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version of the following dissertation:**

**Using Peer Mentors in the Clinical Setting to Reduce Anxiety in the  
First Semester Clinical Nursing Student**

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**Using Peer Mentors in the Clinical Setting to Reduce Anxiety in the  
First Semester Clinical Nursing Student**

**by**

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## **Dedication**

I dedicate this work to my husband, Scott, for his unwavering support and encouragement.

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# **Using Peer Mentors in the Clinical Setting to Reduce Anxiety in the First Semester Clinical Nursing Student**

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Peer mentoring or peer assisted learning is widely used in the educational setting. Research suggests it is a powerful educational tool with multiple positive outcomes for students. However, there is little research regarding peer mentoring in the clinical setting. The clinical setting, an important aspect of nurses' educational experiences, can be anxiety producing. Research demonstrates increased student anxiety decreases a student's ability to learn. Therefore, the objective of this study is to determine if anxiety levels of nursing students participating in peer mentoring during their first clinical practicum experience less anxiety than nursing students who participate in traditional clinical experiences. This pilot study utilized a quasi-experimental research design. Anxiety was measured using the Standardized State Trait Anxiety Index (STAI) and the Clinical Experiences Anxiety Form (CEAF). Data regarding student's perceptions of the clinical environment during this experience was gathered through the Student Evaluation of Clinical Education Environment (SECEE). Data was analyzed using descriptive statistics, ANOVA, Mann Whitney U, Wilcoxon Rank Tests, and correlations. Resulting data is the first step in a research trajectory expected to demonstrate peer assisted learning as an innovative clinical learning model.

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## **List of Abbreviations**

UTMB	University of Texas Medical Branch
GSBS	Graduate School of Biomedical Science
TDC	Thesis and Dissertation Coordinator
STAI	State Trait Anxiety Index
CAEF	Clinical Experience Assessment Form
SECEE	Student Evaluation Clinical Education Environment
BSN	Bachelor of Science in Nursing
SCT	Social Cognitive Theory
TCU	Texas Christian University

## **Chapter 1 Introduction**

Traditional clinical experiences can be anxiety producing for new nursing students. This type of significant anxiety in the clinical setting has been well documented as decreasing a student's ability to learn and/or critically think (Moscaritolo, 2009). Unfortunately, many of the behaviors that cause students the greatest anxiety are documented behaviors where nursing graduates are significantly weak; such as communication and prioritization. While it is known what clinical situations are anxiety producing, new models that effectively decrease nursing student anxiety have not been tested. One model that has been described and discussed in the literature is peer mentoring in the clinical setting.

### **SIGNIFICANCE**

Effective experiential learning in the clinical setting is key to transitioning knowledge from textbooks into nursing practice and enables students to begin to think like nurses. Clinical experiences are typically the largest part of nursing education because time spent in clinical is typically three times the amount of time spent in the classroom. Despite the benefits and amount of time spent in clinical education, Benner et al. (2009) comment that a "significant gap exists" in practice (p. 4) between the education of students and employer expectations for them. The fact that nursing clinical education typically applied today has been in use since the 1930s without significant changes (Tanner, 2006) may provide an explanation for the existence of such a practice gap. Lack of confidence, the inability to prioritize and think critically, along with poor communication and skills acquisition are commonly identified problem areas in research regarding new graduates (Berkow, Virkstis, Stewart, & Conway, 2009; Casey, Fink, Krugman, & Propst, 2006; Thomas, Ryan, & Hodson-Carlton, 2011). These areas of

concern are foundational nursing skills and are taught and emphasized from the very first clinical experiences. What can cause these skills to be inadequate at graduation?

Anxiety could be a contributing factor to this disconnect between educational preparation and readiness to practice. Literature supports that while anxiety in small quantities is a desirable experience in learning, too high a level of stress can decrease learning (Audet, 1995; Blainey, 1980; Yerkes & Dodson, 1908). It is widely accepted that clinical education is anxiety producing for nursing students (Audet, 1995; Kleehammer, Hart, & Keck, 1990)

Just as the concept of anxiety in nursing clinical education is not a new concept, neither is the use of peer mentoring in higher education. Peer mentoring has been used frequently to facilitate learning (Colvin and Ashman, 2010; Topping, 2005) and has been identified as a means of decreasing student anxiety related to learning. Peer assisted learning in nursing and other disciplines has been used in the classroom, for personal growth and socialization, in the laboratory, and in the clinical setting (Christiansen & Bell, 2010). However, the intentional and evaluated use of peer mentoring or peer assisted learning occurs infrequently in nursing education (Bloweres, et al., 2003).

Nursing research suggests that peer mentoring can decrease anxiety, make a significant contribution to nursing students' learning, and increase self-confidence, clinical judgment, time management, priority setting, and nursing students' perceptions of the learning environment (Giordana & Wedin, 2010; Harmer, Huffman, & Johnson, 2011; Li, Wang, Lin, & Lee, 2011; Sprengel & Job, 2004). Although peer mentoring has been established as an effective model in other nursing education settings and described as an effective model for decreasing anxiety in the clinical setting; no research on peer mentoring in the clinical setting has moved beyond descriptive and case evaluations to provide an evidence base for implementation. A peer mentoring model of clinical education has the potential to decrease student anxiety and improve perceptions of the learning environment.

## **STATEMENT OF RESEARCH OBJECTIVES AND HYPOTHESIS**

The objective of this study was to determine 1) if peer mentoring in the clinical setting decreases “new” nursing student anxiety during clinical experiences and 2) if student perceptions of their clinical experience improve. The central hypothesis of this proposed research study was that peer mentoring in the clinical setting will decrease nursing student anxiety while increasing student satisfaction with the clinical environment. This hypothesis has been generated based on peer mentoring in the clinical setting being described as an effective clinical education strategy in case studies and descriptive research (Harmer et al., 2011; Sprengel & Job, 2004). The central hypothesis was tested by pursuing the following three research questions.

1. What is the difference between first semester clinical nursing students who have participated in the peer mentoring intervention as compared to first semester clinical nursing students who did not participate in the peer mentoring intervention in regard to their anxiety during practicum experiences?

2. What is the difference between the perceptions of the learning environment as measured by the SECEE in first semester clinical nursing students participating in peer mentoring in the clinical setting as compared to first semester clinical nursing students who did not participate in the peer mentoring intervention?

3. What is the relationship between the student’s anxiety level and the student’s perceptions of the clinical learning environment?

## **DEFINITION OF RELEVANT TERMS**

The following definitions will be used for this study



*Anxiety* is an emotional state of being uncomfortable, nervous, or worried. Anxiety is both an emotional state (state anxiety) and a personality trait (trait anxiety). For the purposes of this research, state anxiety will be used to describe anxiety (Spielberger, 1983).

*Peer mentor* is defined as an undergraduate baccalaureate nursing student who has completed all but their last semester of nursing course work and volunteered to participate in the peer mentoring program.

*A first semester nursing student* is defined as a student enrolled in the first clinical practicum course in a Baccalaureate (BSN) program.

*Peer mentoring* is defined as a planned partnering of an experienced student with a less experienced individual to work towards academic and clinical growth (Dorsey & Baker, 2004). It is “providing support in a non-evaluative environment” (Sprengel & Job, 2004) p. 246. Peer mentoring requires participation of both parties, support, cooperative learning (Sprengel & Job, 2004) and development of a working relationship.

*The clinical setting* is defined as the hospital setting; specifically a medical surgical ward. In the clinical setting the ratio of students to faculty is 8:1.

## **FRAMEWORK**

Albert Bandura’s social cognitive theory (SCT) is the framework for the proposed research. SCT was first described as social learning theory because it describes learning within the social context. According to Bandura, learning occurs through dynamic interaction with persons, environments, and behaviors. Social cognitive theory is a complex theory that involves many concepts. The key concepts of SCT can be divided into four categories; observational learning, psychological determinants of behavior, environmental determinants of behavior, and self-regulation (McAlister, Perry, & Parcel, 2008).

The concept of observational learning is a chief tenet of SCT. Observational learning occurs through attention, retention, production, and motivation. Many psychological determinants of behavior have been acknowledged by SCT. These include self-efficacy, and outcome expectations. The environment also is a powerful influence over behavior. Bandura argues that observational learning will not lead to change unless new behaviors are supported by the observers' environment. Facilitation is an environmental determinant of behavior that empowers learners to change by creating resources that make behaviors easier to learn and perform. In SCT self-regulation is the idea that we use knowledge and environmental changes to learn for ourselves. Self-regulation includes concepts such as self-monitoring, goal setting, feedback, and social support.

Social cognitive theory provides a framework by which peer mentoring in the clinical setting is an effective learning method. The peer mentor-mentee relationship utilizes the concepts of observational learning, facilitation, and self-regulation at its foundation. Social Cognitive Theory hypothesizes that attention, retention, production, and motivation of new behaviors is best conducted through models that are similar and that effectively cope with the same challenges. The peer mentoring intervention is also designed to create an environment that facilitates new behaviors and aides in self-regulation by providing immediate feedback and models integral aspects of self-regulation (McAlister, Perry, & Parcel, 2008).

## **Chapter 2 Review of Literature**

In this chapter the results of an extensive review of literature will be provided. The concept of anxiety in learning and nursing education is presented and the dynamics between learning and anxiety described. Research utilizing mentoring and peer mentoring in academia and nursing education is reviewed and synthesized. Lastly, literature regarding the students' perceptions of the clinical environment is presented.

### **ANXIETY**

Anxiety is a widely researched concept. The concept of state and trait anxiety were first described and developed in the 1960s. Spielberger (1983) describes anxiety as an unpleasant emotional state. A person experiencing anxiety may have feelings of tension, nervousness, worry, or other unpleasant feelings. State anxiety is the transient emotional state of anxiety in response to a situation, while trait anxiety is the difference in how a person responds to a situation with anxiety. A person with higher trait anxiety is more likely to respond to situations with state anxiety (Spielberger, 1983).

Anxiety can be a positive state in many situations because it activates the fight or flight mechanism, however, in learning situations increased anxiety can be difficult. It is agreed upon that the experience of increased anxiety can interfere with learning (Melincavage, 2011). Yerkes and Dodson (1908) demonstrated and explained the relationship of arousal and performance using rats receiving electric shocks while completing a maze. Their experiment demonstrated how anxiety or arousal can improve performance up to a point. At the point in which anxiety becomes too strong, performance diminishes. As demonstrated by Yerkes and Dodson, anxiety in small quantities is a desirable experience in learning. However too high a level of stress can decrease learning (Audet, 1995; Blainey, 1980). Shipton (2002) argues that high levels of

stress throughout the education experience can even decrease problem solving capabilities; a key outcome to successful nursing education.

### **ANXIETY IN NURSING**

The purpose of clinical education is to provide an environment that facilitates academic learning through experiences. While all nursing students experience some level of anxiety during nursing education, clinical experiences have been identified as being substantially anxiety producing (Audet, 1995; Kleehammer et al., 1990; Shipton, 2002). First time nursing students experience even more severe anxiety in the clinical setting (Kleehammer et al., 1990). Anxiety research in nursing education and the clinical setting dates back to the 1970s, yet most of the research focuses on what causes anxiety instead of focusing on how to manage anxiety (Moscaritolo, 2009; Shipton, 2002).

Shipton (2002) used a grounded theory approach to investigate the relationships that nursing students find stressful, the emotions these experiences create, and how they manage these situations. For the purposes of this study, anxiety was described as emotion experienced in stressful situations. Senior nursing students from baccalaureate programs were sampled. Experiences cited as stressful included clinical faculty, nursing staff, peer actions and interactions, procedures, new clinical settings, and preparing for clinical. A theoretical model of coping mechanisms that involves changing of self was developed to describe the coping mechanisms of students.

Melincavage (2011) undertook a phenomenological study describing seven United States nursing students' perceptions of anxiety in the clinical setting. Findings included concerns about inexperience and the inability to perform skills, being demeaned by faculty or hospital staff, being exposed by faculty or hospital staff, or inconsiderateness by faculty or hospital staff. Descriptive quantitative data supports these concerns. Performing skills is rated by students as a highly anxiety producing situation (Kleehammer, Hart, & Keck, 1990; Sprengel & Job, 2004).

Kleehammer, Hart, and Keck (1990) examined the specific clinical experiences that induce anxiety among nursing students. The Clinical Assessment Experience Form (CAEF) was used to measure specific nursing related experiences that could cause anxiety. The highest level of anxiety experienced by students was about the first clinical experience and fears of making mistakes. Many other areas such as faculty control and evaluation also caused significant anxiety.

Sprengel and Job (2004) and Kim (2003) built upon the work of Kleehammer, Hart and Keck (1990) and undertook research using the CAEF to measure specific areas in nursing education that caused anxiety in nursing students. Sprengel and Job (2004) assessed anxiety in new nursing students prior to a peer mentoring intervention. The thirty freshman students' highest areas of anxiety as measured by CAEF were fear of making mistakes, procedures, and equipment. Kim (2003) studied anxiety in clinical setting using both the STAI and the CAEF. The research focused on the identifying the aspect of the clinical experience that was anxiety producing and evaluating the relationship between trait anxiety and clinical experiences that were anxiety producing. The research did have limitations as it used a convenience sample of one level of students at only one nursing school, with the subjects only studied at one point in time. Despite the limitations the study confirmed previous results. Being late, being observed by instructors, fear of making mistakes, and the initial clinical experience were the most anxiety producing for nursing students. A significant relationship between trait anxiety and anxiety in clinical situations was also demonstrated. Although the research has limited generalizability, it confirms previous results regarding anxiety producing situations in the clinical setting for nursing students.

Gore, et al. (2011) developed a prehospital simulation experience to decrease anxiety in first time nursing students. This experimental pre and post-test design used the State Trait Anxiety index to assess anxiety levels of nursing students who experienced the pre-hospital simulation as compared to the typical no prep hospital first day. Students

who experienced the prehospital simulation experienced significantly lower anxiety scores.

Bremmer, Aduddell, & Amason's (2008) research evaluated nursing students anxiety levels related to the first clinical nursing experience after using simulation technology as well as relationships between anxiety and other variables. The study utilized an experimental design and the STAI to measure anxiety. Students who participated in the simulation experience prior to their clinical experiences demonstrated lower levels of anxiety as measured by the STAI.

While much is known about anxiety and what produces anxiety in nursing students, less is known about teaching and learning strategies that can impact anxiety in the clinical setting. The research agrees, the first clinical experience is anxiety producing and this experience may interfere with the acquisition of valuable knowledge and experience. Evaluating the use of peer mentoring to decrease nursing student anxiety during the first clinical experience through experimental methods could add to the literature surrounding anxiety and nursing education and be impactful.

## **MENTORING IN THE ACADEMIC SETTING**

Mentors have been used in the academic setting since the 1700s (Colvin and Ashman, 2014). Research abounds about the use of mentoring in the academic setting. Jacobi (1991) provided the first synthesis of literature about mentoring in the academic setting. The summary of the wide variety of mentoring definitions provides the foundations for the common mentoring definitions of today. Jacobi (1991) discovered that in all definitions of mentoring the relationship focused on the growth of the individual, it provided broad forms of support, and the relationships were always personal and reciprocal.

Crisp and Cruz (2009) built upon Jacobi (1991) work and conducted an extensive metaanalysis of literature published about mentoring in the college setting from 1990-

2007. Studies about mentoring included mentoring by faculty, staff, peers, and professionals and focused on improving academic performance or retention. The review of literature identified that the plethora of existing research has limitations. No common definition of mentoring is provided in the research and little rigorous quantitative research has been conducted. In fact, one of the identified areas of methodological weakness within studies has been the lack of a definition of mentoring that allows for replication. Findings by Crisp and Cruz confirmed that mentoring has positive outcomes even in the absence of rigorous scientific research.

Gershenfeld (2014) evaluated mentoring research specifically using undergraduates as either mentors or mentees. Literature from 2008-2012 was identified and evaluated using a classification system to identify methodological rigor. A total of twenty studies were identified with mentoring using undergraduate students as the primary intervention were appraised. After inspection Gershenfeld found no experimental designs were utilized, and most lacked information on program components making replication difficult. Some other methodological concerns identified were a narrow focus, lack of generalizability, and small sample size. Gershenfeld concluded that because of the lack of rigor within mentoring studies there is limited evidence of positive changes to mentors or mentee because of mentoring interventions. However, the studies all identified positive outcomes from mentoring such as retention, skills, improved grade point average (G.P.A), and academic engagement.

## **MENTORING IN NURSING AND OTHER HEALTH DISCIPLINES**

Peer mentoring in nursing education has had many foci and is used in a variety of educational settings. Mentoring has been used in the nursing academic setting to increase retention and improve National Council Licensure Examination (NCLEX) scores, in the lab setting to improve skill acquisition and in the clinical setting. However, there is limited rigorous research evaluating the outcomes of peer mentoring. The state of the

literature regarding peer mentoring in nursing and other health related disciplines is presented and analyzed.

Dorsey and Baker (2004) conducted an integrative review on mentoring in nursing. The initial process yielded over ninety citations with only sixteen research articles between 1992 and 2002. Mentoring definitions were limited or not discussed in the research articles reviewed. Studies provided were limited in generalizability, sample size, and methodological design. The predominant design was cross sectional. Recommendations for future mentoring research included use of experimental designs, increased sample size, and instrument development. Positive outcomes of mentoring in nursing were apparent from the reviewed research with decreased anxiety, improved retention, and improved NCLEX pass rates reported by participants.

Secomb's (2006) literature review sought to determine if peer teaching and learning is an effective teaching practice in health education. Twelve studies met criteria and were evaluated. Research studies were excluded if outcomes were not reported or if the quality of the research was deemed poor. Studies from five different countries evaluating peer learning and teaching in nursing, physical therapy and occupation therapy students were analyzed. The studies ranging from 1997-2005 were a mix of qualitative, descriptive, and experimental work. However, only two studies were experimental and both were limited by single outcome measures. Significant findings from the literature include improved self-confidence and time management skills and improved learning in the psychomotor and cognitive domains. But because of the lack of rigor Secomb concluded more quantitative and comparative studies were needed.

While integrative reviews are beneficial in evaluating the literature they do have limitations. The literature reviews presented only discuss literature through 2005, recently more research has built upon work previously conducted. Also, reviews of literature are only as good as the methods used to obtain and evaluate research. While the reviews



discussed above provide insight into the state of the science, it is possible that some important work may have been missed in the review.

Sprenkel and Job (2004) is an important work that was not included in the earlier literature reviews and is important research regarding peer mentoring. The study evaluated a peer mentoring intervention designed to reduce nursing specific anxiety producing situations in first time nursing students. The CEAF was used to evaluate anxiety before and after the mentoring experience as well a self-report Likert scale evaluation of the experience. Among the thirty participants anxiety was a significant problem prior to the mentoring experience and was reduced after the experience. The results of the self-report survey also describe the mentoring experience as positive. However, the experience was only one day and no control group was measured to understand the relationship experience in the clinical setting can cause reduction of stress.

A mentoring study in the learning lab evaluated cognitive learning from the experience. Hunt and Ellison (2010) randomly assigned students to either a peer mentored lab or traditionally taught lab and evaluated the outcomes through quizzes and a survey created specifically for this evaluation. No significant differences in learning outcomes between the two groups were demonstrated. However, the mentored group reported positively on the experience.

Harmer, Huffman, & Johnson (2011) evaluated a peer mentoring experience where 16 senior and sophomore mentoring pairs provided care for patients on a dedicated medical unit. A survey was created for evaluating the experience using Likert scale questions and open ended questions. Data from the evaluation demonstrated that all mentees felt improved self-confidence, time management, and prioritization skills. Other evaluations of peer mentoring programs, as for example, in the laboratory and academic nursing setting, also demonstrated positive outcomes, such as those mentioned above, as well as improved academic performance (Becker & Neuwirth, 2002; Dennison, 2010; Gilmour, Kopeikin, & Douche, 2007).

A qualitative study of peer mentoring in the clinical setting involved twenty advanced and novice nursing student pairs. The mentoring pairs worked together for a two hour period at the beginning of their clinical rotation. The phenomenological study described mentees and mentors experiences within the peer mentoring experience. The mentees described experiences of assurance and increased self-confidence (Giordana & Wedin, 2010).

Peer mentoring research in academia and nursing education is abundant. However, the literature is weak in evidence based outcomes and lacks experimental design, rich definition and description of peer mentoring, and generalizability. Measuring anxiety and student perceptions of the clinical learning environment will create measurable outcomes from a peer mentoring intervention study. While the use of an experimental pretest post-test control group methodology will meet the needs of rigorous experimental methodology and rich description of peer mentoring in the literature.

#### **STUDENT EVALUATION OF THE CLINICAL LEARNING ENVIRONMENT**

The clinical learning environment is an important aspect of nursing education and is defined as an “interactive network of forces within the clinical setting that influence students’ clinical learning” (Dunn and Burnett, 1995 p. 1167).

Students spend the majority of their educational hours in the clinical setting and are expected to make connections between book knowledge, skills, and clinical practice decision-making. It is meant to be a holistic experience that impacts the student’s whole intellectual and physical formation in the process of becoming a nurse (Ard & Valiga, 2009). However, obtaining quality clinical placements can be a concern. The clinical setting is not an easily controlled or manipulated learning environment, as it is by impacted numerous variables such as patients, employees, and the environment. The student experience within the clinical environment is integral to learning and can impact learning outcomes (Sand-Jecklin, 2009).

Hooven (2014) reported a consensus within the literature has been reached about key factors impacting the clinical learning environment. These factors are staff-student relationships, the atmosphere, nurse-teacher involvement, nurse manager commitment, feedback and the student feeling “included.” Currently, five different instruments are routinely used in nursing education to evaluate the clinical learning environment. These five tools include the Clinical Environment Scale, the Clinical Learning Environment Inventory, the Clinical Learning Environment Diagnostic Inventory, the Clinical Learning Environment, Supervision, and Teacher Inventory, and the Student Evaluation of Clinical Educational Environment. All use roughly equivalent factors that affect the clinical learning environment; staff-student interactions, student-faculty interactions, student perceptions or feelings, the atmosphere, and feedback. Two instruments, the Clinical Learning Environment Scale and the Clinical Learning Environment, Supervision, and Teacher Inventory also add a manager involvement factor (Hooven, 2014).

## **CONCLUSION**

The experience of anxiety in learning and the clinical setting has become well documented yet little research provides evaluation of strategies to decrease anxiety in the clinical setting. While peer mentoring has been researched as a possible solution to decrease anxiety in the clinical setting; the research is limited by lack of experimental methodology and rigor. Initiating an experimental pretest posttest control group designed research study to evaluate the effect of peer mentoring in the clinical setting will meet the need for more rigorous methodology and defined outcomes. Evaluating student perceptions of the clinical learning environment within the context of peer mentoring in the clinical setting will also provide another outcome measure by which to evaluate peer mentoring.

## **Chapter 3 Research Design**

This chapter describes the research methodology including the research design, population, sample, recruitment strategies, instruments, intervention protocol, data collection, and data analysis procedures. The research objective and specific research

question are reviewed. This pilot study investigated the use of peer mentors in the clinical setting to reduce anxiety.

## **OBJECTIVE AND QUESTIONS**

The objective of this study was to determine if peer mentoring in the clinical setting decreases new nursing student anxiety during clinical experiences. The central hypothesis was that peer mentoring in the clinical setting would decrease nursing student anxiety while increasing student satisfaction when compared to the control group.

## **METHODS**

### **Research Design**

A quasi experimental research design was used in this pilot research study because random assignment to intervention or control groups could not be achieved due to academic and institutional constraints. The pretest- post-test nonequivalent comparison groups design was chosen to compare the impact of peer mentoring on anxiety and students' perceptions of the clinical experience between groups. The intervention consisted of peer mentoring involving pairs of nursing students or "dyads" working together for the first three clinical days of the nursing student's first clinical experience. The control group participated in clinical course work as normal. No time or attention control was provided.

No two group pre- and post-test research has been conducted using peer mentors in the nursing clinical setting. Therefore a pilot study was undertaken to test the feasibility of the design, instruments, and procedures as well as to refine the research methodology. It is the intent that the process and results from this study will be used to design and implement a larger scale study at a later date.

The research methods, procedures, protocols, and rationales of the research were informed by a feasibility study conducted at Texas Christian University (TCU). The

research intervention required a change in the “old way” of teaching clinical experiences and involved many parties at TCU. These groups included nursing students, faculty, administration, and hospital partners. Because of the large amount of necessary commitment needed, a feasibility study was conducted to assess the community’s motivation and readiness for change, as well as, their perception of peer mentoring in the clinical setting.

Results from the feasibility study indicated that the TCU community was open to the idea of peer mentoring in the clinical setting and willing to implement this new clinical pedagogy. Faculty and students discussed perceived benefits of peer mentoring in the clinical setting and expressed a desire to be a part of the process. Desired aspects of peer mentoring were identified such as a presence during the initial clinical experience, a one to one mentor: mentee ratio, and the use of experienced students the practicum facilities. Road blocks and concerns were also discussed and identified. Concerns such as the need for discerning selection of mentors and the need for appropriate training of mentors were identified by all parties. No input was obtained from any hospital partners and the lack of input from that important stakeholder group was considered a possible roadblock. All attributes and possible road blocks were considered and significant factors were incorporated into research study methods.

### **Sample and Setting**

Purposive sampling was employed to gather a sample of first semester clinical nursing students. All subjects were enrolled in first semester clinical coursework at a small private university in the southern United States, Texas Christian University. The potential subject pool consisted of 90 first semester nursing students. Inclusion criteria required subjects to be first semester nursing students enrolled in a clinical course, NURS 20284. Subjects also had to be able to read and write English because all study

instruments were provided in English only. Criteria for exclusion included prior hospital employment or previous enrollment in a clinical nursing course.

The desired sample size of 70 (35 subjects in each group) was determined based on a power analysis using a large effect size and a necessary 176 subjects (88 subjects in each group) utilizing a medium effect size. However, this study was a pilot study and recommendations for pilot studies are typically ten percent of the total sample required for a full study (Hertzog, 2008). Following those guidelines the necessary sample size was 18 subjects (9 subjects in each group).

### **Recruitment**

Prior to recruitment Institutional Review Board Approval (IRB) was sought from the University of Texas Medical Branch and Texas Christian University. After approval or exempt status was obtained from both entities, recruitment was initiated.

All first semester nursing students were introduced to the study via an informational announcement conducted during orientation to first semester nursing course work (Appendix A). Interested subjects signed up to receive more information via email. After potential subjects expressed interest they were screened via email to ensure that they met inclusion criteria. A total of sixty five students expressed interest in the study and after screening sixty three were eligible for participation. Two students were excluded, one because of prior work in a nursing course, and the other because the subject was unwilling to commit the entire study period.

All interested subjects who met inclusion criteria were assigned to a control or intervention group as designated by their clinical course section number. An email was sent to all interested subjects with information regarding the obligations, risks, and concerns related to the research study. This email also included the date and location of the initial research study meeting. Attendance at the initial research meeting was required for inclusion in the study.

The initial research meeting was held on a Sunday afternoon. Only ten of the sixty five interested subjects attended the meeting. Because the response rate was so low, another research meeting time was chosen based on input from the potential subjects in attendance at the initial research meeting. A Tuesday afternoon research meeting was announced based on the suggestions. Another email with the new information was sent to all interested subjects. Announcements were also made in the Nursing Fundamentals Concepts class. The second research meeting was successful with 41 subjects consenting to participate.

Although 41 subjects consented to participate, four subjects were excluded because of administrative issues. Three students were not assigned a mentor because there were no mentors available due to last minute required schedule changes. One student was not assigned a mentor because the hospital site decided to not participate after recruitment was complete.

## **Procedure**

During the planning phase of the research study all students enrolled in NURS 20284 were randomly assigned to clinical sections of NURS 20284 by administration per usual protocol. Each clinical section was then identified as either an intervention or control practicum. Selection of intervention or control status was determined by class day, site approval, and available mentors. Sections in this clinical experience are divided between three different clinical facilities. As subjects agreed to participate, their group designation (control or intervention) was decided based on their assigned clinical section number. Not all students in each clinical section agreed to be research subjects. For example, in one clinical section only two of the eight students enrolled in the course chose to be research subjects. The other students in the clinical section continued their clinical coursework without the presence of the peer mentors. Although complicated, this



procedure ensured control and intervention subjects were not mixed during the research process.

Initial demographic data collection and pretesting occurred prior to all the subjects first day of the clinical experience in the hospital setting. During the initial research meeting, subjects were provided consent information, completed a demographic data form, both state and trait forms of the State Trait Anxiety Instrument, and the Clinical Experience Assessment Form. Completion of the data collection survey was considered consent. The pre-tests and demographic data forms were administered using an online survey instrument while the subjects were present in the meeting. After completion of all the survey data the subjects were notified of whether they would be included in the control or intervention group. The intervention group met their peer mentors on their own time prior to their first day in practicum.

Subjects in the intervention group participated in peer mentoring for the first three weeks of their first clinical experience. The dyads worked together over a consecutive series of three clinical days beginning on the mentee's first clinical day. The dyads met and spent the entire clinical day working together to care for the patient by performing clinical skills, communicating with the assigned Registered Nurse and healthcare team, and using clinical reasoning. Research team members supervised student mentors in the clinical setting for policy purposes and to ensure proper adherence to peer mentoring principles.

The control subjects continued with typical practicum course experiences without the use of peer mentors. For the purposes of this experiment, no changes were made to their clinical experience. The control subjects went to the same or similar units as the intervention subjects and had the same or similar instructors. The control subjects attended practicum on completely separate days and in completely separate clinical sections than the intervention subjects.

The post-test was conducted after subjects had completed three clinical days. A link to an online survey instrument was sent with instructions provided in the email that asked students to complete the survey within 24 hours. Students who did not complete the survey within the 24 hours were followed up with via email and reminded about the online survey posttest. All subjects (control and intervention group) were tested utilizing the STAI and CEAF. Student perception of the clinical learning environment was assessed at this time using the SECEE. All subjects completed the SECEE.

### **Instruments**

The State Trait Anxiety Inventory (STAI) was used to operationalize anxiety in the nursing student (Appendix C). The STAI was chosen for this study because it has been used extensively in research and clinical practice (Spielberger, 1983) and proven effective in previous research about anxiety in nursing simulation (Hutchinson & Goodin, 2013; Bremmer et al., 2008; Gore, Hunt, Parker, & Raines, 2010). The STAI is considered the standard for anxiety measures in nursing (Hutchinson & Goodin, 2013). Nursing simulation is commonly considered a clinical environment.

The STAI is a 40 question Likert scale instrument that evaluates state and trait anxiety. The instrument asks for a response to statements such as “I feel calm” and “I make decisions easily.” Scores on the STAI can range from 20 to 80. This instrument is well established and means are reported for college students and divided by gender. The mean score for a college age female is 38.76 with a standard deviation of 11.95. However, no specific means are provided for the nursing college student. Reliability data indicates that this is a reliable instrument. The alpha coefficient average when used on college age female students is .93.

The Clinical Experience Assessment Form (CEAF) was used to measure anxiety related to nursing specific clinical situations (Appendix D). This instrument has been used in two different studies of anxiety in the clinical setting. It consists of 16 items, such

as communication and procedural aspects of care, with a Likert scale indicating the level of anxiety each situation produces. The neutral point on the instrument is 48 with a higher score indicating anxiety. The instrument has a Cronbach's Alpha of .82 among college student subjects and is considered reliable and valid by previous researchers utilizing the instrument (Kleehammer et al., 1990; Sprengel & Job, 2004)

A demographic collection form (Appendix E) was used with all subjects. This form collected data regarding the subject's age, gender, class section number, and location of clinical placement. Information about the subjects work status was also collected. The students indicated if they worked outside of school and whether full or part time work.

Each mentee kept a log of time spent with their mentor in order to control for dose effect. A short form was provided to encourage documentation of hours spent in mentoring. The booklet was provided to the mentee on their first clinical day. Whenever the mentee spent time with their mentor it was logged into the worksheet. The log book format had a place to record the number of hours spent with the mentor at each interaction, types of activities, and if the activities occurred within assigned practicum time.

The Student Evaluation of Clinical Education Environment Version 3 (SECEE) was used to operationalize the students' perceptions of the clinical learning environment (Appendix F). The SECEE was chosen for this study because it was created specifically to evaluate the clinical learning environment of nursing students in the United States and has demonstrated ability to discern between different learning environments, such as different clinical sites or instructors. The SECEE is a 32 item Likert scale instrument with three subscales. The subscales include Instructor Facilitation of Learning, Preceptor Facilitation of Learning, and the Learning Opportunities Scale. Scores can range from 32 to 160 with higher scores indicating a more positive perception of the clinical learning environment. The SECEE has an overall Cronbach's Alpha of .94 and each of the

subscales has a Cronbach's Alpha greater than .82. The SECEE is considered a reliable and valid instrument to operationalize student perceptions of their clinical learning environment. This instrument's language was modified to better meet the research needs. The word "assigned nurse" replaced all uses of the phrase "preceptor/ resource RN" and the phrase "instructor and/or peer mentor" replaced the word "instructor" throughout the entire document. The changes to the words and phrases did not change the meaning of each question, but rather provided more commonly used and appropriate terminology for this cohort of subjects (Sand-Jecklin, 2009).

## **Mentors**

Peer mentors are an integral component of successful intervention. Peer mentors were recruited from senior nursing students in their last clinical semester and trained prior to implementation of this research. Interested mentor volunteers were recruited through classroom announcements and asked to submit an application (Appendix B). Applications were reviewed by the research team and evaluated for grade point average (GPA), clinical decision making skills, and communication skills. This application process and training of the mentors helped ensure appropriate mentor relationships were developed. It was imperative to the success of the peer mentoring program that the peer mentors were able to provide appropriate and desired modeling behaviors for first semester clinical nursing students.

Training for mentors included a two hour interactive training session on expectations and roles of peer mentors in the clinical setting. This training was modeled after the training created by Sprengel and Job (2004). The training highlighted the necessary qualities of successful mentors, clinical objectives and expectations of the mentees, and an overview of the commitment needed in the peer mentor/mentee relationship. During training mentors were also provided with specific objectives or goals to guide their work with their assigned mentee each day. On day one the goal for the

mentor was to role model appropriate student nurse behavior. On day two the mentors were supposed to work on communication with patients and staff with the mentee and ensure the mentee enters a patients room and interacts with a patient. On day three the mentor's objective was to provide support and build confidence while helping the mentee care for the assigned patient. The peer mentor training course outline is provided in Appendix G. The peer mentors (senior subjects) enrolled in an additional one hour elective clinical course and agreed to participate in all aspects of the peer mentoring process in order to play a part in the study. Peer mentors met all orientation and training expectations of the clinical sites and academic institution prior to mentoring subjects on the assigned units. Peer mentors that successfully completed the experience received a letter of recommendation describing the experience and detailing how the experience developed the volunteer mentor.

Mentors and mentees were paired by experience and schedule availability. For example all peer mentors with Monday availability were grouped together and then assessed for experience at that particular clinical site. Students with same day availability and same hospital experience were paired together. All mentors worked with mentees in clinical sites they had previously experienced. No mentor or mentee requested were accepted and no other criteria were used to decide on mentor pairings.

## **DATA MANAGEMENT**

Each subject was assigned an identification (ID) number. A master list with the subject's name and assigned ID was maintained and stored on a password protected computer. All data collection forms were coded with only the subjects' ID number. The completed instruments and data collection forms are kept in a locked cabinet in the investigator's office. All data collected was input into SPSS. Data was disseminated as aggregate data only. Only members of the research team had access to forms, the ID list,

and raw data. All completed forms were destroyed after completion and dissemination of research results.

## **DATA ANALYSIS**

Preliminary analysis was conducted to describe the samples. Descriptive statistics of age, GPA, race, gender, and clinical site location (public vs. private) of the sample was conducted. Relationships between demographics, demographics and independent variables, and demographics and dependent variables were evaluated. The mean test score, mode test score, and standard deviations of the STAI, CEAF, and SECEE were measured. Evaluation of homogeneity was conducted and the appropriate choices of non-parametric or adjusted tests of differences was employed. A power analysis was conducted with study specific data to demonstrate the significance of effect. Effect sizes were also calculated and will be reported.

Psychometric properties of all instruments being used was evaluated. Reliability data was analyzed for both the pre-test and post-test measures of the STAI and CAEF and the post-test administration of the SECEE. Cronbach's alpha was calculated for the pre- and post-test administration for each instrument and evaluated against recommended Cronbach's alpha interpretation of results.

**Research Question #1 What is the difference between first semester clinical nursing students who have participated in the peer mentoring intervention as compared to first semester clinical nursing students who did not participate in the peer mentoring intervention in regard to their anxiety during practicum experiences?**

In order to determine if subjects participating in peer mentoring experience have less anxiety when compared to the control group, an analysis of variance (ANOVA) analysis was initially performed. However, statistical power was low requiring non-parametric analysis to be performed to further evaluate findings. Mann Whitney U was

used to measure anxiety scores (STAI and CAEF) between groups. Wilcoxon Sign Rank tests were used to further examine STAI and CAEF scores split by group.

**Research Question #2 What is the difference between the perceptions of the learning environment as measured by the SECEE in first semester clinical nursing students participating in peer mentoring in the clinical setting as compared to first semester nursing students who did not participate in the peer mentoring intervention?**

In order to determine if participating in peer mentoring in the clinical setting is associated with a more positive perception of the clinical learning environment, an analysis of variance (ANOVA) was performed. Prior to conducting ANOVA all assumptions were tested and met.

**Research Question #3 What is the relationship between the student's anxiety level and the student's perceptions of the clinical learning environment?**

The relationship between anxiety and student evaluation of the clinical environment was explored using a Spearman's Rho Correlation Coefficient. Spearman's Rho Correlation Coefficient was calculated between the CAEF (pre and post), STAI State and Trait (pre and post), and SECEE.

## **Chapter 4 Results**

The purpose of this study was to provide a preliminary evaluation of a peer mentoring program on reducing nurse student anxiety as they first begin their clinical training. This chapter will outline the formal statistical results of this study, starting with the treatment of the data and preliminary analyses. Next, the primary analyses and hypothesis testing of the research questions will be discussed.

### **TREATMENT OF THE DATA**

Prior to conducting any analyses, data exploratory analyses were conducted to evaluate the state of the data and to test the assumptions of parametric analyses. Missing data were limited and were determined to not be problematic. However, the sample size of obtained data was lower than ideal for parametric analyses. To address this concern, observed power of parametric analyses was examined and non-parametric equivalencies were conducted to confirm all parametric findings. Additionally, non-parametric analyses were utilized in instances when there was insufficient statistical power for parametric analysis. All analyses were conducted in SPSS v. 22 and significance for all analyses was set at .05.

### **SAMPLE DESCRIPTION**

The study sample of nursing students was similar to the typical Texas baccalaureate school of nursing (BSN) students. While 83.2% of Texas BSN students are female, (Student demographics. 2015) the sample in this study was 96.8% female. Race was not collected as part of the sample demographic information.

The students in this sample primarily did not work. Working in a hospital was considered exclusion criteria. The type of work documented in this study is in offices, waitressing, or in retail. It is not in a healthcare setting. Only 29.7% (n=12) of students



were employed full or part time. Only one subject reported full time employment. The U.S. Census bureau reports that 19.6% of college students work fulltime and year around. While the current sample does not accurately reflect the typical employment distribution of college students as described by the Census Bureau, it is important to note that some students do work (Davis, 2012). Frequencies and percentages of categorical demographic variables such as gender, hospital volunteer experience, and work status are outlined in Table 1.

Table 1: Frequencies and Percentages for Gender, Hospital Volunteer Experience, Work Status

	<i>n</i>	%
Gender		
Female	36	97.3
Male	1	2.7
Hospital Volunteer Experience		
Yes	9	24.3
No	26	70.3
Working Full or Part-time		
Yes	11	29.7
No	26	70.3

Note. Frequencies not summing to N=37 and percentages not summing to 100 reflect missing data.

Means and standard deviations of continuous demographic variables such as age and G.P.A. are outlined in Table 2. The entire sample was under the age of 25, ranging in age from 19 to 25 ( $M = 19.46$ ,  $SD = 1.38$ ). In Texas 63.9% of all BSN students are under 25 (Student demographics. 2015). Students reported G.P.A. ranged from 2.56 to 4.00 ( $M = 3.39$ ,  $SD = .43$ ).

Table 2: Means and Standard Deviations for Age and G.P.A.

	<i>N</i>	Mean	<i>SD</i>	Min	Max
Age	37	19.00	1.38	19	25
G.P.A	36	3.39	.43	2.56	4.0

## PRELIMINARY ANALYSIS

Preliminary analyses were conducted to examine the psychometric properties of instruments used in this study. Additionally, relationships between key variables were assessed to determine if any potential covariates needed to be accounted for in primary analyses. In order to assess these relationships, a series of analysis of variance (ANOVA) tests were conducted to test the relationship between continuous variables by categorical variables. Cross-tabulations with Pearson's chi square test were conducted to examine relationships between categorical variables. Lastly Spearman's rho correlation was used to examine relationships between continuous variables.

Internal consistency of continuous outcome variables was assessed using Cronbach's alpha. Reliability across all measures and time points was acceptable. Observed reliability scores were as follows: State/Trait Anxiety pre-test = .714; State/Trait Anxiety post-test = .764; CEAF pre-test = .899; CEAF post-test = .755; SECEE = .940. Overall, these scores indicate that the obtained data had sufficient internal consistency; therefore, scores were computed according to the scoring instructions provided by the authors of each survey.

There was a significant relationship between working status and group,  $\chi^2 (1) = 5.82$ ,  $p = .016$ , Cramer's  $V = .396$ ; (Table 3). Students in the control group were significantly less likely to be employed. More than 80% of the intervention group was not

employed while only 47% of the control group was unemployed. Cramer's  $V = .396$  demonstrates a moderate association between intervention group and unemployment.

Table 3: Frequencies and Percentages of Work Status by Group

	Control		Intervention		$\chi^2$	$P$	Cramer's $V$
	$n$	%	$n$	%			
Work Status					5.82	.016	.396
No	10	52.6	<b>16</b>	<b>88.9</b>			
Yes	9	47.4	2	11.1			

*Note.* Proportions in boldface were significantly greater across columns,  $p < .05$

Results indicated that a greater proportion of individuals in the intervention group did not have a job (88.9%) compared to those who indicated being employed while taking classes (11.1%). Additionally, there was a significant effect of group on GPA,  $F(1, 34) = 6.63$ ,  $p = .015$ ,  $\eta^2 = .163$ . Individuals in the intervention group had significantly higher GPAs ( $M = 3.56$ ,  $SD = .37$ ) compared to those in the control group ( $M = 3.22$ ,  $SD = .43$ ). None of the other relationships tested were significant, all  $p > .05$ . (Table 4).

Table 4: Means and Standard Deviations of Age and G.P.A. by Group

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>	$p\eta^2$
Age				2.50	.123	.068
Control	18	19.89	1.41			
Intervention	18	19.33	.48			
G.P.A				6.63	.015	.163
Control	18	3.22	.43			
Intervention	<b>18</b>	<b>3.56</b>	<b>.37</b>			

Lastly, pre-test scores were examined across groups to ensure that no significant differences existed between groups prior to intervention. There were no significant differences between groups across any measure, indicating that the groups did not differ significantly prior to the intervention. Overall, results of the preliminary analyses did not indicate that there was need to control for any demographic factors in primary analysis.

#### PRIMARY ANALYSIS

**Research Question 1 What is the difference between first semester clinical nursing students who have participated in the peer mentoring intervention as compared to first semester clinical nursing students who did not participate in the peer mentoring intervention in regard to their anxiety during practicum experiences?**

The first research question aimed at evaluating differences in students' levels of anxiety as measured by state anxiety, trait anxiety, and nursing situation specific anxiety (CEAF) across time and group. In order to evaluate this research question, a 2 (group [intervention, control]) by 2 (time [pre-, post]) ANOVA was conducted. There was a significant main effect of time on anxiety scores,  $F(3, 30) = 45.73$ ,  $p < .001$ ,  $p\eta^2 = .821$ . Regardless of group, individual's state anxiety and CAEF scores significantly dropped between the pre- and post-test. As expected, though, trait anxiety scores did not significantly differ between the pre- and post-test.

Observed power of analyses examining the effects of group and the interaction of group by time were extremely low, .054 to .433, indicating that there was not sufficient

power to conclusively determine parametrically whether or not anxiety scores varied by group. Therefore, non-parametric Mann-Whitney U tests were conducted (Table 5).

Table 5: Anxiety Scores by Group and Time

	Control			Intervention			<i>U</i>	<i>p</i>
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>		
Trait Anxiety								
Pretest	17	40.88	9.41	17	37.76	8.25	138.50	.632
Posttest	17	39.12	11.41	17	37.00	7.68	155.00	.824
State Anxiety								
Pretest	17	48.82	15.52	17	43.12	11.35	137.00	.428
Posttest	17	41.35	13.48	17	33.12	8.67	105.00	.071
CEAF Total								
Pretest	17	3.51	.65	17	3.24	.73	134.00	.260
Posttest	<b>17</b>	<b>2.32</b>	<b>.72</b>	17	1.91	.31	.92	.044
Fear of Making Mistakes								
Pretest	19	4.16	.83	18	3.78	1.00	133.50	.209
Posttest	18	2.89	1.71	17	2.00	1.73	103.00	.072
Performing Procedures								
Pretest	19	4.58	.51	18	4.56	.51	167.00	.887
Posttest	18	2.72	1.78	17	1.94	1.52	114.00	.165
Using Equipment								
Pretest	19	3.89	.94	18	3.61	.92	141.50	.331
Posttest	<b>18</b>	<b>2.56</b>	<b>1.34</b>	17	1.47	.72	75.00	.006
Talking to Physicians								
Pretest	19	3.32	1.16	18	3.00	1.24	147.00	.436
Posttest	18	2.22	1.00	17	2.06	1.03	135.00	.526
Being Observed by Instructors								
Pretest	19	3.74	1.05	18	3.17	1.10	123.00	.127
Posttest	18	2.33	1.41	17	1.94	1.09	132.00	.466
Being Evaluated by Faculty								
Pretest	19	3.89	.94	18	3.78	1.00	161.50	.756
Posttest	18	2.17	1.42	17	2.06	1.09	147.50	.848

Performing Patient Teaching								
Pretest	19	3.47	1.07	18	3.39	.98	163.00	.796
Posttest	18	2.44	1.54	17	1.53	.72	101.00	.066
Initial Clinical Experience								
Pretest	<b>19</b>	<b>4.42</b>	<b>.61</b>	18	3.33	1.37	92.00	.011
Posttest	18	2.50	1.47	17	2.24	1.44	133.00	.480
Providing Patient Care								
Pretest	19	3.74	1.05	18	3.39	1.14	141.00	.323
Posttest	<b>18</b>	<b>2.50</b>	<b>1.50</b>	17	1.59	1.06	90.50	.027
Asking Questions of Faculty								
Pretest	<b>19</b>	<b>2.89</b>	<b>1.05</b>	18	2.17	1.25	106.50	.040
Posttest	18	2.11	1.13	17	1.65	.70	118.00	.197
Talking to Patient's Family								
Pretest	19	3.37	1.12	18	3.56	1.15	155.50	.608
Posttest	18	2.06	1.26	17	1.88	1.32	133.00	.477
Beforehand In-Hospital Preparation								
Pretest	19	3.21	1.13	18	3.11	1.02	166.50	.887
Posttest	18	2.06	.94	17	1.94	.66	151.00	.940
Reporting to Team Leader								
Pretest	19	3.05	1.13	18	2.72	1.18	145.00	.402
Posttest	18	1.83	.62	17	1.82	.73	150.00	.912
Talking to Patient								
Pretest	19	3.42	1.17	18	3.11	1.28	148.00	.467
Posttest	18	1.94	1.00	17	2.00	1.06	149.00	.887
Availability of Instructor								
Pretest	18	2.72	.83	18	2.33	.97	123.00	.183
Posttest	18	2.06	1.21	17	2.06	.66	130.00	.402

Being Late								
Pretest	19	2.89	1.41	18	3.17	1.34	154.50	.604
Posttest	18	2.56	1.42	17	2.35	1.46	137.50	.589

*Note.* Means in boldface are significantly higher,  $p < .05$

As shown, at post-test, individuals in the peer mentoring group (intervention group) had lower CAEF scores ( $M = 1.90$ ,  $SD = .31$ ) as compared to those in the control group ( $M = 2.32$ ,  $SD = .72$ ),  $U = .92$ ,  $p = .044$ ). There were no significant differences between the intervention and control group at either time point for trait and state anxiety. To further examine the within subjects effects of time on anxiety scores, Wilcoxon sign rank tests were conducted split by group. Results indicated that those in the intervention group had significantly lower state anxiety scores following peer mentoring,  $z = -2.77$ ,  $p = .006$ . For the control group, there was a significant decrease in state anxiety scores,  $z = -1.92$ ,  $p = .055$ .

To further examine differences in nursing student related anxiety by group, a series of Mann-Whitney U tests were conducted to test for differences in individual CAEF items across time points. At pre-test, those in the observation group reported significantly higher anxiety related to the initial clinical experience ( $U = 92.00$ ,  $p = .011$ ) and asking faculty questions ( $U = 106.50$ ,  $p = .040$ ). At post-test, those in the peer mentor group had significantly lower levels of anxiety related to using equipment ( $U = 75.00$ ,  $p = .006$ ) and providing patient care ( $U = 90.50$ ,  $p = .027$ ). To further examine the effect of time (e.g., any clinical experience) on CAEF scores, a series of Wilcoxon's sign rank test were conducted, indicating that across all items of the CAEF students reported significantly lower anxiety following some hospital experience (Table 5).

Overall, these results suggest that student nurses generally report a decrease in anxiety over time as they engaged in clinical experiences. Results also suggest that the peer mentoring program appears to result in greater reductions of anxiety, specifically as



it relates to nursing situation specific related anxiety, compared to those who did not receive peer mentoring. Additionally, peer mentoring was associated with less anxiety related to using equipment and providing patient care compared to a control group.

**Research Question 2 What is the difference between the perceptions of the learning environment as measured by the SECEE in first semester clinical nursing students participating in peer mentoring in the clinical setting as compared to first semester clinical nursing students who did not participate in the peer mentoring intervention?**

The second research question aimed at examining the differences in students' perceptions of the learning environment between those who had peer mentoring and those who did not. In order to evaluate this research question, a series of ANOVAs was conducted to test for significant differences in SECEE scores between the peer mentoring and control group (Table 6). There was not a significant difference in SECEE total scores between individuals who had peer mentoring and those who did not, indicating individuals across groups tended to report similar perceptions of the learning environment. Students in the peer mentoring group did, however, have greater Instructor Facilitation of Learning scores ( $M = 3.37$ ,  $SD = 1.46$ ) compared to those without mentors ( $M = 2.28$ ,  $SD = 1.09$ ),  $F(1, 33) = 6.39$ ,  $p = .016$ ,  $\eta^2 = .162$ .

The Instructor Facilitation of Learning subscale measures the satisfaction of interactions with the instructor or facilitator of learning. For the purposes of this research study any time the word "instructor" was used, "peer mentor" was added to make the phrase read "clinical instructor or peer mentor." Two sample items from the Instructor Facilitation of Learning Subscale are; "I felt comfortable asking questions of my clinical instructor and/or peer mentor and my instructor and/or peer mentor encouraged me to identify and pursue opportunities for learning in this environment. The Instructor Facilitation of Learning Subscale is the only subscale where the peer mentor experience was an added component. Therefore, this subscale was the only subscale that assessed the

change to the learning environment created by the peer mentor experience. This finding indicates that the intervention impacts students' perceptions of the learning environment through peer mentoring relationships and interactions but does not impact the way in which the facility or the Registered Nurse is perceived.

Table 6: Means and Standard Deviations, of SECEE Scores by Group

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>	$\eta^2$
SECEE Total				1.80	.189	.052
Control	18	2.43	.944			
Intervention	17	2.89	1.09			
Instructor Facilitation of Learning				6.39	.016	.162
Control	18	2.28	1.09			
Intervention	<b>17</b>	<b>3.37</b>	<b>1.46</b>			
Learning Opportunities				.99	.327	.029
Control	18	2.36	1.014			
Intervention	17	2.73	1.17			
Preceptor Facilitation of Learning				.07	.792	.002
Control	18	2.65	1.04			
Intervention	17	2.56	.96			

*Note.* Due to sample size non-parametric tests were conducted yielding similar findings.

### **Research Question 3 What is the relationship between the student's anxiety level and the student's perceptions of the clinical learning environment?**

The final research question aimed to examine the relationship between anxiety and perceptions of the learning environment. In order to evaluate this relationship, Spearman's rho correlations were computed between anxiety scores (e.g., state, trait, clinical anxiety) and SECEE subscale scores. As shown, none of these relationships were significant, indicating that anxiety and perceptions of the learning environment appear to move independent of each other (Table 7).

Table 7: *Spearman Rho Correlation Coefficients (p-value) about Anxiety and SECEE Scores*

	Trait Anxiety	State Anxiety (Pre)	State Anxiety (Post)	CAEF (Pre)	CAEF (Post)
SECEE Total	.114 (.522)	.110 (.529)	.066 (.708)	.240 (.166)	-.096 (.584)
Instructor Facilitation of Learning	.088 (.622)	.108 (.535)	.034 (.846)	.158 (.364)	-.131 (.453)
Learning Opportunities	.080 (.651)	.074 (.671)	.021 (.903)	.251 (.146)	-.017 (.925)
Preceptor Facilitation of Learning	.161 (.384)	.141 (.420)	.097 (.580)	.276 (.108)	-.064 (.715)

## SUMMARY

The results provided substantiate the central hypothesis for this study. Subjects who participated in peer mentoring in the clinical setting experienced decreased anxiety and increased student satisfaction within the clinical environment. Overall, the results of this study provide preliminary evidence to support the efficacy of a peer mentoring program in reducing nursing students' anxiety during first semester nursing coursework.

## **Chapter 5 Conclusions, Discussion and Recommendations**

### **DISCUSSION OF MAJOR FINDINGS AND CONCLUSIONS**

In this chapter results from the study are discussed and related to relevant literature and the theoretical framework. Because this study was a pilot study important aspects of feasibility are measured and discussed. Clinical implications, limitations, and recommendations of the study are also provided.

#### **Sample**

The study sample of nursing students was similar to the typical Texas baccalaureate school of nursing (BSN) students as previously described in Chapter 4. Two important sample issues needed to be addressed with analysis. A significantly higher proportion of students in the control group (47%) worked full or part-time (Davis, 2012). Because of this difference between groups an ANOVA was conducted to ensure that outcomes did not differ significantly by work status. Also eight students within the sample had prior hospital experience. The type of hospital experience most subjects described is volunteer work in some manner. However, one student enrolled in a high school clinical rotation as part of a healthcare curriculum. The study originally excluded any subject with hospital experience. However, during screening the students replied no to the verbal question “Have you ever taken a nursing clinical course or had prior hospital experience?” But on the post-test when a written question was provided such as “Have you had any experience in a hospital. Please describe.” the answers received were significantly different. An analysis of variance was conducted to ensure no significant relationship existed between hospital experience and any pre or posttest measure.

Two subjects were unwilling to participate in the post-test and therefore only 35 subjects completed the study. Sample data also includes two subjects who received an incomplete intervention. The two subjects who received a partial dose of the intervention

received two full days and one partial day with their assigned mentor rather than three full days as the rest of the intervention group. No alternative experience was provided for these two subjects within the three week study period. All subjects completed the posttest per protocol. No intention to treat analysis was needed because no missing data occurred. Missing clinical days for illness is a normal and anticipated part of clinical experiences. As this research moves forward, a way to handle missed days will need to be addressed.

### **Major Study Variables**

#### ***ANXIETY***

Results of the subjects' self-report on nursing specific situation anxiety are similar to other published reports. The most anxiety producing situations in the literature and this study are fear of making mistakes, performing procedures, and being evaluated by faculty. Similarly as in other descriptive studies, availability of the instructor and asking questions of faculty were not anxiety producing prior to the initial clinical experience (Kim, 2003; Kleehammer et al., 1990; Sprengel & Job, 2004).

Notably, both groups experienced a significant decrease in anxiety by the end of the intervention. In fact, the mean post-test CAEF individual item scores between all subjects revealed a score of less than three, indicating no anxiety. This is not an unexpected finding as the initial clinical experience was over and the nursing students had been in the hospital working for three weeks. But current literature differs from these results by describing senior nursing students as still having anxiety related to nursing specific clinical situations (CAEF). Kleehammer, Hart and Keck (1990) demonstrated the senior nursing students' lower anxiety levels through the CAEF. However, numerous items still tested above the score of 3 indicating anxiety. Kim (2003) assessed nursing students' anxiety in the last week of their Senior semester, and found that senior nursing students still experience nursing situation specific anxiety as measured by the CAEF.

Results from this study indicate the peer mentoring intervention had a positive effect on anxiety in the new nursing student. Subjects in the intervention group experienced significantly less anxiety at posttest as measured by the CAEF and the STAI-State. These results support the efficacy of a peer mentoring program in the clinical setting and the continued use and experimentation of using peer mentors in the clinical setting. These results are not unanticipated and were hypothesized based on findings from earlier qualitative work and other descriptive studies. While no quantitative experimental or quasi-experimental research has been conducted on anxiety regarding the specific use of peer mentors in the clinical setting to reduce anxiety in the new nursing student, descriptive research and qualitative research demonstrates positive outcomes from the experiences. Decreased anxiety and increased self-confidence were common descriptors from the literature (Dennison, 2010; Gilmour et al., 2007; Giordana & Wedin, 2010; Harmer et al., 2011).

#### ***STUDENTS' PERCEPTIONS OF THE CLINICAL LEARNING ENVIRONMENT***

Overall subjects who participated in the peer mentoring intervention did not have a different perception of the learning environment as measured by SECEE. However, as related to the subscale Instructor Facilitation of Learning, the intervention group had a significantly higher score as compared to the control group. This finding supports the framework upon which the peer mentoring intervention was developed, implemented, and the research hypothesis derived. Social Cognitive Theory facilitates behavior; it does not create new behavior without the learner's input. One of the tenets of SCT is self-regulation or the ability of the learner to receive feedback, social support, set goals, and self-monitor. It was hypothesized that these aspects of peer mentoring are what would impact the learner most, and therefore decrease anxiety. The sub scale Instructor Facilitation of Learning is the only subscale that seeks to identify these components. These items ask about the learners interactions with the mentor and/or instructor, they

focus on feedback, increasing independence, and support and guidance. Therefore, the finding of the intervention group experiencing higher satisfaction in this area is pertinent and not unexpected. More study is needed to determine if this finding is replicatable and if the clinical learning environment can implement simple learner focused and empowering aspects that significantly impact student's perceptions of the clinical learning environment.

Interestingly, no significant relationship between anxiety and students' perceptions of learning exists. State, trait, and nursing situation specific anxiety were all analyzed with no significant correlations. This indicates that these variables move independently of each other. It is almost counterintuitive to agree that person's trait anxiety does not affect how they perceive their clinical experiences. This interesting finding needs to be replicated in different nursing student populations and pursued with more rigorous methodological analysis.

## **FEASIBILITY**

This research study was a pilot and as such it is important to address feasibility outcomes. Feasibility can be assessed through the ability to replicate the study on a larger scale. Data indicates that peer mentoring does decrease anxiety in the nursing student. However, the need for a larger study and sample is necessary. Data indicates all instruments are reliable and valid in this population and can be utilized again in a larger study.

The results demonstrate that an effect occurred in the small intervention window and that the small, three week, intervention can be continued. This outcome is extremely important because the ability to conduct the intervention for a longer period would be difficult at this time. Additionally, the results indicate that because there was a demonstrable effect the mentoring training was appropriate and therefore recruitment and training could be repeated. However, one of the limitations on the sample in this study

was the limited number of peer mentors available, qualified, and willing to work with students. In order to repeat this study with a larger sample size, partnership with the faculty of the Senior students will have to occur. During this study the mentor course was an elective and therefore voluntary. In the future the peer mentors could receive clinical course hours for the current semester's Leadership and Management course. I believe this could increase participation of mentors.

Overall, the results of the pilot study demonstrate feasible replicability. The instruments meet psychometric standards in this population and appear to measure anxiety as intended. A larger sample is reasonably attainable and infrastructure exists to support the continued research project.

## **LIMITATIONS**

The purpose of this study was to determine the effect of peer mentoring on new nursing student anxiety in the clinical setting. This study had numerous limitations and threats to the validity of the study. The use of a quasi-experimental methodology, lack of generalizability, small sample size, lack of time and attention control, possible confounding variables, and maturation effect are all identified limitations.

The use of a quasi-experimental study was not the original methodology planned for the study. All students were randomly assigned to clinical sections and the plan was for the clinical sections to be randomly assigned to treatment or control group. However, certain clinical partners decided to not allow extra students and therefore intervention and control designation of clinical sections had to be assigned per partner needs. Because random assignment could not occur, the threat of bias in group selection is possible and is a threat to internal validity.

A threat to external validity or generalizability is the small sample size. While data analysis indicates it mirrors the larger nursing student population, the sample is small and from only one school of nursing. While it is arguable that this study may be



generalized to other smaller private nursing schools, it is a stretch to assume generalizability to all schools of nursing across the United States.

The small sample size also limited the type of data analysis that could be conducted and increased the chances for a type 2 error when using parametric analysis. Therefore non-parametric analysis was used. Therefore, the results from this study should be interpreted with some caution. A larger sample is needed to conclusively examine effect of peer mentoring in the clinical setting on anxiety and students' perceptions of the clinical learning experience.

Additional threats to internal validity such as a lack of a time and attention control, maturation effect, and the possibility of confounding variables have been identified. No time and attention control was created because of the lack of ability to feasibly do so. This limitation will be addressed in future, larger replications of this study. Maturation effect was identified because anxiety decreased in all subjects over time.

Possible confounding variables need to be addressed in future research and can possibly limit the results of this study. G.P.A was identified within the data as a possible confounding variable. In future research a larger sample with stratified random sampling to ensure similar G.P.A ranges will be necessary. Teachers and clinical sites used were different between groups. Six different clinical instructors were used during the course of this research, and although the teachers were all vetted and typically utilized in the Fundamentals of Nursing course, it is possible that anxiety was increased or decreased by their influence as well. Possible attributes that may affect a teacher's influence are years of experience, approaches to teaching, and whether they are full time or adjunct. The three different clinical sites used in the study were all medical surgical sites with similar types of patients and numbers of beds. All the sites had been routinely used in the Fundamentals of Nursing course previously. However, it is possible the clinical sites

could impact the results. Further analysis is needed to ensure these aspects are not confounding variables.

The possibility of subjects having knowledge of their group designation (control or intervention) is also an identified threat to internal validity. While students were not specifically told what group they were designated, subjects did attend classes together and may have discussed their experiences with classmates. This limitation is difficult to control in future research. But the possibility of an earlier pretest prior to start of the semester should be considered.

### **FUTURE RESEARCH RECOMMENDATIONS**

As discussed previously future research recommendations include a larger scale study to validate results. In order to replicate the study on a larger scale and increase internal and external validity numerous modifications must occur such as stratified random sampling, piloting a more specific test anxiety measure, seeking a sustainable relationship with a hospital partner. During replication it will also be important to further develop mentor training and quality control of the peer mentoring intervention as well as redefine exclusion criteria.

In the future, research that quantitatively focuses on outcomes from peer mentoring in the clinical setting as described in the descriptive literature are recommended. Combining experiential learning within Social Cognitive Theory such as in using peer mentoring in the clinical setting, could be the foundation for a new and effective clinical education framework. Continued research on process and outcomes need to be studied using rigorous scientific methods.

### **SUMMARY**

Although results confirm the central hypothesis proposed in this research study, more research is needed to validate findings. Feasibility for replication of this pilot study

has been confirmed and discussed. Although limitations to this study are plentiful; they can be addressed through replication of this study on a larger, multi-site scale. Future research regarding peer mentoring in the clinical setting is potentially plentiful and varied.

## **Appendix A: Recruitment Script**

Good morning, my name is Danielle Walker. Many of you know me as a teacher here but, I am also a PhD student. I am currently working on my dissertation which means that I am conducting a research study. I would like to invite you to participate. The research study is about new methods of helping students in the clinical setting. If you agree to participate you will be asked to complete a series of online surveys that last approximately thirty minutes prior to your first day of clinical. You will then participate in the research study for your first three weeks of clinical. After the first three weeks of clinical I will ask you to take another series of surveys that should take approximately thirty minutes. In order to sign up for the research study you will have to contact me. I will ask you two questions to ensure you are eligible for the study and you will be asked to attend an introductory meeting where we sign consent forms as begin the study. There is no risk to participating. The possible benefits could be an improved clinical experience or possibly increased satisfaction with your clinical experience. All data that is collected will be kept confidential and will be de-identified by assigning an ID number rather than using your name. Any data that is distributed in research meetings, reports, or presentations will be discussed in the aggregate form only.

## Appendix B. Peer Mentor Application

Name\_\_\_\_\_

Overall Grade Point Average (G.P.A.)\_\_\_\_\_

Nursing

G.P.A.\_\_\_\_\_

Name of most recent clinical instructor:\_\_\_\_\_

\*The research team reserves the ability to contact your clinical instructor/s.

In one paragraph, please explain why you would like to be a mentor to a novice student?

Please attach:

- Transcript

## Appendix C State Trait Anxiety Scale

For use by Danielle Walker only. Received from Mind Garden, Inc. on March 26, 2013

### SELF-EVALUATION QUESTIONNAIRE

STAI Form Y-1

Please provide the following information:

Name \_\_\_\_\_ Date \_\_\_\_\_ S \_\_\_\_\_

Age \_\_\_\_\_ Gender (Circle) **M** **F** T \_\_\_\_\_

#### DIRECTIONS:

A number of statements which people have used to describe themselves are given below. Read each statement and then blacken the appropriate circle to the right of the statement to indicate how you feel *right now*, that is, *at this moment*. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

NOT AT ALL  
SOMEWHAT  
MODERATELY SO  
VERY MUCH SO

- |   |   |   |   |   |
|---|---|---|---|---|
| 1. I feel calm.....                                       | 1 | 2 | 3 | 4 |
| 2. I feel secure.....                                     | 1 | 2 | 3 | 4 |
| 3. I am tense.....  | 1 | 2 | 3 | 4 |
| 4. I feel strained.....                                   | 1 | 2 | 3 | 4 |
| 5. I feel at ease.....                                    | 1 | 2 | 3 | 4 |
| 6. I feel upset.....                                      | 1 | 2 | 3 | 4 |
| 7. I am presently worrying over possible misfortunes..... | 1 | 2 | 3 | 4 |
| 8. I feel satisfied.....                                  | 1 | 2 | 3 | 4 |
| 9. I feel frightened.....                                 | 1 | 2 | 3 | 4 |
| 10. I feel comfortable.....                               | 1 | 2 | 3 | 4 |
| 11. I feel self-confident.....                            | 1 | 2 | 3 | 4 |
| 12. I feel nervous.....                                   | 1 | 2 | 3 | 4 |
| 13. I am jittery.....                                     | 1 | 2 | 3 | 4 |
| 14. I feel indecisive.....                                | 1 | 2 | 3 | 4 |
| 15. I am relaxed.....                                     | 1 | 2 | 3 | 4 |
| 16. I feel content.....                                   | 1 | 2 | 3 | 4 |
| 17. I am worried.....                                     | 1 | 2 | 3 | 4 |
| 18. I feel confused.....                                  | 1 | 2 | 3 | 4 |
| 19. I feel steady.....                                    | 1 | 2 | 3 | 4 |
| 20. I feel pleasant.....                                  | 1 | 2 | 3 | 4 |

STAI - Adult Instrument © 1968, 1977 Charles D. Spielberger. All rights reserved in all media.  
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## Appendix D Clinical Experience Assessment Form

5 = Strongly Agree, 4 = Agree, 3 = Neither Agree/Disagree, 2 = Disagree, 1 = Strongly

Disagree

Clinical Concerns:	
1. Fear of Making Mistakes	(5, 4, 3, 2, 1)
2. Performing Procedures, i.e. Injections	(5, 4, 3, 2, 1)
3. Using Equipment, i.e. IV Pumps	(5, 4, 3, 2, 1)
4. Talking to Physicians	(5, 4, 3, 2, 1)
5. Being Observed by Instructors	(5, 4, 3, 2, 1)
6. Being Evaluated by Faculty	(5, 4, 3, 2, 1)
7. Performing Patient Teaching	(5, 4, 3, 2, 1)
8. Initial Clinical Experience	(5, 4, 3, 2, 1)
9. Providing Patient. Care	(5, 4, 3, 2, 1)
10. Asking Questions of Faculty	(5, 4, 3, 2, 1)
11. Talking to Patient's Family	(5, 4, 3, 2, 1)
12. Beforehand In-Hospital Preparation	(5, 4, 3, 2, 1)
13. Reporting to Team Leader	(5, 4, 3, 2, 1)
14. Talking to Patient	(5, 4, 3, 2, 1)
15. Availability of Instructor	(5, 4, 3, 2, 1)
16. Being Late	(5, 4, 3, 2, 1)

*Clinical Experience Assessment Form* developed by Kleehammer, Hart, & Keck (1990), used with permission, adapted

## Appendix E Demographic Data Form

Subject Code\_\_\_\_\_

### Demographic Questionnaire

1. Age \_\_\_\_\_

2. Gender\_\_\_\_\_

3. Current Cumulative GPA

4. Clinical Instructor \_\_\_\_\_

5. Clinical Site and Unit \_\_\_\_\_

6. Are you employed?            YES / NO  
   Fulltime    Part time



## Appendix F Student Evaluation of the Clinical Education Environment

### STUDENT EVALUATION OF CLINICAL EDUCATION ENVIRONMENT

Please circle or check the best answer to each question and provide written answers in the blanks provided.

University and Campus \_\_\_\_\_

Semester/Yr: Spring Fall 20\_\_\_\_

Year in program: Freshman Sophomore Junior Senior

Clinical site you are evaluating (include both the name of facility and the department or unit)

Clinical Instructor \_\_\_\_\_

Circle the number that best represents your answer to the following questions. Please provide an explanation for any questions to which you respond "can't answer" (number 6) in the space directly below the question.

Key: 1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree 6 = Can't Answer

1. My preceptor/resource RN was available to answer questions and to help with patient care.	1	2	3	4	5	6
2. A wide range of learning opportunities was available at this agency/department.	1	2	3	4	5	6
3. I felt comfortable asking questions of my clinical instructor.	1	2	3	4	5	6
4. My preceptor/resource RN maintained ultimate responsibility for the patients to whom I was assigned.	1	2	3	4	5	6
5. This clinical setting provided adequate opportunities to practice interpersonal communication skills.	1	2	3	4	5	6
6. As my skills and knowledge increased, my instructor allowed me more independence.	1	2	3	4	5	6
7. My preceptor/resource RN talked with me about new developments related to my patients' care.	1	2	3	4	5	6
8. This clinical setting provided adequate opportunities for application of information gained in the classroom setting.	1	2	3	4	5	6
9. My instructor served as a positive role model for professional nursing.	1	2	3	4	5	6
10. High preceptor/resource RN workload negatively impacted my experience at this agency/department.	1	2	3	4	5	6
11. There was adequate time in this clinical rotation to meet my learning goals.	1	2	3	4	5	6
12. My instructor encouraged me to identify and pursue opportunities for learning in this environment.	1	2	3	4	5	6
13. My preceptor/resource RN provided adequate guidance as I learned to perform new skills.	1	2	3	4	5	6
14. This agency/department had an adequate number and variety of patients appropriate for my clinical nursing abilities.	1	2	3	4	5	6

# **Appendix G Peer Mentor Training**

## **Peer Mentor Orientation**

### **1. Welcome to today**

Thank you for coming

We are ready to get started, I know you are

### **2. Syllabus**

Expectations of course

3 things (don't miss, journal/ log of activities)

Arrive on time

Night before questions concerns

### **3. Info about mentee/ site**

### **4. Orientation requirements at facilities**

Baylor

Baylor Grapevine

THR Southwest

### **5. Brainstorm qualities/ things they would've wanted in a mentor.**

Genuine

Giving of time/ self

Self-confident

Competent

### **6. Walk through of the first three weeks**

1. Follow the nurse

2. Follow the tech

3. Take a pt

### **7. Daily roles of the peer mentor (mirror daily objectives)**

1. Role model appropriate student nurse behavior

2. Get the student in the room, work on communication

3. Provide support and self-confidence while helping to care for the assigned patient

### **8. Things instructors want you to work on**

Forms/ paperwork

Communication

Computer

Understanding the rhythm and roles of the unit/ healthcare team

What to hear in report

Get students in the room and confident

#### 9. Review Fundamentals paperwork

Mentor Cheat Sheet

Goals for the day:

Day 1. Role model appropriate student nurse behavior

Day 2. Get the student in the room, work on communication

Day 3. Provide support and self-confidence while helping to care for the assigned patient

Ideas of what to work on with mentees:

- Forms/ paperwork
- Professional communication- with team, patient, peers
- Computer skills (EMR)
- Understanding the rhythm/ roles of the unit
- What to "hear" in report/ What to say about a patient
- Get students in the room and confident with patients

How to give feedback:

- Be specific
- Do not "sandwich" critique
- Only provide feedback on something that can be changed

"A mentor is someone who sees more talent and ability within you, than you see in yourself, and helps bring it out of you." Bob Proctor

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## VITA

Danielle Walker is a registered nurse working in Texas since 2003. Danielle was born in Plano, Texas in 1981. Her professional work includes labor and delivery, operating room, post anesthesia care unit experiences in the large medical center setting, medical device education consulting, and clinical education for the baccalaureate nursing program at Texas Christian University (TCU). Danielle currently lives in Fort Worth, Texas with her husband Scott Walker and two children, Tommy and Willie. Triple space between heading (name) and beginning of biographical sketch.

### Education

Double space between the remainder of the paragraphs. Include in this section, centered on the page, all degrees earned, dates of degrees, and schools attended including the location:

B.S.N., May 2003 Texas Christian University, Fort Worth, Texas  
M.S. Texas Woman's University, Dallas, Texas

### Publications

Walker, D., Van Sell, S., & Kindred, C. (2010). Pressure ulcer prevention: Utilizing unlicensed assistive personnel. *Critical Care Nursing Quarterly*, 33 (4), 348-355.

### Summary of Dissertation

Peer mentoring or peer assisted learning is widely used in the educational setting. Research suggests it is a powerful educational tool with multiple positive outcomes for students. However, there is little research regarding peer mentoring in the clinical setting. The clinical setting, an important aspect of nurses' educational experiences, can be anxiety producing. Research demonstrates increased student anxiety decreases a student's ability to learn. Therefore, the objective of this study is to determine if anxiety levels of nursing students participating in peer mentoring during their first clinical practicum experience less anxiety than nursing students who participate in traditional clinical experiences. This pilot study utilized a classic treatment and control group design using random assignment. Anxiety was measured using the Standardized State Trait Anxiety Index (STAI) and the Clinical Experiences Anxiety Form (CEAF). Data regarding student's perceptions of the clinical environment during this experience was gathered through the Student Evaluation of Clinical Education Environment (SECEE). Data was analyzed using descriptive statistics, ANOVA, Mann Whitney U, Wilcoxon Rank Tests, and correlations. Resulting data is the first step in a research trajectory expected to demonstrate peer assisted learning as an innovative clinical learning model.