. This project falls well within the scope of research as "exempt" according to "45CFR 46.101(b) – *Category 2.*"

We wish you a successful project and positive outcomes and will be glad to assist you in any way our Research Office might be of help. If it's convenient for you, we would very much appreciate obtaining a copy of your findings when the project is complete.

Kind Regards,

Lauren Walker

For Robert Lynch