

Nursing Students' Perception of Post-Simulation Debriefing

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NURSING STUDENTS' PERCEPTION OF DEBRIEFING

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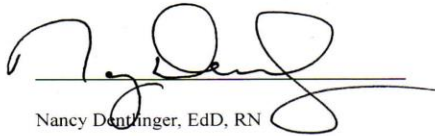
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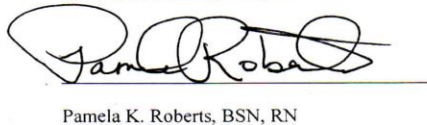
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### Abstract

A research study entitled “Nursing Students’ Perception of Post-Simulation Debriefing” was conducted at a mid-sized baccalaureate nursing program in the central United States. The survey tool used for this research study, the Debriefing Experience Scale (DES), was developed by Shelly J. Reed (2011). A comprehensive literature review revealed studies were conducted regarding students’ and nursing instructors’ experience with simulation, but a knowledge gap existed in regards to nursing students’ experience with the debriefing phase of simulation. This was a quantitative, descriptive study, with a sample consisting of 46 nursing students. The mean scores indicated all of the students had a positive debriefing experience. The results indicated debriefing enhanced the students’ learning and helped them make connections to theory. Results also showed learning was a high priority to all of the students.

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## **Chapter 1**

Simulation is a widely used teaching strategy in nursing education. It is a technique imitating or amplifying real encounters with guided experiences, which induce or replace aspects of reality in interactive ways (Gaba, 2004). Most simulations begin with the selection of a clinical scenario, or script, to be played out by the participants. Mannequins are frequently utilized as the patient, and the simulation experience is usually facilitated by an educator. The majority of simulation exercises incorporated into nursing curriculum follow a specific design with three distinct stages (Aebersold & Tschannen, 2013). These stages will be discussed in greater detail in a later section.

Simulation allows students the opportunity to apply theoretical learning and provides a safe avenue for students to practice decision making and problem solving skills. Benefits of simulation include enhancement of psychomotor skills, imitation and manipulation of real-life clinical situations, opportunities for kinesthetic learning, and immediate feedback to enhance and solidify learning. Learning through experience has been linked to increased confidence and competence in nursing students (Courtney-Pratt, Fitzgerald, Ford, Marsden, & Marlow, 2012; March, Adams, & Robinson, 2014). Participation in simulation exercises provides nursing students the chance to apply and synthesize knowledge in a safe, realistic environment.

### **Background**

Technological advances have allowed simulation to closely mimic clinical situations, which has led to the widespread integration of simulation into nursing education curriculum (Howard, Englert, Kameg, & Perozzi, 2011). High fidelity simulation mannequins (HSFM) have been used in healthcare for over twenty years, but the use of HSFM has grown exponentially in nursing education over the past decade. This is largely due to global changes

and new challenges in health care (Aebersold & Tschannen, 2013; Neill & Wotten, 2011). Some of these new trends include increasing competition for clinical sites, faculty shortages, and health care facilities not allowing students to chart at clinical sites. Patient safety initiatives have also decreased the number of students allowed on units and restricted student activity involving direct patient care (Hayden, Smiley, Alexander, Kardong-Edgren, & Jeffries, 2014). Safety initiatives have increased the demand for improved critical thinking skills in student nurses upon graduation (Frontiero & Glynn, 2012). Therefore, simulation in a lab setting is rapidly becoming the means by which students develop enhanced knowledge and learn to apply these experiences to future practice (Nickerson, Morrison, & Pollard, 2011).

Although abundant literature exists on the simulation experience in nursing education, most of the current research does not specifically focus on the third and final stage of simulation, called debriefing. Debriefing is a vital component of the learning process. It allows for student reflection and is the building block for higher order thinking and clinical reasoning (Decker, Fey, Sideras, Caballero, Rockstraw, Boese, & Borum, 2013). Reflection is a natural process, but not all learners practice this consistently or systematically. Debriefing is essential in assisting students to maximize the learning experience and enabling students to connect the event to future clinical practice (Dreifuerst, 2015). Debriefing is also beneficial because it allows students to express rationales for actions and explain thought processes which occur during the simulation exercise. This process builds on students' previous knowledge to form mental representations of clinical problems. It also allows for correction of errors with no risk to patients (Shinnick, Woo, Horwich, & Steadman, 2011).



### **Problem Statement**

Debriefing is an important aspect of simulation and is where the majority of learning occurs (Levett-Jones, Lapkin, Hoffman, & Roche, 2011). Although nursing students' perception of simulation has been well researched, a knowledge gap exists related to students' encounter with the debriefing process. Limited research has been found in regards to how students feel about debriefing and how important they think it is to their overall learning experience. The purpose of this study is to examine nursing students' perception of post-simulation debriefing to determine if they feel it enhances learning.

### **Definition of Terms**

Simulation is a learning strategy which employs unique language and terminology. A brief review of terms as used in the literature is provided for the reader.

**Clinical Scenario:** The plan of the expected course of events for a simulated clinical experience (Aebersold & Tschannen, 2013).

**Debriefing:** The period following a simulation activity wherein the participants are encouraged to question decisions/actions, reflect, and explore emotions in order to assimilate and transfer learning to future situations (Johnson-Russell & Bailey, 2010).

**Facilitator:** An individual who provides guidance, support, and structure during simulation-based learning experiences (Meakim, Boese, Decker, Franklin, Gloe, Liocew, & Borum, 2013).

**Fidelity:** The degree to which the simulation mimics reality, often referred to as high, medium, or low fidelity (Aebersold & Tschannen, 2013).

**High-fidelity:** Experiences using full scale computerized patient simulators, virtual reality or standardized patients that are realistic and provide a high level of interaction and realism for the participant (NLN-SIRC, 2013).

**Low-Fidelity:** Experiences such as case studies, role-playing, using partial task trainers or static mannequins to immerse participants in a clinical situation or to practice specific skills (NLN-SIRC, 2013).

**Medium-Fidelity:** Experiences that are technologically sophisticated such as computer-based self-directed learning systems wherein the participant relies on a two-dimensional focused encounter to problem solve or perform a skill through the use of more realistic mannequins than low-fidelity experiences (NLN-SIRC, 2013).

**Outcome:** Measurable results of the participants' progress toward meeting a set of objectives. Expected outcomes are the change in knowledge, skills, or attitude as a result of the simulation experience (Meakim et al., 2013).

**Participant or Student:** One who engages in a simulation-based learning activity for the purpose of gaining or demonstrating mastery of knowledge, skills, and attitudes of professional practice (Kable, Arthur, Levett-Jones, & Reid-Searl, 2013).

**Pre-briefing or Briefing:** A scheduled session prior to the start of a simulation-based learning experience wherein instructions or preparatory information is given to the participants (Meakim et al., 2013).

**Reflection or Reflective Thinking:** The engagement of self-monitoring that occurs during or after a simulation experience. This is considered an essential component of experiential learning and promotes the discovery of new knowledge with the intent of applying this knowledge to future situations (Breckenreng, 2004).

**Simulation:** A teaching method using one or more typologies to promote, improve, or validate a participant's progression from novice to expert (Benner, 1984).

### **Theoretical Framework**

The frameworks used for this study include Jeffries and Rogers' Nursing Educational Simulation Framework and Benner's Novice to Expert Model. The Nursing Educational Framework (NEF) by Jeffries and Rogers is based on learning centered education, which postulates individual and professional growth when theory is applied to actual practice scenarios (Fabro, Schaffer, & Scharton, 2014; Wilson & Klein, 2012). The application of Benner's novice-to-expert model employs physical, intellectual, and emotional senses to increase self-knowledge and improve clinical skills progressively from simple to complex (Richardson & Claman, 2014). Each of these two models will be discussed further below.

### **Jeffries & Rogers**

Jeffries and Rogers' framework defined simulation as learning activities aimed at imitating reality. These exercises are designed to demonstrate procedures while improving decision making and critical thinking skills. This occurs through role playing and use of equipment such as interactive video or mannequins (Jeffries, 2005). Facilitators are important to the success of the simulation experience, and must provide leadership conducive to a positive environment in which learning can take place. Faculty must be able to identify and resolve issues such as anxiety, discomfort, and fear in the participants and lay explicit ground rules for the simulation (Wilson & Klein, 2012). Students must understand their role and be self-directed and motivated to learn from the experience. Educational practices should include active learning, feedback, collaboration, and high expectations. The design characteristics must be appropriate for the learning objectives and should be focused on achieving specific desired

outcomes (Jeffries, 2005). The debriefing phase is essential in the learning process of the simulation exercise. The importance of this phase is often overlooked by educators. Debriefing reinforces the positive aspects of the experience and encourages reflection, which allows the participants to link theory to practice, think critically, and discuss how to intervene professionally in multifaceted situations (Jeffries, 2005).

### **Benner**

Benner's model supports learning on a continuum, with the student beginning as a novice and gradually progressing to a state of competency and proficiency. Simulation exercises must be designed around the skill level of the students and allow them to progress from simple to complex according to their level of learning (Bradshaw & Lowenstein, 2011). The novice student lacks experiential knowledge in order to construct thoughts and actions based on the big picture, but instead sees details as individual points of knowledge. Immersion into simulation provides opportunities for the student to learn through experience and gradually move from novice to advanced beginner, competent, proficient, and expert within the student role (Benner, Sutphen, Leonard, & Day, 2010). Transitioning from the role of a student nurse to a graduate nurse can be a difficult process. However, research suggests simulation helps prepare nurses for practice through improved critical thinking skills, increased learning, and improved confidence in making clinical decisions at bedside (Kaddoura, 2010).

Benner's model is grounded in Kolb's experiential learning theory. Kolb (1984) defines learning as the process where knowledge is created through the transformation of experience. The learning cycle contains four components: concrete experience, reflective observations, abstract conceptualization, and active experimentation. All of these except concrete experience occur primarily during the debriefing phase of simulation (Fey, Scrandis, Daniels, & Haut,

2014). This type of experiential learning is classified within the constructivist model, which suggests individuals learn through reflection on their actions (Polit & Beck, 2013). During debriefing, learners focus on the events of the simulation exercise and examine the meaning to create new mental models which can be applied to future clinical situations (Fey, Scrandis, Daniels, & Haut, 2014).

### **Framework Summary**

During the debriefing phase of simulation, students are challenged to review and reflect on the meaning of the events. In the Jeffries simulation framework, the student, also referred to as the learner or participant, is one of the key elements in the construct (Durham, Cato, & Lasater, 2014). The student is defined as a self-directed individual involved in the simulation exercise (Fabro et al., 2014). Learning outcomes is another construct of this framework (Jeffries, 2005). Whether or not desired outcomes are being met with debriefing, such as increased self-confidence and critical thinking skills, can be determined through evaluation such as direct questioning of students about their experience. Benner's novice-to-expert model engages mental, physical, and emotional capacities of the student during the quest for enhanced knowledge and clinical skills. This framework, grounded in Kolb's learning theory, recognizes the value of developing the student holistically as learning is gained through experience (Benner et al, 2010). These conceptual frameworks serve as a guide in the design, implementation, and evaluation of this study in order to increase knowledge of the personal experience of students during debriefing.

## **Chapter 2: Review of Literature**

A comprehensive review of literature was conducted to identify the historical background, benefits, and positive aspects of simulation. The significance of debriefing, along with methodologies, procedures, issues and best practices were also addressed. Current literature on student/faculty perception of simulation and debriefing identified a knowledge gap in literature in regards to the problem statement. The review of literature included research from 1979 until 2015, with the majority of research focused on studies published in the past 5 years.

### **Background**

Simulation has been commonly used since the mid 1970's in aviation and gaming, as well as industrial and military training (Lusk & Fater, 2013; Nickerson, Morrison, & Pollard, 2011). Simulation has also been utilized for decades as an educational tool to increase learning in children through games. This type of simulation has been used since the mid-1980's to help children develop and master language skills by providing open-ended situations to facilitate discovery and attainment of skills (Garcia-Carbonell, Andreu-Andres, & Watts, 2014). Historically, simulation has been used as a teaching tool in a variety of professional and educational settings. In nursing, it has become the vehicle for providing students with increased knowledge and experience in a safe, controlled setting (Nickerson et al., 2011).

### **Benefits of Simulation**

The increasing dilemma of how to teach clinical reasoning to nursing students continues in nursing education. Educators are responsible for preparing students for an ever-changing career in nursing, with expectations for the students to enter practice as high level critical thinkers. Simulation focuses on developing situational problem solving skills. Research indicates critical thinking improves with the use of this teaching strategy (Hayden et al., 2014;

Mariani, Cantrell, Meakim, Prieto, & Dreifuerst, 2013; Wilson & Klein, 2012). Multiple studies also indicate the importance of simulation for improving competence in nursing students to prepare them for practice (Fabro et al., 2014; Neill & Wotten, 2011; Norman, 2012). Durham (2014) suggests another benefit of simulation includes the ability to recreate and expose students to real life situations they may not otherwise experience during clinical rotations. Simulation holds the potential to improve collaboration between team members, increase understanding of ethical and professional responsibilities, and build confidence in nursing students (Montero-Fleta, 2013).

Simulation assists students to link theoretical learning and make connections to clinical situations, as well as having a positive impact on role performance (Dreifuerst, 2015; Norman, Dore, & Grierson, 2012). This type of learning provides a safe environment for students to learn and practice skills without fear of making mistakes that could potentially harm patients (Partin, Payne, & Slemmons, 2011). A large, longitudinal, nationwide study was conducted to determine the appropriateness of using simulation hours as a replacement for clinical hours. This study, the NCSBN National Simulation Study, suggests simulation provides adequate training to help nursing students develop competency and enhance critical thinking skills. The results indicated simulation can effectively replace up to 50% of required clinical hours in nursing programs (Hayden et al., 2014). This study advances simulation as an effective teaching method, providing opportunities for learning comparable to real life clinical experiences in a health care setting.

### **Simulation Procedures**

Simulation is comprised of three distinct stages: pre-briefing, the simulation exercise, and debriefing. The pre-briefing phase occurs prior to the simulation exercise. During this phase,

the participants are introduced to the clinical scenario and prepared for the simulation (Aebersold & Tschannen, 2013). During the simulation phase itself, the participants are actively involved in the scenario. Throughout this stage, the participants make clinical decisions, perform skills, and care for the patient through the use of role play (Wilson & Klein, 2012). After the simulation exercise is complete, the debriefing phase gives the participants an opportunity for reflective discussion. Debriefing is usually led by a facilitator, often the faculty member who conducted the simulation. Various methods of debriefing are discussed in literature, but most methods share commonalities such as open ended questions, active listening, rephrasing, praise, acceptance, and therapeutic communication used by the facilitator to provide learning opportunities for the participants (Dufrene & Young, 2014; Wazonis, 2015).

### **Significance of Debriefing**

Debriefing is the reflective period following a simulation exercise. It involves reflective thinking whereby participants are encouraged to explore emotions, ask/answer questions, and provide feedback and rationales for decisions made during the simulation exercise (NLN-SIRC, 2013). Studies have shown debriefing is crucial to the learning process and can be even more important than the creation of simulation scenarios or the selection of equipment. Debriefing involves differentiating factors such as length of debriefing, faculty experience, and faculty and student roles during the debriefing process. Debriefing is essential for learning outcomes to be met, therefore the importance of debriefing should be stressed in all simulation-based activities (Shinnick, Woo, Horwich, & Steadman, 2011; Neill & Wotton, 2011; Wazonis, 2015).

In a large study involving three nursing schools, learning was evaluated using pre and post knowledge tests with two comparison groups. One group participated in simulation exercises without debriefing, and a second group participated in simulation exercises with



debriefing. Gains in knowledge were achieved only in the groups who participated in simulation with debriefing. Learning was shown to decrease in the groups who did not participate in debriefing after the simulation exercise (Shinnick et al, 2011). In a systematic literature review aimed at analyzing research on debriefing in nursing education, debriefing was supported as a highly effective teaching strategy which provides opportunities to increase knowledge and skills. Findings from this review highlighted the importance of debriefing and its role in developing critical thinking and clinical judgment skills in students (Neill & Wotton, 2011).

One study showed debriefing helped students transfer learning from simulation-based exercises to clinical practice. This transfer of knowledge addresses three types of learning: transferring prior knowledge into learning, transferring learning to new learning, and transferring learning to application (Kirkman, 2013). Most of the learning that is transferrable and applicable to practice does not occur during the simulation exercise itself, but during the debriefing phase (Levett-Jones, Lapkin, Hoffman, & Roche, 2011). Literature implicates debriefing as an essential element of simulation and vital to the learning process. Due to the significance of the debriefing process, it is important to explore students' personal debriefing experience and gain knowledge from the perspective of the learner (Arafah & Nichols, 2010).

### **Methodologies**

Debriefing methods vary across nursing programs using simulation. Defining characteristics for effective strategies as outlined by Warrick, Hunsaker, Cook, and Altman (1979) include reflection, reception, integration, and assimilation. Dreifuerst (2015) developed a structured format for debriefing known as Debriefing for Meaningful Learning (DML). This method uses Socratic questioning of inquiry to stimulate reflection and dialog between the facilitator and learner (Dreifuerst, 2015). Another method includes the 3D Model focusing on 1)

defusing with the students after the simulation exercise, 2) discovering what the students learned and discuss what was done well and what could've been done differently, and 3) deepening the students' level of understanding and applying it to the clinical setting (Zigmont, Kappus, & Sudikoff, 2011). Other methodologies include the use of video-assisted debriefing. In a systematic review of literature, evidence suggests non-video assisted debriefing is as effective as video-assisted debriefing (Cheng et al., 2014). Some educators prefer an unstructured approach to debriefing without a guiding framework and sequential plan (Brackenreng, 2004), but this approach is not supported by literature (Decker et al., 2013).

Tools and techniques for measurement have been designed specifically for the debriefing process. The Debriefing Assessment for Simulation in Healthcare (DASH) assessment tool, developed by Harvard Medical School, assists with evaluating debriefing skills of facilitators (Brett-Fleegler et al., 2012). The Health Sciences Reasoning Test (HSRT) measures critical thinking skills and has been used as a tool to evaluate the effectiveness of debriefing (Dreifuerst, 2012). The Debriefing Experience Scale (DES) examines nursing students' debriefing experience (Reed, 2011). Other tools focus on video assisted feedback and structured versus unstructured debriefing techniques (Mariani, Cantrell, & Meakim, 2014).

### **Student and Faculty Perspectives**

Research has been conducted to examine the simulation experience from the perspective of both facilitators and learners. Studies indicate students are concerned with issues such as realism, quality of learning, improving confidence levels, improving technical skills, and the ability to transfer knowledge to the clinical setting (Baptista, Martins, Pereira, & Mazzo, 2014; Kable, Arthur, Levett-Jones, & Reid-Searl, 2013). Research from the faculty perspective suggests barriers exist for nurse educators including lack of confidence, lack of training, and time

constraints. However, educators with structured simulation training report higher levels of confidence and less frustration with time constraints when conducting simulation (Blazovich, 2012; Nehring et al., 2013; Phillips, 2011; Taibi & Kardong-Edgren, 2013). Literature supports debriefing as a powerful tool to aid students in linking theory and practice. It also gives students the opportunity to enhance skills and gain confidence in their role as future health care professionals (Kaddoura, 2010).

### **Faculty Issues with Debriefing**

Although debriefing is considered vital to the learning process, it remains a largely misunderstood and misused teaching strategy in nursing education (Dreifuerst, 2015; Mariani et al, 2013). A study examining self-efficacy in nurse faculty while conducting simulation/debriefing revealed 80% believed it was a beneficial teaching tool. In contrast, only 35% felt adequately prepared as facilitators (Dowie & Phillips, 2011). The skill of the facilitator is crucial to the success of debriefing. The majority of nurse educators have received no formal training on how to properly conduct simulation and/or debriefing (Fey, 2014; Mariani, Cantrell, & Meakim, 2014; Shinnick et al., 2011). Educators face many choices when deciding how to carry out debriefing such as timing, methodology, duration, and location. Faculty must also be able to promote a positive learning environment for optimal learning (Mayville, 2011). Research indicates nurse educators often fear looking foolish in front of students during debriefing. This fear can cause faculty to be hesitant to encourage creative thinking and questions from students during the debriefing session (Nehring, Wexler, Hughes, & Greenwell, 2013; Phillips, 2011). Research indicates formal training on debriefing for nurse faculty is highly recommended (Hayden et al., 2014).

### **Best Practice**

The debriefing process enhances learning and raises self confidence in the participant (March et al., 2014). It also promotes understanding and supports the transfer of knowledge, skills, and behaviors to promote safety and positive outcomes (Rudolph, Simon, Rivard, Dufresne, & Raemer, 2007; Warrick, Hunsaker, Cook, & Altman, 1979). Best practice guidelines steer nurse educators toward standardized methods of facilitating effective debriefing. These guidelines include aspects of confidentiality, trust, communication, time and duration. Also, specific learning objectives should be clearly defined prior to debriefing (Decker et al., 2013). Students should complete an evaluation after debriefing to determine if objectives have been met, although most debriefings are not evaluated according to Wazonis (2015). In order for simulation to be effective, close attention to the debriefing technique and the time spent debriefing is essential for learning to occur (Shinnick et al., 2011). Facilitated, structured debriefing is recommended in order to achieve a high level of effectiveness and promote optimal learning (Dufrene & Young, 2014; Mariani et al., 2013).

### **Summary**

Research suggests debriefing is an irreplaceable step in the simulation experience (Mayville, 2011; Shinnick et al., 2011). Debriefing after simulation allows students and educators to review what happened during the simulation activity and reflect on the meaning of students' actions. The purpose of debriefing is to facilitate the transfer of learning to future clinical situations through assimilation and accommodation (Meakim et al., 2013). Multiple studies were found pertaining to students' and educators' perspectives of simulation, but literature was lacking in regards to nursing students' perspective on the debriefing phase itself

(Neill & Wotton, 2011; Reed, 2011). Therefore, this study is necessary to further explore the debriefing experience from the students' perspective.

### **Chapter 3: Methodology**

#### **Design**

A quantitative, descriptive design was used in this study. Quantitative research is a formal, objective process used to identify occurrences in real-life situations by obtaining information through numerical data. A descriptive design was chosen in order to increase knowledge about characteristics within the study (Burns & Grove, 2009). Quantitative research includes appropriate steps for this study such as formulation of the problem, review of current literature, definition of the framework, selection of a research plan, collection and analysis of the data, and interpretation of the results (Polit & Beck, 2013). This design allowed the researcher to progress from the research question to the end of the project in a sequential, linear method to increase the body of knowledge about debriefing.

#### **Operational Definitions**

It will be advantageous to operationally define specific terms of the study in accordance with the problem statement. In this study, the term nursing students will pertain to the students in a selected nursing course, Foundations of Nursing, with a simulation lab component. The term debriefing will pertain to the post-simulation period wherein a nursing instructor guides the nursing students through a reflective, interactive exchange. During this debriefing period, students will be encouraged to consider rationales for what they did and did not do during the simulation as they review video tape of the simulation as a group. The term learning in this study refers to how the debriefing activity assists students to gain new knowledge, behaviors, skills, or values that can be applied to future practice. Learning will be measured by responses to specific statements on the tool, which will be the Debriefing Experience Scale (DES) in this study (Reed, 2011).

### **Population/Sample**

The population in this study consisted of 55 nursing students. These students were enrolled in a first semester Foundations of Nursing class at a mid-sized baccalaureate program in the central United States. The sample is the group of the population selected for the study, referred to as subjects by Burns and Grove (2007). Following participation in a scheduled simulation lab, the subjects were informed of the nature of the study and given the opportunity to complete a questionnaire on their debriefing experience. A short script was read explaining the purpose of the study and the confidentiality of their input, as well as informing the students that no risk or benefit was associated with filling out the survey. Participation in this research project was voluntary.

### **Instrument**

In this non-experimental study, data was collected with no changes or suggested interventions (Polit & Beck, 2013). The purpose of this study was to examine nursing students' perception of post-simulation debriefing. Several instruments specific to debriefing were found in the review of literature (Brett-Fleegler et al, 2012; Dreifuerst, 2012; Mariani et al., 2013; Reed, 2011). Limited tools were available specific to the student perspective of debriefing. The instrument selected for use in this research study was the Debriefing Experience Scale (DES) (Reed, 2011). Permission to use this tool was received in writing from the author, Shelley J. Reed (See Appendix C). No modifications were made to this survey. This instrument measured nursing students' attitudes, perceptions, and self-perceived value of their debriefing experience.

The DES consisted of 20 statements scored on a 5 point Likert scale with responses ranging from 1 = strongly disagree to 5 = strongly agree. Each statement also included a ranking aspect for the participant to indicate the importance of each item. This ranking was also on a 1-5

scale with 1 = not important and 5 = very important. These 20 statements were divided into four sections. The first four statements (Section I) specifically targeted the analysis of students' thoughts and feelings, the next eight (Section II) examined student learning and ability to make connections, the next five (Section III) were aimed at facilitator skill in debriefing, and the final three statements (Section IV) related to facilitator guidance during debriefing. Section II contained the most relevant statements to this study. However, the other three sections added depth to the results. The DES also included a section for the participant to identify the type of debriefing. A final section on the survey consisted of eight demographic items including gender, age, ethnicity, date, course, number of participants in debriefing group, number of previous debriefing experiences, and health care experience.

Cronbach's alpha coefficient approach was used as an estimate of internal reliability for the DES (Reed, 2011). For most research purposes, reliability coefficients higher than .70 are good, but .85 - .95 is preferable (Polit & Beck, 2013). The reported reliability values for scale I were .93 for experience items and .91 for importance items (Reed, 2011). According to Polit & Beck (2013), the testing of an instrument's validity cannot be proven, but is rather supported through an accumulation of evidence. The results of this study supported previous research using the DES, and therefore, added support to the validity of this tool.

### **Procedure**

After approval was received from the Institutional Review Board to conduct the research, an announcement was posted on the Foundations of Nursing D2L homepage prior to the students' simulation lab. This announcement explained the upcoming study to the nursing students who participated in the sim lab exercises for this class. Following post-simulation debriefing in the lab, the instructor read a scripted, procedural explanation for completion of the



survey. The instructor left the surveys in the room for the students, as well as an information sheet for the students to keep, and then the instructor exited the room. Each student placed his or her survey in an individual envelope and sealed it. It was not evident at that time which students filled out the surveys. The students then placed their sealed envelope into a large manila envelope at the front of the classroom. Once all of the students left the simulation lab, the instructor retrieved the sealed surveys and delivered them to a secure location. The surveys were given to the researcher to be maintained in the researcher's home office for one year. At the end of this period, the data will be shredded by the researcher. The data obtained from the research study added to the body of knowledge on debriefing in nursing education.

### **Data Analysis**

The data was compiled, reviewed, and interpreted by the researcher. All responses were reported as aggregate, or combined, data. The results of the survey were analyzed by mean scores on Likert rating scales. Each item on the survey was analyzed against two sets of criteria including how strongly each participant agreed or disagreed with the numbered statement, and how important each statement was to the student. Mean values were determined for each item on both scales. A sum was also calculated of the combined mean scores for Scale I and Scale II.

### **Limitations**

A limitation for this study included the relatively small sample size. Also, the study was conducted with a group of first semester nursing students in a Foundations of Nursing class, so the students were unlikely to have former experience with simulation or debriefing. Conducting the study with a group of senior level students could reveal different data due to experience with the simulation process. While adequate for this study, this limited sample from one university in

one specific class provided information of these students' personal experiences of the effectiveness of debriefing.

### **Chapter 4: Results**

The Debriefing Experience Scale (DES) was completed by first semester nursing students in a Foundations of Nursing class with a simulation lab component. The type of debriefing for this population included a group discussion led by a facilitator, as well as the use of video of the simulation for instructional use. The students debriefing sessions occurred in groups of 4-8 students at a time. Although each of the 20 items on the DES holds value, the purpose of this study was to determine if students felt debriefing enhanced their learning experience. Therefore, the results from items 5 – 12 in the section “Learning and Making Connections” were more closely examined than other items on the survey. The results of this study add to the body of knowledge of post-simulation debriefing. Nursing students’ perception of the effectiveness of debriefing can serve as a guide to improve the debriefing process.

#### **Demographics**

The population for this study consisted of 55 students. Two of the surveys were not included in the results due to incomplete data. Seven of the surveys were not used because “5” was selected for every answer on both Likert scales. The assumption existed that these students may have rushed through the survey in order to get done quickly and did not take the survey seriously. If this assumption was correct, these answers could have skewed the actual data. Therefore, the selected sample for this study included 46 surveys. The sample consisted of 36 female and 10 male students. Ages ranged from 19-40 years, with a mean age of 24. Eighty-seven percent of the students had no previous experience with debriefing. Demographically, the sample was 78% Caucasian, 10% African American, 6% Asian, 3% Native American, and 3% Hispanic. The sample included five students with previous healthcare experience: 3 CNAs, 1 Pharmacy Tech, and 1 EMT; therefore 89% of the students had no prior experience in healthcare

at the time of the study. The demographics for this study were similar to those of the students who participated in the NCSBN National Simulation study with the exceptions of age ranges and the Hispanic population (Hayden et al., 2014).

Demographics	NCSBN Study		Current Study	
Sample Size	822		46	
<b>Gender:</b>				
Female	708	89%	36	78%
Male	114	14%	10	22%
<b>Age:</b>				
18-24	458	56%	34	74%
25-34	233	28%	9	20%
35 or more	136	16%	3	6%
<b>Race:</b>				
C		84%		78%
AA		8.8%		10%
Asian		7.2%		6%
NA		1.1%		3%
<b>Ethnicity:</b>				
Hispanic		18%		3%
HC Experience		15.6%		11%

Table 1: Represents the comparison of demographics between NCSBN study and the current study. (C=Caucasian; AA=African American; NA=Native American; HC = Healthcare)

### Overall Mean Scores

The DES included two Likert rating scales measuring from 1 – 5. Scale I measured how strongly the participants agreed or disagreed with each of the statements. Scale II measured the importance level of each statement to the participant. Mean scores for Scale I ranged from 4.38 – 4.74. Mean scores for Scale II ranged from 4.17 – 4.72.

Categories	DES Statements	Scale 1	Scale 2	Sum
I. Thoughts & Feelings	1. Debriefing helped me to analyze my thoughts	4.72	4.58	9.30
	2. The facilitator reinforced aspects of the health care team's behavior	4.60	4.51	9.11
	3. The debriefing environment was physically comfortable	4.57	4.17	8.74
	4. Unsettled feelings from the simulation were resolved by debriefing	4.38	4.45	8.83
II. Learning & Making Connections	5. Debriefing helped me to make connections in my learning	4.69	4.60	9.29
	6. Debriefing was helpful in processing the simulation experience	4.62	4.47	9.09
	7. Debriefing provided me with a learning opportunity	4.74	4.72	9.46
	8. Debriefing helped me to find a meaning in the simulation	4.46	4.42	8.88
	9. My questions from the simulation were answered by debriefing	4.60	4.55	9.15
	10. I became more aware of myself during the debriefing session	4.58	4.58	9.16
	11. Debriefing helped me to clarify problems	4.62	4.57	9.19
	12. Debriefing helped me to make connections between theory and real-life situations	4.68	4.72	9.40
III. Facilitator Skill	13. The facilitator allowed me enough time to verbalize my feelings before commenting	4.50	4.45	8.95
	14. The debriefing session facilitator talked the right amount during debriefing	4.57	4.47	9.04
	15. Debriefing provided a means for me to reflect on my actions during the simulation	4.68	4.64	9.32
	16. I had enough time to debrief thoroughly	4.42	4.47	8.89
	17. The debriefing session facilitator was an expert in the content area	4.57	4.68	9.25
IV. Facilitator Guidance	18. The facilitator taught the right amount during the debriefing session	4.51	4.55	9.06
	19. The facilitator provided constructive evaluation of the simulation during debriefing	4.60	4.62	9.22
	20. The facilitator provided adequate guidance during the debriefing	4.60	4.62	9.22

Table 2: Represents mean scores for each statement for Scale I: Disagree/Agree and Scale II: Importance, as well as the sum of the scores for the two scales.

No statistical significance was noted between the two scales for each statement, with the exception of statement #3 (see table 2). This statement focused on the comfort level of the environment for the debriefing. The mean scores for this statement were 4.57 (agree/disagree scale) and 4.17 (importance scale). This data suggests the majority of the students were quite comfortable with the debriefing environment, and therefore this was not an issue of concern for the students. If the students had felt the environment was uncomfortable, the results may have indicated this as a higher level of importance.

The DES included four sections with topics labeled: I. Analyzing Thoughts and Feelings; II. Learning and Making Connections; III. Facilitator Skill in Conducting the Debriefing; and IV. Appropriate Facilitator Guidance. The mean scores indicated no statistical significance between the four sections (see table 3). However, the students found the first section of least importance overall, and agreed with the statements in the second section at a higher level than the other three

sections. Section IV, Appropriate Facilitator Guidance, was of greatest importance to the students. Section II had the highest combined mean score for the two scales (see table 3).

Sections	Scale 1	Scale 2
I. Analyzing Thoughts & Feelings	4.50	4.34
II. Learning & Making Connections	4.56	4.51
III. Facilitator Skills	4.47	4.46
IV. Facilitator Guidance	4.51	4.54

Table 3: Represents overall mean scores for Section I – Section IV (1-5 Likert scale).

### **Section II: Learning and Making Connections**

The results of the study suggested the students had a positive learning experience with debriefing, indicated by the overall mean scores. These mean scores indicated 98% of the students agreed or strongly agreed with each of the 20 statements, and 95% of the students found each statement either important or very important (see table 4). For purposes of this study, the results of section II will now be further discussed, which included statements 5-12 on the DES. This section focused on learning and making connections to theoretical knowledge. The participants highly agreed debriefing provided them with new opportunities to learn (statement 7) and helped them make connections with their learning (statement 12), as evidenced by mean scores of 4.72 and 4.74 on Scale I, respectively. These two statements were also of high importance to the students indicated by mean scores of 4.68 and 4.72 on Scale II. These two statements, “Debriefing provided me with a learning opportunity” and “Debriefing helped me to make connections between theory and real-life situations”, had the highest two combined scores on the two scales (see table 2). This showed the students not only felt debriefing helped them

learn and helped them make connections between theory and practice, but it signified learning and making connections were also of the highest importance to the students.

<b>DES Statement</b>	<b>Scale 1</b>	<b>Scale 2</b>
#5	100.0%	97.8%
#6	97.8%	89.1%
#7	100.0%	97.9%
#8	100.0%	91.3%
#9	93.5%	97.8%
#10	97.8%	91.3%
#11	91.3%	97.9%
#12	100.0%	100.0%
<b>Overall Mean</b>	<b>98.0%</b>	<b>95.0%</b>

Table 4: Represents percentage of responses of “4” or “5” for Section II: Learning and Making Connections (Questions 5-12) for both Scale 1 & Scale 2.

## **Chapter 5: Discussion**

### **Overview of Findings**

This research was conducted to examine nursing students' personal experience with debriefing to determine whether or not they perceived it enhanced learning. The results clearly suggest the students felt it added to their learning experience, and helped them gain a better understanding of how to apply this learning to future clinical situations. Results indicate learning as a high priority to the vast majority of the students. The students indicated debriefing helped them clarify problems and make connections between theory and real-life situations. Strong support was noted in four specific areas: debriefing 1) helped the students analyze their thoughts; 2) helped the students make connections to their learning; 3) provided the students with an opportunity for learning; and 4) provided an opportunity for reflection on actions during the simulation.

The review of literature consistently suggests debriefing is the component of simulation where the majority of learning takes place. Studies found debriefing to be the most vital phase for learning during simulation exercises. Because of this, it is important to examine students' experience to gain knowledge from their perspective (Arafeh & Nichols, 2010; Shinnick et al., 2011). Research indicates debriefing helps link theoretical knowledge to practice, as well as build confidence in clinical decision making. Literature supports findings from the students' responses that learning and problem solving occur during the debriefing phase of simulation (March et al., 2014; Neill & Wotton, 2011).

Literature suggests learning can be hampered during debriefing by certain aspects such as environmental conditions, time and duration, trust in the facilitator, and skill level of the facilitator (Killam & Heerschap, 2013; Partin et al., 2011). The DES addressed these



characteristics in sections I, III, and IV. The two lowest overall mean scores on Scale I included: 1) “Unsettled feelings from the simulation were resolved by debriefing” and 2) “I had enough time to debrief thoroughly”. These results suggest some students had unresolved issues after the debriefing and some of the students desired more time for debriefing. Relatively high mean scores also suggest the students had a high level of confidence in the facilitator of the debriefing.

The results of this study overwhelmingly reinforce the findings in literature, evidenced by the students’ support of statements affirming learning took place during the debriefing session. Results also suggest the overall experience was positive for all students, and provided them with an opportunity to increase learning. The experience also helped them increase self-awareness, reflect on actions, and find meaning in the simulation experience itself. The findings support evidence found in literature pointing to debriefing as a critical element of the learning process (Levett-Jones et al., 2011).

### **Implications**

A knowledge gap exists in literature regarding nursing students’ experience with debriefing (Reed, 2011). This study adds to the body of research and provides insight on how nursing students perceive the debriefing phase of simulation. The results confirm findings in literature supporting debriefing as an effective teaching strategy, which contributes to further understanding of the value of debriefing in nursing education (Kirkman, 2013). Debriefing is widely used in nursing education and gives students the opportunity to increase knowledge and skills (Neill & Wotten, 2011). Understanding what is important to students during debriefing, and gaining better insight to their experience, can help nurse educators provide more effective methods of instruction during simulation exercises.

The results of this study emphasize the importance of student-centered learning and how the needs of the student should be a central focus when facilitating debriefing. For example, the data indicated having enough time to debrief was important to the students. Relatively speaking, the mean score for the statement “I had enough time to debrief thoroughly” was slightly lower which may suggest some of the students felt they needed more time to debrief. The debriefing for all of the students in the study was 1.5 times the length of the simulation. Best practice indicates a minimum of 30 minutes should be allowed for debriefing, or ideally twice the length of the simulation scenario (Arafeh & Nichols, 2010; Waxman, 2010; Wotton, Davis, Button, & Kelton, 2010). Literature also shows not allowing enough time for debriefing can have a negative impact on learning, so facilitators should exhibit flexibility with time when debriefing to meet the needs of the students (Killam & Heerschap, 2013; Wotton, Davis, Button, & Kelton, 2010).

### **Limitations**

The limitations for this study included the small sample size, time constraints for the completion of the research study, and only one nursing school utilized. The time constraints dictated the choice for the population, which included all first semester nursing students from the same course. The students had no prior experience with simulation, or post-simulation debriefing. Data from senior level nursing students could have revealed different results. The actions and demeanor of the facilitator during debriefing could also influence results by altering students' attitudes towards the simulation experience. No effort was made in this study to control for facilitator debriefing training.

### **Recommendations**

This study was conducted to examine nursing students' perception of debriefing. Although demographics in this study were similar to the National Council for State Boards of Nursing (NSCBN) study (see table 1), students from another geographical location or a different school could yield different responses (Hayden et al., 2014). Also, replicating this study with senior level students with more simulation experience and/or more healthcare experience could produce different results. Further research in this area could add to the body of knowledge on debriefing. This new knowledge could be used to develop or improve training protocols for nurse educators in order to conduct debriefing aimed at maximizing student learning. The majority of nursing programs in the United States have integrated simulation into the curriculum, but the majority of nurse educators have little or no structured training in debriefing (Fey, 2014). Research focused on the student perspective of debriefing can help guide future practice in this area.

### **Conclusion**

Nurse educators strive to enhance students' learning experience in all aspects of curriculum. Literature supports post-simulation debriefing as a beneficial and vital teaching strategy in nursing education (Shinnick et al., 2011). Debriefing helps students improve critical thinking skills, as well as increase competence and confidence. It also provides opportunities for reflective thinking which can lead to application of new knowledge to real-life situations (Andreu-Andres & Garcia-Casas, 2011; March et al., 2014; Montero-Fleta, 2013). Further inquiry in this area can help raise awareness of the importance of debriefing, as well as add validity and reliability to previous research.

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Appendix A:  
IRB Letter of Approval



September 8, 2015

IRB Application #: 15116

Proposal Title: Nursing Students' Perception Of Post-Simulation Debriefing

Type of Review: Initial-Expedited

Investigator(s):

Ms. Pamela Roberts

Dr. Leann Laubach

Department of Nursing

College of Mathematics and Science

Campus Box 187

University of Central Oklahoma

Edmond, OK 73034

Dear Ms. Roberts and Dr. Laubach:

**Re: Application for IRB Review of Research Involving Human Subjects**

We have received your materials for your application. The UCO IRB has determined that the above named application is APPROVED BY EXPEDITED REVIEW. The Board has provided expedited review under 45 CFR 46.110, for research involving no more than minimal risk and research category 7.

Date of Approval: 9/8/2015

Date of Approval Expiration: 9/7/2016

If applicable, informed consent (and HIPAA authorization) must be obtained from subjects or their legally authorized representatives and documented prior to research involvement. A stamped, approved copy of the informed consent form will be sent to you via campus mail. The IRB-approved consent form and process must be used. While this project is approved for the period noted above, any modification to the procedures and/or consent form must be approved prior to incorporation into the study. A written request is needed to initiate the amendment process. You will be contacted in writing prior to the approval expiration to determine if a continuing review is needed, which must be obtained before the anniversary date. Notification of the completion of the project must be sent to the IRB office in writing and all records must be retained and available for audit for at least 3 years after the research has ended.

It is the responsibility of the investigators to promptly report to the IRB any serious or unexpected adverse events or unanticipated problems that may be a risk to the subjects.

On behalf of the UCO IRB, I wish you the best of luck with your research project. If our office can be of any further assistance, please do not hesitate to contact us.

Sincerely,

A handwritten signature in blue ink, appearing to read 'R. Mather'.

Robert Mather, Ph.D.

Chair, Institutional Review Board

NUC 341, Campus Box 132

University of Central Oklahoma

Edmond, OK 73034

405-974-5479

[irb@uco.edu](mailto:irb@uco.edu)

**Office of Research Compliance, Academic Affairs**

100 North University Drive · Edmond, Oklahoma 73034 · Phone (405) 974-5497 · Fax (405) 974-3825 · [www.uco.edu](http://www.uco.edu)

**UCO IRB REVIEW DOCUMENTATION: Waiver of Documentation**

If you are granting a waiver of the requirement to obtain a signed consent form, you must document the following:

Check one

- 1. The entire consent (or elements) was waived under 45 CFR 46.116(d).  Yes  No
- 2. The only record linking the subject and the research is the consent document and the principal risk is from a breach of confidentiality. Subjects are asked if they want documentation and their wishes will govern.  Yes  No
- 3. The research involves no more than minimal risk and involves no procedure for which written consent is normally required outside of the research context.  Yes  No
- 4. It is not practicable to conduct the research without the waiver. (i.e. internet survey)  Yes  No
- 5. The participant population is too young to give consent.  Yes  No

If you answered "yes" to any of the above, provide a brief description of the reason(s) the waiver is necessary. There will be no link between the students who complete the survey and personal identifiers. The risk of a breach of confidentiality is minimized by not requiring the students to fill out a consent form with their names, which would identify them as participants.

If a waiver is granted, the IRB will still require that subjects are provided with some form of information about the research. Indicate which of the following it will be:

- Written information sheet/summary
- Verbal explanation
- Other (specify)

*For office use only*

IRB # 15114

Reviewer 

Date 9-15-15

Appendix B:  
Debriefing Experience Scale

**INSTRUCTOR COMPLETE:**

Institution using DES: \_\_\_\_\_

Date of use: \_\_\_\_\_

**Debriefing Experience Scale**

Little is known about participants' experience during debriefing following simulation. You can add to professional knowledge by giving your opinions. Please complete the survey below. Your views are very valuable. There is no right or wrong answer.

Your debriefing type(s)--Mark(x) all that apply:

\_\_\_ Discussion without videotape \_\_\_ Discussion with videotape \_\_\_ Journaling \_\_\_ Blogging \_\_\_ Other (Specify) \_\_\_\_\_

Circle the number below that best reflects your opinion about your debriefing experience.

- 1 - Strongly disagree with the statement
- 2 - Disagree with the statement
- 3 - Undecided - you neither agree or disagree with the statement
- 4 - Agree with the statement
- 5 - Strongly Agree with the statement
- NA - Not Applicable; the statement does not pertain to the debriefing activity performed

Rate each experience item based upon how important it is to you:

- 1 - Not Important
- 2 - Somewhat Important
- 3 - Neutral
- 4 - Important
- 5 - Very Important

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Not Applicable	NOT Important	Some-what Important	Neutral	Important	VERY Important
<b>Analyzing Thoughts and Feelings</b>											
1. Debriefing helped me to analyze my thoughts	1	2	3	4	5	NA	1	2	3	4	5
2. The facilitator reinforced aspects of the health care team's behavior	1	2	3	4	5	NA	1	2	3	4	5
3. The debriefing environment was physically comfortable	1	2	3	4	5	NA	1	2	3	4	5
4. Unsettled feelings from the simulation were resolved by debriefing	1	2	3	4	5	NA	1	2	3	4	5



	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Not Applicable	NOT Important	Some-what Important	Neutral	Important	VERY Important
<b>Learning and Making Connections</b>											
5. Debriefing helped me to make connections in my learning	1	2	3	4	5	NA	1	2	3	4	5
6. Debriefing was helpful in processing the simulation experience	1	2	3	4	5	NA	1	2	3	4	5
7. Debriefing provided me with a learning opportunity	1	2	3	4	5	NA	1	2	3	4	5
8. Debriefing helped me to find meaning in the simulation	1	2	3	4	5	NA	1	2	3	4	5
9. My questions from the simulation were answered by debriefing	1	2	3	4	5	NA	1	2	3	4	5
10. I became more aware of myself during the debriefing session	1	2	3	4	5	NA	1	2	3	4	5
11. Debriefing helped me to clarify problems	1	2	3	4	5	NA	1	2	3	4	5
12. Debriefing helped me to make connections between theory and real-life situations	1	2	3	4	5	NA	1	2	3	4	5
<b>Facilitator Skill in Conducting the Debriefing</b>											
13. The facilitator allowed me enough time to verbalize my feelings before commenting	1	2	3	4	5	NA	1	2	3	4	5
14. The debriefing session facilitator talked the right amount during debriefing	1	2	3	4	5	NA	1	2	3	4	5
15. Debriefing provided a means for me to reflect on my actions during the simulation	1	2	3	4	5	NA	1	2	3	4	5
16. I had enough time to debrief thoroughly	1	2	3	4	5	NA	1	2	3	4	5
17. The debriefing session facilitator was an expert in the content area	1	2	3	4	5	NA	1	2	3	4	5

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Not Applicable	NOT Important	Some-what Important	Neutral	Important	VERY Important
<b>Appropriate Facilitator Guidance</b>											
18. The facilitator taught the right amount during the debriefing session	1	2	3	4	5	NA	1	2	3	4	5
19. The facilitator provided constructive evaluation of the simulation during debriefing	1	2	3	4	5	NA	1	2	3	4	5
20. The facilitator provided adequate guidance during the debriefing	1	2	3	4	5	NA	1	2	3	4	5

Comments:

*We would like to know a little more about you:*

Sex: \_\_\_ Female \_\_\_ Male Your Age: \_\_\_ Ethnicity: \_\_\_

Date of your debriefing: \_\_\_ Title of your course and course #: \_\_\_

Number of participants in your debriefing group: \_\_\_

Number of debriefings you have participated in previously: \_\_\_

What is your professional background (e.g. MD, RN, Pharmacist, OT or other)? \_\_\_

If you are already a licensed health professional, how many years of direct patient care have you had? \_\_\_ years

Are you a health professions student? \_\_\_ Yes \_\_\_ No

If yes, in what profession? \_\_\_

THANK YOU FOR HELPING US TO UNDERSTAND THE DEBRIEFING EXPERIENCE!

Appendix C:  
Permission to Use  
Debriefing Experience Scale

**Shelly Reed** <Shelly-Reed@byu.edu>

11:28 PM (8 hours ago)

  
me

Pam,  
Attached is the permission form with my signature. It is not the best copy—sorry about that, my scanner is not the best.  
Good luck on your research!

Shelly J. Reed DNP, FNP, CPNP, CNE  
Associate Teaching Professor  
Brigham Young University  
College of Nursing  
Cell: [801-712-8100](tel:801-712-8100)

From: Pamela Roberts [mailto:[proberts9@uco.edu](mailto:proberts9@uco.edu)]  
Sent: Thursday, June 11, 2015 11:49 AM  
To: Shelly Reed  
Subject: Permission form for DES

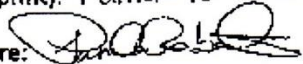
Title of the Scale: Debriefing Experience Scale  
Author: Shelly J. Reed, DNP, APRN  
This scale is copyrighted by the author.

I understand that you are requesting use of the Debriefing Experience Scale.  
You are granted permission to use the scale if the following conditions are met,  
you will:


1. Provide information about the purpose and duration of your study.
2. Describe the sample (population and sample size) in your study or evaluation.
3. Provide results of tests of reliability with this sample.
4. Provide information about whether you have or are seeking funding in the study using the scale.
5. Further, if you wish to alter or modify the scale you must seek additional consent for this purpose prior to altering the scale.
6. Inform the author of any proposed or submitted presentations or publications in which the scale is used.

---

*I agree to the conditions stated for allowing me to use the scale:*

Name (print): Pamela K. Roberts  
Signature:   
Date: 6/10/16

*I give my permission to you to use the scale under the conditions stated above.*

Name (print): Shelly J. Reed  
Signature:   
Date: 6/11/2015