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Effects of a Peer Evaluation Technique on Nursing Students' Anxiety Levels

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Effects of a Peer Evaluation Technique on Nursing Students' Anxiety Levels

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Abstract

The rigorous educational experience of nursing school can cause stress and anxiety for nursing students. Identifying techniques to help decrease stress and anxiety during a nursing program can be beneficial to the students' overall health and mental well-being as well as to their academic success. A quasi-experimental design was utilized to examine if a peer evaluation technique (PET) during clinical skill practice sessions decreases anxiety prior to the students' skill performance evaluation with nursing faculty. The State Trait Anxiety Inventory questionnaire was utilized to measure anxiety levels. The difference in post state anxiety scores between the control group ($M = 44.6$, $SD = 13.4$) and the experimental group ($M = 39.4$, $SD = 9.2$) did not indicate statistical significance; $t(42.6) = -1.6$, $p = .12$. A relationship was not found between state anxiety levels prior to skill performance evaluation with nursing faculty and participant characteristics such as age, gender, overall grade point average, ethnicity, or previous certification or licensure. Several limitations included a small convenience sample, lack of ethnic diversity among participants, limited timeframe, and possible sharing of experiences between participants. Future research opportunities to examine the effectiveness of PET include increasing sample size, increasing timeframe and number of clinical skills, and utilizing multiple sites or cohorts. This study adds to the body of literature on strategies to reduce nursing students' anxiety during clinical skill performance.

Keywords: anxiety, nursing student, clinical skills, peer evaluation

Chapter I

Introduction

The educational experience of nursing school can be challenging for students. This demanding experience can cause stress and anxiety which may have negative effects on students' performance and well-being (Melincavage, 2011). In order to provide safe, quality patient care, nursing students must master a substantial volume of content and numerous clinical skills in a short length of time. Literature reveals several aspects of nursing school that increase student stress and anxiety such as testing (Lilley, Oberle, & Thompson, 2014; Prato & Yucha, 2013; Sandahl, 2010; Shapiro, 2014) and evaluation of skill performance (Gore, Hunt, Parker, & Raines, 2011). The purpose of this study was to analyze the effect of a peer evaluation technique (PET) during clinical skill practice sessions on student anxiety prior to skill performance evaluations with nursing faculty.

It is important to consider the health and well-being of nursing students when providing a quality educational experience. The American Nurses Association (ANA) addresses the health of the nurse and how to promote healthy lifestyles (Blum, 2014). Self-care is a fundamental element all nursing students must develop to enhance their ability to provide exceptional patient care. Stress and anxiety can affect the success, and possibly the health of a student, when they matriculate into any nursing program. As educators, it is imperative to provide students with the knowledge not only to care for patients, but also to care for themselves. If a nurse cannot adequately take care of himself or herself, their ability to adequately care for others is diminished.

Problem

Experiencing stress and anxiety to a small degree can be beneficial, but increased levels of stress and anxiety can negatively impact the student's health and academic performance

(Melincavage, 2011). Stress can be defined as a physiologic, psychologic, or environmental factor that causes a physiologic and/or psychologic response in an individual (Townsend, 2015). Anxiety is the emotional response an individual can experience with a stressor (Townsend, 2015).

At the project site, a variety of clinical skills are taught throughout the nursing curriculum to equip students with the ability to provide care to patients in diverse healthcare settings. Each clinical skill is taught and demonstrated in a step-by-step fashion to facilitate students' accuracy of skill performance. Learning clinical skills requires students to practice the steps of each skill to enable them to master the ability to perform the skill appropriately. Students are required to demonstrate competency in their ability to perform a variety of clinical skills during the first and second semesters of the nursing program. For some clinical skills, student competency is assessed through skill performance evaluations by nursing faculty, which will be referred to as faculty skill evaluation for the purpose of this study. Faculty skill evaluation is a formal assessment by nursing faculty of a student's ability to accurately perform a skill. Nursing faculty utilize an evaluation form indicating critical criteria that students must demonstrate to receive a satisfactory grade signifying accuracy of skill performance. Students are required to achieve a satisfactory grade on all faculty skill evaluations to successfully complete course requirements and progress through the nursing program.

Clinical experience and clinical skill performance continue to be a source of anxiety for undergraduate nursing students enrolled in a rural college in the southeast. After obtaining Institutional Review Board (IRB) approval from the project site and teaching institutions, a faculty survey was conducted to further validate that nursing students at the project site institution experience stress and anxiety. Based on survey results, 14 out of 26 currently

employed nursing faculty reported observing signs and symptoms of anxiety as 'often' or 'always' during faculty skill evaluations such as hand tremors (71.43%, 7.14%), shaky voice (71.43%, 7.14%), sweating (35.71%, 7.14%), verbalization of feeling nervous (50.00%, 35.71%), and verbalization of feeling anxious (57.14%, 28.57%). The faculty 'strongly agreed' (42.86%) or 'agreed' (50%) that students would demonstrate improved performance if anxiety levels were decreased. Over half of the faculty surveyed 'strongly agreed' (42.86%) or 'agreed' (35.71%) that students would benefit from an anxiety reducing strategy prior to faculty skill evaluations.

The problems of anxiety and stress in the nursing student population are documented throughout the literature (Galbraith & Brown, 2011). Students enrolled in a nursing program tend to experience higher levels of stress and anxiety than students enrolled in other health related programs (Jimenez, Navia-Osorio, & Diaz, 2010). The increased levels of stress and anxiety stem from the combination of academic, clinical, and external pressures nursing students experience throughout the educational program. Clinical stressors have been identified by nursing students as the primary element of nursing programs causing higher levels of stress and anxiety (Jimenez et al., 2010). Examples of clinical stressors for nursing students included performing skills, caring for patients who are suffering, working with staff in the clinical facility, possessing decreased clinical knowledge, and ability to apply his or her learned knowledge (Jimenez et al., 2010). Outcomes of stress and anxiety in nursing students are demonstrated more frequently through psychological signs and symptoms rather than physiologic signs and symptoms (Jimenez et al., 2010). Higher stress levels can lead to poor health symptoms (headache, pain, increase heart rate) and increased psychological distress (depressive symptoms, anxiety) in relation to clinical stressors (Klainin-Yobas et al., 2013). Implementation of anxiety

reducing strategies within the nursing curriculum could counteract the negative effects of stress and anxiety among undergraduate nursing students.

When examining stress, depression, and anxiety using the Depression Anxiety Stress Scales (DASS), nursing students scored higher than the normative group ($p = .05$) (Chernomas & Shapiro, 2013). The analysis of the sample scores based on levels of severity revealed the categories of severe and extremely severe represented 10% of scores for depression, 16% of scores for anxiety, and 10% of scores for stress (Chernomas & Shapiro, 2013). Anxiety and stress for college students, including nursing students, are often related to life orientation (Warning, 2011), examinations (Lilley et al., 2014; Prato & Yucha, 2013; Sandahl, 2010; Shapiro, 2014), and clinical skills demonstration and clinical situations (Gore et al., 2011). Addressing the increased levels of anxiety in the nursing student population can be beneficial to the students' overall health and mental well-being as well as their academic success.

Background

Stress and Anxiety

Stress and anxiety can be ambiguous and difficult to separate. Bystritsky and Kronemyer (2014) discussed a “stress/anxiety complex” where both stress and anxiety are interwoven and have the ability to impact each other but are two separate entities (p. 490). To analyze the effects of anxiety and/or stress, it is important to clearly understand the association and interaction.

Stress is defined as “the brain’s response to any demand” (National Institute of Mental Health [NIMH], n.d.). Stress is described as an “autonomic state of mental or emotional strain” to a perceived challenging situation (Bystritsky & Kronemyer, 2014, p. 491). Stress can be normal or abnormal depending on the extent and timeframe the stimulus is experienced (NIMH, n.d.). Anxiety is defined as a “multisystem response to a perceived threat or danger”

("Psychological anxiety," n.d.). An individual with anxiety may experience negative emotions of pressure, uneasiness, and concern as well as physical symptoms including an increase in heart rate and respirations (Prato & Yucha, 2013).

The attributes and outcomes of stress and anxiety have similarities and differences. Both begin with a stimulus and cause autonomic changes in an individual such as increased heart rate and blood pressure, change in breathing patterns, and muscle tension (Bystritsky & Kronemyer, 2014). In addition, stress and anxiety may result in cognitive as well as behavioral changes. Stress, typically caused by environmental stimuli, can cause muscle tension and strain whereas anxiety causes apprehension and worry experienced from an imminent internal stimulus (Bystritsky & Kronemyer, 2014).

Stress and anxiety are experienced by all individuals to a certain extent. The degree of stress and anxiety determines the extent of positive or negative outcomes (Bystritsky & Kronemyer, 2014). The physiologic effects of stress can have protective as well as damaging results on one's body depending on the individual's perception and ability to adjust to a stressor (McEwen, 1998). The human body is in a constant struggle to maintain homeostasis. When a stressor is introduced, it ignites an adaptive complex mechanism to counteract any disequilibrium. The allostatic response, also known as the sympathetic nervous system response, reacts to stressors by releasing catecholamine and cortisol. Once the stressor is removed, the body normally restores homeostasis by decreasing the release of these hormones back to baseline (McEwen, 1998; Figueroa-Fankhanel, 2014).

Based on the level and length of time of the stressor(s), the outcomes of the sympathetic nervous, endocrine, and immune systems will include increases in blood pressure (Figueroa-Fankhanel, 2014; McVicar, Ravalier, & Greenwood, 2014), heart rate (Bystritsky & Kronemyer,

2014; Figueroa-Fankhanel, 2014), palpitations (Bystritsky & Kronemyer, 2014; McVicar et al., 2014), respiratory rate (Figueroa-Fankhanel, 2014), body temperature (Bystritsky & Kronemyer, 2014; Figueroa-Fankhanel, 2014), gastrointestinal disturbances (Bystritsky & Kronemyer, 2014; McVicar et al., 2014), muscle tension (McVicar et al., 2014), sweating (Bystritsky & Kronemyer, 2014; Figueroa-Fankhanel, 2014), shaking (Bystritsky & Kronemyer, 2014), and decreased immune response (McVicar et al., 2014). The elevated levels of cortisol can also decrease one's short-term memory during the interaction between stressors and the individual (McEwen, 1998).

Stress and anxiety outcomes extend beyond the physiological effects. Cognitive, emotional, and behavioral responses occur when stress and anxiety are experienced (Figueroa-Fankhanel, 2014). Cognitive responses to stress and anxiety may include absentmindedness, distractibility, and an inability to make adequate decisions (Figueroa-Fankhanel, 2014). Emotional responses present as changes in emotional states both verbal and nonverbal. Behavioral responses to elevated levels of stress and anxiety can be expressed in emotional outbursts, changes in eating behaviors, and/or decisions to increase exercise (Figueroa-Fankhanel, 2014).

The effects that stress and anxiety have on a person depend on the individual's coping abilities, the timeframe of the stimulus, the degree of threat the individual perceives, and the individual's prior experiences (Bystritsky & Kronemyer, 2014). The *Stress in America 2014* report found Americans rated their stress levels as 4.9 on a scale of 1 to 10 with 1 indicating lowest level of stress and 10 indicating highest level of stress (American Psychological Association [APA], 2015). This report reveals that stress levels are decreasing among adults between 2007 and 2014, but 75% of Americans report having at least one symptom of stress

within the past year. Millennials, ages 18 to 34 years, reported higher levels of stress, a score of 5.5, than the overall adult stress score with 82% experiencing at least one symptom of stress in a month (APA, 2015). According to the NIMH (n.d.) 18.1% of adults suffer from an anxiety disorder such as General Anxiety Disorder, Panic Disorder, or Social Anxiety Disorder (Social Phobia) with the average onset age of 11 years.

State and Trait Anxiety

Anxiety can be described in terms of state anxiety and trait anxiety. Spielberger, Gorsuch, Lushene, Vagg, and Jacobs (1983) described the concept of state anxiety as a present condition that can activate the autonomic nervous system and produce subjective symptoms such as “feelings of tension, apprehension, nervousness, and worry” (p. 4). State anxiety is further described as the short-lived response to a stressor (Hatfield, 2014). The concept of trait anxiety is described as the personal characteristics of an individual that influence the degree to which a situation will increase one’s state anxiety or reaction to stimuli (Spielberger et al., 1983). Hatfield (2014) further explained trait anxiety as a person’s predisposition to experience state anxiety.

Peers and Peer Evaluators

Multiple definitions of a peer and peer evaluator are utilized throughout the literature. A peer is defined as someone “who belongs to the same age group or social group” or someone “of equal standing with another” (“Peer,” n.d.). In a nursing program, peers and peer evaluators can be defined as students within the same course or cohort having similar levels of expertise (Cushing et al., 2011; Kim-Godwin et al., 2013). Peers and peer evaluators can also be defined as students within the same nursing program but having different levels of expertise (Himes & Ravert, 2012; Young et al., 2014). For the purpose of this study, peers and peer evaluators are

defined as nursing students within the same nursing course possessing equivalent levels of expertise in ability to perform clinical nursing skills.

Peer Assessment

Peer assessment is defined as a technique to allow learners to evaluate fellow peer learners in a specified situation or assignment (Topping, 2009). The use of a peer assessment technique may take many forms such as peer evaluation of written assignments, peer evaluation of presentations, or peer evaluation of skill performance. Several benefits were identified through the incorporation of a peer assessment technique such as an avenue for plentiful feedback, an increase in knowledge for all learners involved, and improvements in the areas being assessed (Topping, 2009). With all techniques, there are negative aspects to consider. A student's ability to receive the feedback from a peer must be addressed in order for the technique to decrease rather than increase anxiety (Topping, 2009). The implementation of a peer assessment technique must include adequate orientation to the process where all students are knowledgeable of the guidelines and expectations (Topping, 2009).

Purpose

The purpose of this translational research and clinical project was to determine if nursing students' participation in a PET had an effect on students' anxiety levels prior to faculty skill evaluations at a rural state college in the southeastern United States. The project's aim was to investigate the effectiveness of a PET in decreasing anxiety in nursing students.

Clinical Questions

Clinical Question 1. Is there a difference in state anxiety scores prior to faculty skill evaluation among undergraduate nursing students participating in a PET compared to nursing students participating in traditional practice sessions?

Clinical Question 2. Is there a relationship between state anxiety scores prior to faculty skill evaluation among undergraduate nursing students and age in years?

Clinical Question 3. Is there a relationship between state anxiety scores prior to faculty skill evaluation among undergraduate nursing students and gender?

Clinical Question 4. Is there a relationship between state anxiety scores prior to faculty skill evaluation among undergraduate nursing students and overall grade point average (GPA)?

Clinical Question 5. Is there a relationship between state anxiety scores prior to faculty skill evaluation among undergraduate nursing students and ethnicity?

Clinical Question 6. Is there a relationship between state anxiety scores prior to faculty skill evaluation among undergraduate nursing students and previous certification or licensure?

Opportunities and Challenges

The translational research and clinical project offers multiple opportunities to nursing students, faculty, and the project site institution. The implementation of the PET has the potential to decrease nursing student anxiety in relation to faculty skill evaluation. The practice sessions for clinical skills can be enhanced through the implementation of PET by providing students with a new technique for practicing skills that could increase their learning. PET can also give students the opportunity to practice learning how to teach others and how to give feedback to a peer.

Benefits for the nursing faculty and the project site institution include the introduction of a new technique to facilitate students' learning of clinical skills. Decreasing student anxiety and promoting self-care practices to maintain physical and mental well-being through the implementation of PET could increase retention, progression, and graduation rates of nursing students. A greater retention of knowledge and an improved ability to apply content and skills in

the clinical setting while maintaining lower levels of anxiety could enable students to provide safe, quality patient care. The opportunity to increase nursing faculty's awareness of the need to address student anxiety throughout an undergraduate nursing program can be experienced through this research study. This project has the opportunity to enhance collaboration between multiple faculty and staff to provide an educational environment conducive to student learning.

Challenges to the implementation of this project may include the coordination of the number of faculty involved in the project throughout the semester. The faculty assigned to the *Foundations in Nursing* course who participate in the teaching, practice, and/or evaluation segments of clinical skill instruction must be educated on the project's purpose and design prior to the semester of implementation. A critical element for the success of the project will be continuous communication and consistency between all faculty and principle investigator (PI) during each phase of the project. The possibility of resistance from nursing faculty who may not want to implement a new technique could hinder the consistency of the clinical skill instruction and practice segments. The scheduling of faculty, participants, and lab space is a potential challenge throughout the study requiring meticulous attention by the PI and collaboration with the course and skills lab coordinators. Additional time may be required weekly for the PI, in collaboration with the skills lab coordinator, to ensure the skills labs are appropriately prepared for each skill. The funding of additional supplies for continuing PET in future semesters could be challenging in order to minimize the cost to students and the School of Nursing (SON).

Congruence with Organization's Strategic Plan

The project site institution's mission statement incorporates innovative teaching strategies to engage learning by utilizing critical thinking and problem solving while being committed to the excellence of education. The project site's SON mission is to facilitate the

student's learning of knowledge and skills to enable them to provide safe, quality patient care. This translational research and clinical project will incorporate the project site institution and SON's mission by examining the effects of an anxiety reducing technique on students' anxiety levels related to faculty skill evaluation. Identifying and integrating an anxiety reducing technique into the nursing curriculum benefits the overall project site's mission of the SON to facilitate nursing students' learning and application of knowledge and skills at the patients' bedsides. Preparing nursing students prior to evaluations and clinical settings is imperative to maintain a high standard of quality patient care.

Chapter II

Literature Review

The literature review focused on the best practices for decreasing stress and anxiety in undergraduate nursing students during clinical skill performance and evaluation. Using CINAHL Plus Full Text, MEDLINE, MEDLINE Plus Text, and PsycARTICLES, a search was conducted to locate articles pertaining to anxiety among nursing students and stress reducing strategies in relation to clinical skill performance. Searches were limited to research-based articles dating from 2010 to present. The search utilized key words and phrases such as anxiety in college and nursing students, stress in college and nursing students, academic anxiety, fundamental nursing skills, nursing skills evaluation, peer feedback, peer evaluation, peer assessment, health outcomes, and nursing student skill performance. The literature review identified five systematic reviews, four randomized control trials, three quasi-experimental studies, two cohort studies, and seven descriptive studies.

Stress and Anxiety in Higher Education

One's ability to adapt to the transition and demands of college influences the level of stress and anxiety that college students experience (VanKim, Toben, & Nelson, 2013). Elements of the academic experience such as mastery of large volumes of content and examinations produce the greatest amounts of stress and anxiety (King, Singh, Bernard, Merianos, & Vidourek, 2012). A systematic review using 83 articles, randomized control trials or quasi-experimental studies published between 1967 and 2010, was conducted to analyze the effectiveness of mental health promotion and prevention strategies in higher education (Conley, Durlak, & Dickson, 2013). Interventions such as psychoeducation, cognitive-behavioral, relaxation, mindfulness, and meditation were identified and further grouped into supervised

skills practice and psychoeducational for ease of analysis. Student outcomes were characterized as emotional distress, social and emotional skills, self-perceptions, interpersonal relationships, health, and academics (Conley et al., 2013). The supervised skills practice interventions were statistically significant compared to psychoeducational interventions for positive outcomes (50.9% versus 16.7%; $p < .001$; OR = 5.18). Anxiety, stress, and depression were analyzed from the emotional distress category indicating statistical significance for supervised skills practice (54.9%, 55.2%, 63.6%, respectively; $p = .901$) (Conley et al., 2013).

Regehr, Glancy, and Pitts (2013) conducted a systematic review and meta-analysis of 29 articles, published between 1981 and 2011, to examine stress reducing strategies within the college student population. The study included 25 experimental studies and seven cohort quasi-experimental studies. The meta-analysis divided the stress reducing interventions into three groups, arts-based interventions, psychoeducational interventions, and cognitive/behavioral/mindfulness-based interventions with the last group included in the meta-analysis (Regehr et al., 2013). Examples of cognitive/behavioral/mindfulness-based interventions from the various studies included controlled-breathing, muscle relaxation, cognitive restructuring, imagery, and mindfulness-based stress reduction (Regehr et al., 2013). The behavioral interventions such as controlled breathing or muscle relaxation (SDM $-.77$; 95% $[-0.97, -0.57]$; $P = 43.0\%$) and mindfulness-based interventions (SDM $-.73$; 95% $[-1.00, -0.45]$; $P = 36.9\%$) indicated improved self-reported anxiety between intervention and control groups (Regehr et al., 2013).

Lilley et al. (2014) analyzed the effects of music in relation to test anxiety and performance using a quasi-experimental design with 80 undergraduate students. The participants were randomly assigned to intervention groups. The interventions included music, calm versus obnoxious, during a test and explanation of test grade, grade consequence, which would affect or

not affect their score. The State Trait Anxiety Inventory (STAI) questionnaire and physiologic factors, such as blood pressure and heart rate, were used to measure anxiety levels. The STAI is a questionnaire that measures state anxiety levels, intensity of feelings, and trait anxiety levels, frequency of feelings (Spielberger et al., 1983). Blood pressure was significantly increased with the obnoxious music compared to calm music (Lilley et al., 2014). The explanation of test grade or the grade consequence intervention indicated elevated heart rates for those listening to obnoxious music compared to calm music (Lilley et al., 2014). Blood pressure, a physiologic symptom of anxiety, was statistically significant, however, self-reported anxiety using the STAI was not found to be significant (Lilley et al., 2014). In a similar study, Prato and Yucha (2013) analyzed the effects of biofeedback-assisted relaxation technique (BART) on nursing students' anxiety levels related to testing using a randomized control trial. Diaphragmatic breathing interventions had statistical significance for breathing change ($p = .000$), pulse ($p = .000$) and skin temperature ($p = .003$) while progressive muscle relaxation and autogenic training interventions showed statistical significance for pulse and skin temperature ($p = .000$; $p < .002$; respectively). The self-reported anxiety measures from the STAI were not statistically significant and both studies concluded bias may account for the lack of statistically significant results in anxiety levels with self-reported anxiety (Lilley et al., 2014; Prato & Yucha, 2013).

Stress and Anxiety in Nursing Student Population

The literature supports that the nursing student population experiences high levels of anxiety and the need to decrease anxiety among nursing students. The substantial volume of content and numerous skills to master in a short length of time can have adverse effects on the health and academic performance of nursing students (Chernomas & Shapiro, 2013). The clinical component within the nursing curriculum can be perceived by the student as a form of testing,

specifically the clinical skill evaluation. The majority of the research focuses on reducing test anxiety among nursing students. Strategies such as guided imagery (Bigham, McDannel, Luciano, & Salgado-Lopez, 2014), music therapy (Galbraith & Brown, 2011; Lilley et al., 2014; Shapiro, 2014), relaxation techniques (Galbraith & Brown, 2011; Prato & Yucha, 2013; Shapiro, 2014; Zargarzadeh & Shirazi, 2014), and collaborative testing strategies (Grierson, Barry, Kapralos, Carnahan, & Dubrowski, 2012; Sandahl, 2010; Shapiro, 2014) were shown to be statistically significant ($p < .05$) to decrease anxiety and/or increased performance in college and/or nursing students. Evidence of a simulated learning experience (Ballard et al., 2012), collaborative interactivity technique (Grierson et al., 2012), and deliberate practice (Oermann et al., 2011) show an increase in nursing students' ability to demonstrate clinical skill correctly. In a randomized clinical pilot study, a simulated clinical experience prior to beginning a clinical rotation had a statistically significant ($p = .01$) decrease in students' anxiety levels (Gore et al., 2011).

Bell (1991) conducted a randomized control trial to analyze the implementation of a preclinical skill evaluation on nursing students' anxiety level when performing a complex nursing skill. Based on a *t*-test analysis of the data, anxiety was decreased during skill performance; $t(28) = 2.514, p < .05$ (Bell, 1991). Anxiety was also decreased in relation to future performance of clinical skill; $t(28) = 2.124, df = 28, p < .05$ (Bell, 1991). There was no statistical significance between the groups in their reported self-confidence or performance ability (Bell, 1991).

Galbraith and Brown (2011) conducted a quantitative systematic review of 16 articles, published between 1981 and 2008, to analyze the usefulness of stress reducing interventions in nursing students and to determine where further research is necessary. The articles were

organized according to three targets: Target 1 “reduction in intensity or number of stressors”; Target 2 “cognitive reappraisal of potential stressors”; and Target 3 “more effective coping with the consequences of stress” (Galbraith & Brown, 2011, p. 714). The consistency across the studies was difficult to identify due to the diversity of interventions and outcomes. Utilizing the targets and aggregate data helped detect some consistencies between studies in areas of improvement in anxiety and measures of stress. Cognitive reappraisal and relaxation interventions were utilized more frequently throughout the studies and indicated a decrease in anxiety and stress (Galbraith & Brown, 2011).

A variety of innovative teaching strategies have become popular to enhance the academic environment and maximize mastery of content and skills for nursing students. Simulation (Ballard et al., 2012; Gore et al., 2011), peer assessment (Casey et al., 2011; Rush et al., 2012), peer feedback (Cushing et al., 2011), and deliberate practice (Oermann et al., 2011) are innovative techniques shown to improve performance, retain knowledge, and decrease anxiety in relation to the clinical situation. Oermann et al. (2011) examined the effects of a deliberate practice session, repetitive practicing and evaluation of skills, on the retention of cardiopulmonary resuscitation (CPR) skills. The quality of this study enables the learning strategy of deliberate practice to be easily adapted to a variety of skills and nursing programs to increase nursing students’ performance abilities to promote higher quality patient care.

Stunden, Halcomb, and Jefferies (2015) conducted a systematic review of eight articles to examine techniques to help reduce nursing students’ anxiety levels with clinical skill competencies. The analysis revealed four themes including anxiety about the competency, coping strategy of preparation, anxiety related to simulation, and utilization of simulation for skill competency (Stunden et al., 2015). The analysis revealed a decrease in anxiety levels and

increase in performance and confidence with simulated practice or simulations prior to clinical competencies ($p < .01$). Two studies explained an increase in students' anxiety levels may be experienced when there is not enough practice for adequate preparation of skill performance (Stunden et al., 2015).

Bremner, Aduddell, and Amason (2008) conducted a randomized control trial to evaluate nursing students' anxiety levels after implementing a human patient simulator session prior to clinical experience. The anxiety levels were statistically significant with the control group having higher levels of anxiety than the experimental group (Bremner et al., 2008). The use of simulation was further analyzed by Dearmon et al. (2013) in a quasi-experimental design evaluating the effects of a simulation session on stress, anxiety, and confidence levels. Anxiety levels decreased ($p < .001$) and self-confidence levels increased ($p < .001$) supporting the use of simulation prior to clinical experience (Dearmon et al., 2013).

Peer Techniques

The techniques of peer evaluation, peer feedback, and peer assessment were identified in the current literature. Peer feedback using the objective structured clinical examination (OSCE) revealed positive support from students in regards to performance expectation, but identified the need for further study with implementation of a peer feedback model specifically to ensure all participants were educated on the feedback tools (Cushing et al., 2011). Peer assessment technique, using a qualitative study, revealed a valuable tool for engaging students and meeting the learning needs such as strengths and weaknesses of nursing skills (Casey et al., 2011; Kim-Godwin et al., 2013; Rush, Ooms, Marks-Maran, & Firth, 2014).

Cushing et al. (2011) conducted a quasi-experimental study to examine the effects of peer feedback on clinical skill learning. Two studies were conducted on the same sample. The

first study did not provide subjects with information on how to give feedback or details about the simulation which was included in the second study. The results indicated a statistical significance for peer feedback from tutors ($p < .01$) and need for increased depth of peer feedback ($p < .05$). During the first phase of the study 84% of participants rated the peer feedback as not being an aid to learning whereas in the second study 48% of participants rated the peer feedback as not being an aid to learning and 52% agreed or strongly/agreed peer feedback was an aid to learning ($p < .01$) (Cushing et al., 2011).

Grierson et al. (2012) conducted a pre- and post-test design to evaluate collaborative feedback on clinical skill performance in nursing students utilizing three different intervention groups. The intervention groups were defined by the authors as a) expert observation (EO) where students observed an expert performing a skill, b) expert and self-observation (ESO) where students viewed an expert performing a skill and then critiqued a recording of himself or herself performing the skill, and c) expert, self and peer observation group (ESPO) where students viewed an expert performing a skill, critiqued a recording of himself or herself performing the skill, and received feedback from a peer on the recording of skill performance. Skill demonstration improved in all groups, but significant difference was found in the ESPO group between their post- and pre-test performances (Grierson et al., 2012). Clinical skill demonstration was significant ($p = .004$) between ESPO and ESO group compared to the expert only observation group indicating a positive benefit for learning clinical skills using a collaborative feedback technique (Grierson et al., 2012).

Rush et al. (2012) conducted a qualitative evaluative study to examine student perceptions of the implementation of a peer assessment clinical skill intervention (PAC). A framework method analysis enabled the identification of six themes from the qualitative data

which include general statements of PAC, value of PAC, skills developed during PAC, impact of PAC, value of teaching others, and improvements in PAC. Key strengths of the study included the student perspectives of the intervention through questionnaires and direct quotes, clear display of results for the reader, and clinical significance drawn from the results. Through the design and analysis of the data, the results support the implementation of peer assessment interventions to help facilitate students' clinical skill learning across nursing programs.

Stone, Cooper, and Cant (2013) conducted a systematic review of 18 articles, published between 2000 and 2010, to analyze the effects of peer learning in nursing education. Peer learning was implemented in forms of peer coaching, peer learning, role play, peer tutoring, problem-based learning, cooperative learning, and peer group experience. Stone et al., 2013 revealed the use of peer techniques encouraged independence, increased knowledge and critical thinking, promoted confidence, and decreased anxiety. Young, Montgomery, Kearns, Hayward, and Mellanby (2014) conducted a quasi-experimental study to evaluate the perceived benefits of the use of a peer-assisted learning technique for clinical skill evaluation. Two main themes emerged from the students receiving the intervention which include increase in confidence level of skill performance and the value of the peer feedback (Young et al., 2014).

The current research lacks a comparative analysis between different techniques to demonstrate one approach over another as more beneficial for decreasing nursing students' anxiety. The majority of the studies are quantitative or quasi-experimental which address anxiety reduction techniques related to test anxiety (Bigham et al., 2014; Lilley et al., 2014; Prato & Yucha, 2013; Sandahl, 2010; Zargarzadeh & Shirazi, 2014). Several qualitative studies specific to the use of a peer technique identify value for the student, but lack the connection between decreasing anxiety in perceived high anxiety situations. Evidence supporting techniques to

decrease testing anxiety and clinical skill anxiety provided the PI with the knowledge to further develop and analyze this research topic.

The literature review revealed strategies for decreasing stress and anxiety in undergraduate nursing students during clinical skill performance and evaluation. It is important for nurse educators to acknowledge that anxiety and stress can negatively influence students' ability to apply and demonstrate knowledge at their optimal level (Chernomas & Shapiro, 2013). Identifying strategies to help decrease anxiety for students in perceived high-level anxiety situations can facilitate success and overall well-being for students (Stark, Hockstra, Hazel, & Barton, 2012). It is imperative for nurse educators to equip nursing students with strategies to cope with anxiety to enable them to maintain their health and provide the best care possible for patients (Stark et al., 2012).

Theoretical Framework

Selye's Stress Response Theory, describing the effects stress has on an individual, guided this translational research and clinical project to promote wellness and prevent illness among nursing students. The General Adaptation Syndrome (GAS) utilizes three phases to describe the stress response: alarm reaction, resistance stage, and exhaustion stage (Selye, 1956). The premise of Selye's theory lies in the understanding that a stressor is a stimulus that affects a person physiologically and/or psychologically producing a change in the homeostasis of the individual. The theory supports there is a normal response to a stressor where the individual is able to adapt and maintain homeostasis. The individual remains in homeostasis until the stressor is greater than the individual's ability to adapt (Selye, 1956). During the alarm reaction, an individual experiences an internal or external stimulus activating the autonomic nervous system producing physiologic changes often referred to as "fight-or-flight reaction" (Johnson &

Johnson, 2010, p. 219). The release of chemical messengers, such as “adrenaline and corticosterone,” produce multiple responses, for example increase in respirations, heart rate, blood pressure, and alertness (Johnson & Johnson, 2010, p. 219). An individual can experience heart palpitations and/or chest pain, headache, and abdominal cramping (Selye, 1956). The resistance stage follows the alarm reaction where the body begins to adjust to the stressor(s). The first two phases can occur without an individual continuing in a negative state where homeostasis is restored in a timely manner resulting in a normal response to a stressor (Johnson & Johnson, 2010). The exhaustion stage occurs when the stressor(s) continue over an extended period of time or the stressors are too overpowering for the individual to control (Selye, 1956). This stage is when the individual cannot maintain homeostasis and negative health outcomes occur (Selye, 1956).

Selye’s theory is applicable to the implementation of an anxiety reducing intervention for nursing students. The stress of learning and demonstrating a clinical skill initiates the alarm reaction which can benefit the student with an increase in alertness (Selye, 1956). With progression into the resistance phase, the student would be attempting to adapt to the stress and return to homeostasis where breathing and heart rate return to baseline. The student’s ability to react to a stressor, but quickly return to baseline was the essence of this research study. The exhaustion stage can occur with nursing students who do not have the ability to adapt to the additional stressors of nursing school. The aim of the project was to provide students with a strategy that had the potential to decrease the continuous and overwhelming stressors related to faculty skill evaluation to lower their anxiety levels and promote mental well-being.

Neuman’s System Theory, describing the individual and/or system as a holistic, health-oriented perspective where stressors are experienced from internal and external sources, guided

this translational research and clinical project to promote wellness and prevent illness (Neuman, 1989). High anxiety levels can contribute to negative health outcomes for the individual and/or system. Neuman's theory is applicable to the study of anxiety reducing interventions within the student nurse population as it correlates to stressors, lines of defense, protective mechanisms, relationships of variables that influence responses, and the nurse's role in prevention and health promotion. Neuman's theory supports an anxiety reduction technique when an individual perceives the situation to be demanding. Faculty skill evaluations are considered the stressor that can affect the lines of defense. The lines of defense, such as "psychological, physiological, developmental, sociocultural, and spiritual," are the barriers that protect the individual from stressors and enable the individual to maintain balance (Neuman, 1989, p.17). When a stressor breaks the flexible line of defense, the individual's normal line of defense can be compromised and the impact of the stressor can be positive or negative based on his or her coping mechanism (Neuman, 1989). The project implemented a stress reduction strategy to help decrease anxiety enabling the student to maintain a balance between his or her lines of defense. The ultimate goal of the project, using Neuman's System Theory, was to provide the student with an increased awareness of the importance of wellness by engaging in stress and anxiety reduction strategies during nursing school and as they transition into practice.

Chapter III

Methodology

The translational research and clinical project was implemented at a rural state college nursing program in the southeastern United States. The SON currently offers an Associate of Science in Nursing (ASN) degree as the entry-level program into nursing practice and Registered Nurse (RN) to Bachelor of Science in Nursing (BSN) degree program. The ASN program averages 200-240 nursing students during the four semesters of the nursing program. The SON admits an average of 60-70 ASN students into the program each fall and spring semester. The SON employs 21 full-time nursing faculty, including the PI, and six part-time clinical instructors.

Sample

The participants were recruited from a convenience sample of nursing students enrolled in their first clinical course, *Foundations in Nursing*, of the nursing program during the spring 2016 semester. The inclusion criteria for the participants included subjects over the age of 18 years, currently enrolled in the *Foundations in Nursing* course, and willingness to participate as evidenced by the signing of the informed consent. The exclusion criteria included subjects under the age of 18 years and not currently enrolled in the *Foundations in Nursing* course.

Protection of Human Subjects

The Institutional Review Boards from the project site and teaching institutions approved this research project. Informed consent was obtained from all participants prior to the start of the research study (see Appendix A). The PI provided an oral explanation of the purpose of the study during a regularly scheduled class session prior to the start of the project. During this session, students were notified that participation or nonparticipation in the study would have no effect on their *Foundations in Nursing* course grade or status in the nursing program. Each participant

received a copy of the consent form which contained the PI's contact information to allow participants to contact the PI at any time during the study.

Data Collection

Data was collected from nursing students who consented to participate in the study at the beginning and prior to the last skill included in the study. Baseline data was collected using a demographic questionnaire and the STAI questionnaire on the first day of the project during a regularly scheduled class.

Anxiety levels were collected to answer clinical question one which examined if there was a difference in state anxiety scores prior to faculty skill evaluation among undergraduate nursing students participating in a PET compared to nursing students participating in traditional practice sessions. Baseline trait and state anxiety scores were measured using the STAI questionnaire at the beginning of the project. The STAI questionnaire was completed by participants to obtain comparison anxiety scores prior to the faculty skill evaluation of the fourth clinical skill in the project, the urinary catheterization clinical skill. The participants arrived 15 minutes prior to their scheduled urinary catheterization faculty skill evaluation to complete an online STAI questionnaire through SurveyMonkey.

At the beginning of the project participants completed a demographic survey that included age, gender, overall GPA, ethnicity, and previous certification or licensure (see Appendix B). The demographic data and comparison anxiety scores were used to answer clinical questions 2-6, is there a relationship between state anxiety scores prior to faculty skill evaluation among undergraduate nursing students and participant characteristics such as age in years, gender, overall GPA, ethnicity, and previous certification or licensure.

Instrument

The STAI questionnaire was utilized to measure students' anxiety levels. The STAI questionnaire is composed of two parts, the State Anxiety scale, STAI Form Y-1, and the Trait Anxiety scale, STAI Form Y-2 (Spielberger et al., 1983). Each form contains 20 questions using a four point Likert scale with the State form measuring one's current intensity of feelings and the Trait form measuring one's predisposition or tendency to experience feelings of anxiety (Spielberger et al., 1983). The values of the questionnaire are added together to obtain a score ranging between 20-80 for each form, STAI Form Y-1 and STAI form Y-2, with the higher the value indicative of experiencing more anxiety (Julian, 2011; Spielberger et al., 1983). College students' mean normative value for State anxiety for females was 38.76 (SD = 11.95, $\alpha = .93$) and males was 36.47 (SD = 10.02, $\alpha = .91$). The mean normative value for Trait anxiety for females was 40.40 (SD = 10.15, $\alpha = .91$) and males was 38.30 (SD = 9.18, $\alpha = .90$) (Spielberger et al., 1983). The cut-off point, 39-40, was used to determine if a person is anxious (Julian, 2011).

Reliability and validity have been established for the STAI questionnaire. The reliability coefficient was .30 for females and .47 for males and the Cronbach's alpha was .93 for State anxiety and .90 for Trait anxiety (Spielberger et al., 1983). The authors determined the test-retest median reliability was .33 for State anxiety and .73 - .86 for Trait anxiety. The State anxiety test-retest reliability was found to be dependent on the situation in which participants were tested revealing a lower reliability coefficient than Trait anxiety (Spielberger et al., 1983). The internal consistency reliability was similar for Trait anxiety ($r = .57$) and State anxiety ($r = .59$), indicating items measuring similar concepts produce comparable scores (Spielberger et al., 1983).

The Trait anxiety questionnaire correlates highly ($r = .73 - .85$) with other anxiety questionnaires such as the IPAT Anxiety Scale and the Taylor Manifest Anxiety Scale (Spielberger et al., 1983). The authors described the State and Trait anxiety questionnaires correlate under varying situations of stress for males ($r = .47$) and females ($r = .30$) establishing the instrument's construct validity. The correlation between the state and trait anxiety scales for the college student population revealed a correlation of .65 for males and .59 for females indicating the scales were correlated and each measured a separate construct of anxiety further supporting the construct validity of the STAI (Spielberger et al., 1983).

Project Design

The translational research and clinical project utilized a quasi-experimental design to determine if a PET during clinical skill practice sessions had an effect on nursing students' anxiety prior to faculty skill evaluation. In addition, this project examined the relationship between state anxiety prior to faculty skill evaluation and age, gender, overall GPA, ethnicity, and previous certification or licensure. *Figure 1* visually describes the phases of the project design. The project was implemented within the *Foundations in Nursing* course in the first semester of the nursing program. The *Foundations in Nursing* course is the first clinical course of the nursing program introducing the fundamental concepts and clinical skills necessary to care for adult patients. The skill laboratory hours within the course requirements included two separate three hour sessions for practicing each skill in the project. The four clinical skills included in the project were oral medication administration, parenteral medication administration, sterile dressing change, and urinary catheterization. The participants remained in their registered lab sections for the instruction and initial practice sessions. Participants were randomly assigned to the control group and experimental group for the practice sessions in which

the intervention occurred. At the beginning of the project, the participants completed the baseline data which included the demographic survey and the STAI questionnaire. Prior to the faculty skill evaluation for the urinary catheterization clinical skill, all participants completed the STAI questionnaire for comparison data.

The PI taught segment one for each of the four clinical skills and was the primary faculty member throughout segments two and three. The nursing faculty evaluating students' performance participated in the teaching and practice sessions for the clinical skill to ensure consistency of the specific steps for the skill. The PI did not evaluate any students on skill performance throughout the semester.

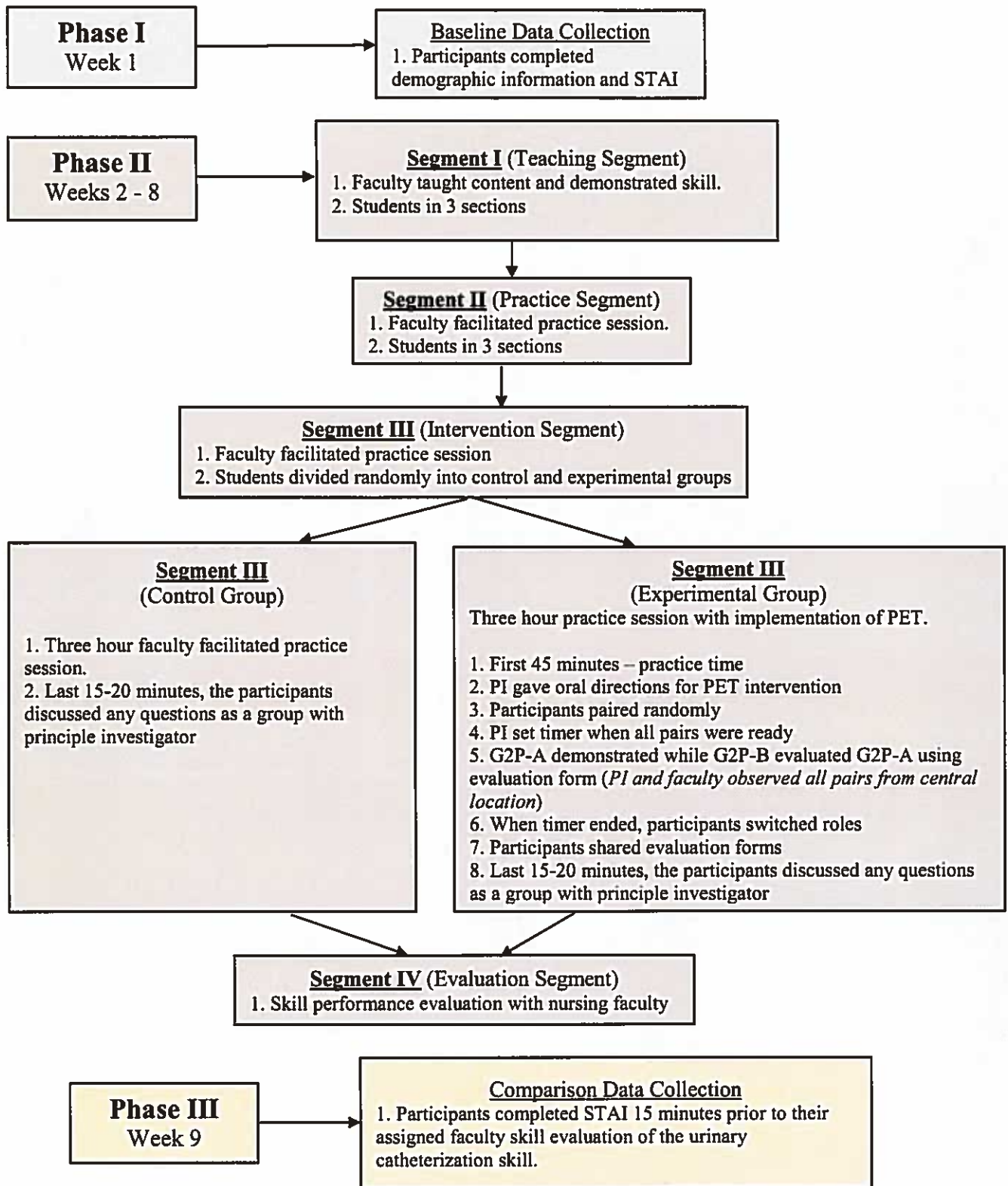


Figure 1. Flow chart of implementation of project. G2P-A – group 2 participant A; G2P-B – group 2 participant B

Intervention

The participants enrolled in the *Foundations in Nursing* course participated in four segments of clinical skill instruction for the four clinical skills included in the research project. The segments of clinical skill instruction are depicted in *Figure 2*. Segment one was defined as the teaching segment where the PI presented content related to the clinical skill and provided a thorough demonstration of the clinical skill. The practice segment, segment two, was defined as an instructor facilitated practice of the clinical skill where students practiced individually or with another student while having a faculty member available for questions and demonstrations. For segments one and two, the participants were divided in three sections prior to the start of the semester and followed the same format as outlined in previous semesters. Segment three was defined as the intervention segment of the project where participants were either in the control or experimental group. During the final segment, segment four, students were evaluated by nursing faculty on their performance of the clinical skill. The students received a satisfactory or unsatisfactory grade for their demonstration of each skill. Each clinical skill extended over an average of a two week period to complete all segments of the clinical skill instruction.

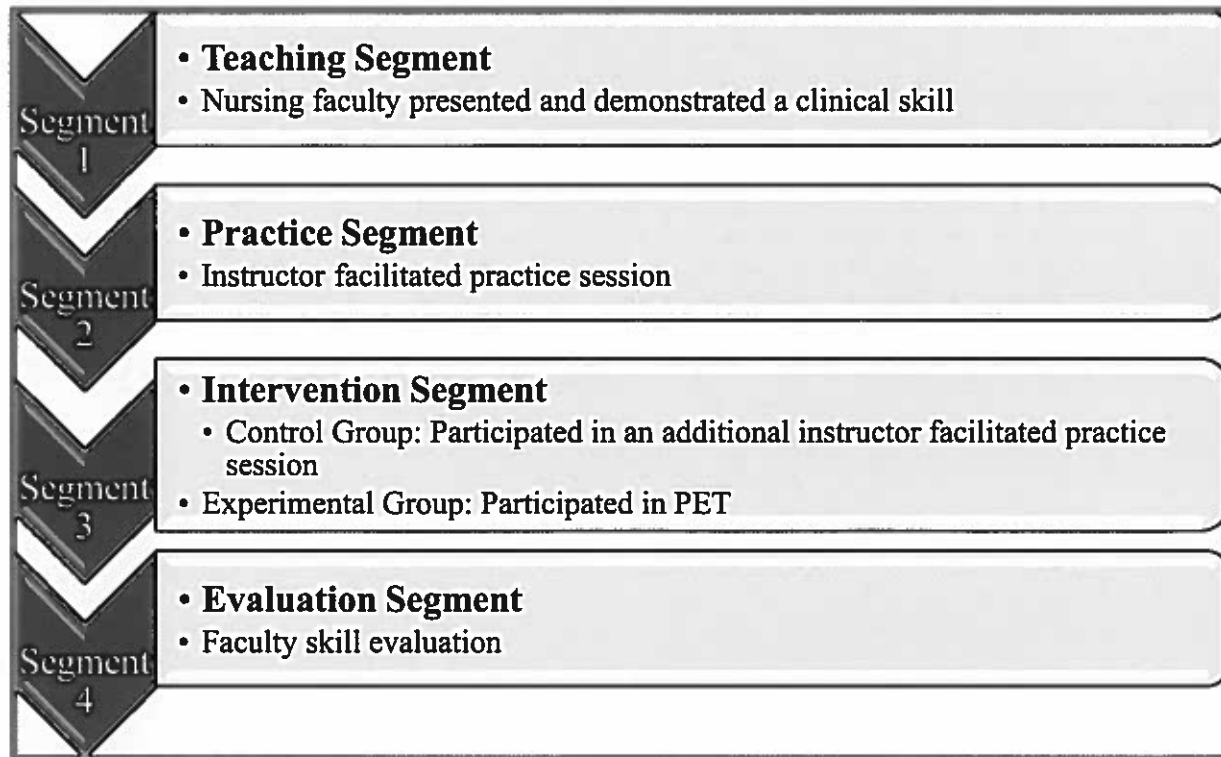


Figure 2. Description of clinical skill instruction.

Prior to the beginning of the project, students were randomly assigned to two groups for segment three. Group one represented the control group. These participants participated in a three hour practice session where students practiced the clinical skill with faculty supervision as outlined for segment two. During the last 15-20 minutes of the allotted time, the participants were given the opportunity to discuss any questions concerning the correct demonstration of the clinical skill with the PI in preparation for segment four, the faculty skill evaluation.

During segment three, group two represented the experimental group (see *Figure 3*). The PI provided oral directions to the participants and served as the facilitator of the PET intervention. These participants practiced the clinical skill in the same fashion as segment two for the first 45 minutes of the segment. After a 15 minute break, the participants were given oral

instructions pertaining to the PET, evaluation form, and timeline for the rest of the session (see Appendices C - F). Participants were randomly paired with a group two participant (G2P) -A and G2P-B during the intervention for each of the four clinical skills. The segment, at this point, simulated segment four, the faculty skill evaluation. For each pair of participants G2P-A, the peer evaluator, reviewed the evaluation form obtained from the PI while G2P-B gathered all supplies needed for the clinical skill demonstration. Once all pairs of participants were ready, a timer was set for the allotted timeframe for the clinical skill as determined by the course requirements for the faculty skill evaluation of the individual clinical skill. All pairs of participants started the PET at the same time according to the timer.

G2P-A, the peer evaluator, observed and evaluated G2P-B's ability to correctly demonstrate the clinical skill based on the evaluation form. G2P-A was directed not to prompt G2P-B during the clinical skill demonstration with verbal cues, hand gestures, or any body language cues. G2P-B was directed not to ask any questions to G2P-A, the PI, or other faculty members that were present. At the end of the allotted timeframe, G2P-B stopped and returned all supplies while G2P-A finished completing the evaluation form.

At this time, the participants in each pair switched roles. G2P-B obtained an evaluation form from the PI while G2P-A gathered equipment needed for the clinical skill. The same procedure was repeated as stated previously for G2P-A to demonstrate the skill while G2P-B evaluated. At the end of G2P-A's demonstration timeframe, G2P-A returned the supplies while G2P-B completed the evaluation form. The participants exchanged evaluation forms and were given time to read and ask any questions to their peer evaluator. The PI and other faculty were present to clarify any questions. Participants were debriefed on level of performance during the last 15-20 minutes of the segment in preparation for segment four, the faculty skill evaluation.

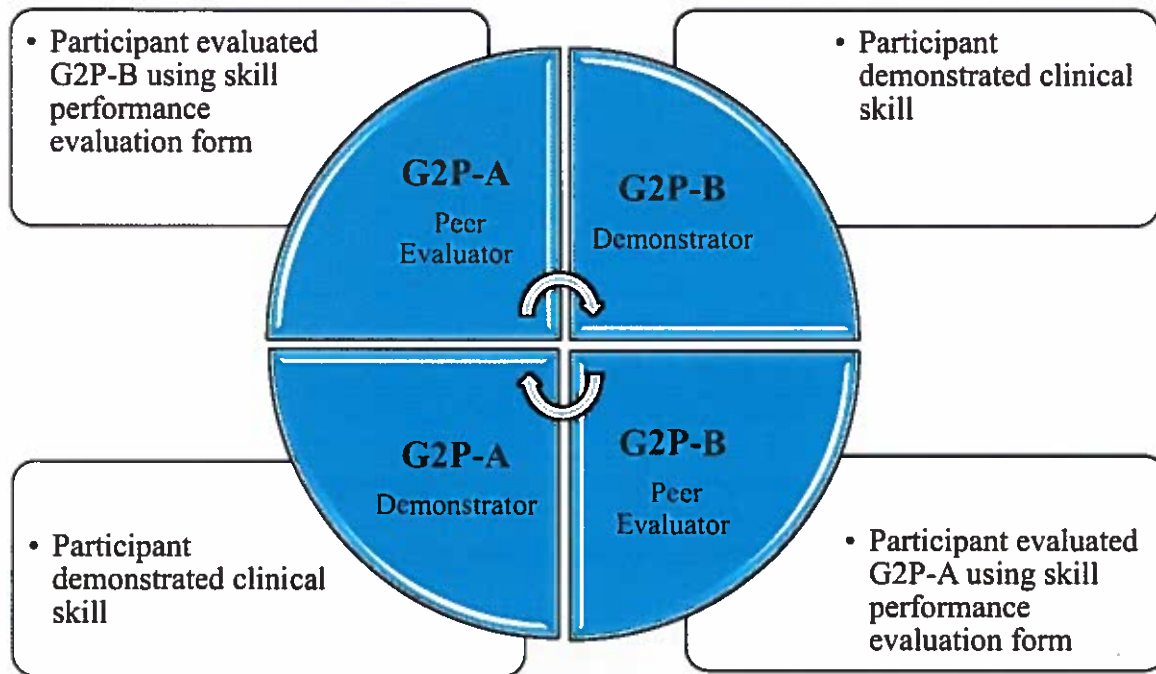


Figure 3. Description of experimental group intervention segment. Figure displays roles of each pair of Group 2 participants (G2P-A and G2P-B) during the intervention segment of Phase two of the project.

Segment four was the faculty skill evaluation that took place between two to three days after segment three was completed. The practice lab was available for all students one day between segments three and four to practice the skill. The students were assigned a designated time slot for each faculty skill evaluation. Nursing faculty evaluating students in segment four conducted the faculty skill evaluation utilizing the same procedure outlined in segment three for the experimental group.

Time Line

The project extended over nine weeks beginning the second week of February 2016 through the end of the third week of April 2016 (see *Figure 4*). Four clinical skills were included in the project, oral medication administration, parenteral medication administration,

sterile dressing change, and urinary catheterization, with state anxiety levels measured at the beginning of the project and prior to the urinary catheterization faculty skill evaluation. The first phase of the project included the collection of baseline data from all participants. The participants completed a demographic survey to include age, gender, overall GPA, ethnicity, and previous certification or licensure. Each participant completed the STAI questionnaire at the end of a lecture session prior to the first clinical skill instruction included in the research study for baseline data.

Phase two of the project was considered the implementation phase that extended over weeks 2-8. For each clinical skill included in the project, all participants participated in the outlined clinical skill instruction segments.

Phase three of the project, week nine, included the data collection with the last clinical skill, the urinary catheterization skill. The participants in both the control and experimental groups completed the STAI questionnaire 15 minutes prior to their scheduled faculty skill evaluation time for the urinary catheterization clinical skill.

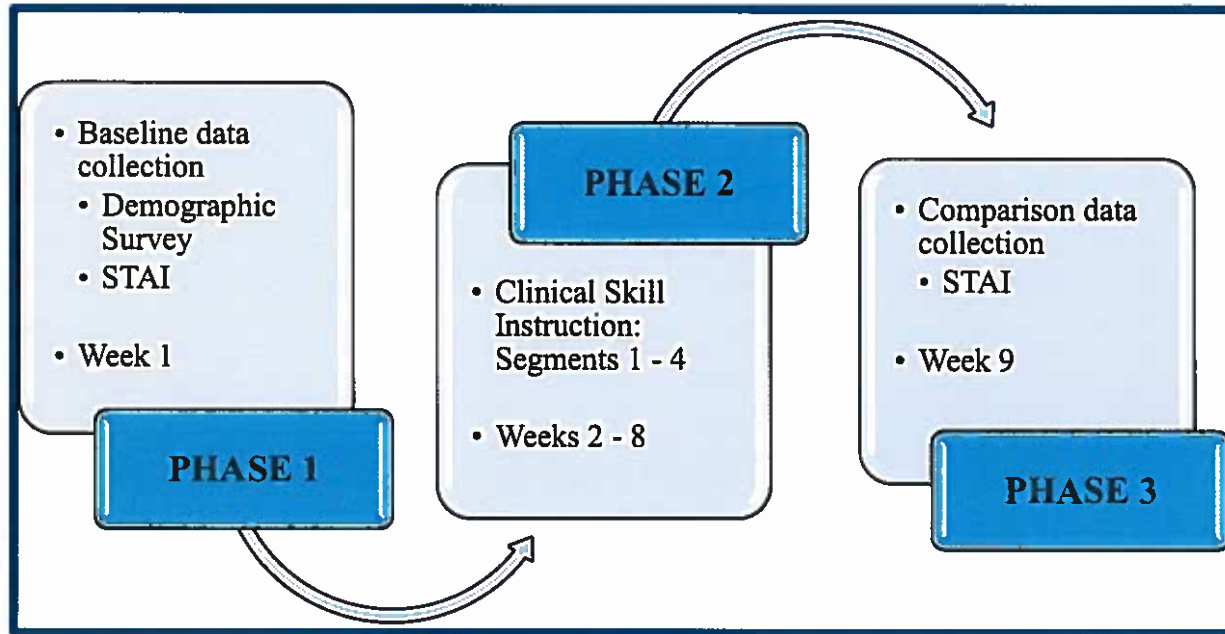


Figure 4. Timeline of project.

Feasibility

The implementation of an anxiety reducing strategy such as PET required additional lab time and space, minimal increase in faculty workload, and additional supplies from the SON. The implementation of PET was integrated into the scheduled clinical hours allotted for the *Foundations in Nursing* course. A lab schedule to accommodate PET was developed by the PI in collaboration with the skills lab coordinator, faculty course coordinator, and the Dean of the SON. The schedule of clinical lab days and times were distributed to all participants at the beginning of the semester. The cost of the STAI questionnaire for the project was feasible with a total cost of \$228 for both the baseline and comparison STAI questionnaires. The additional supplies for segment three of this project are outlined in Table 1 with an estimated cost for the SON of \$512.40. The SON incorporated the additional supply costs into the current budget from additional funds available at the time.

Table 1

Supplies and Cost for Peer Evaluation Technique

| Skill | Supplies | Cost |
|--|-------------------------------------|--|
| Oral Medication Administration | N/A | N/A |
| Parenteral Medication Administration | Alcohol Prep Pad medium, EA=10/pk | \$0.11 |
| | Insulin Syringe PA .5mL 28gx.5" | \$0.50 |
| | 3mL Syringe 22g x 1.5" | \$0.09 |
| | TB Syringe 1mL 25gx5/8" L.S. | \$0.11 |
| | Demo Dose® Multi-Strength Powder 2g | \$1.45 |
| | MONOJECT Hypodermic Needle 21gx1" | \$0.08 |
| | Sterile Dressing Change | 4 x 4 8-Ply Gauze Sterile 2's |
| ABD Pad 5" x 9" Sterile | | \$0.25 |
| NitriDerm Nitrile Surgical 7.5 PF/LF, Ea=1/Pr | | \$2.82 |
| Kendall Gauze Sponge 8ply 4" x 4" St, EA=10/Pk | | \$1.32 |
| Urinary Catheterization | | Pocket Nurse® Closed Insert Foley Tray Non-Sterile |
| Total Cost per Student | | \$17.08 |
| Total Cost for SON | | \$512.40 |
| Total Cost for STAI | | \$228.00 |
| Total Cost of Project | | \$740.40 |

Note. N/A = does not apply; SON = School of Nursing

Chapter IV

Results

The data was analyzed utilizing the Statistical Package of Social Sciences (SPSS) 23. Verification of data was conducted through the process of random verification of several entries while entering data for each variable. No discrepancies were noted in the data set. Missing data was identified for three participants on the baseline STAI questionnaire. The two participants who omitted one item on one of the forms were included in the sample after determining a “prorated full-scale score” for each participant as outlined in the STAI manual (Spielberger et al., 1983, p.12). One participant failed to answer the baseline trait anxiety questionnaire; therefore, the participant’s scores were deleted from the data set prior to data analysis (Spielberger et al., 1983). Descriptive and frequency statistics were utilized to determine the distribution of variables (Kim & Mallory, 2014). Homogeneity of the control and experimental groups was determined utilizing Chi-Square, Mann Whitney U, or independent samples *t*-test depending on the level of measurement of each variable (Kellar & Kelvin, 2013). Statistical significance was determined for outcomes at a level of $p < .05$ (Kellar & Kelvin, 2013).

Participant Characteristics

A total of 55 participants enrolled in their first clinical course, *Foundations in Nursing*, at a rural college in the southeast United States agreed to participate in this research study. *Figure 5* outlines the flow of participants throughout the project revealing a loss of five participants with a total of 50 participants completing the study. The participant age range was 19-51 years with the mean age of 24.5 (SD = 6.93) years. The percentage of females (90%) was considerably higher than males (10%). A lack of ethnic diversity existed in the sample with Caucasian participants accounting for 76% of the sample while African Americans, Latinos, and Asians accounting for

20%, 2%, and 2%, respectively. The majority of participants (68%) indicated not having a previous certification or licensure prior to the start of this study. A summary of participants' baseline characteristics are displayed in Table 2.

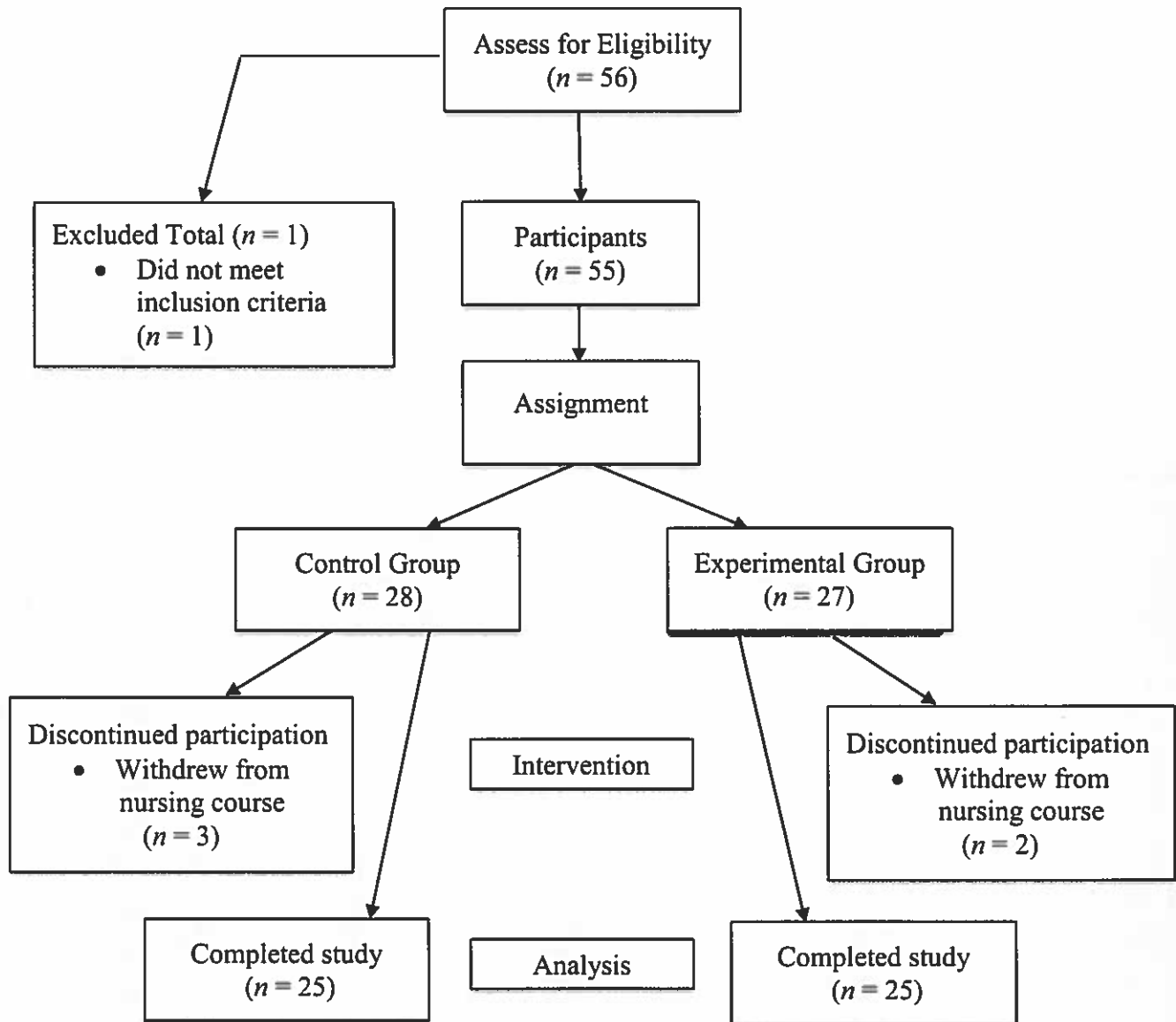


Figure 5. Participant flow chart. The flow chart illustrates the number of participants (n) within the study (American Psychological Association, 2008).

Table 2

Participant Baseline Characteristics

| Characteristic | Total Group (<i>n</i> = 50) | Control Group (<i>n</i> = 25) | Experimental Group (<i>n</i> = 25) |
|------------------------------------|---------------------------------|-----------------------------------|--|
| Trait Anxiety - Baseline | | | |
| Mean (SD) | 40.54 (11.32) | 40.04 (11.58) | 41.04 (11.26) |
| State Anxiety - Baseline | | | |
| Mean (SD) | 42.84 (12.10) | 43.80 (13.09) | 41.88 (11.21) |
| Age (years) | | | |
| Mean (SD) | 24.5 (6.93) | 24.08 (6.97) | 24.92 (7.00) |
| Gender | | | |
| Male, <i>n</i> (%) | 5 (10.0) | 2 (8.0) | 3 (12.0) |
| Female, <i>n</i> (%) | 45 (90.0) | 23 (92.0) | 22 (88.0) |
| Overall Grade Point Average | | | |
| 2.5 – 2.9, <i>n</i> (%) | 13 (26.0) | 6 (24.0) | 7 (28.0) |
| 3.0 – 3.4, <i>n</i> (%) | 14 (28.0) | 7 (28.0) | 7 (28.0) |
| 3.5 – 4.0, <i>n</i> (%) | 23 (46.0) | 12 (48.0) | 11 (44.0) |
| Ethnicity | | | |
| Caucasian, <i>n</i> (%) | 38 (76.0) | 20 (80.0) | 18 (72.0) |
| African American, <i>n</i> (%) | 10 (20.0) | 4 (16.0) | 6 (24.0) |
| Latino, <i>n</i> (%) | 1 (2.0) | 0 | 1 (4.0) |
| Asian, <i>n</i> (%) | 1 (2.0) | 1 (4.0) | 0 |
| Other, <i>n</i> (%) | 0 | 0 | 0 |
| Certification/Licensure | | | |
| Yes, <i>n</i> (%) | 15 (30.0) | 5 (20.0) | 10 (40.0) |
| No, <i>n</i> (%) | 34 (68.0) | 19 (76.0) | 15 (60.0) |

Note. *n* = number of participants; % = Percentage; SD = Standard deviation

Anxiety was measured using the STAI questionnaire for pre- and post-anxiety levels. The STAI contains two forms, the State Anxiety scale, STAI Form Y-1, and the Trait Anxiety scale, STAI Form Y-2, containing 20 Likert scale questions with a possible score of 20-80 for each individual form (Spielberger et al., 1983). The STAI reflected the degree of student self-reported anxiety in terms of state and trait anxiety. The range of baseline state anxiety scores for the sample was 22-72 while the range of baseline trait anxiety scores for the sample was 21-65. Cronbach's alpha for the baseline anxiety questionnaire for the sample was acceptable for both state ($\alpha = .934$) and trait ($\alpha = .925$) anxiety (Kim & Mallory, 2014). The range of post state anxiety scores for the sample was 22-69 while the range of post trait anxiety scores for the sample was 24-56. Cronbach's alpha for the post anxiety questionnaire for the sample was acceptable for both state ($\alpha = .949$) and trait ($\alpha = .896$) anxiety (Kim & Mallory, 2014).

Clinical Questions

Clinical Question One

Clinical question one examined if there was a difference in state anxiety scores prior to faculty skill evaluation among undergraduate nursing students participating in a PET compared to nursing students participating in traditional practice sessions. Each participant completed both pre- and post-STAI questionnaires and the groups were mutually exclusive. Baseline and post anxiety scores were normally distributed within the sample (Kellar & Kelvin, 2013). The independent samples *t*-test was utilized to answer clinical question one (Kim & Mallory, 2014). The difference in post state anxiety scores between the control group ($M = 44.6$, $SD = 13.4$) and the experimental group ($M = 39.4$, $SD = 9.2$) did not reach statistical significance, $t(42.6) = -1.6$, $p = .12$, 95% CI [-11.7, 1.4], $d = .45$.

Clinical Question Two

Clinical question two examined whether a relationship existed between age in years and post state anxiety scores. The variable of age was not normally distributed and nonparametric tests were utilized (Kim & Mallory, 2014). The control and experimental groups were comparable in relation to the variable of age based on the Mann-Whitney U analysis ($p = .42$) (Kellar & Kelvin, 2013). Spearman's Rho was utilized to evaluate if a relationship existed between age in years and post state anxiety scores (Kellar & Kelvin, 2013). A correlation was not found between post state anxiety scores and the participant characteristic of age ($r_s = -.083$, $p = .565$).

Clinical Question Three

Clinical question three examined if there was a relationship between post state anxiety scores and gender. The gender variable was nominal and frequency statistics were utilized to determine its distribution in the sample (Kim & Mallory, 2014). Pearson Product-Moment correlation was utilized to determine whether a relationship existed with post state anxiety scores and gender (Kellar & Kelvin, 2013). A correlation was not found between post state anxiety scores and the participant characteristics of gender ($r = -.063$, $p = .665$).

Clinical Question Four

Clinical question four examined if a relationship existed between post state anxiety scores and overall GPA. The overall GPA variable was not evenly measured based on a 2.5 minimum overall GPA requirement for admission to this nursing program; therefore, the variable was measured at the ordinal level of measurement (Kim & Mallory, 2014). An analysis of variance (ANOVA) was utilized to determine if a correlation existed between post state anxiety and the participants' overall GPA (Kellar & Kelvin, 2013). A relationship was not found between post

state anxiety scores and participants' overall GPA [$F(2,47) = .318, p = .729$].

Clinical Question Five

Clinical question five examined if there was a relationship between post state anxiety scores and ethnicity. The ethnicity variable was nominal and frequency statistics were utilized to determine its distribution in the sample (Kim & Mallory, 2014). The ethnicity variable was transformed from a multiple option variable to a dichotomous variable for analysis based on the Chi-Square analyses revealing inadequate cell frequencies (Kellar & Kelvin, 2013). Pearson Product-Moment correlation was utilized to determine whether a relationship existed with post state anxiety scores and ethnicity (Kellar & Kelvin, 2013). A correlation was not found between post state anxiety scores and the participant characteristics of ethnicity ($r = -.015, p = .916$).

Clinical Question Six

Clinical question six examined if there was a relationship between post state anxiety scores and previous certification or licensure. The previous certification or licensure variable was nominal and frequency statistics were utilized to determine its distribution in the sample (Kim & Mallory, 2014). Pearson Product-Moment correlation was utilized to determine whether a relationship existed with post state anxiety scores and previous certification or licensure (Kellar & Kelvin, 2013). A correlation was not found between post state anxiety scores and the participant characteristics of previous certification or licensure ($r = .179, p = .175$).

Summary

A sample of 50 nursing students enrolled in the first clinical course, *Foundations in Nursing* course completed the project. The majority of participants were female and Caucasian with a mean age of 24.5 years. For Clinical Question 1, a difference in post state anxiety levels between the control and experimental groups did not reach statistical significance. For Clinical

Questions 2-6, no correlation was found between post state anxiety levels and participant demographic variables such as age, gender, overall GPA, ethnicity, and previous certification or licensure.

Chapter V

Discussion

The academic rigor of nursing school poses many challenges for nursing students where high levels of stress and anxiety can be experienced. As nurse educators, creating an environment conducive to learning can improve academic success and support the overall mental well-being of students. The integration of an anxiety reducing technique, PET, within a fundamental nursing course was examined to determine if there was an effect on nursing students' anxiety levels in relation to faculty skill evaluation. Based on the data analysis, a statistically significant difference was not reached in state anxiety scores prior to faculty skill evaluation among undergraduate nursing students participating in a PET compared to nursing students participating in traditional practice sessions.

A comparison of anxiety scores to normative values for college students indicated the sample experienced higher anxiety levels than the average college student. In this sample, the state anxiety scores for females ($M = 41.78$, $SD = 11.31$) and males ($M = 44.2$, $SD = 16.08$) were higher than the reported college student normative values of state anxiety for females ($M = 38.76$, $SD = 11.95$) and males ($M = 36.47$, $SD = 10.02$) (Spielberger et al., 1983). The higher anxiety levels experienced within the sample are similar to other studies indicating nursing students tend to have higher anxiety levels than other college students (Chernomas & Shapiro, 2013; Jimenez et al., 2010). The sample also depicted higher baseline trait anxiety scores for males ($M = 43.2$, $SD = 14.08$) than the normative values of trait anxiety for college males ($M = 38.30$, $SD = 9.18$) (Spielberger et al., 1983). The females in the sample had comparable baseline trait anxiety scores ($M = 40.24$, $SD = 11.12$) as the normative values of trait anxiety for college females ($M = 40.40$, $SD = 10.15$) (Spielberger et al., 1983).

Furthermore, an analysis of the data to determine if a correlation existed with participant demographic characteristics and anxiety levels was conducted. A relationship was not found between state anxiety scores prior to faculty skill evaluation and participant characteristics such as age, gender, overall GPA, ethnicity, or previous certification or licensure. The lack of a relationship indicates any nursing student may experience elevated levels of anxiety without regard to their age, gender, ethnicity, overall GPA, or previous certification or licensure. In relation to the overall health of nursing students, it is imperative as nurse educators to integrate strategies to reduce stress and anxiety for all students throughout the nursing program.

Limitations

Several limitations existed within this research study. The sample size was not sufficient to obtain statistical power and the ability to make inferences from the sample to the student nurse population was inadequate (Kim & Mallory, 2014). The appropriate sample size for the independent samples *t*-test with a desired power of .8 and $\alpha = .05$ for an effect size of 0.5 is 128 participants (Kellar & Kelvin, 2013; Soper, 2015). This research study utilized all qualified and willing participants at the project site institution.

The lack of diversity in ethnicity among the sample decreases the generalizability of the results (Kim & Mallory, 2014). The sample at the beginning of the study was composed of 74.5% Caucasian with only 21.8% African American, 1.8% Latino, and 1.8% Asian. Analysis based on participants completing the study and ethnicity as a dichotomous variable revealed the sample was comprised of 76% Caucasian and 24% Minority. The sample did not represent the current state's ethnic diversity among nursing students where 42.1% of students enrolled in Baccalaureate and Graduate degree programs are minority (American Association of Colleges of Nursing, 2016).

The timeframe and number of clinical skills included in the study may have been a factor influencing the anxiety outcome. The study extended over nine weeks in which the intervention was implemented with four clinical skills. The short timeframe and small number of clinical skills may have been a limitation to the analysis of the effects PET may have on anxiety levels of nursing students. The participants in the experimental group were only exposed to the anxiety reducing intervention four times within the duration of the study.

Anxiety levels were collected at the beginning of the study for baseline data and prior to the last clinical skill for comparison data. The analysis of the effect PET may have on anxiety levels was limited by only obtaining two measurements of anxiety levels. The collection of anxiety levels before each clinical skill in the project may have resulted in a more thorough analysis of the PET intervention and statistically significant results.

The STAI is a self-reporting questionnaire to measure state and trait anxiety levels. Self-reporting by participants could be a potential bias that may account for the lack of statistically significant results in anxiety levels as reported in previous research conclusions (Lilley et al., 2014; Prato & Yucha, 2013). Connected to the self-reporting bias, the role of the PI may have had an influence on the participants. Despite the oral and written information presented to the participants concerning the PI's role as the researcher, the participants' answers to the STAI questionnaires may have been potentially biased by the PI holding a full-time faculty position at the project site institution.

Another limitation to the study existed with the possible sharing of experiences between participants in the experimental and control groups. All participants were enrolled in the same nursing course with the participants randomly assigned to the control and experimental groups. The first two segments of the study, the teaching segment and practice segment, did not have the

participants separated into the randomized groups. The intervention segment was the only time the separation of participants occurred throughout the study. The possible sharing of experiences between the groups of participants could have influenced the control group's practice sessions resulting in an effect on those participants' anxiety levels similar to the experimental group's anxiety levels.

Strengths

The translational research and clinical project had several strengths to enhance nursing curricula and the body of literature on the aspect of nursing student anxiety levels. The study utilized randomization of participants for the control and experimental groups. Randomization of participants into groups increased the quality of the study by enabling the researcher to ensure the groups were comparable. The inclusion of a control group strengthened the study allowing a true analysis of the intervention to be performed.

Consistency was upheld throughout the study with the PI conducting all four clinical skill teaching segments and facilitating each practice and intervention session. Every faculty member involved in the *Foundations in Nursing* course participated in each segment of the study for the specific clinical skill in which they evaluated students. This participation increased the consistency between the faculty members during the practice sessions, but more importantly throughout the evaluation segments. Consistency for teaching, demonstration, practice, and evaluation is critical to creating a conducive learning environment for students. Based on the evidence from this translational research and clinical project, the study adds to the body of literature on strategies to reduce nursing students' anxiety during clinical skill performance.

Future Research Recommendations

Future research specific to the PET intervention is desired to further examine the effects

it may have on nursing student anxiety levels. An increase in the sample size would allow for statistical power to be obtained and inferences to be applied (Kim & Mallory, 2014). The sample could be increased by utilizing multiple cohorts over several semesters at one institution or participants from cohorts at multiple institutions. The utilization of participants from several institutions would enable the researcher to eliminate or reduce possible sharing of experiences between participants. With multiple sites, each institution could be designated as either a control group or an experimental group to completely separate participant groups throughout the study. A larger sample size and the use of multiple institutions would lend to greater generalizability of results within the nursing student population (Kim & Mallory, 2014).

An increase in the timeframe and number of clinical skills within a study could enhance the effectiveness of PET on nursing student anxiety. The added exposure to the PET intervention over a longer period of time has the potential to produce a greater effect on students' anxiety levels. In conjunction to an extended timeframe, obtaining anxiety levels prior to each faculty skill evaluation would enable a more comprehensive analysis of the change in anxiety levels. The ability to obtain a true baseline of state anxiety prior to any clinical skill instruction and then monitoring anxiety levels throughout the study may provide a higher quality analysis of the effects of PET on student anxiety levels.

Studies incorporating peer techniques within various aspects of a nursing program utilized different academic levels or expertise of participants. Utilization of peer evaluator or teacher at a higher level of expertise has been examined throughout the literature (Himes & Ravert, 2012; Young et al., 2014). Other studies conducted peer techniques with participants from the same cohort, those on an equivalent academic level or expertise (Cushing et al., 2011; Kim-Godwin et al., 2013). Positive and negative aspects are apparent in both avenues of peer

evaluation techniques. When peer evaluation occurs between students within the same course, skill evaluation may be hindered by lack of expertise. Additionally, peers may be resistant to accepting guidance from their peers (Kim-Godwin et al., 2013). Peers from higher level courses have mastered the skill lending to more credibility in the evaluation process for novice nursing students (Himes & Ravert, 2012; Stone et al., 2013; Young et al., 2014). A study incorporating peers from higher level nursing courses as the peer evaluators within the PET intervention may result in a greater effect on reducing nursing student anxiety related to faculty skill evaluation.

The addition of a variety of measurement scales to examine stress and anxiety would enable the researcher to examine the effects of PET more thoroughly since stress and anxiety are difficult concepts to separate (Bystritsky & Kronemyer, 2014). Examples of additional measurement instruments and methods include the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983), Beck Anxiety Inventory (Julian, 2011), Depression Anxiety Stress Scales (Chernomas & Shapiro, 2013), and physiological measures (Figuroa-Fankhanel, 2014).

Self-efficacy, a related concept, would be helpful to examine when implementing PET as other research has shown a correlation with higher levels of self-efficacy and clinical performance (Rice, 2015; Townsend & Scanlan, 2011). Self-efficacy can be defined as two components, expectation and outcome. The self-efficacy expectation occurs when an individual believes that the situation can occur while the self-efficacy outcome is the belief that they can actually complete the task or goal (Resnick, 2014). The understanding of one's self-efficacy is derived from the combination of four elements such as "performance accomplishments, vicarious experiences, verbal persuasion, and physiologic states" (Oetker-Black, Kreye, Underwood, Price, & DeMetro, 2014, p. 253). The elements of vicarious experiences, viewing others' performance, verbal persuasion, encouragement in a task, and physiologic states, responses to stress, could be

influenced through the implementation of PET (Oetker-Black et al., 2014). The possible impact PET may have on nursing students' self-efficacy would increase the body of literature on strategies to decrease anxiety, increase self-efficacy, and improve overall mental well-being of nursing students.

Sustainability

The implementation of the translational research and clinical project offered a rural state college nursing program with the experience of an anxiety reducing technique for nursing students that can be easily integrated throughout the nursing program. Incorporation of PET provided nursing students the opportunity to learn a peer technique that has the potential to decrease their anxiety while learning clinical skills. The project enhanced collaboration between multiple faculty and staff that provided an educational environment conducive to student learning.

Challenges to the implementation of the study included scheduling of faculty, participants, and lab space. Meticulous attention to scheduling was required by the PI as well as collaboration with the course and skills lab coordinators. Additional time was required weekly for the PI, in collaboration with the skills lab coordinator, to ensure the skills labs were appropriately prepared for each skill.

Challenges experienced during implementation of the project can be overcome by careful scheduling of faculty, students, and lab space. The additional supplies for project implementation, an estimated cost of \$512.40, can be distributed between the SON budget and increasing laboratory supply costs by an estimate of \$17.08 per student. The ease of integrating PET into the nursing courses with minimal increase in faculty workload, cost to students and SON, and clinical lab hours supports the sustainability of this project for this nursing program.

Implications for Nursing Practice

A priority responsibility for nurse educators is to prepare nursing students to be equipped to provide safe, competent patient care by the end of their nursing program. Academic faculty should not overlook the increasing stress and anxiety experienced by students within nursing programs. It is imperative that nurse educators address the elements of stress and anxiety within their programs and determine strategies that may lower the stress and anxiety specific to their nursing student population. The implementation of innovative strategies to decrease stress and anxiety has the potential to improve the overall health and mental well-being of nursing students (Jimenez et al., 2010). Nursing programs that integrate such measures can help prepare students for the transition into practice by equipping them with methods to manage the levels of stress experienced within areas of clinical practice. Continued research on strategies to reduce nursing student anxiety related to clinical skill performance would be beneficial to help decrease negative effects on students' overall health and mental well-being.

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Appendix A

Informed Consent Form*Effects of a Peer Evaluation Technique on Nursing Students' Anxiety Levels***PURPOSE OF RESEARCH**

You are invited to participate in a research study to examine a peer evaluation technique in relation to anxiety levels of nursing students when demonstrating clinical skill competencies. The results of this study will support anxiety reducing methods that best assist nursing students in their ability to learn and apply the knowledge needed for clinical skill performance evaluation (check-offs).

VOLUNTARY PARTICIPATION

Participation in this research study is completely voluntary.

INCLUSION AND EXCLUSION CRITERIA

When signing this consent form, you are agreeing that you meet the inclusion criteria. Please read the inclusion and exclusion criteria prior to signing this consent form.

Inclusion Criteria:

- Over the age of 18 years
- Currently enrolled in the *Foundations in Nursing* course at XXXX College
- Be willing to sign an informed consent

Exclusion Criteria:

- Under the age of 18 years
- Not a currently enrolled in the *Foundations in Nursing* course at XXXX College

DURATION OF STUDY INVOLVEMENT

The research study will last approximately 11 weeks. The implementation of the study has been incorporated into your scheduled clinical lab schedule. You will not be asked to attend any sessions outside of your current lab schedule that you received during the first week of classes.

PROCEDURES

If you choose to participate, you will be asked to attend all scheduled clinical skill lab sessions at your scheduled timeframe. The clinical skills for this project will include physical assessment, oral medication administration, parenteral medication administration, dressing change, and urinary catheterization. The first session of clinical skill instruction will include faculty lecture of concept and skill with demonstration of clinical skill. The second session will include a practice session with faculty supervision. The third session will include another practice session of clinical skill. The final session will be the clinical skill performance evaluation (check-off).

You are asked to arrive 15 minutes prior to your clinical skill performance evaluation (check-off) time for the urinary catheterization to complete an online survey. The survey is estimated to take 10-15 minutes to complete.

Risks: Participating in the research study should not produce any psychological, social, legal, or physical harm to any participant.

The results of the surveys completed at the beginning of the study and before the urinary catheterization clinical skill performance evaluation (check-off) will only be linked to you by a random participant number. The results of the surveys will not include your name or the name of the college. Your name and your assigned participant number will be kept confidential throughout the research study.

PARTICIPANT RESPONSIBILITIES

As a participant, your responsibilities include:

- Sign and return the consent form to Patricia Stewart
- Complete a demographic survey to include age, gender, grade point average, ethnicity, and previous certification or licensure
- Complete an anxiety questionnaire at the beginning of the study
- Willingness to participate in all clinical skill sessions (teaching and practice)
- Complete an anxiety questionnaire prior to the clinical skill performance evaluation (check-off) for the urinary catheterization clinical skill

WITHDRAWAL FROM STUDY

If you agree to participate in this study and then change your mind, you are not obligated to remain in the research study. You may decide to withdraw your consent to participate in this study at any time. If you decide to withdraw from the study, you are asked to notify the researcher, Patricia Stewart, via phone (678-359-5303) or email (pstewart@xxxx.edu).

POTENTIAL BENEFITS

The benefits of this study include the possibility of improving overall health of nursing students and decreasing anxiety in relation to performance of clinical skills enhancing safe, quality patient care. It will also provide support for future anxiety reducing techniques for clinical skill instruction to enhance nursing students' experience during clinical skill performance evaluation (check-offs).

PARTICIPANT'S RIGHTS

You have the right to decide if you desire to participate in this research study and should not feel obligated to participate. Participation or nonparticipation in the study will have no effect on your *Foundations in Nursing* course grade. If you have any questions or concerns, you are asked to contact Patricia Stewart.

FINANCIAL CONSIDERATIONS

There are no financial costs associated with participation in the study.

CONFIDENTIALITY

The purpose of this study is to examine a peer evaluation technique in relation to anxiety levels of nursing students when demonstrating clinical skill competencies. The results of this study will support anxiety reducing techniques that best assist nursing students in their ability to learn and apply the knowledge needed for clinical skill performance evaluation (check-offs). The results will be included as aggregate data for my DNP translational and clinical project that may have the potential to be disseminated in medical journals, healthcare conferences, and/or poster presentations. Your identity will not be disclosed in any portion of the translational and clinical project.

Signature of Adult Participant

Date

.....
Research at Georgia College involving human participants is carried out under the oversight of the Institutional Review Board. Address questions or problems regarding these activities to Dr. Tsu-Ming Chiang, GC IRB Chair, CBX 090, GC, email: irb@gcsu.edu; phone: (478) 445-0863.

Appendix B

Participant Demographic Survey

1. Indicate your gender.

- Male
- Female
- Other

2. Indicate your current age in years.

- _____

3. Indicate the category that includes your overall grade point average when entering the nursing program.

- 2.5 – 2.9
- 3.0 – 3.4
- 3.5 – 4.0

4. Indicate the category that best describes your ethnicity.

- Caucasian
- African American
- Latino
- Asian
- Other

5. Indicate if you have a current or past healthcare certification and/or licensure.

- Yes
- No

Appendix C

ORAL MEDICATION ADMINISTRATION CLINICAL SKILL PERFORMANCE EVALUATION FORM

Name: _____ Date _____ Attempt: 1 2 3

Time Start: _____ Time End: _____ Final grade: Satisfactory / Unsatisfactory

Faculty Signature: _____

| OVERRIDERS | S | U |
|--|----------|----------|
| 1. Perform hand hygiene before and after medication administration | | |
| 2. Identify the client (two forms) | | |
| 3. Provide for privacy | | |
| 4. Explain procedure | | |
| 5. Assess for allergies | | |
| 6. Completes medication administration in 15 minutes | | |
| A. Oral Medication Administration | S | U |
| 1. Determine if medication is appropriate/contraindicated for client | | |
| 2. Verbalize accuracy of medication order with healthcare provider's order | | |
| 3. Accurately perform dosage calculations | | |
| 4. Selects proper medication and concentration of medication | | |
| 5. Check medication 3 times prior to leaving medication cart | | |
| 6. Verbalize all 7 Rights with each medication check a. Right client, drug, dose, route, reason, time, documentation | | |
| 7. Verbalize any necessary pre-administration assessments or preparation. | | |
| 8. Selects appropriate dose-packaged medication(s). Does not open until at client bedside. | | |
| 9. Pours appropriate liquid medication using appropriate measuring device utilizing a level surface and reading medication at bottom of meniscus at eye level. | | |
| B. Eye Medication Administration | S | U |
| 1. Determine if medication is appropriate/contraindicated for client | | |
| 2. Verbalize accuracy of medication order with healthcare provider's order | | |
| 3. Selects proper medication | | |
| 4. Check medication 3 times prior to leaving medication cart | | |
| 5. Verbalize all 7 Rights with each medication check a. Right client, drug, dose, route, reason, time, documentation | | |
| 6. Verbalize any necessary pre-administration assessments or preparation. | | |
| 7. Wears gloves | | |
| 8. Instills eye drop(s) to correct eye(s) | | |
| 9. Avoids contaminating eye dropper | | |
| 10. Apply pressure to lacrimal duct for appropriate length of time | | |
| C. Ear Medication Administration | S | U |
| 1. Determine if medication is appropriate/contraindicated for client | | |
| 2. Verbalize accuracy of medication order with healthcare provider's order | | |
| 3. Selects proper medication | | |
| 4. Check medication 3 times prior to leaving medication cart | | |

| | | |
|---|----------|----------|
| 5. Verbalize all 7 Rights with each medication check a. Right client, drug, dose, route, reason, time, documentation | | |
| 6. Verbalize any necessary pre-administration assessments or preparation. | | |
| 7. Wears gloves | | |
| 8. Straighten the auditory canal using pinna. | | |
| 9. Instill ear drop(s) to correct ear(s) avoiding directly instilling on tympanic membrane | | |
| 10. Avoid contaminating the dropper | | |
| D. Questions from Instructor | S | U |
| 1. Correctly answers questions from instructor | | |

Note: Lynn, P. (2015). *Skill checklists for Taylor's clinical nursing skills: A nursing process approach* (4th ed.). Philadelphia, PA: Wolters Kluwer Health/Lippincott Williams & Wilkins.

Appendix D

**PARENTERAL MEDICATION ADMINISTRATION CLINICAL SKILL
PERFORMANCE EVALUATION FORM**

Name: _____ Date _____ Attempt: 1 2 3

Time Start: _____ Time End: _____ Final grade Satisfactory / Unsatisfactory

Faculty Signature: _____

| OVERRIDERS | S | U |
|---|----------|----------|
| 1. Perform hand hygiene before and after medication administration | | |
| 2. Identify the client (two forms) | | |
| 3. Provide for privacy | | |
| 4. Explain procedure | | |
| 5. Assess for allergies | | |
| 6. Completes medication administration in 20 minutes | | |
| A. Removing Medication from Ampule | S | U |
| 1. Determine if medication is appropriate/contraindicated for client | | |
| 2. Verbalize accuracy of medication order with healthcare provider's order | | |
| 3. Accurately perform dosage calculations | | |
| 4. Selects proper medication and concentration of medication | | |
| 5. Check medication 3 times prior to leaving medication cart | | |
| 6. Verbalize all 7 Rights with each medication check a. Right client, drug, dose, route, reason, time, documentation | | |
| 7. Selects correct syringe and needle | | |
| 8. Demonstrates aseptic technique to connect filter needle and syringe | | |
| 9. Opens ampule with gauze pad breaking away from body | | |
| 10. Withdraws appropriate amount of solution not touching rim of ampule | | |
| 11. Discards needle and ampule appropriately | | |
| B. Removing Medication from One Vial | S | U |
| 1. Determine if medication is appropriate/contraindicated for client | | |
| 2. Verbalize accuracy of medication order with healthcare provider's order | | |
| 3. Selects proper medication and concentration of medication | | |
| 4. Check medication 3 times prior to leaving medication cart | | |
| 5. Verbalize all 7 Rights with each medication check b. Right client, drug, dose, route, reason, time, documentation | | |
| 6. Cleans vial with alcohol swab | | |
| 7. Selects correct syringe and needle | | |
| 8. Demonstrates aseptic technique to connect needle and syringe | | |
| 9. Insert appropriate amount of air into vial | | |
| 10. Withdraws appropriate amount of solution from vial keeping needle below fluid level | | |
| C. Mixing Medications from Ampules and/or Vials to One Syringe | S | U |

| | | |
|---|----------|----------|
| 1. Determine if medication is appropriate/contraindicated for client | | |
| 2. Verbalize accuracy of medication order with healthcare provider's order | | |
| 3. Selects proper medication and concentration of medication | | |
| 4. Check medication 3 times prior to leaving medication cart | | |
| 5. Verbalize all 7 Rights with each medication check b. Right client, drug, dose, route, reason, time, documentation | | |
| 6. Using two vial: a. Cleans vials with alcohol swab b. Selects correct syringe and needle c. Demonstrates aseptic technique to connect needle and syringe d. Insert appropriate amount of air into second vial above solution e. Insert appropriate air into first vial f. Withdraws appropriate amount of solution from first vial keeping needle below fluid level g. Withdraws appropriate amount of solution using same syringe and needle from second vial keeping needle below fluid level | | |
| 7. Using ampule and vial: a. Cleans vials with alcohol swab b. Selects correct syringe and needle c. Demonstrates aseptic technique to connect needle and syringe d. Insert appropriate amount of air into vial above solution e. Demonstrates aseptic technique when changing from hypodermic needle to filter needle f. Opens ampule with gauze pad breaking away from body g. Withdraws appropriate amount of solution not touching rim of ampule h. Demonstrate aseptic technique to disconnect filter needle and connect appropriate needle to syringe prior to withdrawing solution from vial i. Withdraws appropriate amount of solution from vial keeping needle below fluid level | | |
| D. Administering Subcutaneous Injection | S | U |
| 1. Applies gloves | | |
| 2. Selects appropriate administration site and identifies appropriate landmarks | | |
| 3. Verbalize the 7 Rights and using appropriate syringe and needle for administration of medication. | | |
| 4. Cleans area with alcohol swab in circular motion from injection site outward and allows to dry | | |
| 5. Grasps area surrounding injection site with non-dominant hand | | |
| 6. Injects needle at 45-90-degree angle and injects medication slowly | | |
| 7. Discards needle appropriately | | |
| 8. Identifies all subcutaneous sites with appropriate landmarks a. Back of upper arms, sides of thighs, upper back, abdomen, lower back (love handles) | | |
| E. Administering Intramuscular Injection | S | U |
| 1. Applies gloves | | |
| 2. Selects appropriate administration site and identifies appropriate landmarks | | |

| | | |
|---|----------|----------|
| 3. Verbalize the 7 Rights and using appropriate syringe and needle for administration of medication. | | |
| 4. Cleans area with alcohol swab in circular motion from injection site outward and allows to dry | | |
| 5. Spreads skin taut surrounding injection site with non-dominant hand | | |
| 6. Injects needle at 90-degree angle and injects medication slowly | | |
| 7. Discards needle appropriately | | |
| 8. Identifies all intramuscular sites with appropriate landmarks a. Deltoid, Vastus Lateralis, Rectus Femoris, Ventrogluteal, Dorsogluteal | | |
| F. Questions from Instructor | S | U |
| 1. Correctly answers questions from instructor | | |

Note: Lynn, P. (2015). *Skill checklists for Taylor's clinical nursing skills: A nursing process approach* (4th ed.). Philadelphia, PA: Wolters Kluwer Health/Lippincott Williams & Wilkins.

Appendix E

DRESSING CHANGE CLINICAL SKILL PERFORMANCE EVALUATION FORMName: _____ Date _____ Attempt: 1 2 3Time Start: _____ Time End: _____ Final grade Satisfactory / Unsatisfactory

Faculty Signature: _____

| OVERRIDERS | S | U |
|---|----------|----------|
| 1. Perform hand hygiene before and after procedure | | |
| 2. Identify the client (two forms) | | |
| 3. Provide for privacy | | |
| 4. Explain procedure | | |
| 5. Assess for allergies | | |
| 6. Completes dressing change in 20 minutes | | |
| A. Dressing Change | S | U |
| 1. Assess pain level of client | | |
| 2. Gathers all appropriate equipment | | |
| 3. Apply clean gloves, remove dressing, and disposes properly a. Notes presence, amount, type, color, and odor of any drainage | | |
| 4. Properly opens and organizes sterile supplies | | |
| 5. Pours normal saline on gauze without contamination | | |
| 6. Makes an accurate assessment of wound a. Notes presence of redness, swelling, drainage, eschar, granulation tissue | | |
| 7. Applies sterile gloves without contamination | | |
| 8. Cleans wound with normal saline a. Cleans from top to bottom and from center to outside using new gauze for each wipe | | |
| 9. Properly applies sterile dressing a. Applies wet gauze b. Applies dry gauze c. Applies ABD pad over gauze | | |
| 10. Secures dressing with least amount of tape | | |
| 11. Labels dressing with initials, date, and time | | |
| 12. Properly disposes of gloves | | |
| B. Questions from Instructor | S | U |
| 1. Correctly answers questions from instructor | | |

Note: Lynn, P. (2015). *Skill checklists for Taylor's clinical nursing skills: A nursing process approach* (4th ed.). Philadelphia, PA: Wolters Kluwer Health/Lippincott Williams & Wilkins.

Appendix F

**URINARY CATHETERIZATION CLINICAL SKILL PERFORMANCE
EVALUATION FORM**

Name: _____ Date _____ Attempt: 1 2 3

Time Start: _____ Time End: _____ Final grade Satisfactory / Unsatisfactory

Faculty Signature: _____

| OVERRIDERS | S | U |
|--|----------|----------|
| 1. Perform hand hygiene before and after procedure | | |
| 2. Identify the client (two forms) | | |
| 3. Provide for privacy | | |
| 4. Explain procedure | | |
| 5. Assess for allergies | | |
| 6. Completes urinary catheterization in 20 minutes | | |
| A. Insertion of Indwelling Catheter | S | U |
| 1. Gathers proper equipment | | |
| 2. Position client to dorsal recumbent position with knees flexed | | |
| 3. Apply clean gloves, clean perineal area, discard gloves, perform hand hygiene | | |
| 4. Observes aseptic technique while opening and positioning package | | |
| 5. Correctly applies sterile gloves | | |
| 6. Observes sterile technique while draping | | |
| 7. Properly prepares equipment a. Opens all supplies while maintaining sterile b. Lubricates 1-2 inches of catheter tip | | |
| 8. Properly cleanses the urethral meatus a. Female: Use non-dominant hand to spread labia Using dominant hand – wipes inside of labial fold from top to bottom – each side with clean swab then wipes top to bottom down meatus with clean swab b. Male: Use non-dominant hand to lift penis Using dominant hand, clean from meatus down the glans of penis, repeat three times | | |
| 9. Properly inserts catheter a. Inserts catheter until a return of urine, then advances catheter 2-3 inches | | |
| 10. Properly inflates balloon with appropriate amount of sterile water | | |
| 11. Properly anchors the tubing after insertion a. Secures to client's thigh and secures drainage bag below bladder | | |
| B. Obtain a Specimen | | |
| 1. Gathers appropriate equipment | | |
| 2. Drains urine from tubing | | |
| 3. Clamps tubing to wait 20-30 minutes | | |
| 4. Use sterile syringe to obtain specimen and place in sterile container | | |
| 5. Unclamp tubing | | |

| | | |
|--|----------|----------|
| C. Removal of Indwelling Catheter | | |
| 1. Gathers appropriate equipment | | |
| 2. Applies clean gloves | | |
| 3. Aspirates all fluid from balloon | | |
| 4. Removes catheter slowly and gently | | |
| 5. Properly disposes of drainage system and gloves | | |
| D. Questions from Instructor | S | U |
| 1. Correctly answers questions from instructor | | |

Note: Lynn, P. (2015). *Skill checklists for Taylor's clinical nursing skills: A nursing process approach* (4th ed.). Philadelphia, PA: Wolters Kluwer Health/Lippincott Williams & Wilkins.



patricia stewart <patricia.stewart@bobcats.gcsu.edu>

[IRB Portal] Application Exempt "Faculty Perspectives on Stress and Anxiety among Nursing Students during Clinical Skill Evaluations"

1 message

IRB Portal <irb@gcsu.edu>
Reply-To: irb@gcsu.edu
To: patricia.stewart@bobcats.gcsu.edu
Cc: irb@gcsu.edu

Wed, Dec 2, 2015 at 2:54 PM



Institutional Review Board

Office of Academic Affairs

irb@gcsu.edu

<http://www.gcsu.edu/irb>

DATE: 2015-12-02

TO: Patricia Stewart

FROM: Tsu-Ming Chiang, Ph.D. Chair of Georgia College Institution Review Board

PROJECT TITLE: #3764 Faculty Perspectives on Stress and Anxiety among Nursing Students during Clinical Skill Evaluations

ACTION: DETERMINATION OF EXEMPT STATUS

DECISION DATE: 2015-12-02

REVIEW CATEGORY: Exempt

Thank you for submitting an application to the Georgia College IRB for the above-referenced project. Based on the information you provided in your submission, IRB has determined that your project involving human subjects qualifies for EXEMPT status under 45CFR 46.101(b) (1)-(6).

Assignment of exempt status to this project means that this project is exempt from further IRB review. This exempt status is valid unless substantive revisions to the study design occur which would alter the risk to participants. If a substantive change is anticipated, you may submit an extension/modification form detailing these changes. Please consult the GC IRB if you have a question about a potential change to your exempt study.

Please note that all responsibilities required of conducting human subject research still apply to this project. Specifically, the Belmont Report principles of respect for persons, beneficence, and justice apply, and all investigators involved in this project must have and maintain current/valid certification of training with conducting research with human subjects

We will retain a copy of this correspondence within our records.

If you have any questions, please contact irb@gcsu.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Georgia College IRB's records.

Finally, on behalf of IRB, we would appreciate your time to fill out a short survey (click the link below) to provide us with feedback. Best wishes for your study.

https://docs.google.com/forms/d/1iWX9nbq2kyxILaT8P6vLstQB1LiG_l_GrqNSXXaFT2k/viewform?c=0&w=1&usp=mail_form_link

Sincerely,

Tsu-Ming Chiang, Ph.D.



patricia stewart <patricia.stewart@bobcats.gcsu.edu>

Your IRB protocol 4075 is Approved for 2016-02-09 - 2017-02-09

1 message

IRB Portal <irb@gcsu.edu>
Reply-To: irb@gcsu.edu
To: patricia.stewart@bobcats.gcsu.edu
Cc: irb@gcsu.edu

Tue, Feb 9, 2016 at 12:52 PM



Institutional Review Board

Office of Academic Affairs

irb@gcsu.edu

<http://www.gcsu.edu/irb>

DATE: 2016-02-09

TO: Patricia Stewart

FROM: Tsu-Ming Chiang, Ph.D. Chair of Georgia College Institution Review Board

RE: Your IRB protocol 4075 is Approved for 2016-02-09 - 2017-02-09

Dear Patricia Stewart,

The proposal you submitted, "Effects of a Peer Evaluation Technique on Nursing Students' Anxiety Levels," has been granted approval by the Georgia College Institutional Review Board. You may proceed but are responsible for complying with all stipulations described under the Code of Federal Relationship 45 CFR 46 (Protection of Human Subjects). This document can be obtained from the following address:

<http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.html>

The approval period is for one year, starting from the date of approval. After that time, an extension may be requested. It is your responsibility to notify this committee of any changes to the study or any problems that occur. You are to provide the committee with a summary statement. Please use the IRB Portal (<https://irb-portal.gcsu.edu/>) to request an extension, report changes, or report the completion of your study.

Finally, on behalf of IRB, we would appreciate your time to fill out a short survey (click the link below) to provide us with feedback. Best wishes for your study.

https://docs.google.com/forms/d/1iWX9nbq2kyxILaT8P6vLstQB1LriG1_GrqNSXXafT2k/viewform?c=0&w=1&usp=mail_form_link

Sincerely,

Tsu-Ming Chiang, Ph.D.