# EFFECTS OF A PREBRIEFING ON APRN STUDENT SELF-CONFIDENCE IN SIMULATION-BASED LEARNING

by

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**Abstract**

The contemporary American Health Care System created a demand for skilled advanced practice registered nurses (APRNs) to meet the health care needs of the U.S. population. It is imperative that graduate nursing programs adequately educate APRN students with the competencies to address these demands. Graduate nursing programs have adopted simulation-based learning to provide safe, cost-effective learning opportunities without the potential for real-world negative outcomes that can arise during hospital-based education. The purpose of this quality improvement project was to provide a tailored, APRN-focused prebriefing activity before simulation-based learning and measure its effects on self-reported student self-confidence scores. This project was conducted using a quantitative post-intervention survey design with a convenience sample of 17 APRN students. The participants were provided a prebriefing intervention by email prior to their interprofessional education (IPE). After the prebriefing intervention, the APRN students participated in four pre-established IPE simulation scenarios. The participants were then asked to complete the *National League for Nursing (NLN) Satisfaction and Self-confidence in Learning Scale*, a thirteen-statement survey with a 5-point Likert scale measuring self-reported, student satisfaction and self-confidence related to their simulation-based learning experiences. Overall, high scores resulted on the post-intervention survey for the two subscales. This project supported the implementation of a structured prebriefing activity before IPE simulation-based learning in graduate nursing education.

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## Background/Statement of the Problem

When the Institute of Medicine (IOM) released *To err is human: Building a safer health system,* the report revealed up to 98,000 patients die as a result of preventable medical errors; this stimulated a campaign for improved patient safety in health care (Kohn, Corrigan, & Donaldson, 2000). Recognizing the highly complex and aging population in the United States in combination with limited access to health care resources, the IOM identified an emerging need for more clinically competent advanced practice registered nurses (APRNs) with strong educational backgrounds (2011). APRNs are holistic providers that contribute to the interdisciplinary health care team with a focus on improving patient safety and outcomes (Joel, 2013). A high-quality APRN education promotes safe, cost-effective health care with the ultimate goal of serving diverse populations and optimizing patient outcomes (IOM, 2011). As APRN education evolved, simulation-based learning (SBL) has become a newer pedagogy in preparing students safely in an off-site environment, separate from the clinical setting (Jeffries, Rodgers, & Adamson, 2015). Within the recent literature, the incorporation of SBL has developed into an advantageous educational method in educating nursing students. Curriculum designs historically included real-patient experiences with potentially high-risk consequences and poor patient outcomes (Jeffries, Rodgers, & Adamson, 2015). Simulation provides a safe and controlled environment where students can learn and practice cognitive, psychomotor, and teamwork skills (Shin, Park, & Kim, 2015). Specifically, simulation allows the opportunity for the development of clinical competencies including patient assessment, therapeutic communication, interprofessional

collaboration, clinical skill development, critical thinking, time-management, and other essential skills (Jeffries, Rodgers, & Adamson, 2015).

According to Burke, Salas, Wilson-Donnelly, and Priest (2004), SBL was first pioneered by military aviation teams, which resulted in improved safety and performance. In 2003, the National League for Nursing (NLN) first adopted SBL and conducted a study that produced the NLN Jeffries Simulation Framework (Jeffries, Rodgers, & Adamson, 2015). This innovative framework then became the foundation for many nursing simulation-based trainings at all levels of higher education.

SBL consists of three phases: prebriefing, the patient scenario, and debriefing (Rhodes & Curran, 2005). Prebriefing is the initial phase of guidance, orienting the learners prior to the simulation scenario (Page-Cutrara, 2014). The prebriefing phase of simulation has not been studied in-depth, despite advancing literature on SBL (Husebo, Friberg, Soreide, & Rystedt, 2012). Various authors claim that prebriefing is not a uniform process or standardized in SBL (Chamberlain, 2015; Page-Cutrara, 2014). More research is needed on prebriefing to further discover its significance and value to SBL and students' post-simulation outcomes (Deckers, 2011).

SBL in education is shown to correlate with improved student self-confidence in undergraduate students (Nimbalkar et al., 2015; Thidemann & Soderhamn, 2012). Currently, there is little evidence to support the relationship between simulation education and self-confidence, specifically in the graduate APRN student population (Kaddoura, 2010). Various educational tactics have been employed to prepare APRN students and promote APRN student self-confidence. However, there is little research regarding the practice of prebriefing prior to SBL in graduate nursing education. There is

a gap in the literature on prebriefing used in intervention studies, and even less specifically in the graduate nursing student population. Moreover, very little research exists that describes the relationship between prebriefing and post-simulation student outcomes (Page-Cutrara, 2014). The lack of existing literature focused on graduate APRN students indicates a need for further research, as the current literature focuses mainly on the entire simulation process or the debriefing phase with undergraduate students (Page-Cutrara, 2014). Therefore, the purpose of this project was to provide a tailored, APRN-focused prebriefing activity before simulation-based learning and measure its effects on self-reported student self-confidence scores.

Next, the literature review will be discussed.

## Literature Review

The literature databases searched on this topic were the Cumulative Index to Nursing and Allied Health Literature (CINAHL), Medline, PubMed Health, and OVID journals. Key words included: prebriefing, nursing education, advanced practice registered nurse, APRN, self-confidence, confidence tool, confidence survey, simulation, simulation-based learning, and simulation scenarios. Various combinations of the above terms were utilized. The results produced a limited number of articles that specifically included APRN education. The years included in the search ranged from 2000 to 2018 to ensure comprehensive, relevant, and current information was incorporated.

### Contemporary American Health Care System

Health care in America today is largely affected by a multitude of forces and the framework of health care delivery serves to be a major contributing factor. The U.S. health care system has transformed since the Patient Protection and Affordable Care Act of 2010 was initiated. This law catalyzed major change within the American system, significantly impacting various populations, as well as revolutionizing the delivery of health care to Americans. While the ACA increased access to health care for many Americans, it further strained a pre-existing shortage of health care providers and the need for cost-effective care. APRNs serve as a valuable resource to fulfill this gap (Martin, 2015).

**ACA expanded U.S. population coverage.** The ACA improved coverage and access to health care services for the general American population. According to Martin (2015) and Oberlander (2014), the ACA increased access and affordability of health insurance, regardless of pre-existing conditions or sex. Also, young adults were able to be covered on their parents' insurance policies until 26 years old. This law increased

access to various populations by surpassing socioeconomic barriers, gender, and other barriers. It opened the doors of health care to those who were not able to afford it when it was primarily a market-driven system. Since subsidized public insurances have become an option, the change resulted in an increased number of insured people in America. With insurance, Americans now receive preventative care, early diagnosis, and early treatment of illnesses instead of delayed emergency care. The implication of the ACA is a larger insured patient population requiring health care services from providers.

**ACA impact on the nursing profession.** Due to the overhaul of the American Health Care System, the ACA had a pronounced influence on the nursing profession and health care practice altogether. With a larger population of insured people, this legislation increased the volume of patients seeking care in inpatient and outpatient settings. This created a higher demand for the number of advanced practice nurses and other health care providers in the workforce (Martin, 2015). In addition, increased access to health care may increase life expectancy and the ability of patients to manage chronic illnesses, such as diabetes and heart failure. With the growing elderly population living with complicated comorbidities, an emphasis on patient education and self-management will be required. This increased the role of advanced practice nurses as educators in every setting, from the hospital to primary care offices. From an economic standpoint of reimbursement change, there was a heavy focus for advanced practice nurses to assist in the prevention of recurrent hospitalizations. This required more interprofessional collaboration among APRNs, nurses, case managers, physicians, and other health care professionals (Martin, 2015). Ultimately, the advanced practice nurse and graduate nursing education was provoked to evolve by the implications of the ACA on the current

American Health Care System.

**Advanced Practice Nursing**

Advanced practice nursing includes specialized roles in clinical practice, administration, education, informatics, and public health. Advanced clinical knowledge, complex skills, and role autonomy are obtained through a graduate-level education program. These roles include education for health promotion, health management, and advanced interventions. Also, these roles are regulated through accredited MSN or DNP educational programs. Advanced practice nursing roles require professional licensure and national certifications for specific populations with a wider scope of practice than the registered nurse. Advanced practice nursing focuses on various age-specific populations, such as adult-gerontology, pediatrics, neonatal, women's health, gender-related health, psychiatric, and family/individual across the lifespan (Joel, 2013).

**Role of APRN.** The title of APRN represents one of the four advanced practice registered nurse roles. These include the nurse practitioner (NP), clinical nurse specialist (CNS), certified registered nurse anesthetist (CRNA), and certified nurse midwife (CNM) (Joel, 2013). According to the APRN Consensus Workgroup and the National Council of State Boards of Nursing (2008), the APRN scope of practice and prescriptive privileges for pharmacologic and non-pharmacologic treatments vary by state and specialty. Also, the APRN role ought to be congruent and limited to the age-specific population of the specialized graduate nursing educational program that was completed.

**Nursing education for the APRN.** With the heightened pressure for additional qualified and competent APRNs to alleviate the growing needs of the American Health Care System, nursing education transformed to meet this demand (IOM, 2011). System-

wide change was warranted due to the high medical error rate, complex patient diversity, and limited health care resources (Kohn et al., 2000). To meet this demand, SBL is utilized as an alternative student-centered educational strategy in contrast to the traditional classroom and clinical settings (Jeffries, Rodgers, & Adamson, 2015). Furthermore, in current nursing education, student-centered outcomes focus upon knowledge, performance of technical skills, learner satisfaction, and attitudes that culminate into the APRN student competencies of learner objectives as determined by the American Association of Colleges of Nursing (AACN) (Jeffries, Rodgers, & Adamson, 2015). These competencies demonstrate the learner's novice skillset to care for patients in complicated environments. Thus, evaluation outside of the traditional classroom has been found to be significant, as the simulation-based setting thwarts potentially unsafe, harmful patient outcomes (Jeffries, Rodgers, & Adamson, 2015). Morbidity and mortality resulting from preventable medical errors may be positively influenced, starting with a strong APRN education. By improving the education methods of training APRNs, better patient outcomes are an obtainable goal. Examples of poor patient outcomes are nosocomial infections, prolonged length of stay, and death. To further elaborate, learner competence, confidence, and satisfaction can be quantified or qualified with standardized patients in SBL, and these are valuable measurable outcomes in nursing education (Jeffries, Rodgers, & Adamson, 2015).

Currently, Master of Science (MSN) APRN programs adhere to meet *The Essentials of Master's Education in Nursing*. These were established by the AACN (2011) and detailed below:

Essential I. Background for Practice from Sciences and Humanities

Essential II. Organizational and Systems Leadership

Essential III. Quality and Safety

Essential IV. Translation and Integration of Scholarship, Research, and Evidence-based Practice.

Essential V. Innovative Health Care Technologies and Informatics

Essential VI. Health Policy and Advocacy

Essential VII. Interdisciplinary, Collaborative Practice

Essential VIII. Clinical Prevention and Population Health

Essential IX. Competency in Master's Level Practice (p. 9 - 26)

**Experiential Learning Theory**

According to Kolb (1984), learning and growth of knowledge can occur through experience and meaningful reflection. When enduring a new situation, the learner can incorporate previous knowledge gained from past experiences. This process has become the base of numerous theoretical frameworks, such as the NLN Jeffries Simulation Framework (Jeffries, Rodgers, & Adamson, 2015).

**Simulation history.** SBL is founded on the Experiential Learning Theory and includes mock scenarios of realistic events; it serves as an effective educational tool across various disciplines (Hegland, Aarlie, Stromme, & Jamtvedt, 2017; Kolb 1984). According to Jeffries, Rodgers, and Adamson (2015):

> Simulations are defined as activities that mimic the reality of a clinical environment and are designed to demonstrate procedures, decision making, and critical thinking through techniques such as role playing and the use of devices such as interactive videos or mannequins. A simulation may be very detailed and closely simulate reality, or it can be a grouping of components that are combined to provide some semblance of reality. (p. 97)

According to Rolfe and Staples (1988), incorporating simulation into education initially began with the training of airline pilots. Flight simulation was intended to adequately prepare pilots without the high-risk consequences of novice pilot behaviors and actions. The advantages of flight simulation were improved efficiency, improved safety, decreased financial expenses, decreased environmental abnormalities, and decreased operational abnormalities (Rolfe & Staples, 1988). The analyses of human skills and decision errors are safer when evaluated within an artificial flight simulation, as opposed to the real-world consequences of airline pilot errors (Rolfe & Staples, 1988).

**Fidelity and technology.** Simulation is categorized into two types: high-fidelity and low-fidelity (Salas, Paige, & Rosen, 2013). The term fidelity refers to the degree of replication of reality and use of technology. While low-fidelity simulation scenarios are less advanced, high-fidelity simulation scenarios incorporate advanced technology to enrich the learning experience (Salas et al., 2013). High-fidelity is also known as high-technology simulation. Meakim et al. (2013) state the definition of high-fidelity simulation as, "experiences using full scale computerized patient simulators, virtual reality or standardized patients that are extremely realistic and provide a high level of interactivity and realism for the learner" (p. S6). Computerized technology, standardized patients, mannequins, and human actors all may play a role in a simulation scenario (Jeffries, Rodgers, & Adamson, 2015). High-fidelity simulation scenarios incorporate advanced features of technology and informatics, as opposed to simple, low-fidelity simulations.

**Simulation roles.** The major roles within a simulation include the facilitators and learners. The responsibilities of the facilitators are to provide participant support for the

learners in the simulation scenario (Jeffries, Rodgers, & Adamson, 2015). The facilitator's role in the simulation includes educational preparatory methods while being attentive to the learner's needs for guidance during the experience. Each facilitator has the role of managing the time of the SBL experience and leading the debriefing session immediately after the simulation experience (Jeffries, Rodgers, & Adamson, 2015). A facilitator's responsibility is also to provide feedback, in a constructive way that is centered on the participants. In alignment with the standards, facilitators are recommended to have specialized training to properly conduct facilitation and debriefing (INACSL, 2016). SBL consists of interpersonal and interprofessional roles among the various facilitators and participants (Jeffries, Rodgers, & Adamson, 2015).

According to the *Standards of Best Practice: Simulation* authored by the INACSL (2016), participants have an obligation of professional integrity, with the intent to uphold confidentiality and protect the scenario from a breach. This is to ensure that the simulation scenario will not be compromised through the sharing of information. If information about the scenario is disclosed, it may negatively impact future participants and their simulation experiences (INACSL, 2016).

**Simulation in nursing education.** Although simulation existed in the military aviation field for many years, it was adopted by nursing in 2003 by the NLN. The result of this study was the creation of the NLN Jeffries Simulation Framework (Jeffries, Rodgers, & Adamson, 2015). Today, simulation in nursing education is still guided by the highly regarded NLN Jeffries Simulation Framework (Jeffries, Rodgers, & Adamson, 2015).

According to this framework, the first stage of constructing or appraising a simulation is developing the context of the SBL (Jeffries, Rodgers, & Adamson, 2015). As explained by Jeffries, Rodgers, and Adamson (2015), the contextual factors of the setting may influence all parts of the simulation. Context is the background, which is comprised of the guiding objectives, time requirement, and resources necessary to design the simulation for the intended participants. These influencing factors ultimately affect the entire simulation experience. The simulation experience is an interaction among the facilitators and participating learners; it often includes features that are tailored to the learners' needs, such as teamwork, communication, involvement, trust, and accountability (Jeffries, Rodgers, & Adamson, 2015).

The pre-simulation characteristics may affect the participants, such as preparation, anxiety, self-confidence, and gender (Jeffries, Rodgers, & Adamson, 2015). Also, there are three categories of simulation outcomes that are evaluated: outcomes of the participant, patient, and system (Jeffries, Rodgers, & Adamson, 2015). Participant outcomes, such a self-confidence, satisfaction, skills, and knowledge are measurable. Quality and safety outcomes regarding the simulation patient may be considered for evaluation.

**Prebriefing.** Various incongruences have existed among the available literature of this descriptive term. For the purpose of this quality improvement project, the terminology that will be utilized is "prebriefing" to align with the INACSL (2016). The INACSL refers to the primary phase of simulation as "prebriefing" in their *Standards of Best Practice* for SBL (2016). In the literature, some authors refer to the term as "prebriefing" while others choose the terms "briefing" or "pre-simulation" (Page-Cutrara,

2014). All of these are synonymous and describe the stage of the simulation prior to the simulation scenario (Chamberlain, 2015; INACSL, 2016; Page-Cutrara, 2014). Despite these variances, the specific term of prebriefing has been operationalized as a concept and clearly defined in the literature within recent years (Chamberlain, 2015; INACSL, 2016; Page-Cutrara, 2014).

The definition of prebriefing according to Page-Cutrara (2014) is:

> An information or orientation session held prior to the start of a simulation activity in which instructions or preparatory information is given to the participants. The purpose of the prebriefing is to set the stage for a scenario and assist participants in achieving scenario objectives. (p. 335)

According to the INACSL (2016), prebriefing should include the facilitators' active roles in orienting the participants to the simulation environment, orienting the participants with the mannequin equipment, and defining terminology that is associated with the simulation. The clarification of terminology is meant to create a universal understanding among the participants and facilitators, in accordance with the objectives of the learners (INACSL, 2016). The prebriefing phase is intended to explain and provide anticipatory guidance to the learner regarding the upcoming simulation scenario (Page-Cutrara, 2014).

**Debriefing.** Debriefing sessions are a characteristic part of the NLN Jeffries Simulation Framework for simulation scenarios (Jeffries, Rodgers, & Adamson, 2015). The act of debriefing is described as the immediate reflection upon the critical-thinking process by all student learners, facilitators, and teachers after the simulation scenario has been completed (Jeffries, Rodgers, & Adamson,

2015). The aim of the debriefing session is to reflect upon what occurred during the simulation scenario and to identify where and when learning transpired (Jeffries, Rodgers, & Adamson, 2015). According to Jeffries, Rodgers, and Adamson (2015), the debriefing session should take place in a separate location from where the simulation scenario was held, and it should last about 20 minutes in length. The facilitator's role is to draw attention to and create discussion regarding the novice performance that happened during the simulation scenario; ultimately, this is the duty of the facilitating teacher or teachers. The rationale for the debriefing is to improve student learning by highlighting improvement to novice critical-thinking and student behaviors (Jeffries, Rodgers, & Adamson, 2015). Student performance and decision-making may be influenced by their perceived self-confidence.

**Self-confidence**

The term self-confidence is defined as the belief in oneself and in one's powers and abilities (Merriam-Webster Online, 2018). Perry (2011) performed a concept analysis of self-confidence. Perry (2011) states, "Self-confidence is a person's belief that he or she can succeed. Self-confidence is context-specific to tasks, and some people seem to display this characteristic through a wide range of activities" (p. 219). Self-confidence is subjective and different for each person with numerous constructive and destructive influential factors. Some of these influential factors include self-esteem, perceptions, and experiences (Perry, 2011). Perry (2011) elaborates upon self-confidence as a cycle, being multidirectional and bidirectional at the same time. In this cycle, the outcome of increased or decreased self-confidence is influenced by and influences the antecedents or

attributes (Perry, 2011). The antecedents or attributes include: the previous negative and/or positive experiences of the learner, the positive and/or negative reinforcement from the teachers and/or learners, personal attributes of the learner (self-esteem, physical, spiritual, emotional), and the knowledge base of the learner (Perry, 2011). These antecedents or attributes are then influencing or influenced by the moderating factor of the learning environment. Moreover, the learning environment influences and is influenced by the learner's self-efficacy (Perry, 2011). The self-efficacy component is comprised of four factors. The first factor is the learner's competency based on successful performances. The second factor is verbal persuasion of encouragement and praise; the third factor is arousal, which is described as the physiologic and emotional states. The last factor is the vicarious experience (Perry, 2011). An example of this is one participant modeling to another that success in simulation performance is attainable. Through the vicarious experience of the other participant modeling success, others may become successful themselves. Self-efficacy then influences and is influenced by affective learning, being both extrinsic and intrinsic forces (Perry, 2011). This part of the confidence cycle then has an important part in affecting all parts of the cycle at any point. Overall, the cycle of confidence is dynamic and complex with many powerful factors (Perry, 2011).

**Self-confidence in simulation.** Research has not yet been established pertaining to APRN students and measuring self-confidence outcomes in SBL; however, previous research with entry-level undergraduate nursing students found a positive correlation between midterm and final self-confidence scores in high-fidelity simulations (Blum, Borglund, & Parcells, 2010). Based on this, the simulation is determined to be

efficacious in nursing education, thus improving student self-confidence scores during the SBL that may incorporate anxiety-provoking clinical situations. Various older studies by Cioffi (2001) in conjunction with Peterson and Bechtel (2000) also support a positive relationship between simulation and higher self-confidence ratings. It is important to note that these studies did not distinguish the phases of simulation, but rather, they discovered a relationship between the entire three-phase simulation experience and student self-confidence.

**Prebriefing in Simulation**

Prebriefing is a deliberately planned educational activity that is implemented prior to the actual simulation scenario (Page-Cutrara, 2014). According to McDermott (2016), prebriefing is a critical activity with a significant impact upon the actual simulation scenario and debriefing activity. During prebriefing, simulation learning objectives and preparatory information about the simulated patient scenario are relayed to the participating learners (Page-Cutrara, 2014). In addition, prebriefing may clarify the learning objectives, orienting the learner to the simulation equipment and environment, as well as providing preemptive guidance regarding roles, confidentiality, and expected professional behavior (Arafeh, Hansen, & Nichols, 2010).

Page-Cutrara (2014) state:

> The role of prebriefing in developing students' abilities is to notice aspects of the clinical situation, anticipate patient needs, and focus on the application of existing knowledge to meet simulation objectives. This can be beneficial in forming essential skills such as clinical judgment and thinking. (p. 140)

According to the INACSL (2016), "during prebriefing, pertinent terminology can be reviewed with students and facilitators, so everyone involved or participating in simulation has an understanding of the language" (p. 96). Currently, there is no existing literature that conclusively determines one type of prebriefing method to be the best, as there is a lack of uniform standardization (Page-Cutrara, 2014).

According to Rudolph, Raemer, and Simon (2014), a thorough explanation of the roles, details, confidentiality, fiction contract, respect, and expectations should be at the forefront of the prebriefing phase to facilitate the participants' learning. These interventions set the stage for a safe environment for the participants to proceed with less psychological distress. The expectations of confidentiality to protect the privacy of all participants should be highly impressed upon in the prebriefing phase.

Video recording may be utilized in some simulation scenarios, but many factors must be clarified with the participating learners as part of prebriefing. The intent for recording the simulation scenario and intent for use should be clearly explained. The policies for destroying the recordings or keeping the recordings ought to be provided to the participants, as well. Additionally, informed consent is a crucial agreement that must to be obtained (Leigh & Steuben, 2018).

Once the aforementioned has been noted thoroughly with a mutual understanding among the facilitators and simulation participants, it is important to then proceed by providing learners with important background information (Leigh & Steuben, 2018). Background information includes the SBL objectives, evaluation tools, and preparatory information about the patients and simulation scenarios. In addition, other pertinent

information may also be conveyed, such as the patient's past medical history, situational events, medical record, among other valuable information (Leigh & Steuben, 2018).

Learners should also be given an orientation of the simulation environment and equipment. Leigh and Steuben (2018) note that psychomotor learning may be best for the participants, meaning the participating students may benefit the most from touching the mannequins, supplies, and other parts of the simulation setting. McDermott (2016) suggests that a prebriefing script may be beneficial, especially if it is uniform across simulation programs. Furthermore, logistic details should be explained to the learners in the prebriefing phase. Lastly, it is recommended that the learners are permitted time to process the prebriefing information and appropriately plan for the simulation scenario phase. Leigh and Steuben (2018) state even just a few minutes are helpful, but there is no existing literature that suggests a specific length of time.

Varying methods of pre-simulation activities are used that can better prepare the students for the SBL. These include lectures, assigned readings, and educational videos (Leigh & Steuben, 2018). A review of the simulation patient's medical record allows the learners to improve their knowledge of the relevant pathophysiology, pharmacological interventions, and other nonpharmacological interventions to be anticipated in the simulation scenario (Leigh & Steuben, 2018). Although Leigh and Steuben (2018) highly promote this as an option for inexperienced learners, it is important to note that allowing the students to create care plans during the prebriefing can be to their advantage. A quiz to stimulate critical thinking is an additional pre-simulation activity that may prepare the students. Leigh and Steuben (2018) state that the quiz can even be utilized as an admission ticket for participation in the SBL. Another preparatory tool that may aid

the students is encouraging them to watch a demonstration video of a simulation scenario, which appeals to the visual aspect of learning (Leigh & Steuben, 2018). An evidence-based standardized method of prebriefing does not exist, thus any combination of the above prebriefing activities are recommended (Leigh & Steuben, 2018).

**Prebriefing prior to simulation and self-confidence.** Since few researchers have addressed prebriefing in nursing simulation education, this topic should be studied more extensively, as previously stated (Husebo et al., 2012). According to Page-Cutrara (2014), standardized and structured guidance of when and how to implement prebriefing is warranted. While numerous studies explored the relationship of prebriefing and learner outcomes, none of them specifically determined the effect on self-confidence scores or student success overall (Page-Cutrara, 2014). Based on the lack of literature on the prebriefing phase in simulation and its influence on self-confidence in the APRN student population, it is evident that more research is indicated for this area. This quality improvement project aims to provide a structured, APRN-focused prebriefing before simulation-based learning and measure its effect on self-reported student self-confidence scores.

## Four Elements of the Tailored Prebriefing Intervention

In order to adequately prepare the APRN students, necessary prebriefing elements were tailored to match the NUR 530/540 Interprofessional Education (IPE) Competencies. The IPE simulation was comprised of four established clinical scenarios, which were developed by the faculty with a deliberate order in level of intensity. One scenario involved a patient experiencing a chronic obstructive pulmonary disease (COPD) exacerbation. Another simulation scenario involved a patient experiencing a

medication allergy. An additional simulation patient was a part of a witnessed cardiac arrest scenario. The fourth mock code involved a patient with an opioid-associated life-threatening emergency with hypothermia.

**Collaborative communication.** According to the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) (2014), failures in communication have been identified as the third leading cause for sentinel events. Sentinel events are incidences of death or serious injury, such as loss of function or limb, which are unexpected (JCAHO, 2014). Therefore, it is imperative to focus on this aspect of health care. Teamwork and proper communication are crucial to providing safe, effective high-quality care. Vital verbal communication methods are closed-loop communication and call-out because of their clarity and ease; they have even been shown to improve performance in military aviation teams, which will be further discussed later (Burke et al., 2004). Closed-loop communication refers to the verbal feedback to confirm the team members have a synchronized understanding of the conveyed message. Call-out refers to the initial verbal communication from one person to the entire team to garner awareness pertaining to significant changes. There are three steps of the closed-loop method: first, the sender transmits the message by call-out to the entire team. Second, the team member who received the message accepts it, and then, the team member acknowledges the reception of the message. Last, the sender confirms the message has been received and correctly understood (Burke et al., 2004). Conclusively, these communication skills are highly important for transmitting information among collaborating professionals in caring for patients who require a team effort to address a rapidly changing health condition.

**Interprofessional communication.** Health care teams consist of multidisciplinary members with various skills; thus, it is essential to work together to optimize patient care through effective communication among team members of different specialized backgrounds (Hall & Weaver, 2001). Addressing conflicts appropriately among team members promotes safe, effective functionality of the health care team (Hall & Weaver, 2001). In contrast, uncoordinated communication and poor team-based care among various health care professionals increase the risk for patient-care errors and "near misses" (Mitchell et al., 2012). A "near miss" is described as an event with a narrow margin of error that was unplanned and had the potential to inflict harm, illness, or injury to the patient (Marks, Kasda, Paine, & Wu, 2013).

**Conflict resolution with de-escalation.** De-escalation skills have been demonstrated to be therapeutic, and it is crucial that providers are well-trained to manage potentially hostile or unpleasant patient or family scenarios. According to Richmond et al. (2012), the verbal de-escalation approach should be the first line intervention for conflict resolution, as it is less time-consuming with numerous advantages. Verbal de-escalation techniques, as opposed to physical de-escalation, do not require follow up protocols and can possibly thwart the potential physical harm from physical restraints. Also, evidence has highlighted the verbal approach to be safer, resulting in overall better patient satisfaction outcomes. Although it is highly recommended, research shows there is no standardization of a verbal de-escalation method yet (Richmond et al., 2012).

**Advanced cardiac life support.** Advanced cardiac life support (ACLS) training expands upon basic life support and serves to educate health care providers about the care of patients with life-threatening conditions. Skills and knowledge are presented in

structured algorithms to support patients during cardiac-related emergencies. These tools are intended to assist health care providers in sustaining life with information about physiology, physical assessment, pharmacology, airway management, and cardiopulmonary resuscitation. Examples of algorithms include: adult tachycardia with a pulse, adult bradycardia with a pulse, adult cardiac arrest, adult immediate post-cardiac arrest care, opioid-associated life-threatening emergency, and others (Mark et al., 2015).

**APRN role in team leadership.** APRNs serve as valuable providers on the interdisciplinary health care team, in conjunction with their systems and organizational leadership. This advanced leadership role permits APRNs to direct and manage clinical services, thus optimizing patient outcomes at a higher scope of practice than the registered nurse role (Sherman & Pross, 2010). APRNs contribute to shared decision-making and multidisciplinary collaboration in providing high-quality patient-centered care. As a team leader, it is imperative to recognize the worth of the APRN role in meeting the needs of the US patient population.

Next, the theoretical framework will be discussed in further detail.

## Theoretical Framework

The framework that guided this quality improvement project was The Theory of Reasoned Action, also known as the Reasoned Action Approach. McEwen and Wills (2014) describe that intention is the main element of this theory. The authors explain that intention is "the cognitive representation of the individual's readiness to perform a behavior and is determined by attitude, subjective norms, and perceived behavioral control" (McEwen & Wills, 2014, p. 517).

According to Fishbein and Ajzen (2011), background factors affect behavioral, normative, and perceived control beliefs in this theory. Examples of background factors include various individual, social, and informational influences. A specific type of background factor is an educational intervention that serves to be an informative influence. For the purpose of this project, prebriefing will be the educational intervention and simultaneous background factor to possibly influence student intention and self-confidence. Other examples of individual background factors include past behaviors, attitudes, personality attributes, and mood. Social background factors consist of demographics such as age, gender, and race. Information background factors include knowledge, intervention, and the influence of the media. These all constitute background factors and may affect a person's normative, behavioral, or control beliefs.

Behavioral beliefs and attitudes are that of which a person perceives as either good or bad, based on the negative or positive outcomes of the behavior (Fishbein & Ajzen, 2011). A normative belief is one that relates to the expectations of the environment. A control belief is one that incorporates the person's perceived internal locus of control over perceived facilitators and perceived barriers. Based on this theory, these three types of beliefs influence intention, thus influencing behavior. Therefore, the

background factors affect the beliefs, which in turn influence a person's intention to perform a behavior. A visual representation of this theory is illustrated in Figure 1 (Fishbein & Ajzen, 2011, p. 22).

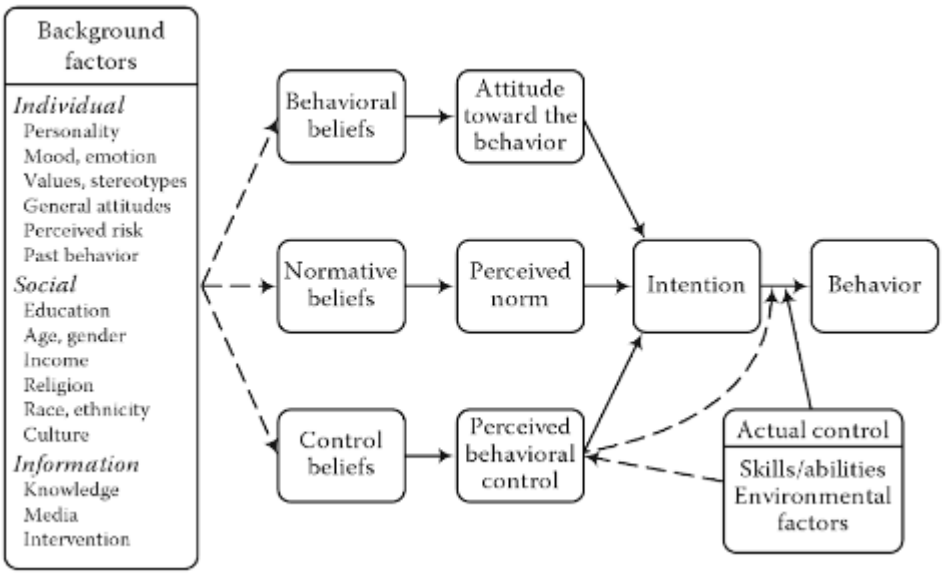


*Figure 1.* Visual Presentation of Reasoned Action Approach

Regarding this project, the background factor is the prebriefing intervention of providing educational information to orient the students to the SBL. This quality improvement project seeks to measure the effect of the educational intervention of prebriefing on the control beliefs of the self-confidence in APRN students. Influencing the control belief may determine if the educational intervention of prebriefing impacts the perceived behavioral control of the students and as a result affects the intention of the students and self-confidence ratings.

Next, the methodology will be discussed.

# Method

## Purpose/Question

The purpose of this quality improvement project was to provide a tailored, APRN-focused prebriefing activity before simulation-based learning and measure its effects on self-reported student self-confidence scores. The investigated research question was: Does implementing a structured, APRN-focused prebriefing activity prior to SBL affect ratings of self-confidence in APRN students?

## Design

This quality improvement project was conducted with a planned prebriefing activity preceding the IPE simulation and debriefing, followed by a quantitative post-intervention survey design. Demographic data was also collected regarding the number of years of clinical nursing practice and the type of nursing specialty.

## Sample/Participants

There was an anticipated convenience sample of 17 participants. The inclusion criteria included APRN students over 18 years old, who were currently enrolled in NUR 530/540. The sample included all adult-gerontological acute care nurse practitioner and clinical nurse specialist students recruited from the Master of Science in Nursing program at Rhode Island College. These students participated in the IPE simulation on April 4, 2019 and April 9, 2019. Bachelor of Science in Nursing and Master of Social Work students were excluded, as the focus of this project was the APRN student population.

## Site

The site of this quality improvement project was the Simulation Center and Nursing Resource Laboratory located at the Rhode Island Nursing Education Center

(RINEC) in Providence, Rhode Island. In collaboration with the RINEC Simulation and Technology Manager, room A120 was reserved to ensure adequate privacy for the APRN students to complete the demographic sheets and post-intervention surveys on April 4, 2019. On April 9, 2019, room A107 was reserved by the same manager to promote privacy again in a closed-door environment.

**Procedures**

A proposal was submitted to the Rhode Island College Institutional Review Board (IRB) seeking permission to conduct this quality improvement project through the online TOPAZ system. Approval from the Institutional Review Board was obtained on March 8, 2019.

A prebriefing PowerPoint was created and tailored to match the pre-existing simulation scenarios with necessary prebriefing elements, as illustrated in Table 1.

Table 1

*Simulation Scenarios and Prebriefing Elements*

| Simulation Content | Prebriefing Elements |
|---|---|
| COPD exacerbation | Collaborative communication |
| Medication allergy | Interprofessional communication and conflict resolution |
| Witnessed cardiac arrest | Advanced cardiac life support |
| Opioid-associated life-threatening emergency with hypothermia | APRN role and team leadership |

The prebriefing intervention, in the form of written information, was sent prior to the IPE simulation by email to participants on March 25, 2019. The implied consent and PowerPoint with prebriefing material were attached to the email. A reminder email with the same information was again sent out on April 1, 2019. The prebriefing highlighted preparatory information for the students including: learner objectives; expectations of confidentiality; expectations of professional conduct as per the Rhode Island College Handbook for Graduate Students in Nursing (Servello, Blanchette, Misto, Wilks, & Costello, 2018); leadership roles; the RIC policy on recording and destroying video footage. It is standard practice in the school of nursing to record student simulations to assist during the debriefing phase of simulation.

Prebriefing elements including interdisciplinary collaborative communication techniques, conflict resolution with de-escalation methods, and the APRN role in team leadership were provided. In addition, the American Heart Association's ACLS algorithms were included in the prebriefing activity sent by email. The ACLS algorithms were for adult tachycardia with a pulse; adult bradycardia with a pulse; adult cardiac arrest; adult immediate post-cardiac arrest care; and opioid-associated life-threatening emergency (Mark et al., 2015). This prebriefing PowerPoint was meant to prepare the APRN students adequately for their upcoming simulation-based experience. Additional NUR 530/540 learner objectives, associated readings, and standardized patient information were provided in advance by the faculty instructor.

In order to collect data, the author administered paper demographic sheets and *NLN Student Satisfaction and Self-confidence in Learning Scale* surveys face-to-face to voluntarily participating APRN students after their IPE simulation was completed on

April 4, 2019 and April 9, 2019. The students were instructed to complete the demographic sheets and post-intervention surveys with the provided pencils, then place them into the labeled envelope. The students completed the demographic sheets and post-intervention surveys with privacy in a closed-door room while the author was not present to ensure confidentiality. The completed demographic sheets and post-intervention surveys were locked in a file cabinet located at RINEC office #291, of which only the author and faculty advisor had access. The author entered the results of surveys and demographic sheets into organized tables on a password-protected computer, of which only the author has access. The original demographic sheets and *NLN Student Satisfaction and Self-confidence in Learning Scale* surveys will be destroyed one year after they are collected.

**Measurement**

The *NLN Student Satisfaction and Self-confidence in Learning Scale* was utilized to measure self-confidence ratings of APRN students (Appendix A). Permission to use the *NLN Student Satisfaction and Self-confidence in Learning Scale* has been obtained (Appendix B). This scale has a total of 13 items and is composed of two sections. The first subscale measures student satisfaction with learning and consists of five statements. The second subscale, self-confidence in learning, consists of eight statements (Franklin, Burns, & Lee, 2014). The measurement scale statements are based on a five-point Likert scale (Franklin, Burns, & Lee, 2014). In accordance with the Likert scale, the participant has the choice to select one number out of five to rate his or her response to each statement. A rating of one indicates the participant strongly disagrees with the statement; two indicates the participant disagrees with the statement; three indicates the participant

is undecided and does not agree nor disagree with the statement; four indicates the participant agrees with the statement; a rating of five indicates the participant strongly agrees with the statement. The two subscales can be scored individually and combined as a whole. While high scores are favorable on the two subscales of satisfaction and self-confidence, there is no specific benchmark score to achieve (Jeffries, Rodgers, & Adamson, 2015).

Cronbach's alpha reliability and validity are standards in evaluating instruments. The Cronbach's alpha is the most common objective evaluation of reliability, which is the consistency in which an instrument provides measurements. Validity is the degree of which a tool measures what it is intended to measure (Tavakol, Mohagheghi, & Dennick, 2008). Pertaining to this instrument, the Cronbach's alpha reliability of these *NLN Student Satisfaction and Self-confidence in Learning* subscales are 0.94 for student satisfaction and 0.87 for self-confidence in learning (Franklin, Burns, & Lee, 2014). Based on psychometric testing of this measurement tool, the validity of the *NLN Student Satisfaction and Self-confidence in Learning Scale* was determined to be strong at 0.78 (Franklin, Burns, & Lee, 2014).

**Anticipated Timeframe**

This quality improvement project proposal was submitted to the IRB on February 23, 2019 through the online TOPAZ system. This project was implemented in the Spring of 2019 for the NUR 530/540 IPE simulations on April 4, 2019 and April 9, 2019. Collected data was analyzed in April of 2019. The anticipated completion date for this project is May of 2019.

**Organizational/Systems Factors**

There were numerous enabling factors to be considered prior to implementing this quality improvement project. It was necessary to obtain support from the Rhode Island College Interim Dean (Appendix C) and the RINEC Simulation and Technology Manager in order to coordinate the permission, space, and time. The site was easily accessible for the participants and the author, as it was a clinical requirement for students to participate in the IPE simulation. Recruitment via email was easily accessible as well. The IPE simulation scenarios were already established and previously designed by the faculty. Funding was not be required for this project, as using the email technology to contact students, recruit students, and collect data were all available at no cost.

Although there were many enabling factors, the potential barriers were also considered with forethought. This quality improvement project required Rhode Island College's IRB approval. As a result, time was an important barrier to be cognizant of because the NLN instrument could only be administered once the IPE simulation was completed. Therefore, students may not have had the time to fill out the demographic sheets and post-intervention surveys, thus limiting the potential sample size and data collected. In addition, there was a potential for students to decline the prebriefing activity and participation, as it was completely voluntary. Due to the anticipated sample size of 17 participants, there was potential for limited diversity regarding the number of years of clinical nursing experience and specialty. Another student factor to consider is a poor SBL experience for the participant, influencing their willingness to participate post-simulation.

**Desired Outcomes**

The desired outcomes of this quality improvement project included high self-

confidence scores of the participating APRN students, as evidenced by the results and descriptive analysis of the data. This correlates with a desired high total mean and individual mean self-confidence scores following the prebriefing intervention.

**Ethical Concerns**

Various ethical concerns were anticipated for this quality improvement project. Most importantly, the ethical concern of working with human subjects was addressed by obtaining approval for this project from the Rhode Island College IRB. Students were a vulnerable population, and the autonomy of each student was respected by this author, as each student had the right to voluntarily decline or participate in this quality improvement project. Implied consent was obtained ethically by each student's choice of voluntary participation. No retaliation resulted if students declined to participate. Equal access was provided to each student, as every student was offered the same prebriefing intervention and equal opportunity to participate or decline. The implication for diversity, as previously mentioned, was potentially limited by the small sample size; the convenience sample was at best anticipated to be 17 students. Therefore, there was limited diversity of the students' clinical backgrounds. Also, this author was a fellow upperclassman peer of the participants, thus it was imperatively noted that participation would have no effect on their academic evaluation on the implied consent document.

**Evaluation Plan**

The evaluation plan included a quantitative data analysis of the post-intervention survey results. The demographic and post-intervention survey results were organized into tables. For the demographics, the mean, median, and mode of years of clinical experience were determined. The most frequently listed nursing specialty were

identified. Mean results were calculated per individual item of the survey and recorded in percentages. Furthermore, the impact of the prebriefing educational intervention on APRN student self-confidence scores was evaluated.

**Dissemination Plan**

The dissemination plan for this quality improvement project included a poster presentation at RINEC on May 7, 2019. The overarching goal is to support the integration of research into APRN education to enhance student self-confidence and SBL. This quality improvement project was also submitted to the Rhode Island College Digital Commons as a major paper.

Next, the results will be elaborated upon in further detail.

## Results

A total of 17 master's level advanced practice nursing students voluntarily participated in this quality improvement project on April 4, 2019 and April 9, 2019. There were seventeen completed demographic sheets and seventeen *NLN Student Satisfaction and Self-confidence Scale* surveys, which yielded a 100% response rate.

Table 2 (Appendix J) demonstrated the descriptive responses of the demographic sheets. The participants' backgrounds ranged from three years to 26 years of experience. Based on the collected demographics from the sample, the mean length of clinical nursing experience was 10 years; median of nine years; and mode of six years. A significant portion of the sample (70.5%) specialized in critical care settings of the intensive care unit (ICU) or emergency department (ED). Nine participants specifically listed ICU, while two participants listed ED. One participant simply wrote "critical care." Also, eighteen percent of the sample specialized in medical surgical nursing. Six percent of the sample specialized in only medical oncology, while six percent specialized in both medical surgical and oncology nursing.

Table 2, Table 3, and Figure 2 (Appendices J, K, and L) demonstrated the results of the *NLN Student Satisfaction and Self-confidence in Learning Scale*. It is important to highlight that one APRN student did not answer statement number ten on the *NLN Self-confidence* subscale, which impacts the analysis for that statement. An analysis of the student satisfaction subscale was elaborated upon from the most selected answer to the least selected answer on the five-point Likert scale.

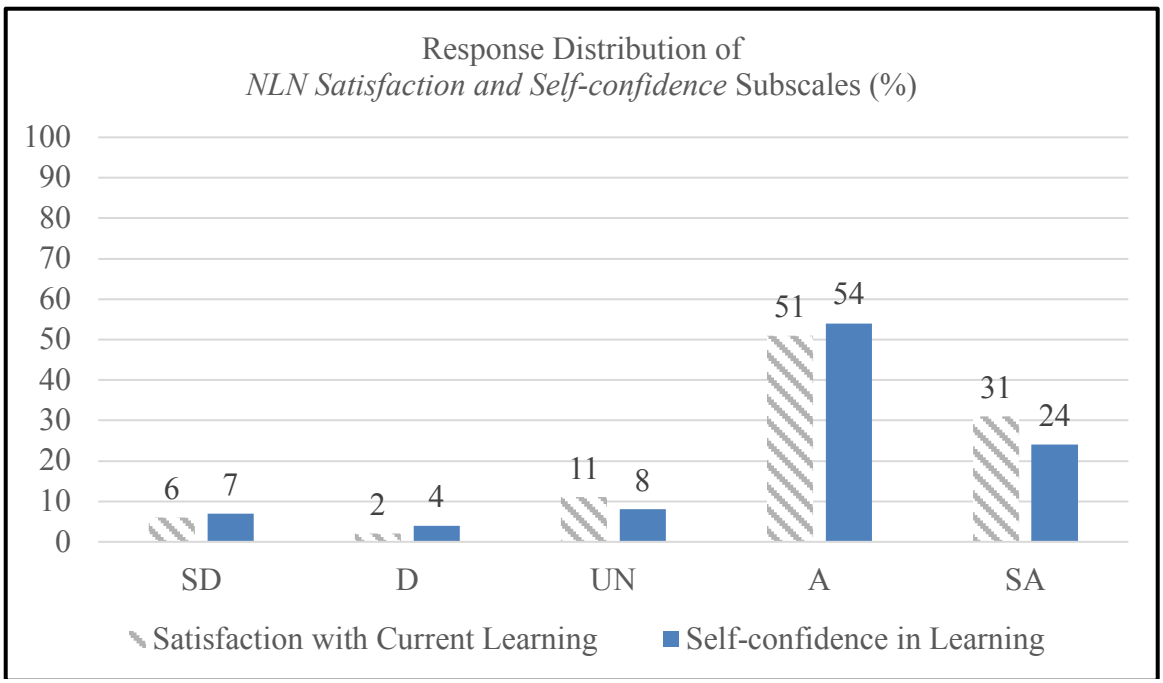


*Figure 2*. Response Distribution of *NLN Satisfaction and Self-confidence in Learning* Subscales. SD = strongly disagree; D = disagree; UN = undecided; A = agree; SA = strongly agree; % = percent of sample size who chose option; N = 17

When the students were presented with satisfaction statements, the majority of students *agreed* (51%) while 31% *strongly agreed* with the statement. Overall, the evidence supports a high mode of student satisfaction scores based on the first subscale. Furthermore, an analysis of the self-confidence subscale also revealed a high mode of self-reported self-confidence scores. To reiterate, statement number 10 only had 16 responses, as one student did not complete it. A majority of the participants selected *agree* (54%) while 24% of the participants *strongly agreed* with the self-confidence statements. Evidently, the results support a trend of the majority of APRN students agreeing with the self-confidence subscale, with a second-most chosen selection of

strongly agree.

Next, the summary and conclusions will be discussed in further detail.

## Summary and Conclusions

The modern health care system calls for competent, confident providers. APRNs function as holistic providers to fill this gap and serve the US population. Evidence supports the use of SBL in training students for its efficacy and enhanced safety (IOM, 2011; Jeffries, Rodgers, & Adamson, 2015). The purpose of this quality improvement project was to provide a tailored, APRN-focused prebriefing activity before simulation-based learning and measure its effects on self-reported satisfaction and student self-confidence scores. This project was carried out with a quantitative post-intervention survey design and a convenience sample of APRN students enrolled at a public college in Providence, Rhode Island. The participants were offered implied consent and a prebriefing intervention before their IPE SBL experience. After the participants completed their IPE simulation, they voluntarily completed a demographic sheet and thirteen-statement survey. Seventeen APRN students participated in this quality improvement project.

A major theme extracted from the demographic data is that a significant amount of the participants reported clinical nursing experience in critical care. An important difference to note in the sample was the different lengths of individual nursing experience, which may influence APRN self-confidence in SBL. The majority of APRN students "agreed" with the statements regarding the influence of prebriefing on student satisfaction and self-confidence in learning. Furthermore, the theme deduced from the analyzed data was that most of the students rated the statements in this order of frequency: agree, strongly agree, undecided, strongly disagree, then disagree. Ultimately, the evidence from this quality improvement project illustrated high self-reported student outcomes of satisfaction and self-confidence after a prebriefing activity for the IPE SBL.

A significant theme of the relationship between student satisfaction and self-confidence scores was observed. The data supported that participants who had high satisfaction scores also reported high self-confidence scores. In conclusion, the prebriefing activity resulted in high satisfaction scores, and this cohort of APRN students scored high in self-confidence ratings.

Next, the recommendations and implications will be explained.

## Recommendations and Implications for Advanced Nursing Practice

Several recommendations for further study and implications for the APRN can be suggested. This author recommends evaluating student outcomes by employing a post-test design with a control group to contrast with an intervention group. Also, a larger sample size would be beneficial for the significance of the outcomes. While significant findings were obtained, this quality improvement project had several limitations. The NUR 530/540 IPE simulation was actively evolving under the direction of a new site simulation team and faculty members while this quality improvement project was developed; this was the first semester that the IPE simulation was executed with updated changes. Also, a convenience sample of RIC APRN students enrolled in NUR 530/540 only yielded 17 participants. While this was enough to carry out the project, the small sample size should be considered as a limitation in the conclusions. Given the time constraint of the MSN program, the author was limited from conducting this project over multiple IPE simulations that may have garnered more participants. Another limitation was the non-identified demographics could not be matched up to the surveys; therefore, it is unknown if there was a relationship among the number of years of specialized experience and self-confidence responses. It is also unknown if the clinical specialty has a correlation to self-confidence responses, in addition to the prebriefing intervention. This may be a recommendation for a future study to separate these demographic factors and their influence on self-confidence outcomes. Another limitation was the lack of a control group, which may have provided more insight into the effect of the prebriefing intervention on APRN student self-confidence outcomes. Yet another limitation was the author as an upperclassman peer of the participants, which may have persuaded the students to participate or choose responses with that as an influencing factor. In future

IPE simulations, additional prebriefing activities may be considered as the student need is identified. In conclusion, this quality improvement project implies the use of prebriefing in master's level advanced practice nursing education was beneficial in preparing students for SBL with better self-confidence.

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## Appendix A

*NLN Satisfaction and Self-confidence in Learning Scale*

**Instructions**: Please indicate your own personal feelings about each statement below by marking the numbers that best describe your attitudes or beliefs. Please be truthful and describe your attitude, as it really is, not what you would like for it to be. This is anonymous with the results being compiled in a group not individually.

Mark:

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

| **Satisfaction with Current Learning** | **SD** | **D** | **UN** | **A** | **SA** |
|---|---|---|---|---|---|
| 1. The teaching methods used in this simulation were helpful and effective. | ○ 1 | ○ 2 | ○ 3 | ○ 4 | ○ 5 |
| 2. The simulation provided me with a variety of learning materials and activities to promote my learning the medical surgical curriculum. | ○ 1 | ○ 2 | ○ 3 | ○ 4 | ○ 5 |
| 3. I enjoyed how my instructor taught the simulation. | ○ 1 | ○ 2 | ○ 3 | ○ 4 | ○ 5 |
| 4. The teaching materials used in this simulation were motivating and helped me to learn. | ○ 1 | ○ 2 | ○ 3 | ○ 4 | ○ 5 |
| 5. The way my instructor(s) taught the simulation was suitable to the way I learn. | ○ 1 | ○ 2 | ○ 3 | ○ 4 | ○ 5 |
| **Self-confidence in Learning** | **SD** | **D** | **UN** | **A** | **SA** |
| 6. I am confident that I am mastering the content of the simulation activity that my instructors presented to me. | ○ 1 | ○ 2 | ○ 3 | ○ 4 | ○ 5 |
| 7. I am confident that this simulation covered critical content necessary for the mastery of medical surgical curriculum. | ○ 1 | ○ 2 | ○ 3 | ○ 4 | ○ 5 |
| 8. I am confident that I am developing the skills and obtaining the required knowledge from this simulation to perform necessary tasks in a clinical setting | ○ 1 | ○ 2 | ○ 3 | ○ 4 | ○ 5 |
| 9. My instructors used helpful resources to teach the simulation. | ○ 1 | ○ 2 | ○ 3 | ○ 4 | ○ 5 |
| 10. It is my responsibility as the student to learn what I need to know from this simulation activity. | ○ 1 | ○ 2 | ○ 3 | ○ 4 | ○ 5 |
| 11. I know how to get help when I do not understand the concepts covered in the simulation. | ○ 1 | ○ 2 | ○ 3 | ○ 4 | ○ 5 |
| 12. I know how to use simulation activities to learn critical aspects of these skills. | ○ 1 | ○ 2 | ○ 3 | ○ 4 | ○ 5 |
| 13. It is the instructor's responsibility to tell me what I need to learn of the simulation activity content during class time.. | ○ 1 | ○ 2 | ○ 3 | ○ 4 | ○ 5 |

## Appendix B

Tue 8/28, 11:14 AM

Soares, Aiza

Inbox

Dear Aiza,

Thank you for your inquiry. We are pleased that you have decided to use one of NLN's survey instruments for your research project at Rhode Island College. NLN's simulation instruments are available for download from the NLN website here: http://www.nln.org/professional-development-programs/research/tools-and-instruments/descriptions-of-available-instruments. (scroll to bottom of page for citations to help you find more current tools).

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

Regards, Amy
**Amy McGuire** | Program Manager | National League for Nursing | www.nln.org |amcguire@nln.org | 202-909-2509 | 2600 Virginia Avenue NW, 8th Floor, Washington, DC 20037

**NLN Research Instruments**

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**Appendix C**

RHODE ISLAND COLLEGE

SCHOOL OF NURSING

February 14, 2019

RIC IRB Committee

600 Mount Pleasant Ave

Providence, RI 02908

Dear Committee Members

I am writing to verify my support of Aiza Soares' MSN project "Effects of Prebriefing on APRN Student Self-confidence in Simulation-based Learning." Aiza has my permission contact MSN students involved in the NUR 530/540 IPE simulation and to present on their simulation day.

The SON values student participation in research. I fully support Aiza's project. Please feel free to contact me with any questions regarding this request.

Sincerely

Debra Servello, DNP, APRN

Interim Dean

600 Mt. Pleasant Avenue • Providence, RI 02908-1996 • Undergraduate (401) 456-8013 • TTY/TDD: 711

Rhode Island Nursing Education Center • South Street Landing • 350 Eddy Street, Providence, RI 02903 • Graduate (401) 456-9612

www.ric.edu

## Appendix D

## RHODE ISLAND COLLEGE

### Implied Consent

### Effects of Prebriefing on APRN Student Self-confidence in Simulation-based Learning

**PURPOSE**: To provide a tailored, APRN-focused prebriefing activity before simulation-based learning and measure its effects on self-reported student self-confidence scores.

**PROCEDURES:** With implied consent, the student will participate in the NUR 530/540 IPE simulation-based experience with the prebriefing intervention. Following the IPE simulation-based experience, the student will be asked to 13 statements on a survey, scaled by a five-point Likert scale. This survey will be completed with a time commitment of about 10 to 12 minutes. The post-intervention survey will require the students to reflect on their self-confidence after the prebriefing intervention and simulation-based experience. Demographic data will be collected about your years of clinical nursing experience and nursing specialty. The students will submit their surveys in the same envelope.

**RISKS AND BENEFITS:** You are contributing to knowledge in simulation-based experiences. This study has minimal risk. Some statements may be sensitive or upsetting to some participants. You can skip statements or withdraw from the survey at any time. There are no direct tangible benefits to you.

**CONFIDENTIALITY:** Confidentiality will be respected, and measures will be taken to preserve this; although, confidentiality is not an absolute guarantee. No identifying information is required of each participant. The original surveys and demographic sheets will be stored in Dr. Margaret Mock's secure RINEC office #291in a locked filing cabinet. The original surveys and demographic sheets will be destroyed one year after they are completed. The results of the surveys and demographic data will be protected if this quality improvement project is published.

**VOLUNTEERING FOR THE QI PROJECT:** Participation is completely voluntary, and you may revoke or decline participation at any time. There will be no negative consequences for declining or leaving this quality improvement project at any given time.

**ALTERNATIVE TO PARTICIPATION IN THE QI PROJECT:** You have the autonomy to decline consent and participation in this quality improvement project.

**STATEMENT OF CONSENT:** I have read and understand the information above. Participation in the quality improvement project indicates implied consent and agreement that I am choosing to be in the quality improvement project "Effects of Prebriefing on APRN Student Self-confidence in Simulation-based Learning". I can change my mind and quit at any time, and I don't have to give a reason. I have been given answers to the questions I asked, or I will contact the author with any questions that come up later. I am at least 18 years of age.

## Appendix E

## APRN IPE Learning Objectives

1. The APRN student will participate in the prebriefing intervention.
2. The APRN student will be prepared for the simulation-based experience.
3. The APRN student will adhere to rules and regulations of simulation, such as confidentiality.
4. The APRN student will integrate effective interdisciplinary communication techniques during simulation-based experience.
5. The APRN students will reference ACLS algorithms in critical thinking and clinical judgement.

## Appendix F

## Prebriefing Informational Letter by Email

My name is Aiza Soares, and I am a Rhode Island College MSN student who will be conducting a quality improvement project during your upcoming NUR 530/540 Interprofessional Education Simulation on April 4, 2019 and April 9, 2019. The purpose of this quality improvement project is to provide a tailored, APRN-focused prebriefing activity before simulation-based learning and measure its effects on self-reported student self-confidence scores. The prebriefing information will include: suggested communication techniques to support your leadership role during the interprofessional simulation, de-escalation and conflict resolution in the health care setting, and ACLS algorithms. Please print the algorithms and review in preparation for the simulation-based experience. Participation is completely voluntary, and there will be no negative consequences if you decline to be involved. No identifying personal information will be collected. Individual consent is implied when you read this email, informational letter, and complete the post-simulation survey. You will receive a reminder email on April 1, 2019 with the prebriefing information again that will take under an hour to review for self-study. At the conclusion of the simulation, you will be asked to complete a short 13-statement survey and non-identifying demographic sheet, which will take about 10 to 12 minutes. If you have any questions, please contact my principal investigator, Dr. Mock, or me: Mmock@email.ric.edu or Asoares_9713@email.ric.edu

Sincerely,

Aiza Soares

# Appendix G

Table 1

*Simulation Scenarios and Prebriefing Elements*

| Simulation Content | Structured Prebriefing Elements |
|---|---|
| COPD exacerbation | Collaborative communication |
| Medication allergy | Interprofessional communication and conflict resolution |
| Witnessed cardiac arrest | Advanced cardiac life support |
| Opioid-associated life-threatening emergency with hypothermia | APRN role and team leadership |

## Appendix H

## RHODE ISLAND COLLEGE

## Prebriefing Information

- IPE Learning Objectives
    - The APRN student will participate in the prebriefing intervention if he or she implies consent
    - The APRN student will be prepared for the simulation-based experience
    - The APRN student will adhere to rules and regulations of simulation, such as confidentiality
    - The APRN student will integrate effective interdisciplinary communication techniques during simulation-based experience
    - The APRN students will reference ACLS algorithms in critical thinking and clinical judgement
- Purpose of Prebriefing
    - Provide a tailored, APRN-focused prebriefing activity before simulation-based learning and measure its effects on self-reported student self-confidence scores
    - Focus of IPE simulation
    - Interpersonal communication
    - Quality and safety
- Confidentiality and Expectations
    - Confidentiality will be respected to promote a judgement-free environment of learning

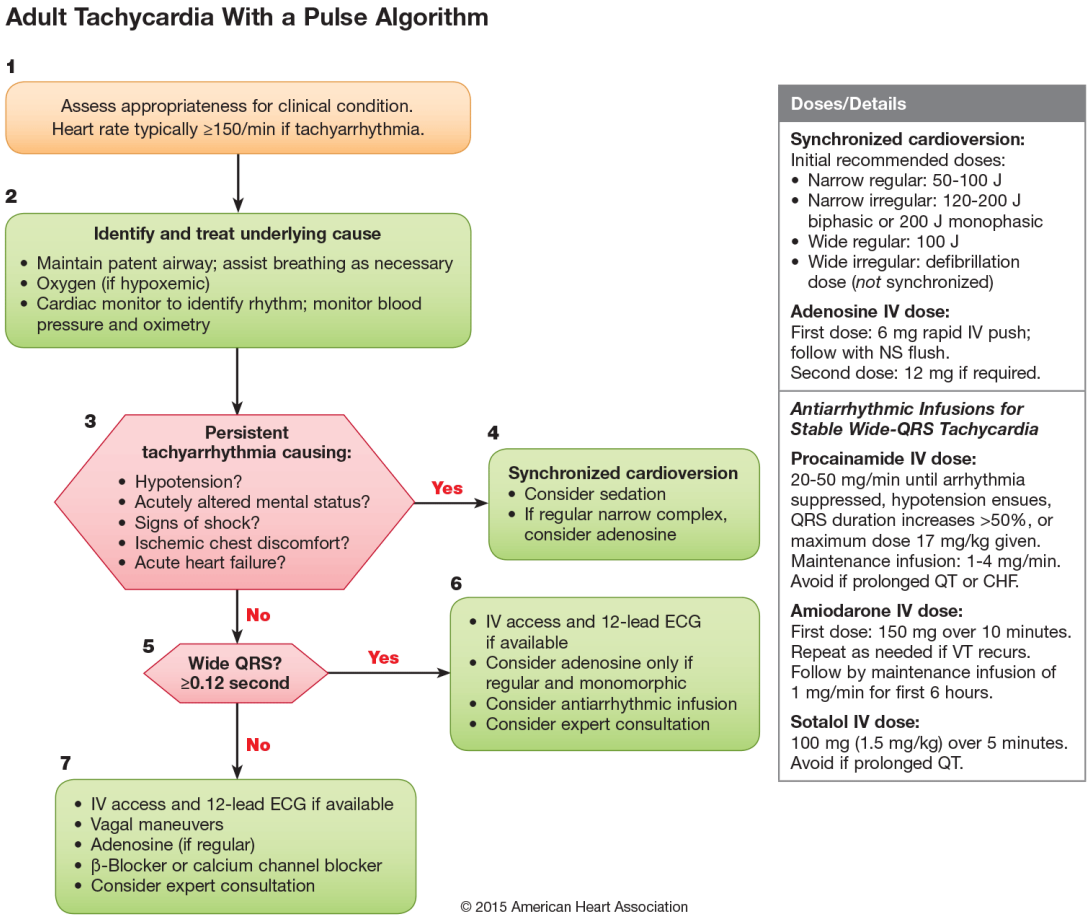
  - Please do not share details about today's IPE simulation to preserve this learning experience for those who have not yet participated
  - Professional behavior is expected as outlined in the Rhode Island College Handbook for Graduate Students in Nursing **(press CTRL + click link):** http://www.ric.edu/nursing/Pages/Handbook.aspx

- Video Recordings
  - It is standard practice in the school of nursing to record student simulations to assist during the debriefing phase of simulation
  - All recordings will be kept confidential and destroyed one year after the IPE simulation is completed
- APRN Role
  - You will serve at the leader of a multidisciplinary team with other:
  - Bachelor of Science in Nursing students
  - Master of Social Work students
  - Facilitating instructors will manage time, debriefing, and constructive feedback
  - You are expected to perform your own physical assessments of the mannequin patients, provide orders, and support the team
  - There will be actors posing as family members and friends of the patients
- Code Team: APRN Role
  - Identify self as the code leader in a loud and clear manner
  - Effectively communicate with the BSN students

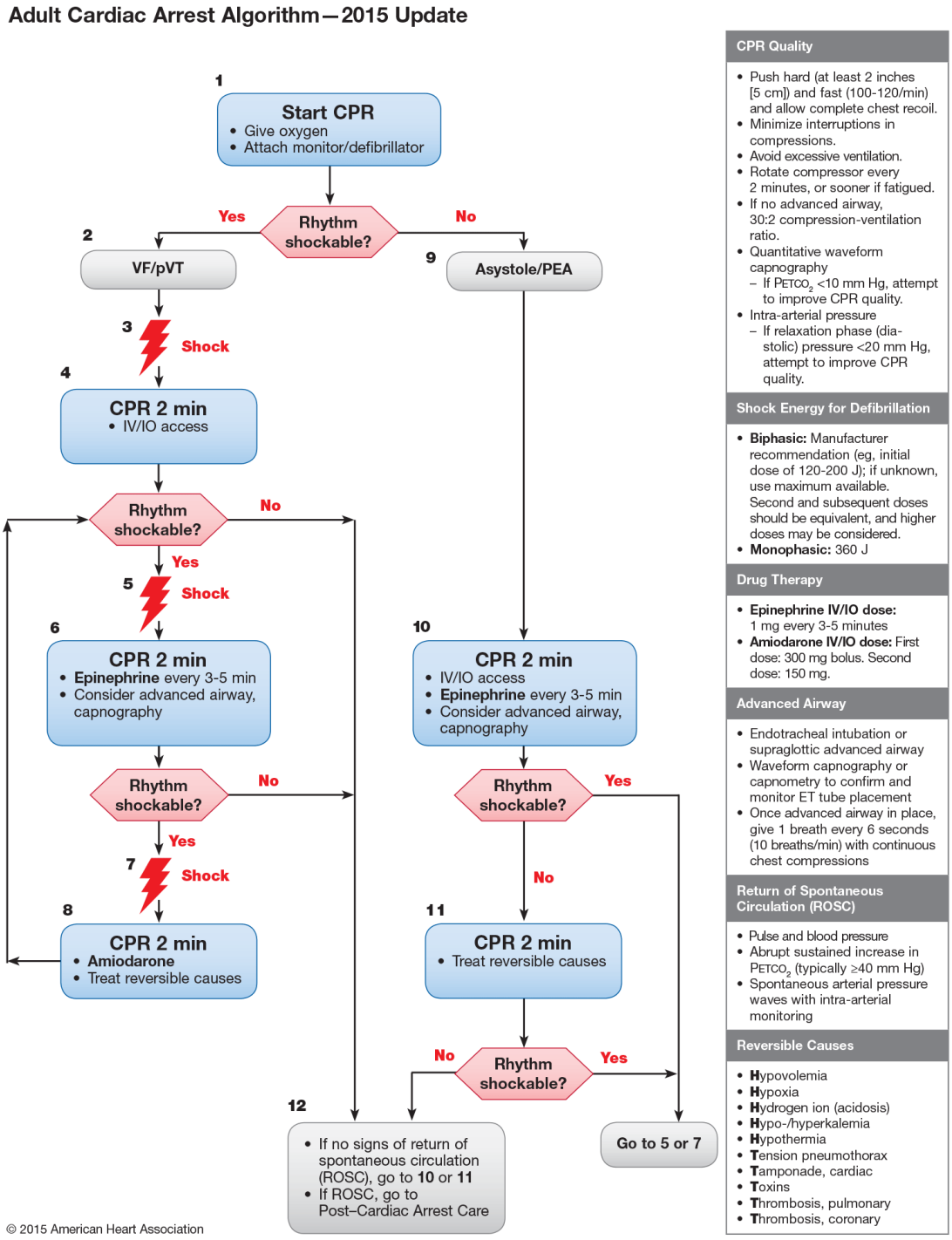
        - If roles have not been assigned amongst BSN students, then assign them immediately (CPR, code cart RN, runner, etc.)
    - Direct resuscitative orders according to ACLS algorithms
    - Direct optimal airway management (bag-mask ventilation)
    - Call for social worker, security, and additional staff if necessary
    - Communicate with team throughout code about which interventions have been completed
    - Accurately record written times of interventions
    - Lead post-simulation huddle
- Communication Techniques
    - Call-out
        - Initial verbal communication from one person to the entire team to raise awareness about a concern
    - Closed-loop communication
        - Verbal feedback to confirm team members have a synchronized understanding
    - 3 steps:
        - 1. Sender verbalizes message by "call-out" to entire team
        - 2. Receiving team member accepts message and acknowledges receipt
        - 3. Sender confirms the message has been received and correctly understood (Burke et al., 2004)
- ACLS Algorithms

- Review ACLS algorithms, medications, appropriate doses, and common dysrhythmias
- Print and bring them into the IPE simulation for reference

- ACLS Algorithms

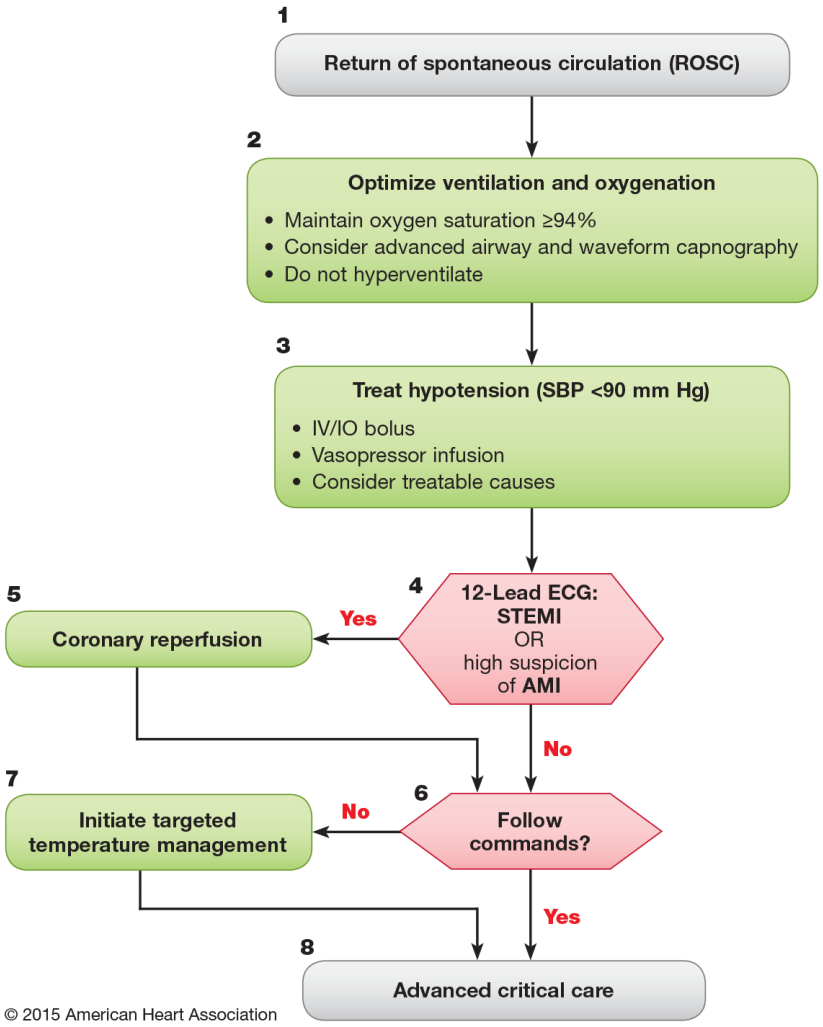



(Mark et al., 2015)




(Mark et al., 2015)

## Adult Immediate Post–Cardiac Arrest Care Algorithm—2015 Update




**Doses/Details**

**Ventilation/oxygenation:** Avoid excessive ventilation. Start at 10 breaths/min and titrate to target $P_{ETCO_2}$ of 35-40 mm Hg. When feasible, titrate $F_{IO_2}$ to minimum necessary to achieve $Sp_{O_2}$ ≥94%.

**IV bolus:** Approximately 1-2 L normal saline or lactated Ringer's

**Epinephrine IV infusion:** 0.1-0.5 mcg/kg per minute (in 70-kg adult: 7-35 mcg per minute)

**Dopamine IV infusion:** 5-10 mcg/kg per minute

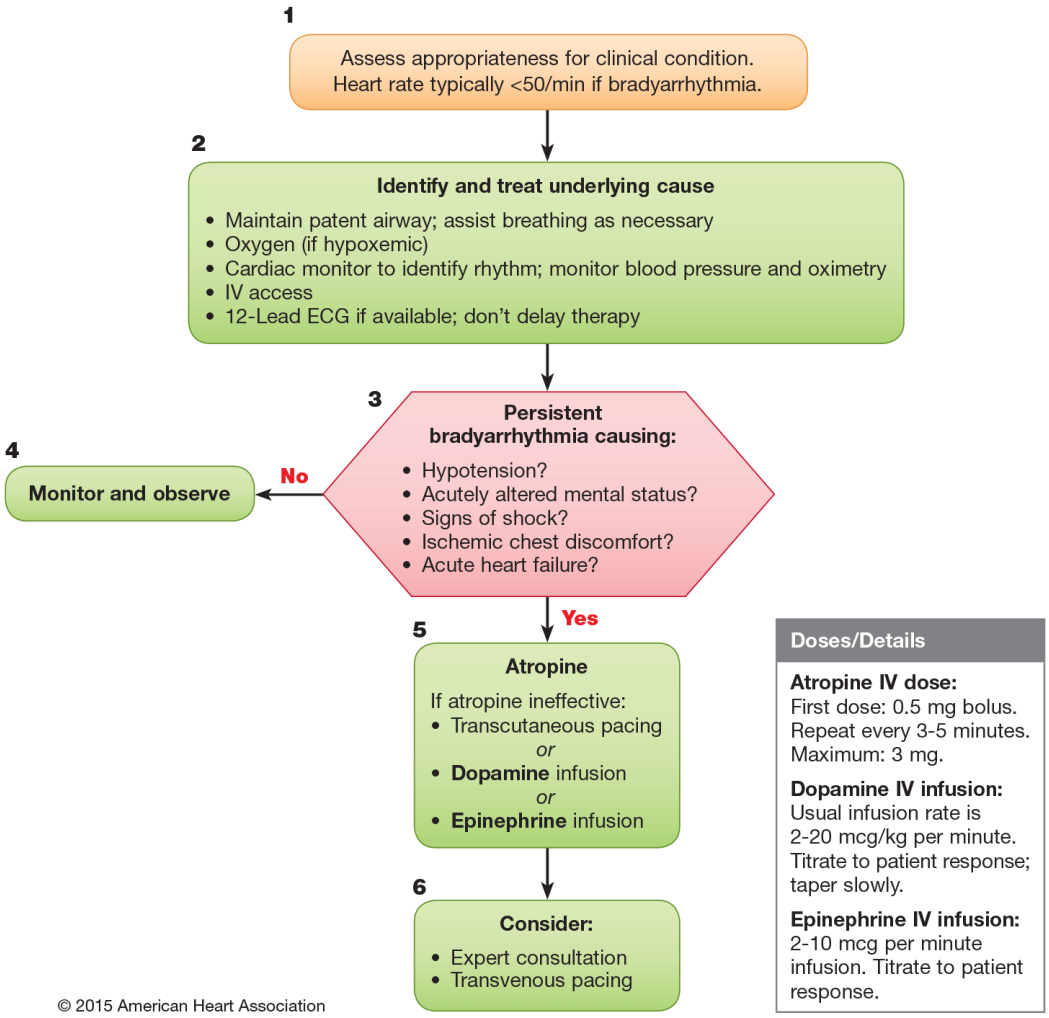
**Norepinephrine IV infusion:** 0.1-0.5 mcg/kg per minute (in 70-kg adult: 7-35 mcg per minute)

**Reversible Causes**

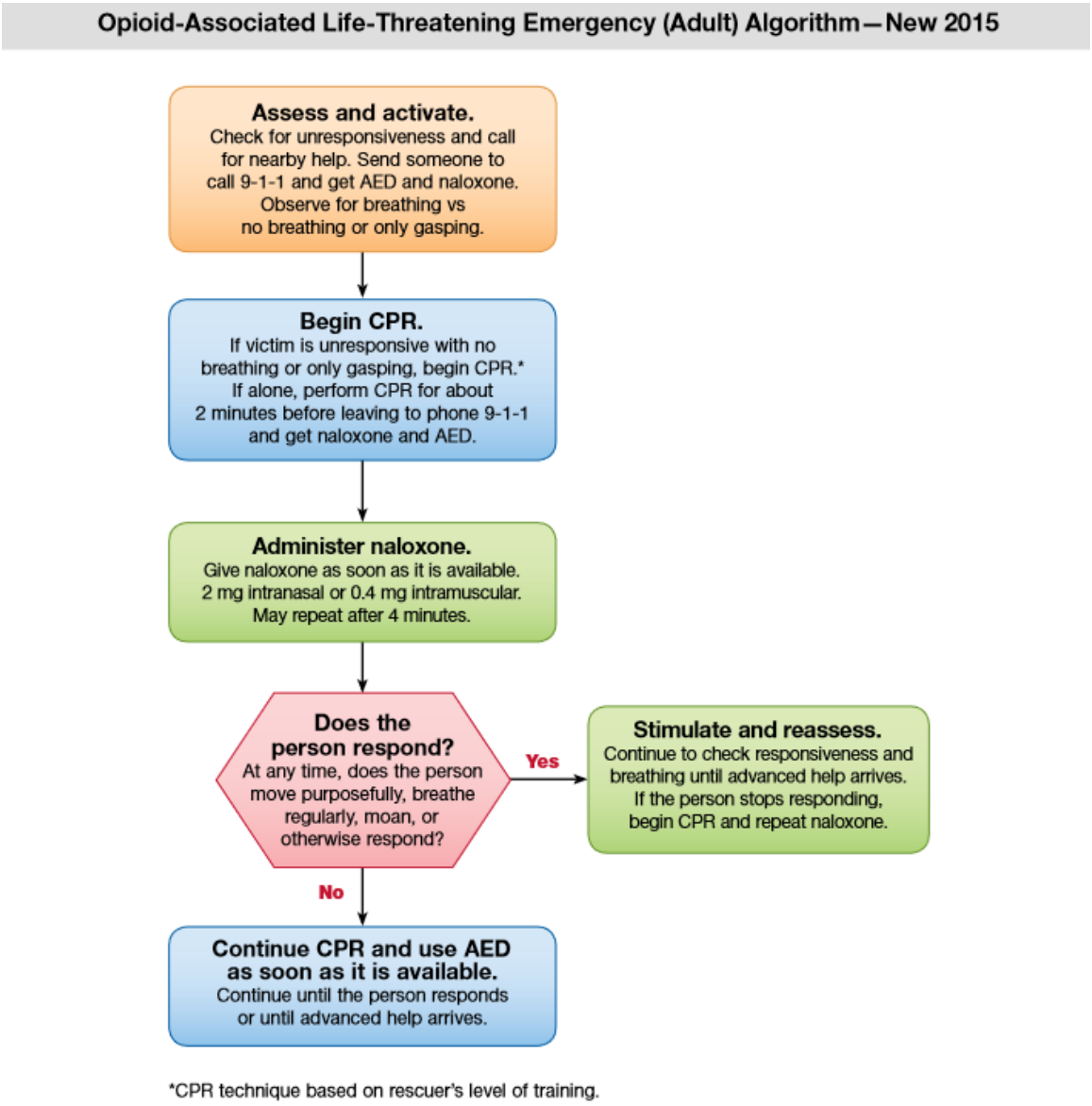
- **H**ypovolemia
- **H**ypoxia
- **H**ydrogen ion (acidosis)
- **H**ypo-/hyperkalemia
- **H**ypothermia
- **T**ension pneumothorax
- **T**amponade, cardiac
- **T**oxins
- **T**hrombosis, pulmonary
- **T**hrombosis, coronary

(Mark et al., 2015)

## Adult Bradycardia With a Pulse Algorithm




(Mark et al., 2015)




(Mark et al., 2015)

- APRN Student Self-study
    - Conflict resolution and de-escalation techniques (press CTRL + click link): www.health.ri.gov/materialbyothers/DeEscalatingConflictInTheHealthcareSetting.pdf
    - Self-learning and preparation for simulation day (press CTRL + click link): http://www.ric.edu/simlab/Pages/prepareforsimulation.aspx

      (Paccione, n.d.; Simulation Center and Nursing Resource Laboratory, 2017)

## Appendix I

## RHODE ISLAND COLLEGE

## Demographic Sheet

1. What is your number of years of clinical nursing experience?

2. What is the nursing specialty that you have the most experience in (ICU, medical surgical, etc.)?

## Appendix J

Table 2

*Demographic Results*

| What is the nursing specialty that you have the most experience in (ICU, medical-surgical, etc.)? | Number of participants |
|---|---|
| ICU | 9 |
| Emergency | 2 |
| Critical care | 1 |
| Medical surgical | 3 |
| Medical oncology | 1 |
| Oncology/medical surgical | 1 |
| What is your number of years of clinical nursing experience? | |
| 4 | |
| 20 | |
| 10 | |
| 5 | |
| 6 | |
| 10 | |
| 8 | |
| 12 | |
| 3 | |
| 9 | |
| 3 | |
| 6 | |
| 17 | |
| 6 | |
| 26 | |
| 12 | |
| 13 | |

## Appendix K

Table 3

*NLN Satisfaction and Self-confidence in Learning Scale Results*

| **Satisfaction with Current Learning** | **SD=1** | | **D=2** | | **UN=3** | | **A=4** | | **SA=5** | |
|---|---|---|---|---|---|---|---|---|---|---|
| | N | % | N | % | N | % | N | % | N | % |
| **Statement 1** The teaching methods used in this simulation were helpful and effective. | 1 | 6 | 0 | 0 | 1 | 6 | 10 | 59 | 5 | 29 |
| **Statement 2** The simulation provided me with a variety of learning materials and activities to promote my learning the medical surgical curriculum. | 1 | 6 | 0 | 0 | 2 | 12 | 9 | 53 | 5 | 29 |
| **Statement 3** I enjoyed how my instructor taught the simulation. | 1 | 6 | 1 | 6 | 2 | 12 | 8 | 47 | 5 | 29 |
| **Statement 4** The teaching materials used in this simulation were motivating and helped me to learn. | 1 | 6 | 1 | 6 | 2 | 12 | 8 | 47 | 5 | 29 |
| **Statement 5** The way my instructor(s) taught the simulation was suitable to the way I learn. | 1 | 6 | 0 | 0 | 2 | 12 | 8 | 47 | 6 | 35 |
| **Total Score** | 5 | 6 | 2 | 2 | 9 | 11 | 43 | 51 | 26 | 31 |
| **Self-confidence in Learning** | **SD=1** | | **D=2** | | **UN=3** | | **A=4** | | **SA=5** | |
| | N | % | N | % | N | % | N | % | N | % |
| **Statement 6** I am confident that I am mastering the content of the simulation activity that my instructors presented to me. | 1 | 6 | 1 | 6 | 2 | 12 | 10 | 59 | 3 | 18 |
| **Statement 7** I am confident that this simulation covered critical content necessary for the mastery of medical surgical curriculum. | 2 | 12 | 0 | 0 | 2 | 12 | 9 | 53 | 4 | 24 |
| **Statement 8** I am confident that I am developing the skills and obtaining the required knowledge from this simulation to perform necessary tasks in a clinical setting. | 1 | 6 | 1 | 6 | 2 | 12 | 9 | 53 | 4 | 24 |
| **Statement 9** | 1 | 6 | 2 | 12 | 2 | 12 | 7 | 41 | 5 | 29 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| My instructors used helpful resources to teach the simulation. | | | | | | | | | | |
| **Statement 10**<br>It is my responsibility as the student to learn what I need to know from this simulation activity. | 1 | 6 | 0 | 0 | 1 | 6 | 10 | 63 | 4 | 25 |
| **Statement 11**<br>I know how to get help when I do not understand the concepts covered in the simulation. | 1 | 6 | 0 | 0 | 0 | 0 | 12 | 71 | 4 | 24 |
| **Statement 12**<br>I know how to use simulation activities to learn critical aspects of these skills. | 1 | 6 | 0 | 0 | 3 | 18 | 9 | 53 | 4 | 24 |
| **Statement 13**<br>It is the instructor's responsibility to tell me what I need to learn of the simulation activity content during class time. | 2 | 12 | 1 | 6 | 2 | 12 | 7 | 41 | 5 | 29 |
| **Total Score** | 10 | 7 | 5 | 4 | 14 | 8 | 73 | 54 | 33 | 24 |

*Note:* SD = strongly disagree; D = disagree; UN = undecided; A = agree; SA = strongly agree; N = number of APRN students who chose option; % = percent of sample size who chose option

## Appendix L

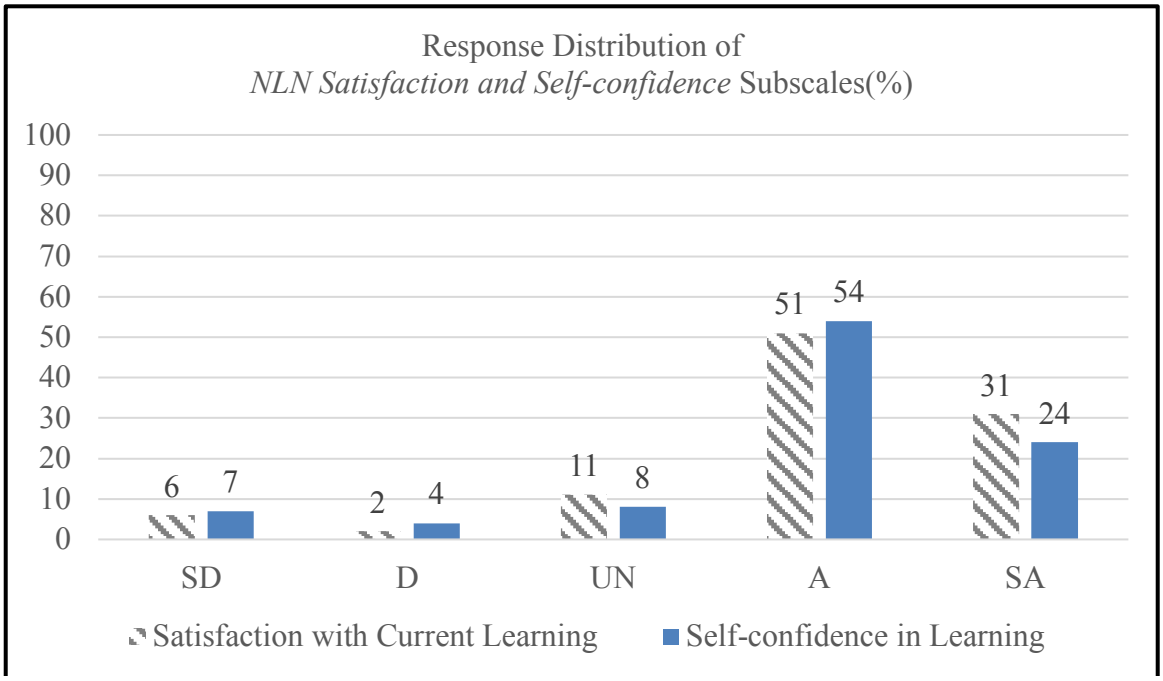



*Figure 2*. Response Distribution of *NLN Satisfaction and Self-confidence* Subscales.

SD = strongly disagree; D = disagree; UN = undecided; A = agree; SA = strongly agree;

% = percent of sample size who chose option; N = 17