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The Effect of Expert Role Modeling on Anxiety/ Self-Confidence and Clinical Judgment in Novice Nursing Students

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THE EFFECT OF EXPERT ROLE MODELING ON ANXIETY/SELF-CONFIDENCE AND CLINICAL JUDGMENT IN NOVICE NURSING STUDENTS

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ABSTRACT

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Dramatic changes in the health care environment today are changing the role of the registered nurse (RN) from a narrow task-oriented focus to assuming much greater responsibility in the management of patient care. Inexperienced students report significant anxiety when anticipating their first clinical day in an acute care facility. This leads to decreased self-confidence in clinical judgment necessary to provide safe care for patients. Nurse educators must be aware of anxiety levels and self-confidence to intervene appropriately to foster the best learning outcomes for students. Using human patient simulation learning experiences in the nursing lab, the purpose of this experimental, pretest—posttest design study was to determine whether the prebriefing activity of expert role modeling had an impact on novice baccalaureate students' self-assessed anxiety/self-confidence and clinical judgment.

The sample included 43 junior level students randomly assigned into control (21) and treatment (22) groups. Both groups received standard preparation for simulation including a patient chart, verbal report of patient status, and orientation to the simulation laboratory. The treatment group received the intervention of viewing an expert nurse video role modeling care of a standardized patient prior to participation in each scenario. Descriptive data analysis indicated that the groups were equivalent.

Findings indicated that both the control and treatment groups demonstrated a significant decrease in mean anxiety scores and increase in mean self-confidence scores obtained with the Nursing Anxiety/Self-Confidence with Clinical Decision Making scale (NASC–CDM). These findings suggest that participating in a simulation seminar reduces anxiety and increases self-confidence in novice nursing students, though the expert nurse video intervention did not make a difference.

Findings from expert review of recorded student performance in the scenarios using the Lasater Clinical Judgment Rubric (LCJR) indicated large differences between treatment and control groups, with the treatment group means consistently greater than the control group. The data reflected highly significant differences ($p = 0.000$) between the control and treatment groups in the noticing, interpreting, responding and reflecting scales that comprise clinical judgment.

Further research needs to be conducted to determine best practices for use of specific prebriefing strategies for simulation in nursing education. This study provided evidence that student participation in a simulation seminar can reduce anxiety and increase self-confidence in novice nursing students. In addition, incorporating an expert nurse role modeling video had a positive effect on the students' use of clinical judgment in simulation scenarios.

Keywords: human patient simulation, prebriefing (briefing), role modeling, nursing students, clinical judgment, anxiety/self-confidence

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INTRODUCTION

Background

Dramatic changes in the healthcare environment today are placing increasing demands on new graduates from nursing programs. The 2010 publication, *Educating Nurses: A Call for Radical Transformation,* reported that current educational methods are ineffective to prepare nurses for practice in the complex healthcare arena of today (Benner, Sutphen, Leonard, & Day, 2010). The role of the registered nurse (RN) has evolved from a narrow task-oriented focus to assuming a much greater responsibility in the management of patient care (Hayden, 2010; Institute of Medicine, 2003; Joint Commission on Accreditation of Healthcare Organizations, 2002; Smith & Crawford, 2004; Tanner 2006). As the nurses' responsibilities have increased so has the need for clinical judgment skills that are essential for patient safety. "Clinical judgment is critical to excellent patient care decisions and outcomes" (Lasater, 2011, p. 86). Clinical judgment is developmental and experiential in nature; it must be taught in the context of clinical situations that are ever changing and complex in a variety of settings (Benner et al., 2010). In a national survey by the National Council of State Boards of Nursing, employers ranked critical thinking, or clinical decision making, as the most important skill for new graduates in practice (Smith & Crawford, 2004). The purpose of this chapter is to present background information regarding patient safety

as a driving factor for increased use of human patient simulation in nursing education to aid in the development of clinical judgment.

Patient Safety

The publication of *To Err is Human* in 1999 by the Institute of Medicine created mandates to ensure that physicians, nurses, and hospitals put patient safety first (Kohn, Corrigan, & Donaldson, 2000). These mandates have led healthcare facilities to restrict students from acting in the full, complex role of the nurse in the care of patients. Student placements are dwindling as healthcare facilities implement these mandates to provide safe and effective care; they do not want the liability of inexperienced students providing patient care, especially in high risk areas. This has led to a dilemma for nursing education: New graduates need higher level clinical judgment skills to provide safe and effective care for patients; however, due to liability issues, healthcare facilities have had to restrict the activities as well as number of student nurses allowed on patient units (Reilly, 2007).

The current environment of complexity in the healthcare environment and concern for patient safety can produce significant anxiety in patients, instructors, students, and staff (Reilly, 2007; White, 2014). One method to reduce student anxiety with clinical decision making, increase self-confidence, and develop clinical judgment skills is human patient simulation (Jeffries, 2007; Lasater, 2007; White, 2014). Designing evidence based, experiential simulations is essential to reduce anxiety and increase self-confidence of nursing students, which will enhance clinical judgment skills (Benner et al., 2010; Handwerker, 2012). Use of simulation implements the priority recommendation from the Benner et al. (2010) study challenging nursing education to emphasize teaching for “a sense of salience, situated cognition, and

action in particular utilizing ever-changing patient cases in complex healthcare environments" (p. 82). Simulation provides students opportunities to make decisions and make mistakes. It provides a safe environment for the patients while allowing students to practice clinical decision making and clinical judgment, which prepares them for the complex role of the RN (Alfes, 2011; Brewer, 2011; Garrett, MacPhee, & Jackson, 2010; Lasater, 2007; Piscotty, Grobbel, & Tzeng, 2011; Prion, 2008; Schlairet, 2011; Sears, Goldsworthy, & Goodman, 2010; Shinnick, Woo, & Mentes, 2011; Wagner, Bear, & Sander, 2009; Wotton, Davis, Button, & Kelton, 2010).

Simulation

The increasing difficulty in obtaining adequate, safe, and effective clinical experiences has led schools of nursing to provide students similar experiential learning opportunities through the expanded use of human patient simulation (Fancher, 2014; Foronda, Liu, & Bauman, 2013). The shortage of clinical sites has led many boards of nursing to revise regulations to allow nursing education programs to replace clinical experiences with simulation hours (Hayden, 2010; Hayden, Smiley, & Gross, 2014; Nehring, 2008). As the availability of clinical placements for prelicensure nursing students continues to become more competitive, the implementation of simulation technology is becoming commonplace (Brewer, 2011; Hayden, Smiley, Alexander, Kardong-Edgren, & Jeffries, 2014; Prion, 2008; Sanford, 2010).

Standards for Human Patient Simulation

The International Nursing Association for Clinical Simulation and Learning developed the first Standards of Best Practice for Simulation in 2011. These standards were updated and revised in 2013. The seven standards for best practices include

details regarding (a) terminology, (b) professional integrity of participant, (c) participant objectives, (d) facilitation, (e) facilitator, (f) debriefing, and (g) assessment and evaluation. The purpose of the standards is to provide a foundation for design and implementation of high quality simulation experiences. The design and implementation of the simulation seminar utilized in this study integrated these standards.

These standards identify three distinct phases of the simulation process. The first phase of the simulation process is termed prebriefing. The purpose of the prebriefing is to provide clear information prior to the simulation, set the stage for the scenario, and assist participants in achieving scenario objectives. The second phase of the simulation process is participation in the clinical scenario. The final phase of the simulation is debriefing and follows each clinical scenario experience. The purpose of debriefing is to move participants toward assimilation and accommodation of the experience to transfer learning to future situations (Meakim et al., 2013). The phase of the simulation process addressed in this research study was prebriefing.

The National Council of State Boards of Nursing released the results of their three-year randomized, controlled, multisite study comparing outcomes of students utilizing simulation for 10%, 25%, or 50% of their clinical hours in 2014. The results indicated no difference in student outcomes when up to 50% simulation was used in place of clinical hours (Hayden, Smiley, Alexander, et al., 2014). Much of the literature indicates that human patient simulation in nursing education is an effective method for teaching and developing competencies, learner confidence, technical competence, interprofessional communication skills, and clinical judgment (Harder, 2010; Ironside, Jeffries, & Martin, 2009; Kaakinen & Arwood, 2009; Lasater, 2007;

Tilzer, Swenty, & Hoehn, 2012). However, much of the literature available is qualitative in nature, and more quantitative evidence is needed to support these statements (Cant & Cooper, 2010; Yuan, Williams, & Fang, 2012). There is a significant amount of research available presenting the effectiveness of debriefing in simulation; however, research studying prebriefing is minimal. Expert role modeling is an understudied method of prebriefing. This strategy may provide a reduction in student anxiety and improvement in self-confidence related to clinical decision making and clinical judgment (Aronson, Glynn, & Squires, 2013; Johnson et al., 2012; Page-Cutrara, 2014). "Prebriefing provides an opportunity to further simulate prior experience through facilitation and prompting and to develop pre-understanding of the patient condition and consolidation of theory-practice knowledge, particularly for novice practitioners" (Page-Cutrara, 2014, p. 139).

Problem Statement

Nursing students consistently report low self-confidence and high anxiety related to decision-making skills and clinical judgment prior to their first acute care clinical experience (Bremner, Aduddell, Bennett, & VanGeest, 2006; Dearmon et al., 2012; White, 2014). One method to address this issue is implementation of simulation experiences for the students to practice these skills prior to beginning the acute care clinical experience. The ultimate goal for the student is to gain confidence in clinical decision-making skills, thereby reducing the anxiety level. Increased self-confidence and decreased anxiety will improve the students' ability to develop clinical judgment which is essential for patient safety.

Purpose of the Study

The purpose of this experimental study was to examine the impact of the specific prebriefing strategy of expert role modeling on novice nursing student self-assessed anxiety/self-confidence and clinical judgment skills. The study compared group mean scores on the Nursing Anxiety/Self-Confidence with Clinical Decision Making scale (NASC–CDM) in a pretest–posttest fashion. In addition, group mean scores were compared from self, peer, and faculty assessed ratings utilizing the Lasater Clinical Judgment Rubric (LCJR).

This study compared group mean scores measuring anxiety/self-confidence and clinical judgment. The control group prepared for the simulation seminar utilizing standard methods including an online orientation to the simulation laboratory and mannequins, learning objectives, and review of the clinical judgment rubric scoring tool. The treatment group completed an identical orientation. Upon arrival to the simulation laboratory, both groups received standard audio taped reports for the scenarios and had identical preparation time. The treatment group viewed a video vignette of an expert nurse caring for a standardized patient enacting the scenario prior to participation. Both groups had identical data collection tools and debriefing. The overarching question for the study was:

Q Does viewing an expert nurse video decrease anxiety/increase self-confidence and improve clinical judgment scores for novice nursing students?

According to Polit and Beck (2012) a “directional hypothesis is one that specifies not only the existence but also the expected direction of the relationship between variables” (p. 88). The use of directional hypotheses may be derived from

theory as well as the use of existing studies (Polit & Beck, 2012). The theoretical framework selected for this study was Bandura's social cognitive theory. One foundation for this theory posits that the highest level of observational learning is achieved by first organizing and rehearsing the modeled behavior symbolically and then enacting it overtly; individuals are more likely to adopt a modeled behavior if it results in outcomes they value; and individuals are more likely to adopt a modeled behavior if the model is similar to the observer, has admired status, and the behavior has functional value (Bandura, 1977, 1997). Previous studies (Aronson et al., 2013; Johnson et al., 2012; LeFlore, Anderson, Michael, Engle, & Anderson, 2007) have demonstrated significantly different scores between groups exposed to role modeling and those who were not. Directional hypotheses selected for this study clarified the study's framework and purpose. The directional hypotheses were:

H1 Novice nursing students will have a significant reduction in anxiety and increase in self-confidence when exposed to an expert nurse role modeling video prior to participation in the simulation scenario, as compared to a control group of nursing students who do not view a role modeling video.

H2 Novice nursing students will have a significant improvement in clinical judgment scores when exposed to an expert nurse role modeling video prior to participation in the simulation scenario, as compared to a control group of nursing students who do not view a role modeling video.

H3 Clinical judgment scores reported by masked, trained, external faculty raters will indicate a significant difference between the students exposed to an expert nurse role modeling video as compared to the control group of nursing students who do not view a role modeling video.

Theoretical and Operational Definitions

Concepts form the basis for measurement and are the building blocks for theories. Providing clear operational definitions of the concepts used in a quantitative study is essential (Waltz, Strickland, & Lenz, 2010): "The theoretical definition provides meaning by defining a concept in terms of other concepts . . . an operational definition provides meaning by defining a concept in terms of the observations and/or activities that measure it" (p. 31). Theoretical and operational definitions of major concepts to be utilized in this study are presented here.

Clinical judgment. This is defined by Tanner (2006) as "an interpretation or conclusion about a patient's needs, concerns, or health problems, and/or the judgment to take action (or not), use or modify standard approaches, or improvise new ones as deemed appropriate by the patient's response" (p. 206). The LCJR is a tool to evaluate the four aspects of clinical judgment of the Tanner model of clinical reasoning in manikin-based simulation scenarios (Lasater, 2007). The concept of clinical judgment for this study was operationalized as the mean scores on the LCJR measured by student self-assessment, peer assessment, and faculty assessment. Clinical judgment was assessed for the primary RN performance during the simulation seminar.

Clinical simulation scenarios. These are defined by the International Nursing Association for Clinical Simulation and Learning as "the plan of an expected and potential course of events for a simulated clinical experience. The clinical scenario provides the context for the simulation and can vary in length and complexity depending on the objectives" (Meakim et al., 2013, S3). Operationally, this study used four scenarios from the National League for Nursing (2010). These scenarios have been utilized in numerous studies and are complete with learning objectives,

monologues, and scripts. These scenarios are written by experts, have been peer reviewed, and are leveled to match student competency level.

Expert role modeling. This is defined as expert performance by an experienced nurse incorporating national patient standards, practice guidelines, national safety initiatives, and hospital accreditation standards. The scripts developed for the expert practice video presented these standards for consistent performances by the experienced nurses recruited for video presentations. The operational definition of expert role modeling is the presentation of videos demonstrating care of clients utilizing best standards by expert nurses and viewed by the students in the treatment group.

Nursing Anxiety/Self-Confidence with Clinical Decision Making (NASC-CDM) scale. Merriam-Webster dictionary defines anxiety as a "painful or apprehensive uneasiness of mind usually over an impending or anticipated ill" (Anxiety, 2014). Additionally, self-confidence is defined as "confidence in oneself and in one's powers and abilities" (Self-confidence, 2014). Affective processes of anxiety and self-confidence are considered emotional barriers that may influence the process of clinical decision making in novice nursing students (White, 2014). Clinical decision making is defined by Standing (2007) as "a complex process involving information processing, critical thinking, evaluating evidence, applying knowledge, problem solving skills, reflection and clinical judgment to implement the best course of action" (p. 266). The concepts of anxiety and self-confidence with clinical decision making are operationalized as the scores obtained on the NASC-CDM measurement tool.

Prebriefing. This is defined as the provision of clear information prior to the simulation, setting the stage for the scenario, and assisting participants in achieving

scenario objectives (International Nursing Association for Clinical Simulation and Learning, 2013). It was operationalized for this study by including participant preparation with the online orientation; standard prebriefing activities including a review of the objectives, instructions for implementation of the scenario, answering questions, and discussion of other resources used in the scenario; and patient information provided through the patient chart and a nurse–to–nurse report.

Simulation. This has numerous definitions in the literature. The definition selected for this study was from Jeffries and Rogers (2007): "Activities that mimic reality and variously involve role-playing, interactive videos, or mannequins that help students learn and allow them to demonstrate decision making, critical thinking and other skills" (p. 22). It was operationalized for this study by participation in the simulation seminar.

Summary

Educators use evidence based strategies supported by the literature when developing learning activities for students. When best practices are not evidenced in the research literature, high quality studies should be undertaken to add to the body of knowledge. Nursing students report high levels of anxiety and low self-confidence prior to their first clinical rotation in the acute care facility. They state that the opportunities to practice clinical decision making and clinical judgment have been minimal in the clinical rotations that they have completed thus far in the program, which increases their anxiety. An eight-hour simulation seminar was developed and implemented to provide nursing students a safe environment to practice clinical decision making and clinical judgment prior to their first rotation in their Medical Surgical I course. The purpose of this experimental, pretest–posttest design study was

to determine whether the prebriefing strategy of expert role modeling had an impact on students' self-assessed anxiety/self-confidence and clinical judgment. Theoretical frameworks for this study include Bandura's social cognitive theory and Tanner's clinical judgment model. These frameworks are presented in Chapter II along with a review of the relevant literature.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The review of the literature analyzes and synthesizes quality literature to provide a solid foundation for the research topic and the selection of methodology. This section will present the current literature and discuss the contribution that this study may add to the body of nursing knowledge regarding the use of expert role modeling as a method of prebriefing in simulation.

As a review, the purpose of this experimental study was to investigate the impact of the specific prebriefing strategy of expert role modeling on student anxiety/self-confidence and clinical judgment skills. The two theoretical frameworks that guided this study, Bandura's social cognitive theory and Tanner's clinical judgment model, are reviewed and discussed in the first section of the chapter. The second section reviews relevant literature about the major concepts related to this study including anxiety/self-confidence, clinical judgment, simulation, prebriefing, and expert role modeling. This chapter concludes with a discussion about the potential contribution that this study offers to the body of nursing science.

A literature review including the terms of prebriefing (briefing), role modeling, simulation, clinical judgment, nursing student anxiety/self-confidence, nursing, and education was conducted in the Cumulative Index of Nursing and Allied Health and

the Educational Resource Information Center databases. Limitations on dates of articles for review were set at 2004 to retrieve the most recent literature.

Theoretical Frameworks

Theory forms the foundation for nursing research. Theoretical frameworks are defined as "collections of interrelated concepts that depict a piece of theory that is to be examined as the basis for research studies" (Houser, 2012, p. 141). Bandura's social cognitive theory formed the foundational structure for the expert role modeling, anxiety, and self-confidence portions of this research study. Tanner's model of clinical judgment was included as a second theory to support the clinical judgment portion. The relevant concepts integral to this study from both of these frameworks are outlined here.

Bandura's Social Cognitive Theory

A broad overview of Bandura's social cognitive theory is presented first. This is followed by a discussion of the salient portions that undergird the anxiety/self-confidence and role modeling processes of the study. The social cognitive theory has been utilized extensively as the framework for studies conducted with anxiety/self-confidence and role modeling.

Bandura's social cognitive theory is a complex, multifaceted theory that includes several variations that evolved over time. Bandura originally coined the theory as social learning theory in 1977. A foundational construct of the theory is self-efficacy or self-confidence. Four sources of self-efficacy identified are performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal. Additional research in 1986 led to a realization that cognitive processes are essential mediators in the learning process. The theory was renamed social cognitive theory

indicating that cognition has a large role in one's ability to self-regulate, evaluate context, and perform in numerous situations. The three means of regulating behavior for social cognitive theory were noted as external, vicarious, and self-reinforcement.

White (2014) utilized the constructs of self-efficacy and emotional arousal from Bandura's social cognitive theory as primary foundations for development of the NASC-CDM tool. Emotional arousal equates to the level of anxiety a person experiences when confronted with new, threatening situations. Inexperienced students report significant anxiety when anticipating their first clinical day in an acute care facility. This increased anxiety leads to decreased self-confidence (self-efficacy) in their capabilities to provide safe care for patients. Nurse educators must be aware of emotional arousal (anxiety levels) and self-efficacy (self-confidence) to intervene appropriately to foster the best learning outcomes for students.

Since the 1990s Bandura has focused much of his work on the concept of self-efficacy in a variety of contexts (Bandura, 1997). The principles of this portion of the theory support role modeling as a type of active learning. The principles include the following: the highest level of observational learning is achieved by first organizing and rehearsing the modeled behavior symbolically and then enacting it overtly; individuals are more likely to adopt a modeled behavior if it results in outcomes they value; and individuals are more likely to adopt a modeled behavior if the model is similar to the observer, has admired status, and the behavior has functional value (Bandura, 1977, 1997). Table 1 shows the four underlying processes related to this portion of the theory as attention, including modeled events and observer characteristics indicating arousal level; retention, including symbolic coding, cognitive organization, and rehearsal; motor reproduction, including physical capabilities, self-

observation of reproduction with accurate feedback; and motivation, including external, vicarious, and self-reinforcement (Bandura, 1977, 1997).

Table 1

Bandura's Social Cognitive Theory Processes Applied to this Study

Attention	Retention	Motor reproduction	Motivational
Expert role model close to student age carrying out functional behaviors promotes attention of students. Behavior reinforced by faculty who are viewed as experts promotes attention of students.	Audiovisual video performance of the expert role model enhances the retention of the behaviors. Process of expert role model practicing out loud promotes verbal coding of behaviors.	Structured debriefing post scenario allows students to reflect on correct behaviors and integrate them into their clinical imagination. The clinical imagination allows transfer of learning to actual care of patients.	Simulation that is not graded and progression in the nursing program that is not impacted by simulation performance may decrease anxiety, but also decrease motivation. Students' desire to learn clinical decision making and keep their patient safe.

The constructs of this portion of the theory can be linked to use of the prebriefing strategy of role modeling in simulation: Mental rehearsal of the modeled behaviors demonstrated by an expert model who is similar in age and who has an admired status of competency, leading to decreased anxiety/increased self-confidence and increased critical thinking and ability to emulate safe and effective patient care during the simulation scenario. The treatment group observed a video of an expert

nurse modeling correct protocols while caring for a standardized patient (an actor trained to portray a particular patient scenario accurately). Seeing this expert performance may allow learners to absorb information from which they are able to create individual clinical imagination (Benner et al., 2010). The learner can then refer to this image when performing in the simulation and in future clinical practice, while it provides a standard against which to gauge their personal performance (Bandura, 1986; Carroll & Bandura, 1982, 1987, 1990; LeFlore et al., 2007).

Tanner's Clinical Judgment Model

The second theory undergirding this study is the Tanner clinical judgment model (see Figure 1). This model outlines the processes that students must master as they develop clinical reasoning skills, which lead to accurate clinical decisions and safe patient care. Tanner (2006) defined clinical judgment as "an interpretation or conclusion about a patient's needs, concerns, or health problems, and/or the judgment to take action (or not), use or modify standard approaches, or improvise new ones as deemed appropriate by the patient's response" (p. 204). This model proposes that clinical judgment is a complex process involving ongoing reappraisal of rapidly changing situations. It is relevant for the type of clinical situations in which nurses provide safe and effective care for clients. The model depicts the thinking process that experienced nurses demonstrate when caring for patients. This model was utilized in this study to provide guidance for novice nursing students as they develop clinical judgment skills essential for practice (Tanner, 2006).

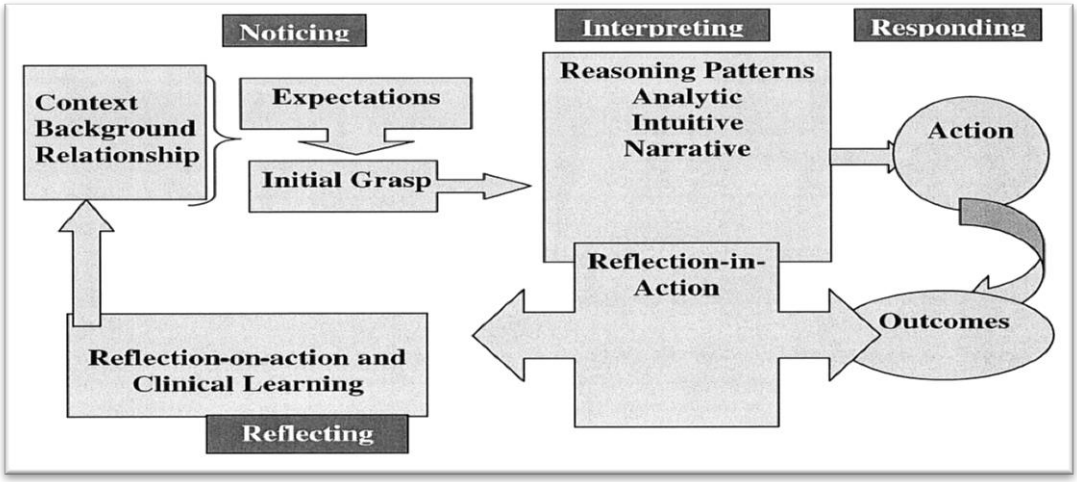

Figure 1. Tanner's clinical judgment model. From "Thinking Like a Nurse: A Research Based Model of Clinical Judgment in Nursing," by C. Tanner, 2006, *Journal of Nursing Education, 45*(6), p. 208. Reprinted with permission from Slack Incorporated.

Four constructs make up the model that is be presented briefly here: (a) noticing, including a perceptual grasp of the situation; (b) interpreting, using a variety of reasoning processes, evidence, and patient data to understand the particular situation; (c) responding with a course of action; and (d) reflecting or evaluating outcomes, both in-action and on-action. Within the model, nursing students identify cues during assessment; interpret the cues into a meaningful whole; provide safe, effective patient care in response to the interpretation; and reflect during and after patient care to add to their knowledge of patient outcomes related to particular clinical judgments (Jensen, 2013).

Figure 2 depicts Bandura's social cognitive theory constructs as the foundation for the intervention utilized in this study: viewing of an expert nurse caring for a standardized patient. Pre seminar completion of the anxiety/self-confidence scale assessed the arousal state. Outcomes were assessed by post seminar measurement of

anxiety/self-confidence. The Tanner clinical judgment model as assessed by the LCJR is depicted as the outcome variable of improved clinical judgment.

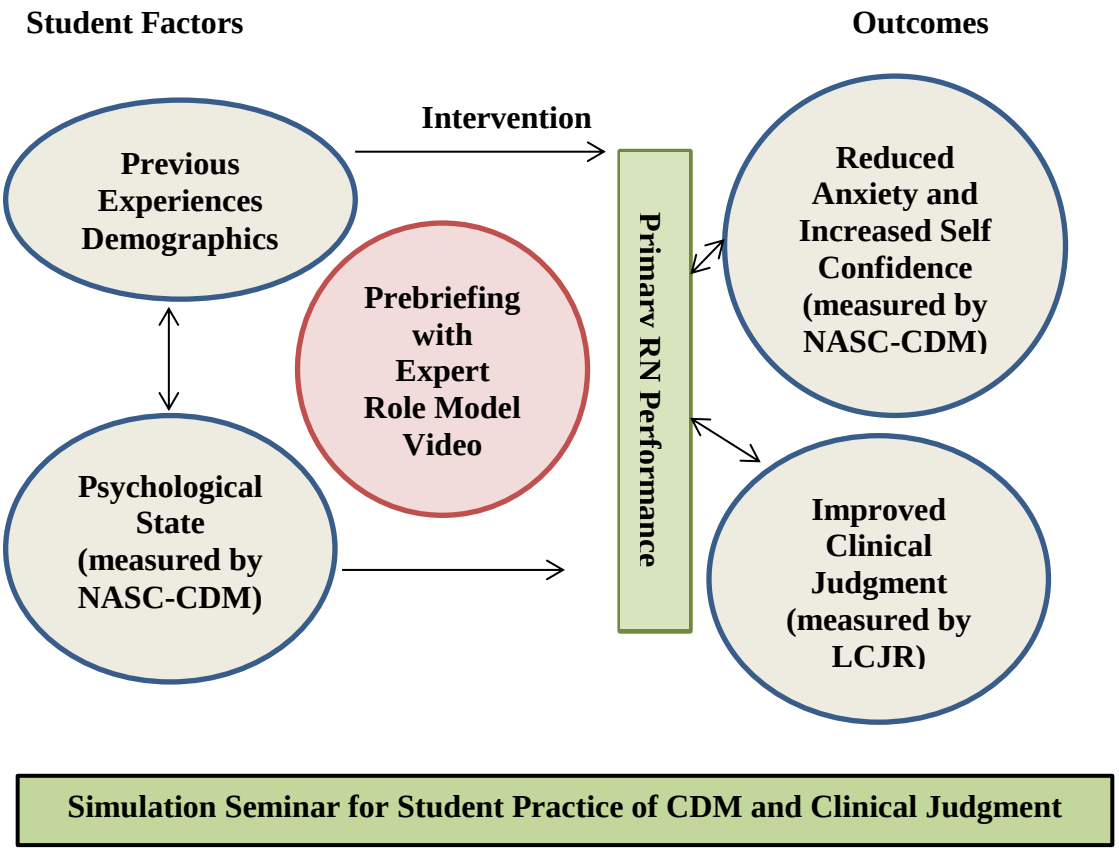

Figure 2. Conceptual model. NASC–CDM = Nursing Anxiety/Self-Confidence with Clinical Decision Making, LCJR = Lasater Clinical Judgment Rubric.

As demonstrated in the conceptual framework, a student's performance is directly linked to factors of emotional arousal (psychological state), which is dependent upon previous experiences in simulation and clinical as well as personal demographics. These factors may impact levels of anxiety and self-confidence in their ability to provide safe and effective care to patients. Reducing these levels of arousal may lead to improved outcomes. The study utilized a prebriefing intervention of

expert role modeling for the treatment group, which was hypothesized to reduce student anxiety and increase self-confidence with clinical decision making, resulting in improved clinical judgment scores. The control group participated following identical orientation activities. This group was provided full access to the expert role modeling videos upon completion of the study.

Literature Review

The arrangement of the literature review follows a concept based format. Since levels of student anxiety and self-confidence with clinical decision making related to performance measures of clinical judgment are the focus of this research study, the review of the literature focuses on published studies reflecting these concepts. Studies presenting expert role modeling are included as this is the planned intervention for the research study. The literature review is organized by topic and arranged from global to specific.

Simulation and Student Learning

A major role of nursing educators is to facilitate learning and evaluation of skills and competencies that prelicensure students need to provide safe and effective care to patients. These competencies include psychomotor skills or skilled know-how; formation of professional identity, including ethical comportment; and the development of clinical judgment (Benner et al., 2010; Myrick, 2004; Profetto-McGrath, Smith, Day, & Yonge., 2004). “Simulation is a technique, not a technology, to replace or amplify real experiences with guided experiences, often immersive in nature, that evoke or replicate substantial aspects of the real world in a fully interactive fashion” (Gaba, 2004, p. i2). The Carnegie Foundation for the Advancement of Teaching report, *Educating Nurses*, stated that simulation is an effective

teaching/learning strategy for the education of nursing students (Benner et al., 2010). Simulation allows integration of theory and practice and meets the recommendations in the Carnegie report to provide rich, experiential opportunities in classroom and laboratory settings (Benner et al., 2010). In situated learning, students collaborate with their peers to refine and enhance their knowledge and skills in caring for a simulated patient (manikin). Providing care to the simulated patient encourages the students to develop clinical judgment and collaborate effectively with the team. These extensions of learning by integrating thought processes provide a means for the students to think and act like a nurse.

Simulation has been viewed as a bridge between education and practice and may reduce the gap between theory and application. The simulation strategy must be carefully structured to best facilitate learning in a cost effective manner (Aronson et al., 2013; Meakim et al., 2013). The simulation seminar designed for use in this study followed the recommendations of the International Nursing Association for Clinical Simulation and Learning for best practices and utilized peer reviewed scenarios, which were selected to meet the specific learning objectives of novice nursing students.

Simulation in Nursing Education

In 2010 the National Council of State Boards of Nursing conducted a nationwide survey of nursing education programs to determine the types, amounts, and use of simulation. All prelicensure programs (schools that prepare students for licensure to practice as RNs) were invited to participate in the survey. A total of 1,729 surveys were sent and 1,060 responded, yielding a 62% response rate. It was determined that 87% of responding programs used simulation in at least one course, and 54% used simulation for at least five clinical courses. The findings also indicated

that 77% of the respondents substituted simulation for clinical hours (Hayden, 2010). This survey provided evidence that there is widespread utilization and acceptance of simulation in nursing education programs in the United States.

The National Council of State Boards of Nursing began a three-year, multi-site study in 2011 to determine the effectiveness of simulation as a substitute for traditional clinical hours. "The NCSBN National Simulation Study: A Longitudinal, Randomized, Controlled Study Replacing Clinical Hours with Simulation in Prelicensure Nursing Education" evaluated the educational outcomes of nursing knowledge, clinical competency, and readiness for practice of nursing graduates in the United States. This longitudinal study included students from 10 prelicensure programs across the United States. Each program randomized the participating students into one of three groups: control group, up to 10% simulation group, 25% simulation treatment group, and 50% simulation treatment group. A total of 666 students participated in the study. Results indicated that up to 50% simulation was effectively substituted for traditional clinical experience in the core courses across prelicensure nursing curricula (Hayden, Smiley, Alexander, et al., 2014). Participants were also followed into their first six months of practice. Findings indicated that there were "no meaningful differences between the groups in critical thinking, clinical competency, and overall readiness for practice as rated by managers at six weeks, three months and six months after working in a clinical position" (p. s37). The findings supported the conclusions that substitution of high quality simulation experiences for up to half of the traditional clinical hours produces comparable end of program educational outcomes for those students whose experiences are mostly traditional clinical hours and produces new graduates who are ready for practice.

Additionally, the use of 50% simulation did not impact National Council Licensure Examination pass rates (Hayden, Smiley, Alexander, et al., 2014). The ultimate purpose of simulation is to reduce the risk to live patients while increasing students' self-confidence so that they may apply this learning in the clinical setting (Alinier, Hunt, Gordon, & Harwood, 2006; Jeffries, 2006; Lasater, 2007). Practice in the simulation laboratory is not a complete replacement for clinical; however, it is an excellent option to provide students the enhanced opportunity to think and act in the role of a RN (National Council of State Boards of Nursing, 2005).

Salient points from two integrative reviews of simulation used in nursing education are presented here. The review by Foronda et al. (2013) synthesized data from 101 articles dated from 2007 to 2012. Five themes emerged indicating nursing students participating in simulation were satisfied, had increased self-confidence/self-efficacy, had acquired skills and knowledge, had learned to manage anxiety, and had opportunities for interdisciplinary experiences. The summary indicated that students reported satisfaction with the use of simulation as a mechanism for clinical education within these themes. Recommendations stated "a paucity of evidence remains regarding simulation's effectiveness in fostering safety related behaviors, critical thinking, collaboration, problem solving, prioritization, retention of learning, and demonstration of clinical competence" (Foronda et al., 2013, p. e413).

A second review by Shinnick et al. (2011) focused on simulation and its efficacy in areas of skill attainment, knowledge gains and transferability, and critical thinking and self-confidence in prelicensure nursing education. This study examined a total of 135 studies over the previous 10 years. Reports were included if simulation was studied with prelicensure nursing students with a sample size of > 10;

exclusionary criteria included descriptive or subjective studies or ambiguous outcomes. Only eight quantitative studies met the criteria for review. This review determined that students liked simulation and gains are made in self-efficacy. The outcomes from the review led the authors to conclude that "it is imperative to determine any positive relationship between HPS [human patient simulators] and increased learning so that resources can be allocated appropriately" (p.70), and that "carefully designed multisite trials with robust sample sizes are needed to establish support for the use of HPS as an educational strategy for prelicensure nursing students" (p. 71).

Nursing Student Anxiety and Self-Confidence

A primary purpose of this study was to assess nursing student anxiety and self-confidence with clinical decision making. Specific recent studies regarding nursing student anxiety and self-confidence are presented next. These studies discuss the impact of simulation on nursing student perceptions of anxiety and self-confidence in relation to participation in simulation and clinical practice experiences.

Gore, Hunt, Parker, and Raines (2011) collected data from a convenience sample of 70 junior level bachelor of science in nursing students in their fundamentals and health assessment courses. The students were randomly assigned to either treatment or control groups. The treatment groups participated in a four-hour mock hospital simulation prior to their actual clinical experience, and the control groups participated in the four-hour simulation after their actual clinical experience. Results indicated significant ($p = 0.01$) differences in levels of anxiety between the groups. "The self-reported anxiety scores of students who experienced the preclinical

simulation were significantly lower than the self-reported anxiety scores of students who did not have the preclinical simulation experience" (p. e178). The findings demonstrated the value of a preclinical simulation experience to reduce anxiety levels of junior level students (Gore et al., 2011).

A mixed method, quasi experimental study was conducted by Dearmon et al. (2012) to evaluate the effect of a simulation-based orientation utilizing standardized patients. Fifty out of 57 novice bachelor of science in nursing students consented to include their data for analysis. The two-day simulation-based orientation replaced the traditional laboratory/check-off process. The simulation provided a safe, non-threatening environment for students to practice basic skills and communication with standardized patients. Results found that students demonstrated decreased anxiety, increased knowledge, and increased self-confidence in their ability to perform expected clinical behaviors. Findings also demonstrated support for the inverse relationship between anxiety and self-confidence (Dearmon et al., 2012).

Rhodes and Curran (2005) conducted a pilot project with 21 volunteer, senior level nursing students who had never been exposed to human patient simulation. The goal of the project was to describe the use of the human patient simulator as a teaching tool and increase the nursing students' critical thinking/clinical judgment skills during complex situations. The students rotated through a 20-minute deteriorating patient scenario in groups of four to five. Students completed a 50-minute debriefing including viewing of the videotape and discussion following completion of the scenario. Data collected included a researcher-developed 13-item questionnaire to acquire student feedback regarding their perceptions of the simulation. Rhodes and Curran stated: "Students have a fear of being overwhelmed by a lack of experience.

Their anxiety level influences their decision making, which is directly related to clinical judgment" (p. 256). Findings of the pilot project indicated that students felt the experience was positive, and faculty members were able to identify areas of strengths and weaknesses in student performance which led to improved teaching methods.

Lasater Clinical Judgment Rubric

The LCJR was developed based on Tanner's model of clinical judgment. According to Dr. Lasater (personal communication, April 29, 2014), "the purpose for development of the tool was to offer a common language between students, faculty, and preceptors in order to talk about students' thinking and to serve as a help for offering formative guidance and feedback." The LCJR has evolved into a widely used scoring system to assess nursing students' clinical reasoning skills as demonstrated during a simulated or actual patient care experience. The rubric describes specific criteria that represent the progression of clinical thinking and judgment from beginning to exemplary. The same four constructs of the Tanner model provide the framework for the LCJR: noticing, interpreting, responding, and reflecting. Each of the four constructs is further divided into 11 dimensions and scores of 1 to 4 are recorded (for a possible total of 44 points). The points are assigned describing the level of students' behaviors: beginning, developing, accomplished, and exemplary (Lasater, 2007). During development of the tool in 2005, Lasater reported a mean score for 26 junior level students of 22.98. Additional data reported in this study described no differences in LCJR scores among students when differences were calculated for day of the week, time of the day, order of simulation scenarios, small group membership during the scenarios, and size of the groups were factored (Lasater, 2005). This tool has been utilized in numerous studies and has been analyzed as a

faculty measurement tool, as a student measurement tool, and as a self-assessment tool (Adamson & Kardong-Edgren, 2012; Cato, Lasater, & Peeples 2009; Gubrud-Howe, 2008; Johnson et al., 2012).

The LCJR was not originally designed as a measurement tool; however, nursing educators have frequently utilized it to assess clinical judgment learning outcomes. Despite extensive quantitative use of the tool, validity and reliability have not been empirically established. Victor-Chmil and Larew (2013) evaluated the psychometric properties of the LCJR via a literature review. The goal of the study was to "organize current knowledge available on the LCJR in an effort to assess its use as a valid and reliable measurement tool, and to identify specific need for continued testing of the instrument" (p. 1). A total of 10 articles from peer reviewed journals and 65 online presentations, dissertations, and poster presentations were examined in this article. Data presented from the online presentations and poster presentations are cited from the Victor-Chmil and Larew study. Citations from original works reviewed are cited as such. The data from all sources are synthesized here.

Reliability. The most comprehensive reliability data were located in the dissertation by Adamson (2011). Adamson reported the interrater reliability of data from the LCJR was .889 and the intrarater reliability as .908 utilizing intraclass correlation and a 95% confidence interval. Additionally, this study presented the internal consistency of the LCJR utilizing Cronbach's alpha as .974 (Adamson, 2011). The dissertation by Gubrud-Howe (2008) calculated the interrater reliability for the LCJR with the percent agreement strategy yielding a range of 92% to 96%. The dissertation by Sideras (2007) utilized the level of agreement technique yielding an interrater reliability range of 57% to 100%. These three authors published an article in

2012 summarizing the methods and findings from their studies titled: “Assessing the Reliability, Validity, and Use of the Lasater Clinical Judgment Rubric: Three Approaches.” Extensive information regarding the psychometrics of this tool was cited “supporting the validity of the LCJR for assessing clinical judgment during simulated patient care scenarios” (Adamson, Gubrud, Sideras, & Lasater, 2012, p. 66).

Internal consistency utilizing Cronbach’s alpha was reported in a study by Jensen (2013). This study compared student and faculty ratings utilizing the LCJR. A total of 88 senior students from associate and baccalaureate programs participated in the study. The simulation was a high stakes evaluation of competency for graduation of the program. The overall consistency was reported as 0.95, with the noticing phase yielding 0.88, interpreting phase 0.88, responding phase 0.88, and reflecting phase 0.86. The author concluded that “student anxiety may have interfered with optimal student behaviors in response to simulated patients in crises and was a limitation of this study” (Jensen, 2013, p. 27).

Validity (construct, convergent, and content). Construct validity was assessed by Ashcraft and Opton (2009) in a quantitative evaluation of the 11 dimensions of the LCJR. The descriptive study utilized 85 senior baccalaureate nursing students in their final semester. Random assignment was utilized to divide groups and assign students to the specific role. Four standardized scenarios were utilized to evaluate student clinical judgment. Content validity of each scenario was established through expert panel review. Following data collection and expert panel review, a post hoc factor analysis assessed the tool and recommended adding two dimensions, safety and sentinel events (Ashcraft & Opton, 2009).

Convergent validity is designed to assess the degree that the measurement of clinical judgment is correlated with other measures to which it is theoretically predicted to correlate (Waltz et al., 2010). This attribute was assessed in an experimental, pretest–posttest mixed method unpublished dissertation by Mann (2010). The study utilized a mixed methods approach to evaluate clinical judgment with the LCJR and critical thinking with the Assessment Testing Institute Critical Thinking Test. The sample consisted on 22 baccalaureate nursing students, and data were collected in a pre and post intervention fashion. The study reported a Spearman's rho correlation between critical thinking and clinical judgment indicating no statistically significant evidence of a relationship. The lack of correlation between these two measures indicates a lack of convergent validity; however, no discussion regarding the evidence indicating that a correlation should be expected was presented. However, a statistically significant difference between the control and treatment groups on the scores calculated with the LCJR was reported (Mann, 2010).

According to Waltz et al. (2010), content validity assesses the "extent to which the content of the measure represents the content domain" (p. 165). Three studies are presented examining content validity: Carrick and Miehl (2010), Cato et al. (2009), and Davis and Kimble (2011). Carrick and Miehl presented a PowerPoint slide show indicating that students had increased confidence and critical thinking documented in reflective journals when using the LCJR as an evaluation tool (as cited in Victor-Chmil & Larew, 2013). The article by Cato et al. reported that students show deeper and more significant self-evaluation when using the LCJR as a journaling tool. These two studies demonstrate qualitative support for the content validity of the LCJR (Victor-Chmil & Larew, 2013). Davis and Kimble conducted a literature and analysis

of six rubrics used in simulation evaluation for assessment of the American Association of Critical Care Nurses Bachelor of Science in Nursing Essentials. Analysis supported content validity for the LCJR as it incorporates six of the eight bachelor of science in nursing essentials and utilizes all three of Bloom's learning domains (Davis & Kimble, 2011).

Blum, Borglund, and Parcells (2010) examined clinical competence and self-confidence in 53 bachelor of science in nursing students using the LCJR. The authors chose four specific ratings within the LCJR for student rating of their self-confidence: calm/confident manner, well-planned interventions/flexibility, evaluation/self-analysis, and commitment to improvement. Correlation data reported in this study "support the test–retest reliability of the Lasater (2007) rubric in measuring student self-confidence and clinical competence, further validating the LCJR model" (Blum et al., 2010, p. 9). Additional findings reported that the internal consistency of these four items used to assess student self-confidence, measured with Cronbach's alpha, was .810. Content validity demonstrated by these studies documented support for use of the LCJR as assessment of the content domain of confidence of students.

One method that has been studied is self-evaluation with the LCJR. Students rate their own performances from a clinical or simulation scenario and provide specific examples and rationales for their ratings in a narrative form. This allows faculty members additional opportunities to understand students' thinking and validate it or make corrections in the students' perceptions using feedback. A qualitative study by Cato et al. (2009) utilized the LCJR as a personal, reflective, self-assessment tool for students to gauge their clinical judgment. The goal was to make the connection between simulation participation and development of clinical judgment more

transparent to students and faculty. The process allowed for individual, tailored feedback to be provided to the students to assist them in developing higher levels of clinical judgment. The self-assessment LCJR also provided clinical faculty members additional evidence of students' progress and goal setting for use in clinical evaluation (Cato et al., 2009). Nielsen, Stragnell, and Jester (2007) developed a guide for reflection tool that was formatted from the LCJR. The purpose of the tool was to provide students a structured format that specifically addressed the reflection in action and on action categories of the LCJR.

This study utilized self-evaluation by the student performing as the primary RN. The student assigned the peer observer role assessed the performance of the primary RN with the LCJR as well. Students were provided a training packet on the Learning Management site that included a background of the tool, instructions for completion, and a sample recorded scenario for them to practice. Additionally, two external, trained, masked faculty reviewers evaluated videos of the scenarios and used the LCJR to score the student in the primary RN role. Triangulation of data comparing self, peer, and faculty scores were utilized as a check for reliability of data. Interrater reliability was calculated for the two trained external faculty reviewers following their training at specified intervals during the study and in a post hoc manner.

Prebriefing

Numerous research studies have been conducted regarding the utilization of simulation in nursing; however, very few have focused on the prebriefing process (Page-Cutrara, 2014). Some activities currently included within the prebriefing phase of simulation are (a) orientation to the simulation laboratory and manikins, (b) orientation to the learning objectives of the scenario, (c) report or background

information on the clinical client (the manikin or standardized patient), and (d) specific roles and responsibilities of team members (Husebø, Friberg, Søredie, & Rystedt, 2012; Jeffries, 2007; Page-Cutrara, 2014). The prebriefing phase of simulation may offer novice students with minimal prior clinical experiences increased opportunities for fully engaging in the learning process (Page-Cutrara, 2014). It is critical for novice nursing students to be provided a "framework of understanding" to assist their performance and learning activities (Husebø et al., 2012, p. 10).

Expert Role Modeling

An integrated review by Baldwin, Mills, Birks, and Budden (2014) discussed the role modeling and development of professional identity in nursing education. The dates of the review encompassed 2000 to 2012 and included 33 articles. Two primary themes emerged from the analysis of these articles: role modeling by clinicians and role modeling by academics. The outcome showed "an imbalance in the recognition of the role modeling of professional behaviors in the clinical versus the academic setting" (p. e24). Students are exposed to both groups throughout their education; however, "there is sufficient evidence that nursing students perceive clinical nurses to be the most important role models for their practice" (Baldwin et al., 2014, p. e24). This reinforces the importance of utilizing simulation learning opportunities with expert role models depicting positive behaviors for clinical judgment and caring.

LeFlore et al. (2007) conducted a descriptive pilot study comparing knowledge acquisition, technical and behavioral skill attainment, and student satisfaction between students in a self-directed learning group and an instructor-modeled group. A convenience sample of all 16 nurse practitioner students in their first pediatric

management course was included in the study. Students signed up for specific dates for the simulation but were unaware whether that date was assigned to be a treatment or control day. Group A was the control group who participated in the simulation scenario following traditional lecture instruction. Group B participated following self-directed instruction and was provided with a facilitated debriefing. Group C received the intervention of instructor modeling prior to participating in the simulation scenario. Findings indicated no significant differences in knowledge attainment scores. An adapted self-efficacy tool was completed by all groups in a pre and post manner. The adapted tool (Michael, 2005) yielded an interitem reliability of 0.927. Significant differences in the self-efficacy tool scores were noted between groups with $p = 0.006$, $p = 0.008$, and $p = 0.012$ for each of the scheduled times. The behavioral assessment tool demonstrated statistically significant differences between the groups in 8 out of 10 components and the overall team behaviors. A strong correlation between the self-efficacy tool and the behavioral assessment tool was observed, indicating that 60% to 70% of the variance in the behavioral assessment tool can be related to the variance in the self-efficacy tool. However, which item was causal could not be determined. The calculated Cronbach's alpha of 0.97 and intraclass coefficient was 0.84 ($p = 0.001$); a lack of difference between mean scores was also demonstrated with analysis of variance of $p = 0.46$. The conclusion was that instructor-modeled learning was more effective than the traditional lecture method or self-directed learning. This study utilized Bandura's social cognitive theory as a foundation for the study. This theory relates that learners engaged in simulation learn directly from the experience as well as by observing the scenario as a team member (vicarious learning).

In a recent study by Aronson et al. (2013), 24 senior level students volunteered to participate in a clinical simulation providing care for a complex heart failure client. Bandura's social learning theory was the foundation for the study. The study utilized a quasi-experimental, one group pretest–posttest design. Performance was measured with the previously validated heart failure simulation evaluation tool. The findings indicated that the students performed significantly better in the simulation scenario ($p = 0.000$) following exposure to an expert role modeling video. The power analysis indicated a large effect size of 0.926, alpha = 0.05, power = 0.991. The authors concluded that expert role modeling was an effective learning method to help prepare novice nursing students for clinical competency (Aronson et al., 2013).

A primary article related to the development of this study was published in 2012 by Johnson et al., who collaborated in a quasi-experimental, international, multi-site study. A total of 275 students (221 from the United States and 54 from the United Kingdom) participated. The simulation experience was a required curricular component; however, students could withhold their data from the study. All levels of program (associate degree and bachelor of science degree), location (urban, rural, or international), and funding source (private or public) were included in the study. The purpose of the study was to determine whether expert role modeling had an effect on students' development of clinical judgment during simulated care of a geriatric client. The intervention group received prebriefing with an expert role model video, while the control group received standard prebriefing for the simulation. Two quantitative datasets were collected, one demographics form and evaluation survey, and the second dataset was measurement of clinical judgment utilizing the LCJR for the primary RN role. The LCJR for each primary RN ($n = 94$) was assessed by trained external faculty

reviewers who utilized videos for analysis. A post hoc analysis indicated a large effect size of Cohen's $d > 1.13$. There were highly significant differences ($p = 0.001$) between the control and treatment groups in noticing, interpreting, and responding scales (Johnson et al., 2012). This led the authors to conclude: "findings provide support for combining expert role modeling with clinical simulation to improve students' clinical judgment in the care of older adults" (Johnson et al., 2012, p. 179).

Potential Contribution to Nursing Science

Nurse educators use evidence-based strategies supported by the literature when developing teaching and learning activities. When best practices are not evidenced in the research literature, high quality studies should be undertaken to add to the body of knowledge. Nursing students report high levels of anxiety and low self-confidence prior to their first clinical rotation in the acute care facility. They state that the opportunities to practice clinical decision making and clinical judgment have been minimal in the clinical rotations that they have completed thus far in the program. For this study, an eight-hour simulation seminar was utilized to provide nursing students a safe environment to practice clinical decision making and clinical judgment prior to their first rotation in their Medical Surgical I course. In reviewing the literature, a paucity of research on the design and implementation of prebriefing activities utilized in simulation was discovered. This experimental, pretest–posttest design study may add to the body of knowledge by determining whether the prebriefing strategy of expert role modeling has an impact on students' self-assessed anxiety/self-confidence and clinical judgment skills.

Summary

This chapter discussed the two theoretical frameworks underpinning this research study, Bandura's social cognitive theory and Tanner's model of clinical judgment. The review of the literature focused on major concepts and research studies pertinent to this study. Anxiety/self-confidence in novice nursing students prior to their first acute care clinical was examined and linked to their ability to make clinical decisions. Clinical judgment was explored as a foundational skill necessary for provision of safe, effective patient care. Finally, the prebriefing strategy of expert role modeling was discussed along with its significant impact on student anxiety/self-confidence and clinical judgment skills. After the review of the literature, it was found that only a few research studies exist pertaining to the effectiveness of prebriefing with an expert role model and its impact on novice nursing student anxiety/self-confidence with clinical decision making and development of clinical judgment.

Chapter III presents the methodology for this research study. This quantitative experimental study utilized a pretest–posttest design to compare mean group scores on measures of anxiety/self-confidence. Clinical judgment scores were assessed by self-assessment, peer rated, and faculty rated scores for the student performing as the primary RN. The researcher provides additional information on the design type, study setting, population, sampling procedures, power analysis, ethical considerations, data collection procedures, and instrumentation in Chapter III. Chapter III also includes the planned data analysis procedures and measures to address potential threats to internal validity.

CHAPTER III

METHODOLOGY

Introduction

The purpose of this quantitative, experimental pretest–posttest design study was to investigate the impact of the prebriefing strategy of expert role modeling on nursing students' anxiety/self-confidence and clinical judgment. Effects were measured by (a) self-assessed pretest–posttest scores utilizing the NASC–CDM scale and (b) self-assessed, peer rated, and faculty rated clinical judgment scores measured with the LCJR for each student acting in the role of the primary RN. Trained external faculty reviewers were masked as to group assignment of students. These results were compared for differences between the control group (standard prebriefing prior to participation in each clinical scenario) and treatment group (utilization of an expert role model video prior to participation in each clinical scenario). Students were masked as to their assignment into treatment or control groups.

This chapter outlines design type, study setting, population, sampling procedures, power analysis, ethical considerations, data collection procedures, and instrumentation. The chapter concludes with the data analysis procedures and measures that addressed potential threats to internal validity.

Research Design

This study utilized an experimental design to investigate differences between the control group and treatment group. Polit and Beck (2012) characterized an experimental study as one of cause and effect that includes three properties of true experiments: (a) manipulation of the independent variable, (b) control over the experimental situation with an approximately equivalent comparison group, and (c) randomization of participants into either the control or treatment group.

The dependent (outcome) variables for this study were (a) pre and post seminar anxiety/self-confidence with clinical decision making (NASC–CDM) scores and (b) student and faculty scores for clinical judgment (LCJR). The independent (intervention) variable was the viewing of expert role modeling videos. Other independent variables included data collected on the demographic tool, including age, gender, and ethnicity, and situational variables of previous experience in healthcare and previous experience with simulation.

The study investigated whether the independent variable, viewing of an expert nurse video, had an effect on the dependent variables of students' self-assessed anxiety/self-confidence and clinical judgment. The first outcome was measured by student completion of the NASC–CDM prior to and following an eight-hour simulation seminar. The second outcome was assessed by students in the primary RN and peer observer roles completing the LCJR following the assigned simulation scenarios as well as ratings by trained external faculty reviewers. The control group completed the eight-hour simulation seminar with the standard method of prebriefing, which included an audio taped report, a chart review, and a 30-minute collaborative discussion to determine pathological processes and a basic plan of care. The treatment

group received the same standard prebriefing plus viewed a video of an expert nurse role modeling care for a similar scenario with a standardized patient.

The expert nurse role modeling videos were recorded utilizing a male and a female nurse near the student age who had greater than ten years of experience. These individuals were selected based on two premises of Bandura's social cognitive theory. The principles include (a) individuals are more likely to adopt a modeled behavior if it results in outcomes they value; and (b) individuals are more likely to adopt a modeled behavior if the model is similar to the observer, has admired status, and the behavior has functional value (Bandura, 1977, 1997). The students were very interested in the modeled behaviors as they wanted to perform well in the scenario.

The control group did not view the expert nurse video. The treatment group viewed a total of four expert nurse videos. One recording for each scenario was provided to the treatment group immediately following the verbal report. Each recording was five to seven minutes in length and demonstrated the thoughts and actions of the expert nurse providing care to a standardized patient. The recordings were scripted to the scenarios selected for the seminar (see Appendix A).

Research Hypotheses

This study compared group mean scores measuring anxiety/self-confidence and clinical judgment. The overarching question for the study was:

Q Does viewing an expert nurse video decrease anxiety/ increase self-confidence and improve clinical judgment scores for novice nursing students?

According to Polit and Beck (2012) a "directional hypothesis is one that specifies not only the existence but also the expected direction of the relationship between variables" (p. 88). The use of directional hypotheses may be derived from

theory as well as the use of existing studies (Polit & Beck, 2012). The theoretical framework selected for this study was Bandura's social cognitive theory. One foundation for this theory posits, the highest level of observational learning is achieved by first organizing and rehearsing the modeled behavior symbolically and then enacting it overtly: Individuals are more likely to adopt a modeled behavior if it results in outcomes they value; and individuals are more likely to adopt a modeled behavior if the model is similar to the observer, has admired status, and has functional value (Bandura, 1977, 1997). Previous studies (Aronson et al., 2013; Johnson et al., 2012; LeFlore et al., 2007) demonstrated significant difference scores between groups exposed to role modeling and those who were not. Directional hypotheses were selected for this study to clarify the study's framework and purpose. The directional hypotheses were:

H1 Novice nursing students will have a significant reduction in anxiety and increase in self-confidence when exposed to an expert nurse role modeling video prior to participation in the simulation scenario, as compared to a control group of nursing students who do not view a role modeling video.

H2 Novice nursing students will have a significant improvement in clinical judgment scores when exposed to an expert nurse role modeling video prior to participation in the simulation scenario, as compared to a control group of nursing students who do not view a role modeling video.

H3 Clinical judgment scores reported by masked, trained, external faculty raters will indicate a significant difference between the students exposed to an expert nurse role modeling video, as compared to the control group of nursing students who do not view a role modeling video.

The statistical analysis compared mean scores between the control and treatment group for differences.

Setting

This study was conducted at a four-year Hispanic serving state university located in a midsized Western city in the United States. A Hispanic serving institution is defined as an institution of higher education with an enrollment of undergraduate full-time equivalent students that is at least 25% Hispanic students (United States Department of Education, 2011). This designation allows additional Title V funding to assist Hispanic students to attain higher education (United States Department of Education, 2013). The bachelor of science in nursing program at the university is designed to prepare students with the principles and skills necessary for practice as a professional nurse. The setting was chosen because it was a convenient population for the researcher.

The setting for the eight-hour simulation seminar was an on-campus simulation laboratory. The simulation laboratory is designed to replicate a hospital ward with three hospital beds and standard equipment found at a hospital bedside. The human patient simulator utilized was the high fidelity Laerdal SimMan 3G. Additional equipment available included a crash cart with pacing and defibrillation capability, intravenous pumps, functional headwalls for oxygen and suction, computerized medication dispensing system, and any other items necessary to provide realistic scenario depiction. The patient health record was available to the students via SimChart. Audio and video recording was completed utilizing the Laerdal SimView recording software. The scenarios, debriefing, and evaluations took place on campus in the simulation laboratory, adjoining classroom, and computer areas. Scenarios and objectives were selected to meet the specific needs of novice nursing students (see Appendix B).

Population

The target population for the study included all undergraduate nursing students preparing for their first acute care clinical experience. The accessible population for the study included nursing students enrolled in their first acute care clinical in the traditional bachelor of science in nursing program at the university.

Inclusion criteria for the study sample included traditional bachelor of science in nursing degree nursing students enrolled in their beginning medical surgical didactic and clinical course. The participants were18 years of age or older and willing to provide informed consent for their data to be included in the study. The eight-hour simulation seminar was part of the clinical hour requirement, and participation was mandatory for students.

Exclusion criteria for the study sample included students who were repeating the medical surgical nursing course or who did not attend the simulation learning activity as scheduled.

Enrollment included 45 students; two students were excluded from the study as they were repeating the course. There were 6 males and 37 females who consented to include their data in this study.

Sampling and Randomization
Procedure

A purposive, non-probability convenience sample was invited to include their data in the study. According to Polit and Beck (2012), non-probability sampling does not allow for random selection of participants, which may increase the risk of sampling bias. Purposive sampling was utilized to select participants with similar knowledge, skills, and attitudes. According to Houser (2012), “the best way to reduce

bias in a convenience sample is to assign subjects to groups randomly once they have been recruited" (p. 186). The undergraduate nursing coordinator placed numbers that were assigned to students into two hats. The first hat included students in the obstetrics clinical rotation, and the second hat included students in the pediatric clinical rotation. She drew out names randomly to assign them to specific clinical sections for placement into the Medical Surgical I clinical. Placing students' names into two hats prevented clinical conflicts among the three clinical rotations. These groups were further randomized as to dates of attendance at the simulation seminar. The first three dates of attendance served as the control group, and the final three dates served as the treatment group. This reduced chances of contamination between the two groups.

The number of students placed in each clinical section was limited to seven or eight students. This allowed for equal distribution of students to the clinical facilities. Further random assignment placed students into Group A or Group B for each section which further reduced the number to three or four students. The small group sizes allowed for each student to act in each role during the seminar day.

Power Analysis

A power analysis is a procedure for determining the likelihood that a particular test of statistical significance is sufficient to reject a false null hypothesis. The standard criterion for an acceptable risk for a Type II error is 0.20; therefore, an adequate sample size gives a minimum power of 0.80 (Polit & Beck 2012). The level of significance is known as the *p* value and represents when the null hypothesis should be rejected. The level of significance set for this study was 0.05.

According to Polit and Beck (2012), "a power analysis is used to strengthen statistical conclusion validity by estimating in advance how big a sample is needed"

(p. 422). Additionally, sufficient sample size establishes adequate power, which is described as the ability to detect a difference in the outcome variable if there is, in fact, a difference. The best method to accurately predict effect size is obtained from past related studies involving a similar intervention and outcome variables. A study by Johnson et al. (2012) presented a similar intervention and outcome variable. A post hoc analysis conducted in the study indicated a large effect size of Cohen's $d > 1.13$. There were highly significant differences ($p = 0.001$) between the control and treatment groups in noticing, interpreting, and responding scales. This led the authors to conclude, "findings provide support for combining expert role modeling with clinical simulation to improve students' clinical judgment in the care of older adults" (Johnson et al., 2012, p. 178).

The a priori power analysis conducted for this study utilized a moderate effect size of 0.35 and the above published effect size of Cohen's $d > 1.13$. The assumptions utilized for the analysis included power = 0.80, probability = 0.05, and number of variables in the equation = 6. An estimated required sample size of 46 was identified with a moderate effect size of 0.35. The estimated required sample size using the large effect size of $d = 1.13$ from the published study was calculated to be 20.

This study had an estimated sample size of 50 students. If they consented to include their data, there would be enough participants in the study to meet the requirements for a large or moderate effect size. A post hoc power analysis utilizing a 0.05 level of significance was calculated following data collection.

Ethical Considerations

The researcher completed the Collaborative Institutional Training Initiative (n.d.) tutorial for the protection of human subjects. This tutorial provides a

standardized training program for researchers at participating institutions. Institutional Review Board approval was received under the expedited status from the University of Northern Colorado (see Appendix C). Additionally, the approval was received by the Institutional Review Board at Colorado State University–Pueblo prior to data collection (see Appendix D).

Institutional Review Board committees are formally designated to approve, monitor, and review biomedical and behavioral research involving human subjects. The priority goal of the Institutional Review Board is to protect human subjects from physical or psychological harm. Institutional Review Board committees enforce regulations from the Office for Human Research Protections, which allows them to approve, disapprove, or require modifications in planned research proposals. Three major principles from the Belmont Report include respect for persons, beneficence, and justice (Polit & Beck, 2012). These principles provided the guidelines for the development of this study and are presented here.

The ethical principle of respect for human dignity includes the right to self-determination and the right to full disclosure (Polit & Beck, 2012). "Self-determination means that prospective participants can voluntarily decide whether to take part in a study, without risk of prejudicial treatment" (Polit & Beck, 2012, p. 154). A second part of self-determination is freedom from coercion. This specifically applies to this study as students might feel that including their data could lead to penalties or rewards. Several strategies were planned to reduce this potential issue. Although attendance and participation in the eight-hour simulation seminar was required, it was not graded; therefore, the students' progression in the nursing program was not impacted at all. The researcher was not assigned as an instructor for any

coursework for these student participants. The nature of the study, the student's right to refuse inclusion of data, the researcher's responsibilities, and the likely risks and benefits were described in the informed consent document. Students could choose to withhold their data from the study at any time. The right to full disclosure impacts the participant's right to make informed, voluntary decisions. This study compared a control and treatment group; therefore, full disclosure could potentially bias the study results. Therefore, groups were not aware of the specific intervention to be utilized in the study. The technique of deception is controversial; however, the American Nurses Association (as cited in Polit & Beck, 2012) states the specific guidelines that justify this technique for this study:

1. The study is of minimal risk to the research participants.
2. The research participants will be informed immediately upon conclusion of the study of the deception and be given full access to the expert role model videos.

Beneficence is defined as "a fundamental ethical principle that seeks to maximize benefits for study participants and prevent harm" (Polit & Beck, 2012, p. 720). This principle ensures that the individuals in the study would likely have some benefit for participation. A potential benefit of allowing data inclusion in the study may include increased knowledge and satisfaction that data provided may help other students in the future. Both groups of students had the opportunity to practice clinical decision making and clinical judgment skills in a safe environment prior to their acute care clinical experience. The simulation laboratory had established and enforced rules and guidelines to maintain a safe and positive learning environment; therefore; students were protected from psychological harm. The potential physical discomforts

may include fatigue and boredom with completion of documents. Potential emotional distress might include a risk of stigma or loss of status due to participation in groups during simulation scenarios. Participation in the eight-hour simulation seminar was mandatory for all students; therefore, no loss of time or monetary costs was involved.

The principle of justice requires that participants be treated fairly. This includes the right to fair treatment and the right to privacy (Polit & Beck, 2012). To ensure fairness, students assigned to the control group were provided access to the expert videos immediately upon completion of data collection. Privacy issues addressed in this study are presented here and in the informed consent process section.

Scenario recordings were stored on the SimView server located in the control room of the simulation laboratory. Access to these recordings was restricted by specific controlled access to the server. The trained external faculty reviewers had a specific code sent to them electronically for access to each scenario for scoring of the LCJR. These reviewers were masked as to the assignment of the student to the control or treatment group. They were not employed by Colorado State University–Pueblo and, therefore, did not have previous knowledge of these students. Students signed consent for audiovisual recording prior to participation in the simulation laboratory activities. Students only wore badges indicating RN, licensed practical nurse, peer, or charge during the recording to further protect their confidentiality.

Compiled data were kept on a password-protected computer accessible only by the researcher. Students wishing to receive study results were provided the contact information of the researcher.

Data Collection

The goal of the data collection plan is to provide data that are of exceptional quality (Polit & Beck, 2012). An overview of the study with data collection tools and procedures is outlined in this section.

Overview of the Nursing 322 Course Structure

Caring for Adults I (Nursing 322) included 60 hours of theory content that integrated assessment, pharmacologic, and pathophysiologic concepts utilizing evidence-based practice to provide safe, patient-centered care to adults with acute and chronic health concerns. Prerequisites included completion of Pathophysiology, Concepts of Professional Nursing, Healthy Aging, Fundamentals of Nursing, Pharmacology, and Health Assessment. The corequisite course included the clinical portion, which provided 120 hours of clinical practice.

A concentrated orientation phase for this course occurred during the first three weeks of the semester. Students completed mandatory laboratory sessions including math competency skills, review stations, and orientation to facility protocols. This eight-hour simulation seminar was designed to be implemented during this initial orientation phase. All data collection was completed prior to student attendance at the acute care facility for clinical.

Orientation Tools

All students completed identical online orientation modules for the eight-hour simulation seminar. This strategy provided consistency and adequate time for students to prepare for the seminar. The activities that were placed on the learning management system are presented in Table 2.

Table 2

Orientation Tools

Informational	Instructional	Confirmational
Overview of the eight-hour simulation seminar	Video orientation of simulation laboratory & Vital Sim/SimMan 3G	Orientation checklist
What is the Lasater Clinical Judgment Rubric (LCJR)?	Instructions and Sample Case for completing LCJR	Complete a practice LCJR on the Sample Case provided
What is the Nursing Anxiety/Self-Confidence with Clinical Decision Making Tool (NASC–CDM)?	Instructions for completing NASC–CDM	Complete individual pre seminar NASC–CDM online
Role descriptions	Examples of each role with review of responsibility	Discussion upon arrival to the Simulation Seminar
Confidentiality and consent for video recording agreement for simulation laboratory	Read and review	Sign the confidentiality agreement electronically
Individual Demographics Questionnaire instructions	Read and complete	Complete the Individual Demographics Questionnaire

Instrumentation

The instruments used in this study included the following (see Appendix E):

Demographic survey. This researcher developed the demographic tool that gathered data including age, gender, ethnicity, human patient simulator experience,

and healthcare experience. This data were utilized to compare for statistically significant differences between the control and treatment group (see Appendix F).

Nursing Anxiety/Self-Confidence with Clinical Decision Making scale. The NASC-CDM is 27-item self-report, quantitative tool assesses both anxiety and self-confidence in nursing students regarding their perceived ability to make clinical decisions. The tool integrates well with the LCJR to provide an accurate assessment of students providing care in a simulated or actual clinical environment. The tool utilizes three dimensions linked to noticing, interpreting, and intervening. Dimension 1 examines the students' ability to use available resources to gather information and actively listen to patients and families (noticing). Dimension 2 addresses the students' ability to "see the bigger picture" or "put the cues together" to form a basis for clinical reasoning (interpreting). Dimension 3 expresses the students' ability to feel confident in decision making and reacting to the situation (intervening) (White, 2014). The scores on this Likert survey tool provided quantitative data for determination of the effect of the independent variable of expert role modeling on the dependent variable of self-assessed anxiety and self-confidence with clinical decision making. The final version of the self-confidence subscale of the instrument has a Cronbach's alpha of .97, and on the anxiety subscale alpha is .96. Measures of validity were assessed through methods of content, construct, and face validity. Content validity was established through a widespread review of the literature and evaluation by a panel of content experts. Item analysis included interitem and item-total correlation of 0.30 to 0.70 for item review and reduction. The mean interitem correlation for the subscales did not exceed .70, which established construct validity of the tool. Convergent assessment was established by correlation of scores obtained on the NASC–CDM to

the psychometrically sound instruments, general perceived self-efficacy, and the generalized anxiety disorder 7-item scales. The general perceived self-efficacy scale produced a Pearson's $r = 0.54$, $p < .001$, $n = 290$, indicating a statistically significant, moderate positive correlation. The generalized anxiety disorder 7-item scale produced $r = 0.52$, $p < .001$, $n = 290$, indicating a statistically significant, moderate positive correlation. Internal consistency reliability coefficients for the general perceived self-efficacy scale indicated $\alpha = .85$, $n = 300$, and the generalized anxiety disorder 7-item scale indicated $\alpha = .90$, $n = 299$ (see Appendix G) (White, 2014).

Lasater Clinical Judgment Rubric scale. The LCJR was developed based on Tanner's model of clinical judgment. The LCJR is designed to provide a numeric assessment of nursing students' clinical reasoning skills (Lasater, 2007) as demonstrated during a simulated or actual patient care experience. This rubric utilizes the same four constructs that were developed by Tanner (2006): (a) noticing, including a perceptual grasp of the situation; (b) interpreting, using a variety of reasoning processes, evidence, and patient data to understand the particular situation; (c) responding with a course of action; and (d) reflecting, or evaluating outcomes, both in-action and on-action. Within the model, nursing students identify cues during the assessment, interpret the cues into a meaningful whole, complete patient care in response to the interpretation, and reflect during and after patient care to add to their knowledge of patient outcomes related to clinical judgments (Jensen, 2013).

Lasater (2007) has emphasized that the purpose of the rubric was not to measure clinical judgment but to create a common language for discussion of clinical judgment development. A detailed discussion regarding the psychometric properties of this tool was presented in Chapter II, a brief overview is provided here. Validity and

reliability was assessed utilizing three approaches from separate studies (Adamson et al., 2012). Interrater reliability was assessed as follows: Adamson et al. (2012) used intraclass correlation with a calculation of .889, Gubrud-Howe (2008) utilized the percent agreement strategy with results ranging from 92% to 96%, and Sideras (2007) used level of agreement strategy to attain results from 57% to 100%. These results "provided evidence supporting the validity of the LCJR for assessing clinical judgment during simulated patient care scenarios" (Adamson et al., 2012, p. 66). Validity for the LCJR was evaluated in this study and determined that these three approaches utilizing the LCJR was established through construct and content validity measures. The four aspects and clinical indicators were effective in measuring clinical judgment. The Adamson et al. study determined that nursing faculty raters could accurately and consistently identify the intended level of student performance using the LCJR. The Sideras study found that faculty could apply the LCJR and accurately differentiate between known levels of student ability. Results from the Gubrud-Howe study supported the validity of the LCJR by a theoretical perspective indicating that students working to increase domain specific knowledge demonstrated higher scores on the LCJR (Adamson et al., 2012) (see Appendix H).

Procedure

Informed Consent Process

The informed consent procedure took place on the first day of the Caring for Adults I (Nursing 322) class. The researcher presented a brief description and the purpose of the study to the students. An overview of risks and benefits for inclusion of their data in the study is presented next. Students were asked if they had any questions regarding the study. Since the simulation seminar was mandatory for all students, each

student was invited to include his or her data. Envelopes containing two copies of the informed consent document were distributed. The researcher left the classroom at this time. Students were instructed to retain one copy of the informed consent document for their records and place the other form (signed or unsigned) into the envelope (see Appendix I). Each student turned in an envelope; therefore, no one knew who consented (or not) to have his or her data included. A nursing faculty member not assigned to teach in the course collected the consent forms and left the classroom. The envelopes were opened in her office and sorted by consent or declination. Each consenting student was assigned a unique identifier that linked his or her data with the date of attendance at the simulation seminar.

Simulation Seminar Procedure

The selected scenarios were developed by the National League for Nursing Advancing Care Excellence for Seniors project and were peer reviewed (see Appendix J). Each scenario selection integrated one or more key concepts that had been presented in previous courses of Fundamentals, Health Assessment, and Gerontology (see Appendix K). The scenarios also provided multiple opportunities for nurse/physician or nurse/nurse interactions via telephone or face–to–face. Additional considerations for scenario selection were related to students' opportunity to communicate with healthcare providers and other nurses in the clinical setting.

The simulation dates were scheduled during the first three weeks of the spring semester. This was designed to ensure that all students would participate prior to beginning their clinical rotations in the acute care setting. Size of the groups was limited to seven or eight students to enhance the learning environment. The number of students participating in each scenario was reduced further to three or four to enhance

the learning opportunities. Students participated in the four scenarios on their scheduled day, which ensured that each student was able to act in the role of the primary RN.

Scheduled clinical sections arrived at the simulation seminar in full uniform having completed the online orientation modules, consent forms for video and audio recording, confidentiality agreements, demographics tool, and the pre seminar NASC–CDM. Students were given a brief physical tour of the simulation laboratory, computer laboratory, and debriefing area followed by answering of all questions regarding the schedule of the day and expectations by the simulation technician. Roles for each scenario were randomly assigned to each student prior to the beginning of the seminar. Full descriptions of the roles were provided in the online orientation.

Prior to each scenario, the small groups of three or four students received the patient chart for review (including physician orders, laboratory values, and pertinent history) and a verbal report describing the patient current status. The treatment group students watched the expert nurse role modeling video immediately following the report. All questions were answered, and the students left the simulation laboratory to prepare for the scenario. This provided the initial grasp that Tanner's (2006) model of clinical judgment discusses which allows prioritization of patient care. Table 3 presents the unfolding cases used in the study including competing priorities that created the complexity or ill-defined situation that required students to make clinical judgments.

Following completion of each simulation, students moved to the adjoining computer area. Students acting as the charge nurse and secondary nurse or licensed practical nurse documented the care that was provided for the patient in the health

record. The peer observer role completed a LCJR scoring the primary RN performance. The primary RN completed a self-assessment with the LCJR. A time frame of 30 minutes was allocated for this activity. All data were completed in an online format.

Table 3

Scenario Selection and Implementation

Scenario name	Scenario topic	Objectives	Competing priorities
Millie Larsen #1 84 year old female admitted to unit with dehydration, UTI and acute delirium state.	Recognize acute delirium in elderly patient with UTI. Elevated BP related to confused state and missed medications. Basic lab assessment: UA, Lytes, CBC	Complete head to toe assessment, recognize elevated BP, notification of primary care provider using SBAR format. Assure patient safety, educate and reassure daughter.	Elevated BP and antibiotic administration for UTI. Patient safety and teaching with daughter regarding acute versus chronic confusion states in the elderly.
Millie Larsen #2 Case continues next a.m. with a near fall. Acute confusion is clearing and patient discharge planning in process.	Patient status improving following IV fluids and antibiotics. Daughter and patient conflict evident regarding client living at home alone.	Complete head to toe and functional assessment. Communicate with provider using SBAR format. Effective communication regarding discharge planning.	Change of shift report indicates patient had a near fall this a.m. Difficult family dynamics with discussion of legal and ethical responsibility as a patient advocate.

Table continues

Table 3 (continued)

Scenario name	Scenario topic	Objectives	Competing priorities
Sherman "Red" Yoder #1 80 year old farmer with open wound on his big toe that developed after walking in a new pair of shoes	Students assess patient in the home.	General assessment, including independence in activities of daily living, elder mistreatment and alcohol use. Address conflicts regarding living arrangements.	Identify psychosocial issues such as functional decline, alcohol use, and possible elder abuse. Patient Teaching for wound care, use of alcohol and Benadryl and FSBS assessments.
Sherman "Red" Yoder #2 Takes place 5 weeks later in the ED. Red is admitted with necrosis on toes and acute onset confusion with possible sepsis.	Red was being treated with an oral antibiotic and wet to moist saline soaked dressing daily at home. The home health nurse last assessed the foot 3 days ago. Family stopped by and noticed change in mentation and had Red transported to the local ED.	Focused assessment of patient in the ED with orders to be transferred to MICU. Emphasis on the atypical presentation of sepsis in the older adult. Interpretation of lab results: Serum Lactate.	Carrying out physician orders in the ED: Labs, cultures and stat IV fluids/antibiotic. Call MICU with SBAR report for transport for further care.

Note. The simulation scenario began when the students' entered the patient room and the primary RN voiced readiness. Audio and video recording of each scenario was completed. Each scenario was designed to run approximately 20 to 25 minutes to allow sufficient time for students to complete the objectives. The primary RN had contact with the healthcare provider via telephone at any time during the simulation. Collaboration among team members was encouraged. CBC = complete blood count, ED = emergency department, FSBS = fingerstick blood sugar, IV = intravenous, MICU = medical intensive care unit, SBAR = situation background assessment recommendation, UA = urinalysis.

Students then moved into the debriefing area. Provision of safety and security for students followed the International Nursing Association for Clinical Simulation and Learning standard recommendations for debriefing. The debriefing session lasted approximately 30 to 35 minutes and was led by a master of science in nursing prepared nurse utilizing a structured format tool (see Appendix L). Each participant was provided individual feedback regarding how the simulation scenario progressed, what was done well, and what could have been done differently. Critical thinking, clinical judgment, and group process were encouraged and facilitated by the trained debriefing individual throughout the debriefing. Students were encouraged to critique specific decisions made individually and present their feelings openly. Each debriefing session was audio and video recorded for data collection purposes.

This procedure was repeated for the remaining three simulation scenarios (see Appendix M). Students completed the post simulation seminar NASC–CDM tool online upon conclusion of the final simulation scenario. All props and set up of the mannikin and setting was accomplished similarly for each date of simulation by the simulation technician. The simulation technician also ensured that all scenarios were digitally recorded and saved on the local server. This individual was critical in assuring a consistent delivery of the scenarios.

The researcher observed each of the simulation days for the full eight hours. Field notes were taken regarding participant reactions and comments. Field notes are a valuable data source for understanding the quantitative data collection portion. The observational field notes documented what the observer saw, heard, experienced, or thought about during the course of the data collection process and reflected on the data. The researcher was not involved in any phase of prebriefing, simulation activity,

or debriefing. The researcher was not involved in assigning any grades to this student group. Any anecdotal data were collected by date and group only, and no other identifiers were kept.

Simulation Seminar Procedure

Overview of student data collection. All students completed the demographics tool and the NASC–CDM online during the orientation phase prior to arrival at the seminar and the NASC–CDM again at the end of the seminar. Each student completed two LCJR tools for the day, once when they were assigned as the primary RN and again when they were the peer observer. This was planned to reduce student fatigue with data collection forms. All data were collected in an electronic format.

Faculty data collection. Two volunteer external faculty reviewers with master of science in nursing degrees were provided training for use of the LCJR.The training included a packet containing the purpose of the study, background of the tool, and information regarding the Tanner (2006) clinical judgment model. A one–on–one meeting with the raters was arranged to review the packet, and the raters were provided a standardized video recorded scenario. The recording provided a demonstration of how to score a simulation with the LCJR that was developed and utilized in the study by Johnson et al. (2012). Communication between the raters was allowed during the training phase only. Additional video vignettes were provided for the raters to practice completion of the LCJR until the percent agreement reached 70%. An additional one–on–one telephone conference with the raters was arranged at this time to discuss the detailed process for viewing the sample recordings. The scoring for the sample was ordered by section number and case. For example, Section

1, Millie Case #1, was followed by Section 2, 4, 5, 6, and 7. The raters viewed Millie Case #2, Red Case #1, and finally Red Case #2 in this same sequence. This process allowed consistency between raters and also ensured that sample recordings were randomized as to treatment or control groups. The raters scored the scenarios electronically, and each scenario was matched to the unique identifier for each student. The ratings were scored for the primary RN performance only. Intraclass correlation was calculated following completion of the scoring process.

Data Analysis

As a review, the purpose of this study was to determine if expert role modeling had an impact on junior level nursing students' anxiety/self-confidence with clinical decision making and clinical judgment. The control group participated in an eight-hour simulation seminar with standard prebriefing, and the treatment group completed standard prebriefing and also viewed a video of an expert nurse role model. The video utilized an expert nurse who was close to the age of the students demonstrating care for a standardized patient with a similar condition as that of the human patient simulator scenario (see Table 4).

Directional hypotheses were selected for this study to clarify the study's framework and purpose. The directional hypotheses were:

H1 Novice nursing students will have a significant reduction in anxiety and increase in self-confidence when exposed to an expert nurse role modeling video prior to participation in the simulation scenario, as compared to a control group of nursing students who do not view a role modeling video.

H2 Novice nursing students will have a significant improvement in clinical judgment scores when exposed to an expert nurse role modeling video prior to participation in the simulation scenario, as compared to a control group of nursing students who do not view a role modeling video.

H3 Clinical judgment scores reported by masked, trained, external faculty raters will indicate a significant difference between the students exposed to an expert nurse role modeling video, as compared to the control group of nursing students who do not view a role modeling video.

Table 4

Comparing the Schedules of the Control and Treatment Groups

Control group	Treatment group	Notes
Completed pre seminar assignments via Blackboard learning management system.	Completed pre seminar assignments via Blackboard learning management system.	Identical assignments provided to both groups. Roles were provided upon arrival at the seminar.
Received verbal report for the scenario and participated in a 30-minute preparation conference.	Following report, students watched a 5- to 7-minute video of an expert nurse (near their age) providing care to a standardized patient scripted to the scenario patient.	Treatment group had a shorter preparation time related to the time of the video. Video was viewed one time only, and the treatment group could take notes.

Note. This procedure was repeated prior to each of the four scenarios. Each scenario patient script was utilized by the standardized patient and the expert nurses.

Data analysis was accomplished utilizing paired and independent samples *t*-tests. This study assessed for a difference between two independent sample means (control group and treatment group). The data collected included levels of anxiety/self-confidence with the NASC-CDM and measures of performance with the LCJR. The sample means were compared to determine if the independent variable of expert role modeling had an impact on the treatment group when compared to the control group.

Participants were randomly assigned to treatment and control groups. The variables of age, healthcare experience, and simulation experience were recoded into nominal variables for chi-square analysis for group equivalency. They were also analyzed in their original interval format with independent samples *t*-test, and the results were generally the same.

Missing data were accounted for prior to data analysis by conducting a missing data analysis to determine if the absent data was a problem. If needed, an imputation method of either expectation–maximization or multiple imputation was completed.

Threats to Internal Validity

Internal validity is defined as "the confidence that an experimental treatment or condition made a difference and that rival explanations were systematically ruled out through study design and control" (Houser, 2012, p. 295). A primary goal of experimental research is to determine if the intervention actually influences the outcome variables. It is imperative for the researcher to adequately control for factors that may jeopardize the internal validity of the study. A review of the common potential threats to internal validity and methods to reduce them is presented here.

Historical Threats

The study data collection utilized a pre and post eight-hour simulation seminar point for the NASC-CDM. The data collection points for the LCJR were post each simulation scenario. Randomization of students and roles was utilized to distribute effects and control for this threat. All data collection was completed prior to acute care clinical experience.

Maturation Effects

Maturation effects occurred over time and may not be a result of the intervention. Perceptions of the participants can change due to class content coverage. The Care of Adults I course was scheduled to meet on Wednesdays. The first day of class was planned to present a course overview, syllabus review, and expectations. The course content scheduled to be covered in the first three weeks was present care of the client with electrolyte/acid-base balance issues and perioperative care. This content was not linked to the scenarios presented in the simulation seminar; therefore, no threat was expected.

Treatment Effects

All students were video and audio recorded during the eight-hour simulation seminar. This is a routine measure and was, therefore, less obtrusive to them. Participants were masked as to which group they were assigned to prior to the completion of the study. Faculty raters were masked as to which group the students were assigned. Full disclosure was not possible due to potentially biased responses. Signing a confidentiality statement that prohibits sharing information about simulation scenarios with other students may have been helpful. The purpose, risks, and benefits of the study were fully explained on the informed consent form.

Instrumentation

The instruments selected for use in this study were self-reported by the participants. Additionally, the LCJR was rated by two external trained, masked faculty reviewers. Students and faculty were provided training on use of the documents prior to completion to enhance the reliability. There was a possibility of misunderstanding for completion of the documents as well as missing information. All students were required to complete the instruments; only data from students who gave consent were utilized for data analysis.

Experimental Mortality

Participation in the eight-hour simulation seminar was mandatory for all students, and the hours were included in the required clinical hours for program completion. The threat of attrition may occur if subjects change their minds regarding inclusion of their data in the study after signing the consent form. The eight-hour simulation seminar was a single day, required activity, which reduced experimental mortality.

Bias

Bias was reduced through masking of the participants regarding what the intervention was. They were unaware of assignment to either the control or experimental group. The control and treatment groups were also separated, and the control group participated first to reduce contamination. All students were informed of the intervention following data collection. Control group students were provided access to the expert nurse videos immediately upon completion of the data collection. Faculty rater bias was reduced utilizing external reviewers and by masking as to which group, control or treatment, the students were assigned.

Summary

This chapter presented an overview of the methodology used for this dissertation study. The design type, study setting, population, sampling procedures, power analysis, ethical considerations, data collection procedures, and instrumentation were discussed. The chapter also included the data analysis procedures and measures to address potential threats to internal validity.

CHAPTER IV

PRESENTATION AND ANALYSIS OF THE DATA

The purpose of this experimental study was to examine the impact of the specific prebriefing strategy of expert role modeling on novice nursing student self-assessed anxiety/self-confidence and clinical judgment skills. The study compared group mean scores on the NASC–CDM in a pretest–posttest fashion. In addition, group mean scores were compared from self, peer, and faculty assessed ratings utilizing the LCJR.

This chapter reviews the demographic data and analyzes it to identify equivalence between control and treatment groups. In addition, the chapter examines the statistical results obtained with each measurement tool. The hypotheses and discussion of findings will be presented in Chapter V.

Sampling Process

The sample for this study was comprised of 43 nursing students enrolled in their first acute care clinical in the traditional bachelor of science in nursing program at a four-year Hispanic serving state university located in a midsized city in the Western United States. For the sample, all eligible students consented to have their data included in the study. Random assignment was carried out by the undergraduate coordinator who selected names from a hat which were placed into clinical groups. These clinical groups were then randomly assigned to seminar dates. The students in

first three seminars served as the control group and the final three seminars comprised the treatment group.

Characteristics of the Sample

Demographic data were collected the evening prior to participation in the simulation seminar. Data were collected in an electronic format through the learning management system (Blackboard) for collating of the data. The variables of age, healthcare experience, and simulation experience were recoded into nominal variables for chi-square analysis for group equivalency. They were also analyzed in their original interval format with independent samples *t*-test, and the results were generally the same.

Results from group equivalency test indicated that all demographic variables were equivalent between groups except for simulation experience (see Table 5).

Age and Sex

In this sample, 41.86% (18) of the students were between the ages of 18 and 21. One reason that this number was high may be related to having several senior to sophomore programs in the area. This allows students to complete their prerequisites while in high school and articulate into the nursing program immediately following graduation from high school. Fourteen students (32.56%) reported their age as between 22 and 25. Three students reported their age to be 26 to 30 (6.98%), four were between 31 and 40, and four were over 40 years old (9.3% each). Of the 43 students, 6 (13.95%) were male and 37 (86%) were female. Four males were randomized into the treatment group and two were in the control group.

Table 5

Demographics

Variables *n* = 43		Control *n* = 21	Treatment *n* = 22	χ^2	*P*
Gender				0.671	0.664
Male	6	2	4		
Female	37	19	18		
Race/ethnicity				0.568	0.547
African American	3	2	1		
Asian	2	0	2		
Caucasian	20	11	9		
Hispanic	15	6	9		
Other/multi	3	2	1		
Age				1.08	0.582
18 – 21	18	9	9		
22 – 25	14	8	6		
26 – 30	3	1	2		
31 – 40	4	2	2		
> 40	4	1	3		
Healthcare experience				1.23	0.358
None	25	14	11		
1 – 2 yrs.	11	5	7		
3 – 5 yrs.	2	1	1		
6 – 10 yrs.	3	1	2		
> 10 yrs.	1	0	1		
Simulation experience				17.13	0.000
None	0	0	0		
1 – 2 yrs.	23	18	5		
2 – 15 yrs.	15	3	12		
3 – 4 yrs.	4	0	4		
> 4 yrs.	1	0	1		

Ethnicity

A diverse sample was reflected by the reported ethnicities. Twenty (46.5%) students in the sample reported Caucasian, 15 (34.88%) reported Hispanic, two (4.65%) reported Asian, three (6.98%) reported African American, and three selected other. This ethnic distribution was similar to previous cohorts at this university.

Previous Healthcare Experience

Sample students reporting no previous healthcare experience numbered 25 (58.14%). Twelve (27.91%) students reported 1 to 2 years of experience in healthcare. Two individuals reported 3 to 5 years of experience (4.65%), three reported 5 to 10 years (6.98%), while the remaining one reported greater than 10 years of experience (2.3%).

Previous Simulation Experience

The students in this sample selected options of 1 to > 4 for numbers of simulation experiences. Twenty-three (53.49%) reported participation in simulation one time, while 15 (34.89%) reported participating twice in simulation previously. This nursing school utilizes simulation in the preceding psychiatric and pediatrics courses, so this is an expected finding. Four students (11.36%) reported participation in simulation three times and one selected the > 4 option. This demographic measure was the only one with a statistically significant difference noted between the groups; the treatment group reported more simulation experience than the control group. This will be discussed further in the limitation section in Chapter V.

Data Analysis

Data analysis will be presented by each tool. The first presentation will examine the data pre and post seminar between and within groups for the NASC–

CDM. The LCJR data will be presented next, with the student data results followed by the expert rater data.

Data analysis was accomplished utilizing independent samples *t*-tests for between groups and paired *t*-tests for within groups. Within-group analysis measured group equivalency and pre and post seminar levels of anxiety/self-confidence with the NASC–CDM tool. Between groups analysis assessed for differences in sample means (control group and treatment group) with the NASC–CDM tool. Data from the pre and post surveys were collated by unique identifier numbers to protect the confidentiality of the students. Self, peer, and faculty ratings of student performance were obtained with the LCJR tool to measure clinical judgment scores. Between group analysis assessed for differences in sample means (control group and treatment group) with the LCJR. The means were compared to determine whether the independent variable of expert role modeling had an impact on the dependent variables of anxiety/self-confidence scores or clinical judgment scores of the treatment group when compared to the control group.

Nursing Anxiety/Self-Confidence with Clinical Decision Making

The NASC–CDM is a 27-item self-report, quantitative tool that assesses both anxiety and self-confidence in nursing students regarding their perceived ability to make clinical decisions. Based on Tanner's (2006) clinical judgment model, the tool integrates well with the LCJR to provide an accurate assessment of students providing care in a simulated or actual clinical environment. The tool utilizes three dimensions linked to the noticing, interpreting, and intervening constructs of the LCJR. Dimension 1 examines the students' ability to use available resources to gather information and

actively listen to patients and families (noticing). Dimension 2 addresses the students' ability to "see the bigger picture" or "put the cues together" to form a basis for clinical reasoning (interpreting). Dimension 3 expresses the students' ability to feel confident in decision making and reacting to the situation (intervening) (White, 2014). The tool does not provide assessment items for reflecting, which is the fourth aspect of Tanner's model. The scores on this Likert survey tool provided quantitative data for determination of the overall effect of the simulation seminar as well as the independent variable of expert role modeling on the self-assessed anxiety and self-confidence with clinical decision making. The conceptual linkage of the NASC–CDM with Tanner's clinical judgment categories is illustrated in Table 6.

Data screening. Data were screened for normality and missing data. Normality tests were completed for all analytical variables across both groups and for each group separately. Results indicate almost all measures were within acceptable ranges of normality (Skewness within +/- 1.00) (Mertler & Vannatta, 2005). Because the few instances of non-normality were not systematic and the skewness not exceptionally large, transformations were not applied. Skewness results are presented in Table 7.

Analysis of data results: Equivalence of groups. Analysis of the NASC data began with an examination of differences in the pre-survey scores between treatment and control groups. Since students were randomly assigned, no significant differences between groups should be noted. Independent samples t-test confirmed no significant differences were present (see Table 8). This finding provides additional evidence that groups were equivalent at the beginning of the study.

Table 6

Dimensions of Nursing Anxiety/Self-Confidence with Clinical Decision Making and Lasater Clinical Judgment Rubric Categories

NASC–CDM dimensions	Tanner clinical judgment model and corresponding NASC–CDM items	Categories of LCJR
Dimension 1: Using resources to gather information and listening fully (13 items)	Effective noticing items include: Using instructor, family, shift report, protocols, and literature as resources for information gathering; listening actively; assessing nonverbal cues; and focusing assessment to gather more information.	Focused observation Recognizing deviations from expected patterns Information seeking
Dimension 2: Using information to see the big picture (7 items)	Effective interpreting items include: Seeing patterns and relevance of information, recalling past information learned (i.e., labs, anatomy and physiology) to help interpret information; seeing the full clinical picture.	Prioritizing data Making sense of data
Dimension 3: Knowing and acting (7 items)	Effective responding items include: Analyzing risks versus benefits of decision options; implementing the 'best' option for the situation; using intuition for decision making.	Calm, confident manner Clear communication Well planned intervention; flexibility Being skillful
None	Effective reflecting	Evaluation and self-analysis Commitment to improvement

Table 7

Skewness Statistics of the Nursing Anxiety/Self-Confidence with Clinical Decision Making Scale

Dimension	Overall	Control	Treatment
1 Noticing			
2 Interpreting			
3 Responding			
1 Self-confidence difference	0.63	1.04	0.18
2 Self-confidence difference	0.74	-0.11	0.57
3 Self-confidence difference	-0.15	-0.26	-0.17
1 Anxiety difference	0.49	1.30	-0.11
2 Anxiety difference	-0.59	-0.09	-0.74
3 Anxiety difference	-0.51	0.00	-0.62
Total self-confidence difference	0.08	0.07	-0.01
Total anxiety difference	-0.35	0.47	-0.61

The Levene's *F* test for equality of variances is the most commonly used statistic to test the assumption of homogeneity of variance. Equality of variances was checked using Levene's Test during *t*-test analyses. In most cases variances between groups were equivalent. In the few cases where it was not, a Levene's correction was applied to *t*-test results. When Levene's *F* was statistically significant (Sig., $p < .05$), then variances were significantly different and the assumption of equal variances was violated (not met). This violation is corrected by not using the pooled estimate for the error term for the *t*-statistic, and also making adjustments to the degrees of freedom using the Welch-Satterthwaite method.

Table 8

Equivalency (Between Groups) on the Nursing Anxiety/Self-Confidence with Clinical Decision Making, Pre Seminar Data

Dimension	Control		Treatment			
1 Noticing 2 Interpreting 3 Responding	*M*	*SD*	*M*	*SD*	*t*	*p*
1 Self-confidence	49.00	11.32	51.59	13.80	-0.67	0.51
2 Self-confidence	19.33	5.17	21.14	5.97	-1.06	0.30
3 Self-confidence	18.81	6.23	21.91	6.46	-1.60	0.12
1 Anxiety	34.71	11.49	36.91	15.24	-0.53	0.60
2 Anxiety	26.99	6.05	24.55	7.73	1.15	0.26
3 Anxiety	27.48	6.03	25.50	8.31	0.90	0.38
Totals						
Self-confidence	87.14	20.75	94.64	24.19	-1.09	0.28
Anxiety	89.18	21.46	86.95	29.75	0.28	0.78

Analysis of data results: Change within groups. Next, the pre to post changes for each dimension and total mean change scores were examined within each group separately. Descriptive statistics are reported in Table 9. For both groups, self-confidence grew consistently from pre to post, and anxiety decreased from pre to post indicating change in the desired direction.

Table 9

Pre and Post Measurements (Within Groups) on the Nursing Anxiety/Self-Confidence with Clinical Decision Making Scale

Dimension	Control				Treatment			
1 Noticing 2 Interpreting 3 Responding	Pre		Post		Pre		Post	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
1 Self-confidence	49.00	11.32	53.73	10.40	51.59	13.80	57.55	10.61
2 Self-confidence	19.33	5.17	23.03	4.01	21.14	5.97	28.50	5.09
3 Self-confidence	18.81	6.23	22.85	5.18	21.91	6.46	26.86	5.56
1 Anxiety	34.71	11.49	28.04	5.84	36.91	15.24	31.51	13.77
2 Anxiety	26.99	6.05	19.45	4.59	24.55	7.73	19.00	6.94
3 Anxiety	27.48	6.03	21.68	4.01	25.50	8.31	20.73	7.34
Totals								
Self-confidence	87.14	20.75	99.61	17.76	94.64	24.19	112.91	19.98
Anxiety	89.18	21.46	69.17	11.82	86.95	29.75	71.24	26.98

Results from the paired *t*-tests (within groups) indicate significant pre to post changes on almost every dimension within each group. The change scores were created by subtracting pre scores from post scores on the self-confidence measure and subtracting post scores from pre scores on the anxiety measure. These change scores indicate the amount of growth in self-confidence or reduction in anxiety. The overall total mean change scores for anxiety and self-confidence reached statistical significance for both groups (see Table 10).

Table 10

Change (Within Groups) Pre to Post Seminar on the Nursing Anxiety/Self-Confidence with Clinical Decision Making Scale

Dimension	Control			Treatment		
1 Noticing 2 Interpreting 3 Responding	*M* change	*t*	*p*	*M* change	*t*	*p*
1 Self-confidence	4.73	-1.82	0.08	5.96	-2.66	0.01
2 Self -confidence	3.70	-4.20	0.00	7.36	-5.57	0.00
3 Self -confidence	4.04	-3.88	0.00	4.95	-4.05	0.00
1 Anxiety	6.67	2.58	0.02	5.40	2.02	0.06
2 Anxiety	7.54	5.91	0.00	5.55	3.60	0.00
3 Anxiety	5.80	4.98	0.00	4.77	3.11	0.01
Totals						
Self-confidence	12.47	-3.30	0.00	18.27	-4.35	0.00
Anxiety	20.01	4.75	0.00	15.71	2.97	0.01

The treatment group achieved significant growth related to the self-confidence Dimension 1 (noticing) scores but the control group did not. Both treatment and control groups demonstrated significant growth of self-confidence for Dimension 2 (interpreting) and Dimension 3 (responding). All but one dimension on the anxiety subscale indicated significant pre to post decreases for both groups; the exception was Dimension 1 (noticing) for the treatment group. The overall total mean change scores

for both groups for self-confidence and anxiety indicated statistically significant changes in the desired directions.

Analysis of data results: Difference in change between groups. Comparing the main effects of growth in self-confidence and reduction of anxiety between the treatment and control groups was accomplished by examining the difference in change scores. Independent samples *t*-tests measured whether there was a difference in growth of self-confidence or reduction in anxiety, respectively. Table 11 includes the descriptive statistics, *t*-test results, power analysis, and effect sizes for the change scores between control and treatment groups on the six dimensions of the NASC–CDM.

The treatment group consistently saw greater growth in self-confidence, but only Dimension 2 (interpreting) reflected a statistically significant value between groups with corresponding power and effect size. On the anxiety scale, the control group consistently saw a greater reduction, although none of the differences between groups was significant. Overall, the total means did not reflect significant differences between the groups.

The NASC–CDM tool was recently developed by Dr. Krista White in 2012. It is recommended that validity and reliability scores be calculated for new tools. Cronbach's alpha determines the internal consistency or average correlation of items in a survey instrument to gauge its reliability. Cronbach’s alpha reliability coefficient normally ranges between 0 and 1. The closer Cronbach’s alpha coefficient is to 1.0 the greater the internal consistency of the items in the scale. Cronbach’s Alpha for the NASC–CDM indicated good to excellent ratings for all dimensions (see Table 12).

Table 11

Difference in Change Scores (Between Groups) Pre and Post on the Nursing Anxiety/Self-Confidence with Clinical Decision Making Scale

Dimension	Control		Treatment		Difference			
1 Noticing 2 Interpreting 3 Responding	*M* change	*SD*	*M* change	*SD*	*t*	*p*	Power	*d*
1 Self-confidence	4.73	11.91	5.95	10.51	-0.36	0.72	0.05	0.10
2 Self-confidence	3.70	4.03	7.36	6.20	-2.29	0.03	0.82	0.91
3 Self-confidence	4.04	4.77	4.95	5.74	-0.57	0.57	0.09	0.19
1 Anxiety	6.67	11.87	5.40	12.53	0.34	0.73	0.05	-0.11
2 Anxiety	7.54	5.84	5.55	7.22	0.99	0.33	0.19	-0.34
3 Anxiety	5.79	5.33	4.77	7.20	0.53	0.60	0.09	-0.19
Total differences								
Self-confidence	12.46	17.29	18.27	19.70	-1.03	0.31	0.19	0.34
Anxiety	20.01	19.32	15.72	24.85	0.63	0.53	0.10	-0.22

Table 12

Nursing Anxiety/Self-Confidence with Clinical Decision Making Cronbach's Alpha Scores

Dimension	Confidence	Anxiety
1 (13 items)	.933	.947
2 (7 items)	.888	.889
3 (7 items)	.885	.893

In summary, the results from the NASC–CDM indicated significant changes within groups for increased self-confidence and decreased anxiety; however, there were no significant difference between groups in the amount of changes made. A further discussion of these findings will be presented in Chapter V.

Lasater Clinical Judgment Rubric Tool

The LCJR was developed based on Tanner's model of clinical judgment and is designed to provide a numeric assessment of nursing students' clinical reasoning skills (Lasater, 2007) as demonstrated during a simulated or actual patient care experience. This rubric utilizes the same four constructs developed by Tanner (2006): (a) noticing, including a perceptual grasp of the situation; (b) interpreting, using a variety of reasoning processes, evidence, and patient data to understand the particular situation; (c) responding with a course of action; and (d) reflecting, or evaluating outcomes, both in-action and on-action. Within the model, nursing students identify cues during the assessment, interpret the cues into a meaningful whole, complete patient care in response to the interpretation, and reflect during and after patient care to add to their knowledge of patient outcomes related to clinical judgments (Jensen, 2013). The LCJR categories are arranged from beginning (1 point), developing (2 points), accomplished (3 points) and exemplary (4 points). Total scores reflect the clinical judgment level as 11 is beginning, 12 to 22 is developing, 23 to 33 is accomplished, and 34 to 44 is exemplary. The novice student should expect to score in the first two areas. The goal for the graduating student is to score within the accomplished or exemplary ratings (Lasater, 2007).

Please refer to Table 6 regarding the integration between the NASC–CDM and the LCJR. The student data (self and peer) will be presented first followed by the expert rater data.

Data screening the Lasater Clinical Judgment Rubric Tool. Data were screened for normality and missing data. Normality tests were completed for all analytical variables across both groups and for each group separately. Results indicate all measures were within acceptable ranges of normality (Skewness within +/- 1.00) (Mertler & Vannatta, 2005). Skewness results are presented in Table 13.

Rubric data. Students completed two LCJR tools on the day of the simulation seminar. The tool was used once as a self-assessment tool for student performance as the primary RN. The second scoring was to evaluate a peer student acting in the role of the primary RN, and the third scoring was by expert clinical faculty raters. To review, results can fall into novice, developing, accomplished, or exemplary levels. The mean total scores for the self-assessment were 29.57 for the control group and 28.95 for the treatment group. The mean total scores for the peer assessment were 34.19 for the control group and 35.05 for the treatment group. These scores indicate that students scored themselves in the developing category and their peers in the accomplished category. The expert reviewer mean scores were 21.45 for the control group (novice) and 29.32 for the treatment group (developing). It is interesting to note that the treatment group mean for self-assessment (28.95) was very close to the expert reviewer mean score (29.32) for their performance.

Table 13

Skewness Statistics on the Lasater Clinical Judgment Rubric Tool

	Overall	Control	Treatment
Self noticing	-0.21	-0.14	-0.28
Self interpreting	0.17	0.18	0.19
Self responding	-0.53	-0.34	-0.64
Self reflecting	-0.15	-0.07	-0.18
Peer noticing	-0.38	-0.43	-0.13
Peer interpreting	-0.54	-0.61	0.71
Peer responding	-0.17	-0.11	0.06
Peer reflecting	-0.53	-0.76	-0.40
Self total	-0.33	-0.17	-0.44
Peer total	-0.48	-0.40	-0.37
Expert noticing	-0.075	0.141	-0.492
Expert interpreting	-0.497	0.414	-0.149
Expert responding	-0.237	0.456	-0.361
Expert reflecting	-0.369	0.229	0.220

To address the research question, mean scores were compared between the control group and the treatment group. Comparison included both overall rubric scores as well as the subscale scores from the four aspects of the rubric: noticing, interpreting, responding, and reflecting. The mean scores for the treatment and control groups were very similar across all measures. The power analysis and effect sizes were comparative with the *t* and *p* scores. Consequently, none of the differences

between treatment and control groups for either the peer or self-assessment yielded any statistically significant data.

Two master of science in nursing prepared nurse educators familiar with simulation volunteered to assist with the scoring of the participant videos with the LCJR. These raters were not employed by the university and were not familiar with any of the students in the study. Training for scoring the LCJR was completed and interrater reliability assessments were carried out, resulting in an acceptable level of 80% agreement. The expert raters were masked as to assignment of the students into the control or treatment groups.

The differences between treatment and control group scores as rated by the experts were large, with the treatment group means consistently greater than the control group. The data reflected highly significant differences ($p = 0.000$) between the control and treatment groups for the noticing, interpreting, responding, and reflecting scales. These results support the hypothesis that watching an expert nurse video had a positive effect on the clinical judgment performance of the treatment group in comparison to the control group when scored by the expert raters.

Table 14 presents descriptive statistics, *t*-test results, power analysis and effect size for the LCJR for both the student self and peer ratings and the expert ratings. These results will be explored further in Chapter V.

Table 14

Comparing Lasater Clinical Judgment Rubric Mean Scores (Between Groups) Including Power Analysis and Effect Size (Cohen's d)

	Control		Treatment					
	M	*SD*	*M*	*SD*	*t*	*p*	Power	*d*
Self								
Noticing	7.67	1.96	7.77	2.51	-0.15	0.88	0.04	0.05
Interpreting	4.95	1.53	5.14	1.52	-0.40	0.69	0.06	0.12
Responding	11.67	2.42	10.95	2.72	0.91	0.37	0.16	-0.30
Reflecting	5.29	1.23	5.09	1.38	0.49	0.63	0.07	-0.16
Self total	29.57	6.41	28.95	7.19	0.30	0.77	0.05	-0.10
Peer								
Noticing	9.10	2.10	9.18	1.40	-0.16	0.87	0.03	0.04
Interpreting	5.95	1.56	6.23	0.92	-0.70	0.49	0.08	0.18
Responding	12.33	2.54	13.05	1.96	-1.03	0.31	0.14	0.28
Reflecting	6.81	1.12	6.59	1.05	0.66	0.51	0.09	-0.20
Peer total	34.19	6.65	35.05	4.51	-0.49	0.63	0.06	0.13
Expert								
Noticing	5.38	1.32	7.80	1.33	-5.96	.00	0.99	1.83
Interpreting	3.88	1.13	5.45	0.62	-5.64	.00	0.99	1.39
Responding	8.12	2.17	10.68	1.62	-4.41	.00	0.99	1.18
Reflecting	4.07	1.08	5.39	0.71	-4.76	.00	0.97	1.22
Expert total	21.45	5.31	29.32	3.65	-5.69	0.00	0.985	1.40

Post hoc effect size calculation. Effect size conveys the magnitude of the difference between groups and is used as part of estimating statistical power. The object of reporting effect sizes is to allow interpretation of the importance of the findings. All other things being equal, the larger an effect size, the bigger the impact the experimental variable had on the treatment group (Fritz, Morris, & Richler, 2012). Cohen's *d* is a standardized method for calculating effect size that was selected for this study.

A prospective analysis reported in Chapter III for sample size utilized effect sizes obtained from past studies that presented a similar intervention and outcome variable. In a study by Johnson et al. (2012), a post hoc analysis indicated a large effect size of Cohen's $d > 1.13$ for the expert rater analysis of the LCJR. The a priori power analysis conducted for this study utilized a moderate effect size of $d = 0.35$ and the above published effect size of Cohen's $d > 1.13$. An estimated required sample size of 46 was identified with a moderate effect size of Cohen's $d = 0.35$. The estimated sample size using the effect size of $d = 1.13$ from the published study was calculated to be 20.

In this study the power calculations ranged from 0.97 to 0.99 for results related to expert raters and the effect sizes were from 1.18 to 1.83. This data supports the conclusion that the sample size was adequate for the expert nurse assessment with the LCJR and met the calculated a priori power analysis. The results for the non-expert analyses, however, indicate the sample size may not have been large enough to detect an effect, if an effect was actually present. Had a larger sample been used, it might have improved the precision of the estimates of the mean scores, thereby increasing the effect size and contributing to greater power. However, as the means in Table 12

indicate, the differences between self and peer ratings were quite small, so the small effect size is likely not simply an artifact of small sample size but also of what appears to be little effect as a result of the intervention. As discussed in greater detail in Chapter V, there is a strong likelihood that the small differences may be related to inadequate training of the students in how to use the measurement instruments, thereby resulting in measurement error (i.e., means that are not a true representation of the actual constructs).

Interrater reliability. Interrater reliability is defined as the level of agreement between multiple raters when scoring the same cohort of participants with a particular instrument (Lim, Palethorpe, & Rodger, 2012). Scoring rubrics are utilized to guide raters in deciding the rating to be selected. They provide for a common interpretation of specific constructs that may be used to demonstrate consensus estimates.

During their training, the first evaluation of the expert raters for consensus utilized percent agreement. The raters utilized a standardized training video utilizing the LCJR provided by Dr. Katie Adamson Haerling followed by independent assessment of three identical simulation videos. Percent agreement between the expert raters for these videos yielded a score of 80%. Good interrater reliability scores are indicated if the score is 70% or greater (Lim et al., 2012). This process indicated that the raters were prepared to assess the sample videos consistently.

The expert LCJR ratings were also assessed for interrater reliability following completion of the 43 sample videos by utilizing intraclass correlation. Intraclass correlation may be defined as the true variance score divided by the observed variance, and is based on consistency assessment of the raters. This allows the raters to have their own individual definition of a rubric and still provide predictable results and

consistency in their scoring. Intraclass correlation accounts for systemic or random errors in the data. This statistical measurement is widely used as an estimate for interrater reliability and validity. Ranges of scores may vary between 0 and 1 and the higher the score, the more reliable the results (Lim et al., 2012).

The intraclass correlation coefficients (two-way random effects models) for the interrater reliability analysis on the expert rater data ranged from .70 to .90 (see Table 15). Acceptable ratings of agreement (i.e., reliability) based on intraclass correlation values are good for values between .60 and .74, and excellent for values between .75 and 1.0 (Hallgren, 2012). The interrater reliability values for the expert raters reflected agreement in the good to excellent range; therefore, construct scores between raters were combined into mean scores that were used in subsequent *t*-test analyses.

Table 15

Intraclass Correlation

Construct of Lasater Clinical Judgment Rubric	Intraclass correlation
Noticing	.77
Interpreting	.88
Responding	.90
Reflecting	.70

Summary of Lasater Clinical Judgment Rubric data. The results of data collected with the LCJR for self and peer ratings demonstrated no significant

differences between the treatment and control groups. The difference scores between groups on the expert ratings were highly significant, with the treatment group scores higher. This likely reflects an effect of the expert video treatment on that group.

Missing Data

Missing data analysis indicated no missing data for the LCJR and a small percentage of missing data for the NASC–CDM (4.7%). The missingness was missing completely at random (Little's missing completely at random, NASC–CDM: χ^2 = 21.21, $p > .05$). Therefore, to retain the maximum sample size, missing data were imputed using Estimation Maximization to create a single complete data file (Baraldi & Enders, 2010), which was used in subsequent analyses.

Conclusion

This chapter presented an overview of the data with a brief analysis. Chapter V will consist of a discussion of the study findings in relation to the study hypotheses. Limitations of the study, implications for nursing education, and recommendations for further research will be included.

CHAPTER V

DISCUSSION AND RECOMMENDATIONS

This final chapter includes a summary of results with a discussion of findings, limitations of the study, implications for nursing education and future research, and concluding statements.

Purpose of the Study

The purpose of this study was to examine the impact of the specific prebriefing strategy of expert role modeling on novice nursing student self-assessed anxiety/self-confidence and clinical judgment skills. Nursing students consistently report low self-confidence and high anxiety related to decision-making skills and clinical judgment prior to their first acute care clinical experience (Bremner et al., 2006; Dearmon et al., 2012; White, 2014). The scores reported in this study for the pre seminar NASC–CDM indicated similarly high anxiety and low self-confidence with decision making for this group of students (see Table 16).

Design, Methodology, and Population

A quantitative, experimental, pretest–posttest design was utilized for this study. Data collection methods included a self-report Likert scale for anxiety and self-confidence (NASC–CDM) and self, peer, and expert scoring of performance by the primary RN with a rubric tool (LCJR). The two outcomes determined if viewing of an

expert nurse video reduced anxiety and increased self-confidence and level of attainment for clinical judgment.

Table 16

Total Change (Within Groups) Pre to Post Seminar Intraclass Correlation on the Nursing Anxiety/Self-Confidence with Clinical Decision Making Scale

Dimension	Control			Treatment		
	M change	*t*	*p*	*M* change	*t*	*p*
Total self-confidence	12.47	-3.30	0.00	18.27	-4.35	0.00
Total anxiety	20.01	4.75	0.00	15.71	2.97	0.01

Other variables measured included data collected on the demographic tool, including age, gender, and ethnicity, and situational variables of previous experience in healthcare and previous experience with simulation. Effects were measured for each student acting in the role of the primary RN. These results were compared for differences between the control group (standard prebriefing prior to participation in each clinical scenario) and treatment group (standard prebriefing plus viewing expert role model video prior to participation in each clinical scenario). Students and raters were masked as to assignment into treatment or control groups.

The accessible population for the study included nursing students enrolled in their first acute care clinical in the traditional bachelor of science in nursing program

at a four-year Hispanic serving state university located in a midsized Western city in the United States. A purposive, non-probability convenience sample data of six males and 37 females consented to include their data in this study. Students' names were randomly selected and placed into clinical groups. These groups were further randomized into control and treatment groups.

Discussion of Findings

Demographics

Demographic data collected prior to the seminar day included variables of age, gender, ethnicity, healthcare experience, and simulation experience. Results from group equivalency tests indicated that all measures between groups were equivalent except for the number of simulation experiences (see Table 5). The simulation experience category yielded a statistically significant difference ($p = 0.000$) between the groups: the control group average was 1.158 experiences while the treatment group average was 2.045. Though significantly different, the practical effect of a student having participated in one versus two simulation scenarios before may be small. This will be discussed further in the limitations section of this chapter.

Discussion for Each Hypothesis

Presentation of each directional hypothesis will be followed by a detailed analysis and a brief discussion of the findings.

H1 Novice nursing students will have a significant reduction in anxiety and increase in self-confidence when exposed to an expert nurse role modeling video prior to participation in the simulation scenario, as compared to a control group of nursing students who do not view a role modeling video.

For Hypothesis H1 the researcher assessed the data obtained from the NASC–CDM scale that students completed in a pre and post seminar fashion. The results

indicated that both groups demonstrated decreased anxiety and increased self-confidence overall. The paired samples *t*-tests (within groups) indicated significant pre to post differences on almost every dimension of anxiety and self-confidence for both groups. The data were trending in the right direction for the between groups analysis even though only Dimension 2 (interpreting) yielded a significant difference of $p = 0.03$. Additional analysis from the between groups data trends indicated that the treatment group consistently saw greater growth in self-confidence than the control group; however, the control group consistently saw a greater reduction for anxiety than the treatment group, although none of the differences between groups was significant. Therefore, the Hypothesis H1 was not supported by the data.

The self-confidence subscales for the NASC–CDM indicated a trend for consistently higher ratings for the treatment group than the control group. Dimension 2 (interpreting) reached a statistically significant level of $p = .03$. The expert nurse role modeled prioritizing and making sense of data by the actions and interventions in the video. Observing these actions by the expert nurse may have provided the treatment group insight into the patient problem which led to improved ability to "put it all together" resulting in an increased Dimension 2 (interpreting) score.

The anxiety subscales for the NASC–CDM indicated a trend for greater reduction for the control group than the treatment group which is the opposite of the desired outcome. The treatment group viewed the expert nurse videos prior to each scenario, which may have led to higher anxiety as they were more aware of their shortcomings. The phenomenon of "not knowing what you don't know" may have given the control group a feeling of decreased anxiety that was reflected for this score on the tool.

Even though the hypothesis of group differences was not supported, overall total scores for both self-confidence and anxiety within groups demonstrated statistical significance (see Table 10).

This data indicated that both control and treatment group students reported significant reduction in anxiety and improvement in self-confidence following participation in the simulation seminar. Field notes supported this statement as both student groups commented that they felt better prepared for their acute care clinical experience following the simulation seminar.

H2 Novice nursing students will have a significant improvement in clinical judgment scores when exposed to an expert nurse role modeling video prior to participation in the simulation scenario, as compared to a control group of nursing students who do not view a role modeling video.

Hypothesis H2 was tested through the student self and peer completion of the LCJR. Mean scores for groups were very similar across all categories for the self and peer data. Consequently, none of the differences between treatment and control groups were statistically significant. Therefore, Hypothesis H2 was not supported by the data for self and peer assessment.

It is interesting to note that both the control and treatment group students consistently rated themselves and their peers very high with this tool, and the peer ratings were higher than the self-ratings. One reason for these findings could be that the training provided for the tool was not adequately completed by students. Information about the LCJR was distributed in an online format and neither student knowledge nor interrater reliability in using the tool was validated by the researcher prior to data collection. In addition, numerous studies have reported several

advantages and disadvantages for self and peer assessment in higher education. An overview of the positive outcomes for self and peer assessment refer to repeated and skillful use of this strategy. These are student empowerment; identification of strengths and weaknesses to assist in remediation (Topping, 2009; Welsh, 2007); improved ability to make judgments and improved critical thinking (Welsh, 2007); students' insight into how others view clinical problems and improved approaches in giving and receiving constructive criticism (Rush, Firth, Burke, & Marks-Maran, 2012; Welsh, 2007); and active, self-directed learning, collaborative learning processes, immediate feedback, and reduction of the power imbalance between students and faculty (Topping, 2009; van Zundert, Sluijsmans, & van Merrienboer, 2010). Disadvantages of the self and peer assessment process included inconsistency of validity and reliability, inadequate or incorrect feedback provided, and student anxiety regarding offending their peers (Rush et al., 2012; Welsh, 2007). The students in this study are not accustomed to self and peer assessment at all, so this one attempt to use the strategy may have been challenging. The students likely did not understand the constructs being measured, leading to compromised reliability. Therefore, the probably inaccurate, inflated results may represent the effects of limited reliability and anxiety regarding offending their peers (see Table 10).

H3 Clinical judgment scores reported by masked, trained, external faculty raters will indicate a significant difference between the students exposed to an expert nurse role modeling video, as compared to the control group of nursing students who do not view a role modeling video.

Two master of science in nursing prepared nurse educators familiar with simulation volunteered to assist with the scoring of the participant videos with the LCJR. These raters were not employed by the university and were not familiar with

any of the students in the study. They completed a detailed LCJR orientation and training, and achieved acceptable interrater reliability scores. They were masked as to assignment of the students into the control or treatment group. The ratings were completed on the primary RN performance only. The remainder of the team members were not scored with the LCJR tool.

The differences between treatment and control groups as rated by experts were large, with the treatment group means consistently greater than the control group. The data reflected highly significant differences ($p = 0.000$) between the control and treatment groups in noticing, interpreting, responding, and reflecting scales. Hypothesis H3was supported by the data.

Theoretical Framework

Bandura's social cognitive theory was selected as the primary theoretical framework for this study. The NASC–CDM tool utilized the constructs of self-efficacy and emotional arousal as a basis for assessment of the level of anxiety a person experiences when confronted with new, threatening situations. Inexperienced students report significant anxiety when anticipating their first clinical day in an acute care facility. This increased anxiety leads to decreased self-confidence (self-efficacy) in their capability to provide safe care for patients. Hypothesis H1 results indicated that both control and treatment group students reported significant reduction in anxiety and improvement in self-confidence following participation in the simulation seminar.

Constructs of Bandura's social cognitive theory stated that individuals are more likely to adopt a modeled behavior if it results in outcomes they value; and individuals are more likely to adopt a modeled behavior if the model is similar to the observer, has admired status, and the behavior has functional value (Bandura, 1977,

1997). The expert nurse videos provided a nurse close to the age of the students expertly performing care for standardized patients. The recordings were scripted similarly for each of the scenarios to be completed by the students. Hypothesis H3 results indicated that treatment group means were significantly greater than the control group means.

Limitations of the Study

There were several factors that were limitations for this study. The first factor was seminar timing. Secondly, scenario factors were a significant limitation. Additionally, student factors related to preparation were a limitation for the study. Finally, sample size limitations were a factor that limited the study findings. These limitations will be discussed here individually.

Design: Seminar Timing Factors

One control factor of the study required that all students participate in the seminar prior to beginning their clinical rotations. This proved to be quite challenging due to the initial semester activities. The first three weeks of each semester are extremely busy with scheduled orientations and competency events for all students. Dates were selected based on the availability of the simulation laboratory and the students. This required dates of attendance on weekend days, and the first date conflicted with a mandatory convocation event. The students did not offer any complaints about being required to come in early or on a weekend; however, this needs to be noted as a potential limiting factor.

A second seminar factor limitation was the presentation of the study to the students. The researcher presented the study to the student group following their first day of class for Medical Surgical Nursing I. The class ended at 5:30 p.m. Students

were overwhelmed with information, exhausted, and anxious to leave. This situation led to a much shortened presentation of the study and rapid distribution of consent forms to the students. There was no time for students to ask questions, if they had any. Time was insufficient for the researcher to discuss the study purpose, methods, or tools in any detail. This issue was unforeseen and may have had a significant impact on the outcomes of this study.

Design: Scenario Factors

The scenarios selected for the seminar utilized the National League for Nursing Advancing Care Excellence for Seniors unfolding cases. The cases were arranged from simple to complex for each patient. It became apparent during and after the scenarios that the students may not have had adequate theory content to prepare them to meet the objectives indicating that the level of scenario was too difficult.

Millie Larsen Case #1 required the student to notice the atypical signs of sepsis in the elderly client, elevated blood pressure and safety issues. These students had no content covering specific signs and symptoms or treatment for sepsis and hypertension. Case #2 occurs the following day on the medical unit where Millie had a near fall. The students struggled with managing the prioritization of the tasks for both cases and had difficulty contacting the health care provider for orders.

Sherman “Red” Yoder Case #1 required the primary RN to act as a home health nurse. Students were unsure of their role in the home setting and had difficulty completing the assessment as the client was clothed and seated at his table rather than in the traditional hospital bed. This scenario proved to be quite challenging as education for drug and alcohol interactions and patient safety were a priority. The final scenario was the most complex. Mr. Yoder was brought to the emergency department

by ambulance in a disoriented state with doctor orders to admit him directly to the medical intensive care unit. Students were frustrated at their inability to prioritize and carry out simple tasks. The tasks became the focus of the scenario and the simulation facilitator entered the room to "rescue" students by stating she was the intensive care unit nurse coming down for report on the patient.

Selection of scenarios met the course objectives for the Medical Surgical Nursing I course; however, it may have been better to complete the seminar at the end of the semester after content had been presented in class. Even though these scenarios were classified as basic, the leveling of the skills seemed to be too difficult for this level of beginning students.

Design: Student Factors

Student factors that may have impacted data collection negatively included inadequate understanding of the LCJR Tool and preparation for the simulation seminar. This information was provided to the students within the learning management system (Blackboard) in a specific folder labeled "Simulation Information." This folder was designed for adaptive release to each group of students at specific times prior to and during the simulation seminar. Detailed information and instructions were included in the learning management system. A common statement from some of the students was: "I did not have time to review the monologues and the instructions on the LMS [learning management system]." This led to inadequate preparation for the scenarios and the self and peer assessment LCJR documents that were completed during the seminar. This lack of preparation was consistent among control and treatment groups and did not demonstrate any pattern or trend. The actual numbers were not tracked; this information was obtained as conversations during field

note data collection. Students stated that they had not had the time to access the information and prepare for the seminar due to the tight schedule of the first three weeks. This lack of adequate preparation may have been a significant factor impacting the lack of significant results from the self and peer evaluations with the LCJR. The data indicated that students rated themselves as accomplished and exemplary on most of the indicators and they scored their peers even higher than themselves. This was in contrast to the scoring of the expert reviewers who rated the control groups as beginning and the treatment group as accomplished in their performance.

Lessons Learned

The planned research study incorporated individual student accountability for preparing for the simulation seminar. Detailed written instructions were provided in the learning management system for student preparation. A training video from Dr. Katie Adamson was provided to the students for training with the LCJR. Students were not committed to completing the training for appropriate scoring with the tool, which is common when the assignment is not a graded task. This lack of training and preparation invalidated the scores obtained for the self and peer assessments with the LCJR.

The outcomes from the data collection indicated that these students require face–to–face instruction and practice with the tools to meet the expected level of comprehension and competency for the data to be valid and reliable. Interrater reliability should be determined to ensure that students use the tool correctly. Given the value of self and peer assessment as discussed above, a number of nursing programs already use the LCJR for that purpose. Studies that incorporate the LCJR may best be carried out with student populations for whom the tool is already familiar.

Sampling

The limitation of sample size will be addressed here. The study was planned in the fall semester to be carried out in the spring. The sample size at that time was estimated to be 50 students. Only 43 students were successful in completion of their coursework for the fall semester and eligible for the study. This was an unexpected reduction in sample size which can decrease the power of a study to identify real changes.

An additional limitation for the study was use of convenience sampling from a single site and single student level group of students. This limits the generalizability of the findings to other program types, other student levels, and other geographic areas.

Unequal groups: Experience with Simulation

The treatment group had experienced more simulation scenarios than the control group (mean of 2 scenarios to 1) which may have had an effect on the results. The treatment group had significantly higher scores than the control group from the expert reviewers on the LCJR. For the NASC–CDM, the treatment group achieved significant growth related to the self-confidence Dimension 1 (noticing) scores, but the control group did not. The remainder of the scores were equivocal. The researcher's years of experience with students in simulation indicates there is little practical difference between having participated in one or two simulations previously. While it is not possible to determine the influence of simulation experience on the LCJR scores, teaching experience leads to the conclusion that it was not likely to have been the major reason for the highly significant difference between groups on the LCJR. The simulation experience factor may need to be controlled in future studies.

Implications for Nursing Education

The use of simulation in nursing education has many benefits listed in the literature. The recent study by the National Council of State Boards of Nursing has provided evidence that use of up to 50% of clinical time in simulation is as effective as traditional clinical hours (Hayden, Smiley, Alexander, et al., 2014). The priority recommendation for use of simulation is to maximize the learning opportunities for students which will produce safe and effective nurses. Much of the literature indicates that human patient simulation in nursing education is an effective method for teaching and developing competencies, learner confidence, technical competence, interprofessional communication skills, and clinical judgment (Lasater, 2007; Tilzer et al., 2012). These articles all indicate a need for more research to assess the effectiveness of simulation for transfer of learning and best practices to improve learning outcomes. This study utilized evidence based, experiential simulations which have been shown to reduce anxiety and increase self-confidence of nursing students and enhance clinical judgment skills (Benner et al., 2010; Handwerker, 2012). Simulation provides students opportunities to make decisions and make mistakes and provides a safe environment for the patients while allowing students to practice clinical decision making and clinical judgment, which prepares them for the complex role of the RN (Alfes, 2011; Benner et al., 2010; Lasater, 2007). The use of the simulation prebriefing strategy of viewing an expert nurse role modeling video was examined in this study. "Prebriefing provides an opportunity to further simulate prior experience through facilitation and prompting and to develop pre-understanding of the patient condition and consolidation of theory-practice knowledge, particularly for novice practitioners" (Page-Cutrara, 2014, p. 139).

Future Research

The impact of prebriefing remains an understudied area of research with human patient simulation. The literature review produced only a few studies that evaluated the effectiveness and use of prebriefing strategies for simulation. Additional studies are recommended to determine evidence and best practices for use of specific prebriefing strategies for simulation.

This study could be strengthened by addressing the issues in the limitations section. A priority revision is to prepare the students for use of the LCJR in a classroom setting and assess appropriate understanding and use of the tool. Alternatively, one might seek nursing programs that already use this tool for self and peer evaluation so students would be familiar with it. Additionally, this study could be repeated throughout a cohort progression to determine growth over time with the LCJR, as well as reduction of anxiety/increasing self-confidence with the NASC–CDM. The unfolding case approach could be applied by introducing the fundamentals course students to a client and progressing the scenario throughout the medical, surgical, and leadership courses.

Studies utilizing a pretest–postest assessment for each scenario might provide additional information regarding reduction in anxiety and increase in self-confidence. This data could be used to document student improvement throughout the program.

Allowing earlier access and unlimited viewing of expert role performance videos may allow learners to absorb information from which they are able to create individual clinical imagination (Benner et al., 2010). The learner can then refer to this image when acting in the simulation and in future clinical practice, because it provides

a standard against which to gauge their personal performance (Bandura, 1986; Carroll & Bandura, 1982, 1987, 1990; LeFlore et al., 2007).

Conclusion

The complex healthcare systems of today have placed increasing demands on nursing graduates. The acuity of patients is higher, the technology is ever changing, and the responsibility of the nurse is greater than ever. Nurse educators are accountable for providing the best possible education to prepare tomorrow's nurses. Evidence based pedagogy guides best practices for nursing education and simulation. When there is a lack of evidence available, research should be conducted to provide evidence that a strategy is effective. This study provided evidence that student participation in a simulation seminar can reduce anxiety and increase self-confidence in novice nursing students. In addition, incorporating an expert nurse role modeling video had a positive effect on the students' use of clinical judgment in a simulation scenario.

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APPENDIX A

EXPERT NURSE SCRIPTS

Millie Larsen Case #1
Expert Nurse "Think Aloud"

My name is Marie. I graduated from Nursing School in 2003. I am currently employed as an ICU nurse and am certified as a Critical Care Nurse. I have worked in the critical care setting for the past 9 years and I have seen a wide variety of patients. I am going to present here how I "think" when I take care of a patient like Millie. This will provide some insight into what is going on in the head of an expert nurse that you may not be able to pick up just by watching.

The monologue and history reveals that Millie is an 84 year old living independently at home. Relevant medical history of glaucoma (vision problems?), arthritis (pain?), incontinence (falls?), and HYPERTENSION (most risky issue).

Report for this patient is that she arrived in the ED 3 hours ago (review chart for physician orders, VS, labs, I & O). Off going nurse has not given her any meds. Millie is attended by her daughter who reports that she found her mother in her bathrobe and confused, so she brought her here. Dr. Lund suspects dehydration and UTI.

When I enter Millie's ED room, I immediately noticed that she is quite confused and somewhat agitated. Dina is at the bedside and very concerned about her mother. Millie has an IV infusing in her Left forearm, D51/2NS with KCL 20 meq via pump at 60 ml/hr. The site is intact and nontender. Focused assessment of heart, lungs, abdomen are WNL. Millie appears dehydrated with decreased skin turgor and dry lips. Cipro administered to the patient stat to treat the UTI.

My interpretation of the labs and assessment confirm that Millie has a UTI and is slightly dehydrated. She is in an acute delirium related to the diagnosis. BP is elevated compared to the previous readings and patient reports a headache at this time. My interpretation of these findings (her neuro is essentially stable) is that she needs medication to reduce her BP ASAP.

In response to the current assessment and physician order to notify if BP >150, I will immediately prepare an SBAR report and call Dr. Lund with an update and further orders.

Dr. Lund ordered Millie's usual anti-hypertensive medications to be restarted orally to control her BP-suspicion is that she missed her doses this AM due to her onset of confusion. I will reassess the patient VS for a reduction in BP and Pulse 15 minutes after administration of the medications to determine effectiveness.

Millie Larsen Case #2
Expert Nurse "Think Aloud"

I have floated to the medical unit where Millie was admitted from the ED last evening. After receiving report from the off going RN my plan for care today will be focused on her near fall at 0600 (Fall Risk Assessment, assure bed in low position, call light in reach, rails up x 2 and frequent reinforcement to call for assistance. CONSIDER: Bed alarm if necessary.) Second priority is to assess Millie's readiness for discharge today. Review of today's Basic Metabolic Panel reveals that Millie's Na+ is improving and her K+ has normalized. BUN/Cr is WNL. I & O noted to be WNL, and VS trends are WNL for this patient. Afebrile and BP/Pulse are coming down nicely since her home medications were restarted.

When I enter Millie's room I noticed several things. Her IV site is patent and non tender and the correct fluid is infusing at the prescribed rate via pump. Millie is on room air and her color is pink and her lips are less cracked than previously. Focused assessment reveals lungs CTA and heart S1 & S2. Abdomen soft with active bowel sounds, non distended. Millie is oriented x 3 and the confusion seems to be clearing. Daughter at the bedside and very concerned about the near fall and Millie's ability to go home alone.

My interpretation of these findings indicates that Millie's medical condition of the UTI and dehydration are clearing well. Her electrolytes are normalizing and her urine output is adequate. Her BP and pulse have returned to normal since her medications have been restarted. It looks like Millie may be medically cleared for discharge by Dr. Lund later today.

The fall risk assessment tool was completed and indicates that Millie is a high fall risk. Her Katz assessment indicates that she is independent. SBAR report prepared to notify the physician of these findings. Dr. Lund notified of these assessments, morning lab values and Dina's concerns regarding discharge to home today. Will await further orders regarding discharge.

Sherman "Red" Yoder Case #1
Expert Nurse "Think Aloud"

My name is Chris. I graduated from Nursing School in 2007. I am currently employed as a Cardiac Catheterization and Interventional Radiology RN. This area requires rapid critical thinking and interventions for patients in crises. Previously, I worked on a Telemetry unit and cared for 4-6 high acuity patients. I have worked in the critical care setting for the past 6 years and I have seen a wide variety of patients. I am going to present here how I "think" when I take care of a patient like Red. This will provide some insight into what is going on in the head of an expert nurse that you may not be able to pick up just by watching.

When I walked into Mr. Sherman's home I noticed many things. First, I noticed that he was alert and cooperative with Judy's concerns about him remaining in his home. When I questioned Red about his wound, he seemed unconcerned about Jon's (son) behavior. Judy did not seem to be surprised or concerned either. I will get more information regarding this and consider elder abuse issues. Red was warm and inviting, his home was clean and well kept. I was concerned about the soda and candy on his small table. The admission nurse related that Red was diagnosed 6 months ago with Type II DM, however, the patient report that he has little or no sensation in his feet is good evidence that he has had this problem for a very long time. His lack of concern regarding his foot wound and the fact that he checks his FSBS weekly also lends concern with educational needs and compliance. Vital signs were WNL which is reassuring. I will plan to call the physician after I complete my assessment of the wound with a full SBAR report and request antibiotics and further home care visits to follow the wound closely. Red is at high risk for sepsis related to the severe cellulitis of his right foot wound.

Additional findings of concern throughout the interview included difficulty sleeping, occasional urinary incontinence and alcohol use. Red reports that he 'does not want to be a bother' and 'why does an old man like me need to watch what I eat?" These flags indicate a risk for depression and falls. The SPICES tool gave significant information during the interview. Mixing the Benadryl and alcohol is not a good combination; this mixture would increase his risk for falls if he gets up with his incontinence.

Redness and warmth were apparent upon assessment of the right great toe, second toe and foot area indicating significant cellulitus. Necrotic tissue was noted at the tips of the great toe and second toe. Measurements of the wound were taken and recorded. The wound was cleansed gently with normal saline and antibiotic ointment applied. A moist saline gauze dressing was applied to protect the wound. The physician was notified regarding the findings of the visit:

Situation and Background: "My name is Chris and I am the Home Health RN admitting Mr. Sherman 'Red' Yoder. Red is an 80 year old male who noticed a wound on his right foot approximately 2 weeks ago. Patient reports that the wound occurred when wearing new shoes that were 'too tight' after walking in the mall. Patient has been soaking the foot in water as treatment. Red was diagnosed with Type II DM 6 months ago that was not controlled with oral agents. He currently takes 12 units of

NPH daily SQ. He only checks his blood sugar weekly at this time. Patient reports that his glucose runs 120-130.

Assessment: The right foot is reddened to the ankle and warm to touch. Necrotic tissue was noted at the tips of the great toe and second toe. Measurements of the wound were nickel sized at the tip of the great toe and dime size for the second toe. VS were: T: 98, P: 66, R:16, BP:144/86. FSBS was 210 at this visit.

Recommendation: I would recommend an oral antibiotic to be started ASAP to treat the cellulitis of the right foot. Home health can monitor the wound twice a week. I will teach the family how to do daily dressing changes and to notify if any changes are noted.

Sherman "Red" Yoder Case #2
Expert Nurse "Think Aloud"

Mr. Sherman 'Red' Yoder arrived via ambulance to the Emergency Department with his son Jon arriving shortly thereafter. Report from first responders: "Mr. Yoder's family called for us to pick him up as he did not meet his friends in town as usual this morning. When they went to check on him he seemed confused and sleepy. They called the physician who said to call 911 and bring him to the ED. His VS enroute were: BP: 110/78, P: 88, R: 24."

When I entered the room to assess Red I immediately noticed several key things. His color was pale, his lips were dry and cracked. Temperature was 101.4 tympanic, BP: 116/78, P: 88, R: 28 and SaO2 92% on room air. He responded to verbal stimulation briefly but immediately drifted to semi-conscious state, moaning at intervals. My focused assessment indicates that Red is septic from his foot wound. The priority is to start an IV of NS immediately and place him on oxygen at 4/L minute. Lab specimens for Blood Cultures x 2, CBC, BMP and serum lactate sent. Wound culture was collected and sent as well. Physician was notified and additional orders were received. Fluid bolus of 500 ml NS will be administered over 10 minutes and patient will be monitored closely for any improvement in mentation and VS. If patient is not improved, a second 500 ml bolus will be administered. A second IV line will be placed to administer stat antibiotics and other medications as needed. Place patient in hospital gown and complete his assessment ASAP.

The priority goal for this patient in the ED is to quickly restore circulation and oxygen to prevent further deterioration. Notify the Medical ICU and give SBAR report, and transfer the patient.

APPENDIX B

SIMULATION SELECTIONS AND SCENARIO SPECIFIC OBJECTIVES

UTI (Millie Larsen 1)	Dementia vs. Delirium (Millie Larsen 2)	Diabetic Foot (Red Yoder 1)	Diabetic Foot Possible Sepsis (Red Yoder 2)
1. Implement patient safety measures related to patient encounters such as, "5 rights" of medication administration, environmental scan of room, and comprehensive communication to healthcare team.	1. Implement patient safety measures related to patient encounters such as, "5 rights" of medication administration, environmental scan of room, and comprehensive communication to healthcare team.	1. Implement patient safety measures related to patient encounters such as, "5 rights" of medication administration, environmental scan of room, and comprehensive communication to healthcare team.	1. Implement patient safety measures related to patient encounters such as, "5 rights" of medication administration, environmental scan of room, and comprehensive communication to healthcare team.
2. Identify etiologies of diagnosis and identify priorities of patient care.	2. Identify etiologies of diagnosis and identify priorities of patient care.	2. Identify etiologies of diagnosis and identify priorities of patient care.	2. Identify etiologies of diagnosis and identify priorities of patient care.
3. Conduct a head to toe patient assessment (including confusion)	3. Conduct a head to toe patient assessment	3. Conduct a head to toe patient assessment	3. Conduct a head to toe patient assessment (including confusion)
4. Identify critical assessment findings	4. Identify critical assessment findings	4. Identify critical assessment findings	4. Identify critical assessment findings
5. Interpret diagnostic tests results	5. Interpret diagnostic tests results	5. Interpret diagnostic tests results	5. Interpret diagnostic tests results
6. SBAR Communication	6. SBAR Communication	6. SBAR Communication	6. SBAR Communication
7. Documentation	7. Documentation	7. Documentation	7. Documentation
8. Procedural skills	8. Procedural skills	8. Procedural skills	8. Procedural skills
9. Demonstrate effective teamwork with student nurse and healthcare team.	9. Demonstrate effective teamwork with student nurse and healthcare team.	9. Demonstrate effective teamwork with student nurse and healthcare team.	9. Demonstrate effective teamwork with student nurse and healthcare team.

APPENDIX C

UNIVERSITY OF NORTHERN COLORADO INSTITUTIONAL REVIEW BOARD APPROVAL

UNIVERSITY of NORTHERN COLORADO

Institutional Review Board

DATE:	January 6, 2015
TO:	Cathy Coram, PhDc
FROM:	University of Northern Colorado (UNCO) IRB
PROJECT TITLE:	[687896-2] The Effect of Expert Role Modeling on Anxiety/Self Confidence and Clinical Judgment in Novice Nursing Students
SUBMISSION TYPE:	Amendment/Modification
ACTION:	APPROVED
APPROVAL DATE:	January 6, 2015
EXPIRATION DATE:	January 6, 2016
REVIEW TYPE:	Expedited Review

Thank you for your submission of Amendment/Modification materials for this project. The University of Northern Colorado (UNCO) IRB has APPROVED your submission. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on applicable federal regulations.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require that each participant receives a copy of the consent document.

Please note that any revision to previously approved materials must be approved by this committee prior to initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the appropriate forms for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of January 6, 2016.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

If you have any questions, please contact Sherry May at 970-351-1910 or Sherry.May@unco.edu. Please include your project title and reference number in all correspondence with this committee.

Cathy -

Hello and thank you for your patience with the IRB process over the last month. I've taken the opportunity to review your original and revised materials and agree with Dr. Nancy White, the first reviewer that everything is in order and you're approved to move forward with your research. Please be sure to use all revised/modified materials created through the review process in your participant recruitment and data collection protocols.

Best wishes with your research.

Sincerely,

Dr. Megan Stellino, UNC IRB Co-Chair

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Northern Colorado (UNCO) IRB's records.

APPENDIX D

COLORADO STATE UNIVERSITY–PUEBLO INSTITUTIONAL REVIEW BOARD APPROVAL

2200 BONFORTE BOULEVARD PUEBLO, COLORADO
81001-4901
COLLEGE OF HUMANITIES AND SOCIAL SCIENCES
719-549-2625
DEPARTMENT OF PSYCHOLOGY FAX:
719-549-2705

1.14.15
IRB Review
Proposal Title: The effect of expert role modeling on anxiety/self-confidence and clinical judgment in novice nursing students
Principal Investigator: Cathy Coram, RN, MS, CNE
New application

Dear Cathy,
Thank you for submitting the IRB application "The effect of expert role modeling on anxiety/self-confidence and clinical judgment in novice nursing students". This application has been reviewed according to the policies of this institution and applicable federal regulations. The review category for this application is *Expedited.* This letter serves as notification that you now have IRB approval for a period of 12 months from the date of this letter. The expiration date for your approval is 1.14.16. Once human research has been approved, it is the Principal Investigator's responsibility to report any changes in research activity related to the project, including revisions or amendments, serious adverse consequences, renewal or completion. If you have any question, please contact me at barbara.brettgreen@colostate-pueblo.edu. Thank you for your concern regarding the protection of human subjects, and good luck with your research.

Best Regards,

Barbara Brett-Green, Ph.D.
IRB Chair

APPENDIX E

CONSENT FOR USE OF TOOLS

Katie A. Haerling <kadamson@u.washington.edu>
Tue 6/3/2014 8:49 AM
Cathy, Thank you for your e-mail. I would be happy to share the example video I created. It was part of the training session described in the article. It would be helpful to have a short phone conversation to describe how I used it and for me to learn how you intend to use it. Please let me know if you are available later this week or next week. Thanks, Katie

Katie Anne Haerling (Adamson), PhD, RN
Assistant Professor, Nursing and Healthcare Leadership Programs

University of Washington Tacoma
Campus Box 358421
1900 Commerce Street
Tacoma, WA 98402-3100

phone: 253.692.4473
fax: 253.692.4424
e.mail: kadamson@u.washington.edu

Coram, Cathy
Mon 6/2/2014 6:43 PM
Sent Items

Hello Dr. Adamson, Dr. Lasater advised me to contact you regarding viewing/use of your expert role modeling video that was discussed in your article on LCJR Three Approaches.

Rater Training. Interested, qualified potential raters were sent packets that included additional information about the study and an invitation to attend a video or telephone conference training. As part of the training, the investigator provided background information about the LCJR and the study procedures. Then the rater was asked to view a sample scenario that provided a demonstration of how to score a simulation using the LCJR. Raters were also provided with the investigators' contact information in case they had any questions or concerns. The one-on-one standardized video and telephone conference trainings were designed to ensure consistency of raters' training and preparation and lasted approximately 45 minutes each. Adamson, K. A., Gubrud-Howe, P., Sideras, S., & **Lasater, K.** (2012). Assessing the inter-raterreliability of the Lasater Clinical Judgment Rubric: Three strategies. *Journal of Nursing Education 51*(2), 66-73. doi: 10.3928/01484834-20111130-03.

I would like to have a consistent training method to train raters for dissertation data collection beginning Jan 2015. Is it possible that you would share your information with me to allow help ensure consistency of raters training and enhance interrater reliability?

Thank you very much,

Cathy Coram RN, MS, CNE

The Lasater Clinical Judgment Rubric

From: Coram, Cathy [cora2051@bears.unco.edu]
Sent: Tuesday, May 20, 2014 6:51 AM
To: Kathie Lasater
Subject: RE: The Lasater Clinical Judgment Rubric

Kathie Lasater <lasaterk@ohsu.edu>

Tue 4/29/2014 3:17 PM

Hi Cathy,

Suzie Edgren has been a wonderful colleague and supportive of the LCJR. Glad you had a wonderful time in Boise.

Thank you for your interest in the Lasater Clinical Judgment Rubric (LCJR). You have my permission to use the tool for your project. I ask that you (1) cite it correctly, and (2) send me a paragraph or two to let me know a bit about your project when you've completed it, including how you used the LCJR. In this way, I can help guide others who may wish to use it. Please let me know if it would be helpful to have an electronic copy.

You should also be aware that the LCJR describes four aspects of the Tanner Model of Clinical Judgment—Noticing, Interpreting, Responding, and Reflecting—and as such, does not measure clinical judgment because clinical judgment involves much of what the individual student/nurse brings to the unique patient situation (see Tanner, 2006 article). We know there are many other factors that impact clinical judgment in the moment, many of which are impacted by the context of care and the needs of the particular patient.

The LCJR was designed as an instrument to describe the trajectory of students' clinical judgment development over the length of their program. The purposes were to offer a common language between students, faculty, and preceptors in order to talk about students' thinking and to serve as a help for offering formative guidance and feedback (See Lasater, 2007; Lasater, 2011). For measurement purposes, the rubric appears to be most useful with multiple opportunities for clinical judgment vs. one point/patient in time.

Please let me know if I can be of further help—best wishes with your project,
Kathie

Kathie Lasater, EdD, RN, ANEF
Associate Professor, OHSU School of Nursing, SN-4S
3455 SW Veterans' Hospital Rd., Portland, OR 97239, 503-494-8325

Sun 4/27/2014 5:20 PM

Hi Dr. Lasater. I was at the 2nd Annual Simulation Conference in Boise this weekend. What a wonderful event! Many of the presenters have worked with the LCJR and it comes highly recommended. Can you let me know the process for obtaining your permission for using your tool for my data collection for my dissertation?

Thank you. Cathy Coram
PhDc - University of Northern Colorado
Emphasis in Nursing Education

To:
kawhite@pacollege.edu;

--Hi Dr. White. I am planning my dissertation for University of Northern Colorado PhD in Nursing Education program. My research problem is related to high anxiety and low self confidence in Junior Level BSN students prior to their first acute care clinical. I plan to complete an experimental study with n=85 students. It is a two pronged study. All students will complete an 8 hour simulation seminar with 4 junior levelled med surg clients. They will be randomly assigned into 2 groups-one will view an expert nurse video and the other will utilize standard preparation for each scenario. My two questions: Does the expert nurse video improve Self Confidence and reduce anxiety in comparison to the control group? and Does the expert nurse video improve self assessed clinical judgment scores (LCJR) when compared with the control group?

I read your article and would like to view your tool. It meshes well with the Lasater noticicing, interpreting, responding and reflecting. Can you provide me access to your tool to investigate its use in my study?

Thank you,

Cathy Coram RN, MS, CNE
Assistant Professor of Nursing
Colorado State University-Pueblo
PhDc University of Northern Colorado
xxx-xxx-xxxx cell
xxx-xxx-xxx work

Hello Cathy - Thank you so much for your interest in the NASC-CDM scale. It seems it may have utility in your dissertation study. Attached please find a document that contains some info about the scale, all the items, and a bit of information about the 3 factors. Once you and your committee chair have reviewed the scale, please let me know if you have questions or think the scale will meet your needs.

If so, I can send you an official permission letter to use the scale. You will likely need this for IRB approval.
Thanks again for your interest in the scale.

Krista A. White, PhD, RN, CCRN
Nursing Faculty, Division of Nursing
RN to BSN Program
717-544-4912, ext. 76982
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Pennsylvania College of Health Sciences
410 N. Lime Street, Lancaster, PA 17602
800-622-5443 | www.PAcollege.edu<http://www.pacollege.edu/

PENNSYLVANIA COLLEGE of HEALTH SCIENCES

July 28, 2014

Dear Ms. Coram,

Thank you for your interest in the *Nursing Anxiety and Self-Confidence with Clinical Decision Making* (NASC-CDM) scale. This letter is written to acknowledge your request to utilize the NASC-CDM scale in your dissertation research study. You are granted permission to use the scale and modify the demographic questions to best accommodate the intent of your study.

One condition does exist in relation to the permission to use the NASC-CDM scale. The scale may not be printed in its entirety in any documents related to your study or in any subsequent publications which may commence upon the completion of this research study.

Please use the following notation when writing a sample of items:
Used with permission, Krista A. White PhD, RN, CCRN, CNE.

Best wishes with your upcoming research.

Sincerely,

Dr. Krista A. White RN

Krista A. White, Ph.D., R.N., CCRN, CNE
Instrument developer
Lancaster, PA
kawhite4288@gmail.com

APPENDIX F

DEMOGRAPHICS TOOL

Demographics Tool

1. Age

From the dropdown box, please choose your current age.

18-21

22-25

26-30

31-40

40 or older

2. Gender

___Male

____Female

3. Ethnicity

___ African American

___ Asian

___ Caucasian

___ Hispanic

___Other (please specify)

4. Do you have healthcare work experience?

___ None

___ 1-2 years

___ 3-5 years

___5-10 years

___More than 10 years

5. How many times have you participated in simulation previously?

____0

____1

____2

____3

____4 or more

APPENDIX G

NURSING ANXIETY/SELF-CONFIDENCE WITH CLINICAL DECISION MAKING (NASC–CDM) TOOL

Note: First 12 items only are provided per author request

Directions: Reflect thoughtfully upon each item and answer it as accurately as possible. There is no right or wrong answer to questions in the survey. Read each of the 27 statements and choose the option which reflects how you **currently feel**. Answer both the self-confidence and the anxiety portion for each item.

Please select your numeric score from this scale for each part of the item.

1 = *Not at all*; 2 = *Just a little*; 3 = *Somewhat*; 4 = *Mostly*; 5 = *Almost totally*; 6 = *Totally*

1. I am ___ self-confident and ___ anxious in my ability to easily see important patterns in the information I gathered from the client.

2. I am ___ self-confident and ___ anxious in my ability to identify which pieces of clinical information I gathered are related to the client's current problem.

3. I am ___ self-confident and ___ anxious in my ability to see the full clinical picture of the client's problem rather than focusing in on one part of it.

4. I am ___ self-confident and ___ anxious in my ability to recall knowledge I learned in the past that relates to the client's current problem.

5. I am ___ self-confident and ___ anxious in my ability to implement the 'best' priority decision option for the client's problem.

6. I am ___ self-confident and ___ anxious in my ability to interpret the meaning of a specific assessment finding related to the client's problem.

7. I am ___ self-confident and ___ anxious in my ability to evaluate if my clinical decision improved the client's laboratory findings.

8. I am ___ self-confident and ___ anxious in my ability to recognize the need to talk with my clinical nursing instructor to help sort-out client assessment findings.

9. I am ___ self-confident and ___ anxious in my ability to use active listening skills when gathering information about the client's current problem.

10. I am ___ self-confident and ___ anxious in my ability to assess the client's nonverbal cues.

11. I am ___ self-confident and ___ anxious in my ability to recognize the need to review a protocol, procedure, or nursing literature to help me make a clinical decision.

12. I am ___ self-confident and ___ anxious in my ability to decide if information given by significant other/family is important to the client's current problem.

Comparisons between LCJR, NASC-CDM and Tanner Model

NASC-CDM Dimensions	Tanner Clinical Judgment Model	LCJR Dimensions
Dimension 1 Using resources to gather information and listening fully **(13 items)**	Effective Noticing	Focused Observation
		Recognizing deviations from expected patterns
		Information Seeking
Dimension 2 Using information to see the big picture **(7 items)**	Effective Interpreting	Prioritizing data
		Making sense of data
Dimension 3 Knowing and acting **(7 items)**	Effective Responding	Calm, confident manner
		Clear Communication
		Well Planned intervention; flexibility
		Being Skillful
NONE	Effective Reflecting	Evaluation and Self Analysis
		Commitment to Improvement

Dimensions/Questions for Analysis		
Dimension 1 Using resources to gather information and listening fully	Dimension 2 Using information to see the big picture	Dimension 3 Knowing and acting
Q8, Q9, Q10, Q11, Q12, Q16, Q18, Q19, Q22, Q23, Q24, Q25, Q26	Q1, Q2, Q3, Q4, Q6, Q7, Q13	Q5, Q14, Q15, Q17, Q20, Q21, Q27
13 items	**7 items**	**7 items**

APPENDIX H

LASATER CLINICAL JUDGMENT RUBRIC AND SCORING TOOLS

Lasater Clinical Judgment Rubric

Name:

Dimension	Exemplary	Accomplished	Developing	Beginning
Effective **Noticing** involves:				
Focused observation	• Focuses observation appropriately • Regularly observes & monitor wide variety of objective & subjective data to uncover any useful information Date/Comments:	• Most useful information is noticed, may miss the most subtle signs • Regularly observes/monitor variety of data, including subjective & objective data Date/Comments:	• Focuses on most obvious data, missing some important information • Attempts to monitor variety of subjective & objective data, but overwhelmed by array of data Date/Comments:	• Confused by clinical situation, and amount/type of data • Observation is not organized & important data is missed, assessment errors are made Date/Comments:
Recognizing deviations from expected patterns	• Recognizes subtle patterns and deviations from expected patterns in data • Uses these to guide assessment Date/Comments:	• Recognizes most obvious patterns and deviations in data • Uses these to assess continuously Date/Comments:	• Identifies obvious patterns and deviations, missing some important information • Unsure how to continue assessment Date/Comments:	• Focuses on one thing at a time and misses most patterns/ deviations from expectations • Misses opportunities to refine assessment Date/Comments:
Information seeking	• Assertively seeks information to plan intervention • Carefully collects useful subjective data from observing the patient and from interacting with patient and family Date/Comments:	• Occasionally does not pursue important leads • Actively seeks subjective information about patient's situation from patient and family to support planning intervention Date/Comments:	• Often seems not to know what information to seek and/or pursues unrelated information • Makes limited efforts to seek additional information from patient and family Date/Comments:	• Is ineffective in seeking information, relies mostly on objective data • Has difficulty interacting with patient and family and fails to collect important subjective data Date/Comments:
Effective **Interpreting** involves:				

Dimension	Exemplary	Accomplished	Developing	Beginning
Prioritizing data	• Focuses on most relevant and important data useful for explaining patient's condition Date/Comments:	• Generally focuses on most important data and seeks further relevant information • But also may try to attend to less pertinent data Date/Comments:	• Makes an effort to prioritize data and focus on most important data • But also attends to less relevant or useful data Date/Comments:	• Has difficulty focusing and appears not to know which data are most important to diagnosis • Attempts to attend to all available data Date/Comments:
Making sense of data	Even when facing complex, conflicting or confusing data, is able to • Note and make sense of patterns in patient's data • Compare these with known pattern (from nursing knowledge, research, personal experience and intuition) • Develop plans for interventions that can be justified in terms of their likelihood of success Date/Comments:	In most situations, able to • Interpret patient's data patterns, compares those with known patterns (from nursing knowledge, research, personal experience and intuition). • Develop an intervention plan with rationale • Seek appropriate guidance of a specialist or more experienced nurse in complex cases Date/Comments:	In simple, common/familiar situations, is able to • Compare patient's data patterns with those known and develop/ explain intervention plans • Has difficulty in even moderately difficult data/situations that are within the expectations for students • Inappropriately requires advice or assistance Date/Comments:	Even in simple, common/familiar situations, unable to • Interpret or make sense of data • Has difficulty in distinguishing among competing explanations and appropriate interventions • Diagnose the problems and develop an intervention, and requires assistance with these Date/Comments:
Effective **Responding** involves:				

Dimension	Exemplary	Accomplished	Developing	Beginning
Calm, confident manner	• Assumes responsibility, delegates team assignments • Assesses patients & reassures them and their families Date/Comments:	• Generally displays leadership & confidence, is able to control/calm most situations • May show stress in particularly difficult or complex situations Date/Comments:	• Is tentative in the leader's role, reassures patients/families in routine and relatively simple situations • But becomes stressed and disorganized easily Date/Comments:	• Except in simple and routine situations, is stressed and disorganized, lacks control • Makes patients and families anxious/less able to cooperate Date/Comments:
Clear communication	• Communicates effectively, explains interventions, calms and reassures patient and families • Directs and involves team members, explain and give directions, checks for understanding Date/Comments:	• Generally communicates well, explains carefully to patients • Gives clear directions to team, could be more effective in establishing rapport Date/Comments:	• Shows some communication ability (eg, give directions) • Communication with patients/ families/team members is only partly successful, displays caring but not competence Date/Comments:	• Has difficulty communicating, explanations are confusing, directions are unclear or contradictory • Patients and families are made confused/anxious, not reassured Date/Comments:
Well-planned intervention/Flexibility	• Interventions are tailored for individual patient • Monitors patient's progress closely & is able to adjust treatment as indicated by patient's response Date/Comments:	• Develops interventions based on relevant patient data • Monitors progress regularly but does not expect to have change of treatments Date/Comments:	• Develops interventions based on the most obvious data • Monitors progress, but is unable to make adjustments based on patient's response Date/Commnets:	• Focus on developing a single intervention addressing a likely solution • But it may be vague, confusing, incomplete monitoring may occur Date/Comments:
Being skillful	• Shows mastery of necessary	• Displays proficiency in most	• Is hesitant or ineffective in	• Is unable to select and/or

Dimension	Exemplary	Accomplished	Developing	Beginning
	nursing skills Date/Comments:	nursing skills, could improve speed or accuracy Date/Comments:	nursing skills Date/Comments:	perform nursing skills Date/Comments:
Effective **Reflecting** involves:				
Evaluation/Self-analysis	• Independently evaluates and analyses personal clinical performance, noting decision points • Elaborating alternatives & accurately evaluating choices against alternatives Date/Comments:	• Evaluates and analyzes personal clinical performance with minimal prompting • Key decision points are identified and alternatives are considered Date/Comments:	• Even when prompted, briefly verbalizes most obvious evaluations, has difficulty imagining alternative choices • Is self-protective in evaluating personal choices Date/Comments:	• Even prompted, evaluations are brief, cursory and not used to improve performance • Justifies personal decisions/ choices without evaluating them Date/Comments:
Commitment to improvement	• Demonstrates commitment to ongoing improvements • Reflects on and critically evaluates nursing experiences • Accurately identifies strengths and weaknesses and develops specific plans to eliminate weaknesses Date/Comments:	• Demonstrate a desire to improve nursing performance • Reflects on & evaluates experiences • Identifies strength/weaknesses, could be more systematic in evaluating weakness Date/Comments:	• Demonstrates awareness of the need for ongoing improvement • Makes some effort to learn from experience and improve performance • But tends to state the obvious and needs external evaluation Date/Comments:	• Appears uninterested in improving performance or is unable to do so • Rarely reflects, is uncritical of him/herself or overly critical • Unable to see flaws or need for improvement Date/Comments:

Date of Assessment	Assessor		Assessee Signature
	Designation and Name	Overall Comments	

Lasater Clinical Judgment Rubric Scoring Sheet (Student)

PRIMARY RN ID #	DATE:				SCENARIO #
CLINICAL JUDGMENT RUBRIC SCORING SHEET	E	A	D	B	REFLECTION NOTES FOR THIS RATING:
Noticing • Focused Observations • Recognizing Deviations from Expected patterns • Information Seeking					
Interpreting • Prioritizing Data • Making sense of Data					
Responding • Calm, Confident Manner • Clear Communication • Well Planned Interventions Flexibility • Being Skillful					
Reflecting • Evaluation/Self Analysis • Commitment to Improvement					
Summary Comments					

STUDENT # _____SELF- EVALUATION _____ PEER- EVALUATION _____

Lasater Clinical Judgment Rubric Scoring Sheet (FACULTY)

PRIMARY RN ID #	DATE:				SCENARIO #
CLINICAL JUDGMENT RUBRIC SCORING SHEET	E	A	D	B	REFLECTION NOTES FOR THIS RATING:
Noticing • Focused Observations • Recognizing Deviations from Expected patterns • Information Seeking					
Interpreting • Prioritizing Data • Making sense of Data					
Responding • Calm, Confident Manner • Clear Communication • Well Planned Interventions Flexibility • Being Skillful					
Reflecting • Evaluation/Self Analysis • Commitment to Improvement					
Summary Comments					

Faculty_____

APPENDIX I

CONSENT FORM

UNIVERSITY of NORTHERN COLORADO

CONSENT FORM FOR HUMAN PARTICIPANTS IN RESEARCH
UNIVERSITY OF NORTHERN COLORADO

Project Title: Anxiety/Self Confidence and Clinical Judgment in Novice Nursing Students

Researcher: Cathy Coram, School of Nursing
PhD Student
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Research Advisor: Carol Roehrs, PhD, RN
School of Nursing
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The purpose of this quantitative research study is to gain knowledge about novice student nurses' anxiety/self-confidence and clinical judgment skills prior to and following an eight hour Simulation Seminar. As part of the required Simulation Seminar, each student will complete the Nursing Anxiety/Self-Confidence Scale before and after the seminar. This 27 item self-assessment tool asks you to rate your level of anxiety and self-confidence with clinical decision making. The estimated time for completion of this survey is 10 minutes each time. During the Simulation Seminar, the Lasater Clinical Judgment Rubric will be completed twice. This rubric tool asks you to rate the performance of the role of Primary Nurse based on specific behaviors. You will complete the tool once as a self-assessment of your performance and a second time as an observer rating the performance of a peer. The estimated time for completion of this tool is 15 minutes each time.

The data will be collected in an electronic, online format and a unique identifier will be utilized to protect the confidentiality of each participant. The consent forms will be collected by the Lab Coordinator during your first class time. Please return your consent form in the envelope provided whether or not you sign it-this will provide additional protection as every student will hand in their envelope. Please keep a copy of this consent for your records.

Potential risks and discomfort to you are minimal and may include fatigue or boredom with completion of the research tools and mild anxiety, stigma, or discomfort during the simulations. Boredom and fatigue with completion of the tools has been addressed by utilizing an online format and keeping the tools brief. The potential risks of stigma or discomfort during participation in the Simulation Seminar are minimized by maintaining a structured, safe learning environment for all students. Additionally, your course grade is not impacted at all. Benefits for allowing your data to be included in this study include the opportunity to influence changes in clinical preparation and possibly curricular improvements regarding use of simulation. Inclusion of your data will also assist faculty in improvement of methods to prepare students for clinical rotations.

Participation in the simulation seminar and completion of forms is mandatory and the hours are included in your clinical time, however, inclusion of your data is strictly voluntary. You may decide not to include your data in this study at any time.

Participation is voluntary. You may decide not to participate in this study and if you begin participation you may still decide to stop and withdraw at any time. Your decision will be respected and will not result in loss of benefits to which you are otherwise entitled. Having read the above and having had an opportunity to ask any questions, please sign below if you would like to participate in this research. A copy of this form will be given to you to retain for future reference. If you have any concerns about your selection or treatment as a research participant, please contact the Office of Sponsored Programs, Kepner Hall, University of Northern Colorado, Greeley CO 80639; 970-351-2161.

Thank you for assisting me with my research.

Please keep the copy of this consent form for your records.

_____

Subject's Signature Date

_____

Researcher's Signature Date

APPENDIX J

MONOLOGUES AND SIMULATION DESIGN TEMPLATES

Millie Larsen

Overview: Millie Larsen is an 84 year old Caucasian female who lives alone in a small home. Her husband Harold passed away a year ago and she has a cat, Snuggles, who is very important to her. Millie has one daughter, Dina Olsen, who is 50, lives nearby, and is Millie's major support system. Her current medical problems include: hypertension, glaucoma, osteoarthritis of the knee, stress incontinence, osteoporosis and hypercholesterolemia.

Monologue: Millie is at the clinic for routine examination and medication follow up. She is taking several antihypertensive medications, diuretics, and analgesics. During the monologue, Millie provides important details of how she views her current life situation.

Simulation Scenarios 1, 2, and 3: Several weeks have passed since the clinic visit, and Millie is now in the hospital with a diagnosis of urinary tract infection and dehydration. Her presentation is atypical and she is confused. The scenarios depict varied situations Millie encounters during her brief hospital stay. The objectives focus on assessment, appropriate use of assessment tools such as the SPICES and Heinrich Falls Risk, and Confusion Assessment Method (CAM); communication skills, conflict between Millie and her daughter on living arrangements; functional assessment; discharge teaching; and making appropriate referrals.

Millie Larsen: Script for Introductory Monologue

I'm Millie. I have lived in the same small house for the last 50 years. Harold and I raised our dear daughter Dina here and we had many good years together as a family. Harold passed last year, he was 91 you know, and I miss him terribly. I think about him every day. We were married for 68 years, most of them were happy. We did struggle with money at times, but who didn't? All of our family lived close by and I spent many a Sunday cooking for 15 - 20 after church. Our home was always full of people; many of them are gone now. Snuggles, my cat, keeps me company. Snuggles is about 10 years old; she is a stray who just showed up on my doorstep one day and she's been here ever since.

I've always kept myself busy, I sing when I can in the church choir and I volunteer in the church kitchen. I still love to cook; the church is always asking me to make my famous chicken and dumplings when we have special dinners. I can't do as much as I used to, but that's ok. I am fortunate to have many close friends from church.
I also enjoy gardening and I am known for growing my prize roses. My rose garden is not quite as big as it used to be, but I still like to get outside and work with the soil and the flowers. The fresh air does me some good. There are enough roses to cut several large bouquets every summer and I share them with my daughter and my friends. Did you know that my roses used to win blue ribbons at the county fair almost every year? Since Harold is gone, I go over to my daughter Dina's house every week to visit and see my grandkids. Dina is a good cook, but her dumplings aren't quite as good a mine and I try to make a batch to take with me when I can. Dina works everyday at the school so she is busy most of the time. She is a good daughter and she helps me when I need to get to the doctor. She also picks up groceries for me once and awhile. I have three grandchildren. Jessica is 17 and she graduates from high school this year. Daniel is 14 and he is a handful! He can give his mother trouble about getting his homework done and I don't think his grades are very good. I know Dina worries about him. Megan is 12 and she is such a sweet child. She likes to help me with my roses in the summer.

I went to the doctor last week to get my blood pressure and my cholesterol checked. He wants to start me on a new pill for cholesterol. I already take about six or eight pills every day. I hope this new pill isn't too expensive, I already have to pay a lot for my medications and I don't get the pension anymore since Harold died. I don't know how Harold paid all the bills, it doesn't hardly seem like there's enough money for all that medicine.

I am lucky that I can still get around pretty well and my house is not too big. My knees are pretty bad; I think they are just worn out. They hurt a lot. I am thankful that I can still tend my roses. My bladder isn't as good as it used to be, I have to use Depends now and I worry that someone will notice the odor. I can't laugh anymore; the leakage is getting so bad. But things like that happen when you get to be as old as I am. I can't complain.

Simulation Scenario 1 is set at the 3:00 PM shift change. Millie has been in her room on the medical-surgical unit for about six hours. She was in the Emergency Department overnight because there were no available beds on the medical units. Due to her confusion, Millie did not take her medications properly in the days prior to admission and as a result, her blood pressure is very elevated. Millie's daughter, Dina is at the bedside and is quite concerned about the confusion and elevated blood pressure. The learner receives handoff report from the previous nurse and is expected to perform a general assessment as well as use the SPICES and Confusion Assessment Method (CAM) tools. Objectives for this scenario include the identification and use of appropriate assessment tools for older adults, recognition of an elevated blood pressure and notification of Millie's primary care provider using SBAR format.

Simulation Design Template-Millie Larsen-Simulation #1

Date:

Student Level: Varied

File Name: Millie Larsen

Discipline: Nursing

Expected Simulation Run Time: 20 minutes

Guided Reflection Time: 20 minutes

Location: Simulation lab

Location for Reflection: Classroom/debriefing

Admission Date: **Today's Date:** **Brief Description of Client** **Name:** Millie Larsen **Gender:** F **Age:** 84 **Race:** Caucasian **Weight:** 48 **kg** **Height:** 61 **in** **Religion:** Lutheran **Major Support:** Dina (daughter) **Phone: 555-1210** **Allergies:** no known allergies **Immunizations:** Influenza & pneumonia (2 years ago) **Attending Physician/Team:** Dr. Eric Lund	**Psychomotor Skills Required Prior to Simulation** General head-to-toe assessment, SPICES and Confusion Assessment Method (CAM) assessment tools. **Cognitive Activities Required prior to Simulation [i.e. independent reading (R), video review (V), lecture (L)]** Basic knowledge of geriatric syndromes and the atypical presentation of older adults. (L, R) Tools in the *Try This:* ® and How to *Try This* Series, available at www.ConsultGeriRN.org Specific tools recommended for this scenario are the SPICES and CAM assessment tools, (R) Read chapter in fundamentals text related to care of the older adult; stress

Past Medical History: Glaucoma, hypertension, osteoarthritis, stress incontinence, hypercholesterolemia **History of Present Illness:** Millie's daughter became concerned yesterday when she stopped over to check on her and found her still in her bathrobe at 5:00 PM. The house was very unkempt, and Millie couldn't remember her daughter's name. Millie was brought to the emergency department by her daughter and she was finally admitted to the general medical-surgical unit around 9:30 AM. U/A, CBC, and basic metabolic panel labs have been completed and sent to the lab. Results are available. **Social History:** Widow for one year; involved in church activities and gardening. Daughter and grandchildren live nearby. **Primary Medical Diagnosis:** Dehydration; UTI **Surgeries/Procedures & Dates:** Cholecystectomy at age 30 **Nursing Diagnoses:** Urinary incontinence; acute confusion; fluid volume deficit **Important Information Related to Roles:** Secondary nurse is in orientation. Family member is a 50-year-old daughter. Student for family member role (Dina). Prepare student actors by supplying script and objectives. Explain the roles and emphasize that the student should represent the family member's perspective.	incontinence and confusion. (R) **Report Students Will Receive Before Simulation** **Time:** 2:45 PM Shift report ML is an 84-year-old female admitted from home with confusion. Her daughter noticed she wasn't making sense or acting right when she stopped in to visit her yesterday evening. Her daughter brought her in to the ED last night; she sat in the ED all night until a bed came available a couple of hours ago. ML has a history of hypertension, glaucoma, osteoporosis, arthritis, elevated cholesterol, and stress incontinence. It is unclear whether she has taken her medications properly the past few days, her daughter couldn't tell from looking at her medication box. Labs just came back; I haven't had a chance to look at them. She has medications ordered, but they just came up from pharmacy and they all need to be given. She has not had any pain.

Significant Lab Values: Urine Analysis: Color: dark amber, cloudy Specific gravity: 1.050 (normal 1.005-1.035) ph 6.0 (normal 4.5-8.0) RBC - 9 (normal 0-2) WBC - 150,000 (normal 0-5) Basic Metabolic Panel Na - 149 K - 3.5 Glucose - 105 CBC H/H - 9.9/32 WBC 12,000 **Physician Orders:** Bedrest Bathroom privileges with assistance Regular, low fat diet I & 0 Home Medications: captopril, metoprolol, furosemide, Lipitor, pilocarpine eye drops, Fosamax, Celebrex, Tramodol for arthritis pain prn Continue home medications and add: Ciprofloxacin 200 mg IV q 12 hours Acetaminophen 650 mg po q 4 hrs prn IV fluids D5 .45 NaCl 20 mEq KCL at 60ml/hr	

Simulation Scenario 2 occurs at 7:00 AM the following morning. Millie has had a near fall while ambulating to the bathroom. Her confusion has begun to clear and her blood pressure is improving. During the handoff report, the nurse tells the learner that the fall risk assessment has not been done, and discharge teaching should begin, since she is expected to be discharged tomorrow. Millie's daughter has just arrived and is concerned about Millie going home alone when discharged. During the simulation, the learner in this simulation is expected to perform a general assessment, fall risk assessment, and functional assessment (Katz ADL). Additionally, the learner will recognize the conflict developing between Millie and her daughter regarding whether it is safe for Millie to go home alone. In debriefing, discussions may focus around the risks to Millie if she does go home alone versus her desire to go home.

Simulation Design Template-Millie Larsen-Simulation #2

Date:	**File Name:** Millie Larsen #2
Discipline: Nursing	**Student Level:** Varied
Expected Simulation Run Time:	**Guided Reflection Time:**
20 minutes	20 minutes
Location: Simulation lab	**Location for Reflection:** Classroom or debriefing area

Admission Date: **Today's Date:** **Brief Description of Client** **Name:** Millie Larsen **Gender:** F **Age:** 84 **Race:** Caucasian **Weight:** 48 **kg** **Height:** 61 **in** **Religion:** Lutheran **Major Support:** Dina (daughter) **Phone:** 555-1210 **Allergies:** no known allergies	**Psychomotor Skills Required Prior to Simulation** General head-to-toe assessment and the following assessment tools: SPICES, Confusion Assessment Method (CAM), Katz Index of Independence, and Hendrich II Fall Risk Model. **Cognitive Activities Required prior to Simulation [i.e. independent reading (R), video review (V), computer simulations (CS), lecture (L)]** Basic knowledge of geriatric syndromes and the atypical presentation of older adults. (L, R)

Immunizations: Influenza & pneumonia (2 years ago) **Attending Physician/Team:** Dr. Eric Lund **Past Medical History:** Glaucoma, HTN, osteoarthritis, stress incontinence, hypercholesterolemia **History of Present illness:** Millie Larsen is an 84-year-old female admitted from home with confusion about 36 hours ago with a diagnosis of dehydration and urinary tract infection. She has been receiving IV fluids and antibiotics. Prior to admission she was not taking her medications properly and as a result had an elevated blood pressure yesterday evening. Her blood pressure has improved. **Social History:** Widow for one year; involved in church activities and gardening. Daughter and grandchildren live nearby. **Primary Medical Diagnosis:** Dehydration; UTI **Surgeries/Procedures & Dates:** Cholecystectomy at age 30. **Nursing Diagnoses:** Risk for falls, urinary incontinence, risk for fluid volume imbalance	Tools in the *Try This:* ® and How to *Try This* Series, available on the ConsultGeriRN.org website. Specific tools recommended for this scenario are the SPICES, Confusion Assessment Method (CAM), Katz Index of Independence and Hendrich II Fall Risk Model.(R) Read chapter in fundamentals text related to care of the older adult; stress incontinence and confusion. (R)

Simulation Scenario 3 occurs two hours later at 9:30 AM the next morning. Millie's primary care provider has written discharge orders and Millie is going home. The learner is expected to do an assessment, and complete medication teaching and other discharge teaching. The focus is on the transition of care from the hospital back to the home setting.

Simulation Design Template-Millie Larsen-Simulation #3 OPTIONAL

Date: **File Name:** Millie Larsen #3

Discipline: Nursing **Student Level:** Varied

Expected Simulation Run Time: **Guided Reflection Time:**

20 minutes 20 minutes

Location: Simulation lab **Location for Reflection:**

classroom or debriefing area

Admission Date: **Today's Date:** **Brief Description of Client** **Name:** Millie Larsen **Gender:** F **Age:** 84 **Race:** Caucasian **Weight:** 48 **kg** **Height:** 61 **in** **Religion:** Lutheran **Major Support:** Dina (daughter) **Phone:** 555-1210 **Allergies:** No known allergies **Immunizations:** Influenza & pneumonia (2 years ago) **Attending Physician/Team:** Dr. Eric Lund	**Psychomotor Skills Required Prior to Simulation** General head-to-toe assessment skills and use of appropriate tools from in the *Try This:* ® and How to *Try This* Series, available on the ConsultGeriRN.org website. **Cognitive Activities Required prior to Simulation [i.e. independent reading (R), video review (V), computer simulations (CS), lecture (L)]** Basic knowledge of geriatric syndromes and the atypical presentation of older adults. (L, R) Tools in the *Try This* ® and How to *Try This* Series, available on the ConsultGeriRN.org website. (R) Read chapter in fundamentals text related to the care of the older adult; stress incontinence and confusion as well as teaching and learning principles.

Past Medical History: Glaucoma, HTN, osteoarthritis, stress incontinence, hypercholesterolemia **History of Present illness:** Millie was admitted from home about two days ago with a urinary tract infection, dehydration and confusion. Since admission she has been receiving IV fluids and antibiotics. Her blood pressure was elevated after admission, but has since returned to baseline after her antihypertensive medications were resumed. She was confused upon admission and she had a near fall last night. Her confusion is improved and she is awaiting discharge. **Social History:** Widow for one year; involved in church activities and gardening. Daughter and grandchildren live nearby. **Primary Medical Diagnosis:** Dehydration; UTI **Surgeries/Procedures & Dates:** Cholecystectomy at age 30 **Nursing Diagnoses:** Risk for falls, urinary incontinence, risk for fluid volume imbalance, Knowledge Deficiency: Medications **Important Information Related to Roles:** Secondary nurse is an orientee. Family member is a 50-year-old daughter. **Significant Lab Values:** <u>Urine Analysis:</u> Urine color: dark amber, cloudy	**Report Students Will Receive Before Simulation** **Time:** 9:30 AM Mrs. Larsen has discharge orders, they're on the chart. I haven't started any of the teaching or paperwork, and I need to get a patient ready for surgery right away. I think she has some meds due before she goes home.

Specific gravity: 1.050 (normal 1.005-1.035) ph 6.0 (normal 4.5-8.0) RBC - 9 (normal 0-2) WBC - 150,000 (normal 0-5) <u>Basic Metabolic Panel</u> Na - 149 K - 3.5 Glucose - 105 CBC H/H - 9.9/32 WBC 12,000 **<u>Physician Orders:</u>** Bedrest, BRP with assist Regular, low fat diet I & 0 Notify physician if systolic BP >150 or < 100; temp > 38 C, I/O < 60 mL. in 2 hrs. Home Medications: captopril 25 mg. po daily, metoprolol 100mg. po. daily; furosemide 40 mg. po twice daily; Lipitor 50 mg po daily; pilocarpine eye drops two drops each eye four times a day; Fosamax 10 mg. po daily, Celebrex 200 mg. po daily, Tramodol 50 mg po every 4 - 6 hours for arthritis pain prn	

Continue home medications and add: ciprofloxacin 200 mg q 12 hours IV acetaminophen 650 mg. po q 4 - 6 hours prn IV fluids D5 .45 NaCl 20 mEq KCL at 60ml/hr	

Physician's Orders Millie Larsen

Allergies: No known allergies

Date/Time:	
	Discharge home, follow-up appointment in two weeks.
	Home health to follow
	Regular, low-fat diet
	captopril 25 mg po three times a day
	metoprolol 100 mg every day
	furosemide 40 mg po twice per day
	Lipitor 50 mg once daily
	pilocarpine eye drops two drops each eye four times a day
	Fosamax 10 mg every day
	Celebrex 200 mg po once a day
	Tramodol 50 mg. po every 4-6 hours for arthritis pain prn

Dr. Eric Lund

Sherman “Red” Yoder

Overview: Red Yoder is an 80-year-old farmer who lives alone in the farmhouse where he grew up. It is located 20 miles outside of town. Red has been a widower for 10 years. His son Jon manages the farm now, but Red is still involved in the decision making. Red's current medical problems include insulin dependent diabetes complicated by an open foot wound. He also has some incontinence and difficulty sleeping.

Monologue: Red is awaiting a visit from the home health nurses. He relates that he has an open wound on his big toe that developed after walking in a new pair of shoes. When his daughter-in-law Judy saw the wound, she called the family doctor, who suggested a visit by the wound care nurse who works with the home health agency. Red agreed as long as his VA benefits cover the costs. Red is aware that his son and daughter-in-law have concerns about him living alone, but Red insists that while he needs a little help from Jon and Judy at times, he is still capable of caring for himself.

Simulation Scenarios 1, 2, and 3: The first scenario occurs in Red's home during a visit by the nurses from the home health agency to assess the breakdown on his toe. During the assessment, Red reveals that he is having problems sleeping and some urgency incontinence. The scenarios depict a variety of situations including a trip to the hospital to rule out sepsis, psychosocial issues such as functional decline, alcohol use, and possible elder abuse.

The objectives focus on general assessment, appropriate use of assessment tools such as SPICES, the Katz Index of Independence in Activities of Daily Living assessment tool; the Pittsburgh Sleep Quality Index (PSQI), the Elder Mistreatment Assessment, and the Alcohol Use and Screening Assessment. In addition conflicts regarding living arrangements are addressed.

Red Yoder: Script for Introductory Monologue

I understand you want to hear my story; well I'm not much for talking, but I can give you the highlights. There's a lot that's happened over my 80 years.

From the top. My name is Sherman Yoder, but I answer to "Red." No one around here even remembers my real name. I was born in this house in the downstairs bedroom. Mom had already delivered six kids and there was no way I was waiting for Dad to finish feeding the hogs and get Mom to town before I come out. Mom used to love to tell that story. Dad bought this farmhouse and the first hundred acres right before he went off to WWI. The folks saw good times and bad in this ol' place and so have I. All my brothers and sisters left the land as soon as they could. I was the only one of the lot to care about this place and want to carry on what Dad started. I really haven't gone far from this spot in my entire life.

The one time I got it in my head to try something different; I wound up in Korea with an Army uniform on. I was glad to get back to this place after that stint and here I've been ever since.

Married the neighbor girl Bessie when I got back. Her dad wasn't so sure that it would work out since she was 8 years younger than me and she intended to go off to the state college. We sure did prove him wrong; we celebrated our 50th anniversary the week before Bessie died. The ladies at the church had the hall all decorated up and we brought Bessie home from the hospital for the afternoon. She was bound and determined to live for that day; no way did she want her friends to go to that much work for her to not show up. I couldn't believe it when the ladies had to prepare for the reception after we buried Bessie in that same hall one week later. We had such a good life together. That was 10 years ago.

I don't do much of the farm work anymore. Our son Jon takes care of the crops and the few animals we have. I still go out to the hen house every morning to collect the eggs. I'm a little stiff in the morning, but I get loosened up enough to walk out to gather some fresh eggs to go with my bacon for breakfast. I get in to town at least once a week; on Monday morning me and my buddies meet at the VFW for our coffee and donut break. I get caught up on all the town gossip and we laugh and bellyache about what's going on in the world.

Three weeks ago I celebrated my 80th birthday. My daughter in law, Judy, organized a big "to do" at the church after the Sunday service with cake and ice cream and all the fixins' for my party. I had a big piece of cake but skipped the ice cream. Doc Baker was there and I knew he would scold me about too much sugar. Six months ago he told me I had diabetes and I started taking a pill for it, but a few weeks ago he put me on insulin. I figure I should be able to eat what I want; come on, I'm not going to live forever, and it was my favorite cake, German chocolate. I ate it in the kitchen so the Doc wouldn't see me; wouldn't you know, his office nurse Helen came in the kitchen with a load of dishes just as I was putting the last bite in my mouth. She just winked at me and smiled.

After the party I went out to the mall with Jon and the grandkids. I'm not one for shopping much, but I needed a new ink cartridge for my printer and the computer store is the one place I like to look around in. Too bad we parked clear on the other end of the mall so the kids could go by their favorite stores for Grandpa to buy them a little something. Jon got real mad at me when I asked if I could sit and rest for a while, so I

just kept walking. I guess my new shoes were a little tight; I didn't feel anything but when I got home there was some blood on my sock, and then I saw a sore on my big toe. It must not be too bad since it's not hurting except when I try to put my shoes on. I showed the sore to Jon and Judy the other day and Judy said she would call the doctor to see what she should put on it. Jon gets so irritated when I need extra help; I hope I can just continue to soak my foot in hot water to clean it out. Judy was a nursing assistant out at the old folk's home for many years; I'm hoping she will be able to help me with this. I like the idea of the home nurses coming out here as long as my VA benefits pay for it. That way they can see that I'm doing just fine living here on my own.

I was searching on the Internet for the best way to treat this sore; there are so many sites that talk about foot sores if you're a diabetic. Some of those pictures are pretty scary; I can't sleep at night thinking about what could happen if this doesn't heal. Of course I haven't slept through the night for years. Even the couple of beers I have at night when I'm on the computer don't seem to be helping anymore. Judy sometimes gives the kids Benadryl to help them sleep so I've been taking a couple when I go to bed; they seem to help me sleep a little better.

As a matter of fact, I need to wrap this up now. I promised Jack, my grandson in college, that I'd Skype him in a few minutes. He just started the agronomy program at the university. I love to hear about what he's learning and give him encouragement to come back to the farm.

Sherman "Red" Yoder: Second monologue: *Occurs two weeks later.*

"As much as I hate to miss it, I don't think I'll go into town today. I never miss Monday morning coffee at the VFW with my buddies. Sometimes my friends worry about me; they will probably wonder where I am. I know it's only 20 miles, but I just haven't felt like eating the last couple of days; maybe I've got the flu that's going around. I'm not sure if I should take my insulin because I'm not eating, but my blood sugar was 203 when I poked my finger this morning. How can that be when I'm not eating?

Wow! I just took of my sock to check on my sore and my whole foot is red and big. I haven't looked at it for a few days; it was just a little pink the last time I checked it. I should have paid closer attention to those pills I was supposed to take, that antibiotic. The nurse wanted to make sure I didn't get an infection in that toe. She comes tomorrow to change the bandage; I'd better make sure to take the antibiotic today."

Simulation Scenario 1 occurs in Red's home during a visit by the nurses from the home health agency to assess the breakdown on his toe. During the assessment, the nurse discovers that Red is having sleeping problems and some urgency incontinence. He also makes statements that should cue learners that further assessments are needed of his diet, medication, and alcohol use, and to rule out elder abuse. Concerns expressed by the daughter-in-law about his ability to care for himself should prompt learners to use the Katz Index of Independence in Activities of Daily Living assessment tool. Other assessment tools recommended for this scenario include SPICES: An Overall Assessment Tool of Older Adults, the Pittsburgh Sleep Quality Index (PSQI), the Elder Mistreatment Assessment, and the Alcohol Use and Screening Assessment.

Date: **File Name:** "Red" Yoder Simulation #1

Discipline: Nursing **Student Level:**

Expected Simulation Run Time: **Guided Reflection Time:**

Location: Simulated home environment **Location for Reflection:** classroom

Admission Date: **Today's Date:** **Brief Description of Client** **Name:** Sherman "Red" Yoder **Gender:** M **Age:** 80 **Race:** Caucasian **Weight:** 109 **kg** 240 **pounds** **Height:** 183**cm** 72 **inches** **Religion:** Protestant **Major Support**: Jon (son) **Phone:** 869-555-3452 **Allergies:** no known allergies **Immunizations:** Influenza last fall; tetanus – 4 years ago	**Psychomotor Skills Required Prior to Simulation** Basic health assessment Home environmental assessment Vital signs Blood glucose monitoring Wound assessment and care **Cognitive Activities Required prior to Simulation [i.e. independent reading (R), video review (V), computer simulations (CS), lecture (L)]** SBAR or other standardized communication tool. (R)

Attending Physician/Team: Dr. Frank Baker **Past Medical History:** Diabetes Type 2 diagnosed _____ (insert month that is six months prior) **History of Present illness:** This patient developed an ulcer on his big toe 3 weeks ago. Has been soaking his foot to heal the wound; recently revealed the wound to his family who called Dr. Baker. **Social History:** Widower; his son Jon lives nearby **Primary Medical Diagnosis:** Pressure ulcer right great toe Type II diabetes **Surgeries/Procedures & Dates:** L4-5 laminectomy – 25 years ago; transurethral resection of the prostate – 6 years ago **Nursing Diagnoses:** Impaired Skin Integrity; Risk for Infection; Ineffective Health Maintenance.	Red's introductory monologue. (R) Tools in the *Try This* ® and How to *Try This* Series, available at www.ConsultGeriRN.org Specific tools recommended for this scenario are the SPICES, Katz Index of Independence of Daily Living, the Pittsburgh Sleep Quality Index, the Elder Mistreatment Assessment and the Alcohol Use Screening and Assessment tools. (R) Review nursing management of the client with diabetes (activity, diet, monitoring of blood sugar, insulin administration, etc) (R) Review the Essential Nursing Actions in the ACES Framework. (R)

Simulation Scenario 2 takes place at the local hospital. Jon stopped by to check on Red after one of his friends from the VFW called to say that Red didn't make it for coffee. The nearest VA hospital is more than 100 miles away and the doctor told him that Red needed to be seen immediately. He is admitted for possible sepsis. The focus of this simulation is an emphasis on the atypical presentation of sepsis in the older adult.

Date:

File Name: Sherman "Red" Yoder

Discipline: Nursing

Student Level:

Expected Simulation Run Time:

20 minutes

Guided Reflection Time:

20 minutes

Location: Simulated Emergency Room

Location for Reflection: classroom

Admission Date: **Today's Date:** **Brief Description of Client** **Name:** Sherman "Red" Yoder **Gender:** Male **Age:** 80 **Race:** Caucasian **Weight:** 109 **kg** 240 **pounds** **Height:** 183 **cm** 72 **inches** **Religion:** Protestant **Major Support**: Jon (son) **Phone:** 869-555-3452 **Allergies:** no known allergies **Immunizations:** Influenza last fall; tetanus – 4 years ago	**Psychomotor Skills Required Prior to Simulation** General head to toe assessment including vital signs Focused assessment of circulatory and neurovascular status of foot and wound Specimen collection: Blood cultures, labs, wound Medication administration: IV, Subcutaneous Oxygen administration **Cognitive Activities Required prior to Simulation [i.e. independent reading (R), video review (V), computer simulations (CS), lecture (L)]** SBAR or other standardized communication tool. (R)

Attending Physician/Team: Dr. Frank Baker **Past Medical History:** Diabetes Type 2 diagnosed _____ (insert month that is six months prior) **History of Present illness:** This patient developed an ulcer on his big toe 5 weeks ago. He is currently being treated with an oral antibiotic and wet to moist saline soaked dressing daily. The home health nurse last assessed the foot 3 days ago. **Social History:** Widower; son (Jon) lives nearby **Primary Medical Diagnosis:** R/O sepsis **Surgeries/Procedures & Dates:** L4-5 laminectomy – 25 years ago; transurethral resection of the prostate – 6 years ago **Nursing Diagnoses:** Ineffective Health Maintenance; Ineffective Self Health Management; Impaired Skin Integrity; Risk for Shock	Review care of the client with an infection, specifically sepsis (R). Read atypical presentation of infection by older adults (R). Tools in the *Try This* ® and How to *Try This* Series, available at www.ConsultGeriRN.org Specific tool recommended for this scenario is the Confusion Assessment Method (CAM) tool (R). Review the Essential Nursing Actions in the ACES Framework (R).

Simulation Scenario 3 occurs five days later when Red is scheduled for discharge from the hospital. Jon thinks that Red should stay with him for now, but Red is sure he is able to care for himself at home as he has always done. Learners will need to determine how much, if any, functional decline has occurred while Red has been hospitalized. The risks and benefits of Red's living arrangements need to be analyzed in collaboration with Jon and Judy and the health care team.

APPENDIX K

GENERAL SIMULATION OBJECTIVES

General Simulation Learning Objectives

1. Practice standard precautions throughout the simulation.
2. Employ effective strategies to reduce risk of harm to the client.
3. Assume the role of team leader or member.
4. Perform a focused physical assessment noting abnormal findings.
5. Recognize changes in patient symptoms and/or signs of patient compromise.
6. Perform priority nursing actions based on clinical data.
7. Reassess/monitor patient status following nursing interventions.
8. Perform within scope of practice.
9. Demonstrate knowledge of legal and ethical obligations.
10. Communicate with client in a manner that illustrates caring for his/her overall well-being.
11. Communicate appropriately with physician and/or other healthcare team members in a timely, organized, patient-specific manner.

APPENDIX L

STRUCTURED DEBRIEFING/GUIDED REFLECTION QUESTIONS

Structured Debriefing/Guided Reflection Questions
(from National League for Nursing)

1. How did you feel throughout the simulation experience?

2. Describe the objectives you were able to achieve?

3. Which ones were you unable to achieve (if any)?

4. Did you have the knowledge and skills to meet objectives?

5. Were you satisfied with your ability to work through the simulation?

6. To observer: Could the nurses have handled any aspects of the simulation differently?

7. If you were able to do this again, how could you have handled the situation differently?

8. What did the group do well?

9. What did the team believe was the primary nursing diagnosis?

10. What were the key assessments and interventions?

11. How was the physical and mental health aspects interrelated in this case?

12. Is there anything else you would like to discuss?

APPENDIX M

SIMULATION SEMINAR SCHEDULE

Group A	Activity	Group B	Activity
0700-0730	Questions? Sign Consents Report Clinical Scenario 1	0730-0800	Questions? Sign Consents Report Clinical Scenario 1
0730-0800	Prep Clinical Scenario 1	0800-0830	Prep Clinical Scenario 1
0800-0830	Run Clinical Scenario 1	0830-0900	Run Clinical Scenario 1
0830-0900	Documentation/LCJR	0900-0930	Documentation/LCJR
0900-0930	Debrief Clinical Scenario 1	0930-1000	Debrief Clinical Scenario 1
0930-1000	Report Clinical Scenario 2 Prep Clinical Scenario 2	1000-1030	Report Clinical Scenario 2 Prep Clinical Scenario 2
1000-1030	Run Clinical Scenario 2	1030-1100	Run Clinical Scenario 2
1030-1100	Documentation/LCJR	1100-1130	Documentation/LCJR
1100-1130	Debrief Clinical Scenario 2	1130-1200	Debrief Clinical Scenario 2
1130-1200	Lunch	1200-1230	Lunch
1200-1230	Report Clinical Scenario 3 Prep Clinical Scenario 3	1230-1300	Report Clinical Scenario 3 Prep Clinical Scenario 3
1230-1300	Run Clinical Scenario 3	1300-1330	Run Clinical Scenario 3
1300-1330	Documentation/LCJR	1330-1400	Documentation/LCJR
1330-1400	Debrief Clinical Scenario 3	1400-1430	Debrief Clinical Scenario 3
1400-1430	Report Clinical Scenario 4 Prep Clinical Scenario 4	1430-1500	Report Clinical Scenario 4 Prep Clinical Scenario 4
1430-1500	Run Clinical Scenario 4	1500-1530	Run Clinical Scenario 4
1500-1530	Documentation/LCJR	1530-1600	Documentation/LCJR
1530-1600	Debrief Clinical Scenario 4	1600-1630	Debrief Clinical Scenario 4
1600-1630	Complete Post Seminar NASC-CDM and Evaluations	1630-1700	Complete Post Seminar NASC-CDM and Evaluations

*The schedule for the treatment group will be identical except it will include the video vignette of an expert nurse as prebriefing for each scenario.
**Students will take breaks as needed between documentation and debrief times.