CLINICAL SIMULATION EXPERIENCES IN NURSING SCHOOLS:

SENIOR STUDENT NURSES' EMPATHETIC COMMUNICATION CAPABILITY


Honors Thesis




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by


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CLINICAL SIMULATION EXPERIENCES IN NURSING SCHOOLS:

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Table of Contents

## I. Abstract

**Aims.** This undergraduate research focuses on the modern use of simulation as an addition to clinical experiences in one Texas nursing school that mirrors many across the nation. The study looks at the empathetic capability scores of senior nursing students who have completed five semesters of course work with hospital and simulation lab hours embedded in courses.

**Background.** Empathy is defined as a cognitive attribute that involves understanding a patient's experience at a given point in time. Research supports that due to its cognitive nature, empathy can be a learned skill and a major component of empathy is communication. Health care professionals exhibiting empathy toward their patients have better clinical outcomes (Hojat, Gonnella, & Maxwell, 2009). Nursing programs and accrediting agencies agree strategies that foster the development of empathetic capability in BSN students need to be implemented.

**Design.** Descriptive Research

**Methods.** The Jefferson Scale of Empathic Communication Survey adapted for Health Professions Students (HPS Version) was placed into an online format. An e-mail letter of invitation to participate with an explanation of the study containing the consent, and survey link was sent out to a convenience sample of 85 graduating senior Bachelor of Science Nursing (BSN) students at St. David's School of Nursing, Texas State University.

**Results.** Twenty three students compiled the study sample and yielded an average empathy score of 112. The scores did not differ by age, prior degree, or previous

healthcare experience. Gender differed with men scoring higher empathy scores than women.

**Conclusion.** Students graduating from Texas State University's School of Nursing are leaving with a high capability for empathy. Further research is needed to determine the extent simulation or clinical hours have on the development of student empathy capabilities.

## II. Foreword

Labor Day weekend of my freshman year in high school, I was involved in an ATV accident in the backwoods of Oklahoma. Without a bar of cell phone service, my parents depended on the vehicle's navigation system to save my life and get me to the nearest hospital forty-five minutes away. At the hospital, the computed tomography (CT) scan revealed that my spleen was nearly completely severed and that if I did not receive adequate care in the next few hours, I would die. With blood filling my abdominal cavity, I had only a 50% chance of survival. I was soon taken by life-flight to a hospital with a pediatric intensive care unit (PICU) and an available surgical team. Luckily, the doctors opted not to remove my spleen and instead, required me to recover by remaining bedridden for a week in PICU, a week of home recovery, and three months of abstaining from any physical activity.

With two fractured ribs, two units of blood, one collapsed lung, one severed spleen, and lots of morphine later, I came to a conclusion that has changed my life forever: Life was not about what you want, but what you can give. I realized that if I had died, my father's dreams of my becoming the first in my family to graduate from college would have also died. I realized that if I had died, I would have failed in becoming closer

to the Lord, and to my family. I realized that one simple accident could have really been the end. I prayed like I've never prayed before, and believed through my prayer that God gave me a second chance to contribute to His world. With this second chance, I realized that life was about having the opportunities that most others take for granted, and giving back to others through those opportunities. This second chance has taught me to love, to appreciate, and to give.

Thus, I hope to give to others through becoming an Emergency Room Nurse. I feel it to be my duty to pay it forward and become an emergency room nurse myself, like the ones who saved my life that day. Most importantly, I wish to help people in any way I can and believe that becoming a nurse will fulfill my aspiration. I hope to contribute to my community with my hands, my mind, and the knowledge Texas State University has provided me.

Through the publication of this Honors Thesis, I hope to shed some light on the use of simulation labs in nursing schools and their effects on nursing students' most important empathetic communication capabilities. This thesis is important because the use of simulation labs in nursing schools around the nation is relatively new, increasing in use due to shortages of in hospital clinical experiences, and there is a lack of research regarding nurse-patient interactions in post-simulation education practices; specifically, empathetic capability.

Because nurses have so profoundly impacted my life, I know how influential a nurse's empathetic capability can be to patients in need. Therefore, I want to make sure that every step is being taken to prepare future nurses as effectively as possible so that they may provide compassionate, empathetic, and competent patient care.

<div align="center">**III. The History of Nursing**</div>

A. Florence Nightingale

Years prior to viewing nursing as an actual profession, "nursing" was simply deemed yet another duty of the head female in the family. Part of being both mother and caregiver meant nursing family members back to health and catering to their every need. Some military personnel and nuns in Europe provided nurse-like services in times of war, but it was profoundly sub-par to what was actually needed in the hospitals. It wasn't until Florence Nightingale came into the picture that nursing changed for the better. Nightingale came from a privileged family, had a broad education, and grew to dislike the lack of opportunity for women in her social circle (Bloy, 2012). She desired to be a true woman of worth: a woman who wanted nothing more than to be of aid to the people who needed it most. She began to visit the poor in her twenties in 1844, but she specifically became very interested in looking after those who were ill (Bloy, 2012). She visited numerous hospitals around the country to investigate possible nursing occupations for women (Bloy, 2012). However, nursing was seen as employment that needed neither education nor intellect (Bloy, 2012).

Florence changed the public's view of nursing through her work of assembling nursing services during the Crimean War (Bio, 2015). In fact, it is during this time that she would check on the injured troops during the night using nothing but the light of her lamp to guide her, thus earning the nickname "Lady with the Lamp" (Bio, 2015). She worked diligently to improve the conditions of soldiers and laid the foundation for the profession of nursing through the publication of her first book titled, "Notes on Nursing: What It Is and What It Is Not". This one-hundred and thirty-six page book was meant to

aid people in the practice of helping others by highlighting the best ways to do essential tasks including bedding, management, and communicating with patients and their families (Nightingale & Kessler, 2007).

Her scholarly book was the first of its kind to shed light on the importance of communication in the profession of nursing. Even in the scholarly literature of today, it is agreed among professionals that verbal communication is necessary for maintenance of an empathetic bond between nurse and patient (Metcalfe & Putnam, 2013). Although her book and her dedicated hands-on work helped improve the status and reputation of nurses in her country, much more needed to be done.

In September 1856, Florence Nightingale visited Queen Victoria and Prince Albert of England and told them that there needed to be major reforms in the military hospital system (Bloy, 2012). In response to Nightingale's request, the royal duo set up a "Nightingale fund" to establish the first school for nurses that was given the name, "Nightingale Training School for Nurses" (Bloy, 2012; Bio, 2015). The foundation of this school allowed for the nurses to be trained to an all new level of qualification and specificity due to their curricula of one year of practical instruction and lecture courses, and a supplemental two years of clinical experience in the hospital (University of Alabama, 2015). This hands-on experience allowed nurses to learn to develop observation skills and sensitivity to patient needs. This most directly relates to nursing empathetic skills because remaining sensitive to a patient's needs requires the nurse to have well developed observational and communication skills to truly care for the patient. As a profession, nursing must more specifically promote empathy, the understanding from the patient's perspective. Nursing must focus on empathetic communication skills to

fully provide compassionate nursing care (Matcalfe & Putnam, 2013). Thus, the importance of empathetic care and communication can be traced back all the way to the first established nursing school.

B.  Clara Barton and the Red Cross

Meanwhile, at approximately the same time across the ocean in the United States of America, Clarissa Harlow Barton ("Clara") started her service to others by supplying materials to Union Civil War army members (Civil War Trust, 2015). She, and many other women, soon discovered that simply providing medical supplies to the military was not enough to help the injured and exhausted troops. What the troops needed more than anything, were the women's nursing services. She first worked on keeping the soldiers' spirits up by reading to them, talking with them, and even praying with them (The American National Red Cross, 2015). This can be seen as an example of empathy. Empathy, in the context of patient care, can be viewed as the capability to communicate an understanding of the patient's experiences, concerns, and perspectives (Hojat, Gonnella, & Maxwell, 2009).

By communicating with the soldiers in such manner, Clara Barton was able to connect with them on an emotional level. She discussed their experiences, prayed with them about their concerns, and listened to their perspectives. Thus, it is evident that empathy has always been at the root of nursing care. The all-important skill of empathetic communication allows the patient to feel at ease which can promote healing (Ward et al., 2009). Clara Barton desired nothing more than to help heal the sick and wounded, but because she was a woman during a time that women were looked down upon, it would be a fight to gain permission for her presence on the battlefield. Using her female

communication tactics and the facts to her benefit, she nagged the government until she received permission to go on the fields and bring caring help and supplies to the much deserving troops (The American National Red Cross, 2015). Surgeons were overworked, hospitals were over populated, and casualties were skyrocketing due to the lack of medical personnel and adequate supplies (The American National Red Cross, 2015).

Often remembered as the "Angel of the Battlefield", Clara Barton served in numerous battles and provided services ranging from bed care to helping in surgery (The American National Red Cross, 2015). She worked hard for many years during and after the war continuing her healing communication efforts and writing letters to families of soldiers she knew to be missing or dead (Civil War Trust, 2015). She saw too that needs continued after the war was through. She discovered Switzerland's Red Cross Organization that filled the needs she had identified and fought diligently to pass the treaty necessary to bring such services to the United States (The American National Red Cross, 2015). In this case, and like every other experience she had with the government, she got her way. At age 60 in 1881, she founded the American Red Cross and led it for the next 23 years (The American National Red Cross, 2015). Due to Clara Barton's compassionate heart, relentless determination, professionalism, and profound communication skills, one of the most helpful care organizations in the United States of America was established. Her effort on and off the battlefield had helped save countless Civil War troop lives, and has continued to aid people all around our nation even today through the establishment of the American National Red Cross. Clara Barton truly displayed the compassion, commitment, and empathetic communication skills of a dedicated nurse.

C. Review of Literature: Empathy

Nursing is a profession that combines the evidence of scientific knowledge with the skill of caring for another human being. The care component is most often referenced as the art of nursing (Lovan & Wilson, 2012). This unique art involves actions and attitudes of virtue including compassion, respect, and empathy (Lovan & Wilson, 2012). A nurse must be both knowledgeable about current evidenced based practice, as well as proficient in human relations. Nurses interact with people on an intimate level because they care for people in their weakest of moments. Therefore, it is absolutely imperative that a nurse be well versed in the skill of empathy. There is much dispute over exactly what empathy is and if it is an in-born trait or if it is a learned skill.

The review of literature shows that most experts agree that empathy is a cognitive based function that can be taught. The definition for the purpose of this research is that, "empathy in the context of health professions education and patient care as a predominantly cognitive (as opposed to affective or emotional) attribute that involves understanding (as opposed to feeling) of the patient's experiences, concerns, and perspectives, and a capability to communicate this understanding" (Hojat, Gonnella, & Maxwell, 2009, p. 1). The nursing profession is founded upon the empathy practiced by Florence Nightingale and Clara Barton. It can be learned through experiencing caring relationships held between nurse and patient (Metcalfe & Putnam, 2013). When a nurse is empathetic, he or she begins to see past a patient's behavior and understands the patient's inner experience at that time. Empathy enables the nurse to truly comprehend what the patient is going through because empathy involves the intellectual and emotional comprehension of another person (Smith & Parker, 2015).

The skill of empathy in itself is composed of various attributes. Specifically, verbal communication is needed to maintain the empathetic bond between nurse and patient (Metcalfe & Putnam, 2013). "Communicating understanding, a behavioral dimension of empathy, provides patients with the perception of being understood. This ultimately creates a therapeutic bond with the nurse because it serves to establish a sense of connectedness and support" (Ward et al., 2009, p. 74). Therefore, empathetic communication with patients is necessary to fully provide compassionate nursing care (Metcalfe & Putnam, 2013).

The relationship between empathy and positive clinical outcomes is correlated (Hojat, Gonnella, & Maxwell, 2009). It can be shown that clinical outcomes progressively become better as a result of an increase in empathy (Hojat, Gonnella, & Maxwell, 2009). As well, research shows that cognition and understanding (the prominent ingredients of empathy) can be substantially enhanced by education (Hojat, Gonnella, & Maxwell, 2009). This implies that empathy can be taught. Therefore, it is important that steps be taken to ensure the continued development of empathy in BSN students across the nation. Nursing education programs evolve in response to changes in research and health care system needs, but they need to incorporate teaching strategies to facilitate the development of empathetic capability and communication.

### IV. Simulation Labs

Simulation labs are considered the new and improved way to prepare student nurses for their nursing healthcare profession. By using the simulation labs for clinical simulations, students are able to get a safe, real life experience because the experiences are a replication, as near to reality as possible, of a clinical setting and/or situation (Penn,

2008). Also, the students are able to perfect their skills in the laboratory on the simulation

mannequins before they actually practice on real patients. These laboratories, commonly

referred to as "Sim-Labs", consist of computerized mannequins that are controlled by the

nursing professors in a physical recreated clinical setting. The "Simulators" look like real

people, feel like real people, and even talk like real people. It is believed that students'

interactions with the Simulators will better prepare them for all types of medical

situations because Clinical Simulation can be altered to model a specific situation, use

specific equipment, or replicate a specific patient situation (Penn, 2008).

The simulation educational methods are believed to be most beneficial to students

because the method allows students to correlate the skills they learned in their text books

with hands-on interactions with the life-like Sims (Oermann & Gaberson, 2009). This

practice is believed to be the best method because it allows students to think through

ambiguous patient situations, which cultivates higher level cognitive skills that allow

students to arrive at sound clinical judgments (Oermann & Gaberson, 2009). Research

also supports the notion that teaching methods should include the use of simulation-based

exercises designed to promote critical thinking in delivering and empathetic response

(McMillan & Shannon, 2011).

Nursing schools in the United States compete to place their students in hospitals

and clinics for their clinical hours and it is becoming harder for the schools to get the

hours they request. This is also true for the school in this study. Junior level nursing

students in this central Texas BSN program use the Sim-labs almost weekly, and senior

level nursing students use them frequently in their first semester. They can have up to

half of their clinical hours for their course completed in the Simulation labs. They

practice basic skills such as obtaining intravenous (IV) access, and more intricate skills such as cardiopulmonary resuscitation and administering resuscitation drugs during a trauma scenario. Once students have mastered their skills in the simulation laboratories, nursing students perform their newly learned skills during their clinical days at local hospitals in a variety of patient care areas.

However, nursing students cannot practice their new knowledge and these skills, which include their communications skills, in the clinical setting on live patients without first passing a series of tests within the simulation labs. The setting for this experience is complex. During these check-offs, the student nurse is placed in a simulation setting with just the student and his or her "Sim" patient. There is a simulation lab technician controlling the Sim outside of the room, looking in through a double sided mirror where the student cannot see or hear him or her. The technician controls the Sim in every way including: blood pressure, heart rhythm, respiratory rates, temperature, and even communication with the student nurse (such as saying "I don't feel too good"). There are numerous cameras situated around the room and microphones hanging from the ceiling that allow for observation recording of the video and sound together to evaluate the nursing student.

When the check off is underway, the student is video-taped and recorded so that the student may view the scenario and debrief with the professor at a later time about how he or she may have better handled the situation. Obviously all of the tools used in the simulation labs (Sims, cameras, microphones, etc.) are *very* expensive. However, it is because of early positive research findings showing little difference between clinical experience with real patients and that with simulation that many schools and programs

around the nation also believe that in terms of patient safety and student competency, the use of Sim-labs is the most beneficial way to prepare their student nurses and they are willing to spend the money to purchase and utilize the simulation laboratories (Galloway, 2009).

a. Clinical Hours of Program

Students in a Bachelor of Science in Nursing Program are required to have a certain amount of clinical hours as mandated by the state. For the Class of 2015 at Texas State University, a total of 855 clinical hours were accumulated over five semesters. Clinical hours are composed of both simulation lab hours and actual hospital clinical experience. There is no requirement that a certain amount of clinical hours must be done in the hospital or vice versa. For this particular cohort of students, a total of 551 hours were spent in the hospital clinical setting including Medical/Surgical, Pediatrics, Intensive Care Unit (ICU), Intermediate Care Unit (IMC), Women's Services, Emergency Department (ED), Post-Anesthesia Care Unit (PACU), Catheterization Laboratory, Rehabilitation, Telemetry, Psychiatric, and Community nursing. A total of 120 hours were spent using the high fidelity simulators. High fidelity simulators are full-bodied, computer-controlled simulators with physiological responses to nursing student interventions. A total of 180 hours was spent in simulation lab using low and medium fidelity simulators. The medium and low level simulators, while also full-bodied and computer controlled, are not as responsive to interventions. Lastly, a total of four hours were spent using virtual intravenous (IV) with simulators and adult and pediatric inpatient and outpatient scenarios. These were strictly computer-based scenarios completed online.

## V. Aim

The aim of this study is to identify the level of graduating senior nursing students' empathic communication capacities when they are completing a program that uses modern simulation labs and simulations in addition to hospital clinical experiences. My work includes the surveying of current graduating senior level BSN students at St. David's School of Nursing in Round Rock, Texas. I used the Jefferson Scale of Empathy questionnaire, adapted for Health Professions Students, to ask about the students' opinions regarding empathy in the clinical setting. When asked about their opinions, students were able to relate back to both simulation labs and clinical rotations where they encountered real-life interactions with patients. These "real-life interactions with patients" pertain to the situations nurses encounter with patients on a daily basis. These encounters include high-risk medical situations, communications with their patients and patient's loved ones, and most importantly, their empathy levels toward the patient they take care of. Because these skills and attributes are vital for Registered Nurses (RNs) to perform their job as professionally and mistake-free as possible, it is necessary to evaluate nurses' preparedness in situations where critical thinking, time management, and empathy skills are necessary (Oermann & Gaberson, 2009). This pre-licensure setting meets those requirements.

This thesis explores the possibility of a relationship between the use of Simulation labs in BSN nursing programs and the empathetic capability of Senior BSN student nurses. I selected a previously used survey tool and have recorded these results in graph figures in order to provide a form of illustration for clarification and understanding. I

have conducted my research using a convenience sample for a descriptive study with questions answered by Senior BSN students in one survey.

## VI. Design

a. IRB approval

In order to obtain institutional review board (IRB) approval from Texas State University, I completed the Collaborative Institutional Training Initiative (CITI) Human Subjects Protection Training program on March 10th, 2015. An abstract, synopsis, email template, and consent form were submitted to the committee for review on March 11th, 2015. The application was given number: 2015D8781. The application was accepted pending changes on March 31st, 2015. The requested changes were made, and the application was resubmitted on April 8th, 2015. IRB approval was obtained on Monday, April 13th, 2015. The senior students were invited to participate, consent to participate was collected, and the survey information was also distributed on Monday, April 13th, 2015.

b. E-mail Recruitment

Below is the exact e-mail sent to participants:

Title: Invitation to participate in IRB approved Online Empathetic Communication study

Body: Good afternoon Texas State University Senior Nursing Student

Subject: Invitation to participate in Empathetic Communication study

You are being asked to participate in this IRB approved descriptive research study looking at empathetic communications in nursing students.

The principal investigator in this study is Ashley Carranza, anc4@txstate.edu. She is working with Dr. Barbara Covington (512) 716-2921; bc32@txstate.edu, and Dr. Anne

Standiford (512) 716-2905; ab77@txstate.edu. Please feel free to contact any of the research team for questions.

You have been invited because you are a S1 BSN student at Texas State University.

If you agree to be in this study, you will fill out a 30 question survey that will take approximately 15-20 minutes to complete.

Your responses are anonymous, will not be linked to your name, and will only be viewed by the research team mentioned above and are not attached to your name or identifier when viewed. Your electronic responses will be kept in an encrypted file, on a password-protected computer.

You may choose not to answer any question, at any time, for any reason.

If you do not wish to complete this survey, you may close the browser window at any time, without penalty or loss of benefits from Texas State University.

The risks of this study are no greater than the risks of everyday life. There are no direct benefits to you for completing this survey, and there is no monetary compensation. However, your responses may help to improve nursing education in the future.

 As a way of thanking your for participating in this study, you will be entered to win one of 12 prizes. The researchers will not be directly involved in the drawing, but you must have completed the survey to have a chance at winning a prize.

Drawing Prizes include USB storage drives, water bottles, and one backpack. You will be notified via email if you have won.

Thank you in advance for your support.

You may begin the survey by clicking the link below.

https://snap.txstate.edu/snapwebhost/surveypreview.asp?k=142567204281

SSKH:142567204281

c. Survey

The Jefferson Scale of Empathy Health Professions (HP) Student Version was used to survey nursing students (Hojat et al., 2002). The tool comes with 20 pre-written questions that ask the students to use a 7-point Likert-type scale (Strongly Agree=7, Strongly Disagree=1) to rate their feelings regarding each question/statement. "Ten of the items are positively worded and directly scored according to their Likert weights, and the other 10 items are negatively worded, thus reverse scored" (Ward et al., 2009, p. 75). The HP-Student version (for students in health professions other than medicine) reflects students' attitudes toward empathy in the context off care giver-care receiver relationships (Hojat, Gonnella, & Maxwell, 2009). The scale has successfully been used in research before at other locations and for other health professional students such as nurses. Two additional questions were added to the survey: 1) "Are you now employed or have been employed as a volunteer or paid health care provider-patient care volunteer, Patient Care tech, LPN , LVN?" 2) "Is the BSN a second career/degree for you?" The survey was converted into an online form using "Snap Surveys" and it was then e-mailed to the selected students via the university e-mail tool on Monday, April 13th, 2015 and again on Thursday, April 16th, 2015. Following is the tool used:

Texas State Email Address
_____

## Demographics

Please complete the questions below.

Age
- ☐ <19
- ☐ 19-21
- ☐ 22-24
- ☐ 25-27
- ☐ 28-30
- ☐ 31-33
- ☐ 34-36
- ☐ 37-39
- ☐ 40-42
- ☐ 43-45
- ☐ 46-48
- ☐ 49-51
- ☐ >51

Gender
- ☐ Male
- ☐ Female
- ☐ Other

If Other gender, please explain.
_____

_____

What is your degree program?
- ☐ Nursing
- ☐ Occupational Therapy
- ☐ Physical Therapy
- ☐ Counseling/Psychology
- ☐ Respiratory Therapy
- ☐ Other

If Other degree, please explain.
_____

_____

Year in Nursing program
- ☐ Junior, first semester (J1)
- ☐ Junior, second semester (J2)
- ☐ Junior, third semester (J3)
- ☐ Senior, first semester (S1)
- ☐ Senior, second semester (S2)

Are you now employed (or have been employed) in the health care field (volunteer or paid)?
- ☐ Yes
- ☐ No

What health care position(s) did you have?
- ☐ Patient care tech
- ☐ Mental health tech
- ☐ Physical therapist tech
- ☐ Veterinary tech
- ☐ LPN/LVN
- ☐ Pharmacist tech
- ☐ Hospital volunteer
- ☐ Other

What other health posistion did you have?   (please explain below)
_____

_____

Is this program a second degree for you?
- ☐ Yes
- ☐ No

Please write in what your first degree was.
_____

_____

# Jefferson Scale of Empathy

Please indicate the extent of your agreement or disagreement with *each* of the following statements by selecting the appropriate circle to beneath each statement. Please use the following 7 point scale. Select <u>one and only one</u> response for each statement.

Health care providers' understanding of their patients' feelings and the feelings of their patients' families does not influence treatment outcomes.
- ❑ 1 Strongly Disagree
- ❑ 2
- ❑ 3
- ❑ 4 Neutral
- ❑ 5
- ❑ 6
- ❑ 7 Strongly Agree

Patients feel better when their health care providers understand their feelings.
- ❑ 1 Strongly Disagree
- ❑ 2
- ❑ 3
- ❑ 4 Neutral
- ❑ 5
- ❑ 6
- ❑ 7 Strongly Agree

It is difficult for a health care provider to view things from patients' perspectives.
- ❑ 1 Strongly Disagree
- ❑ 2
- ❑ 3
- ❑ 4 Neutral
- ❑ 5
- ❑ 6
- ❑ 7 Strongly Agree

Understanding body language is as important as verbal communication in health care provider - patient relationships.
- ❑ 1 Strongly Disagree
- ❑ 2
- ❑ 3
- ❑ 4 Neutral
- ❑ 5
- ❑ 6
- ❑ 7 Strongly Agree

A health care provider's sense of humor contributes to a better clinical outcome.
- ☐ 1 Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4 Neutral
- ☐ 5
- ☐ 6
- ☐ 7 Strongly Agree

Please indicate the extent of your agreement or disagreement with *each* of the following statements by selecting the appropriate circle beneath each statement. Please use the following 7 point scale. Select <u>one and only one</u> response for each statement.

Because people are different, it is difficult to see things from patients' perspectives.
❑ 1 Strongly Disagree
❑ 2
❑ 3
❑ 4 Neutral
❑ 5
❑ 6
❑ 7 Strongly Agree

Attention to patients' emotions is not important in patient interview.
❑ 1 Strongly Disagree
❑ 2
❑ 3
❑ 4 Neutral
❑ 5
❑ 6
❑ 7 Strongly Agree

Attentiveness to patients' personal experiences does not influence treatment outcomes.
❑ 1 Strongly Disagree
❑ 2
❑ 3
❑ 4 Neutral
❑ 5
❑ 6
❑ 7 Strongly Agree

Health care providers should try to stand in their patients' shoes when providing care to them.
❑ 1 Strongly Disagree
❑ 2
❑ 3
❑ 4 Neutral
❑ 5
❑ 6
❑ 7 Strongly Agree

Patients value a health care provider's understanding of their feelings which is therapeutic in its own right.
❑ 1 Strongly Disagree
❑ 2
❑ 3
❑ 4 Neutral
❑ 5
❑ 6
❑ 7 Strongly Agree

Please indicate the extent of your agreement or disagreement with *each* of the following statements by selecting the appropriate circle beneath each statement. Please use the following 7 point scale. Select <u>one and only one</u> response for each statement.

Patients' illnesses can be cured only by targeted treatment; therefore, health care providers' emotional ties with their patients do not have a significant influence in treatment outcomes.
- ☐ 1 Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4 Neutral
- ☐ 5
- ☐ 6
- ☐ 7 Strongly Agree

Asking patients about what is happening in their personal lives is not helpful in understanding their physical complaints.
- ☐ 1 Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4 Neutral
- ☐ 5
- ☐ 6
- ☐ 7 Strongly Agree

Health care providers should try to understand what is going on in their patients' minds by paying attention to their non-verbal cues and body language.
- ☐ 1 Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4 Neutral
- ☐ 5
- ☐ 6
- ☐ 7 Strongly Agree

I believe that emotion has no place in the treatment of medical illness.
- ☐ 1 Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4 Neutral
- ☐ 5
- ☐ 6
- ☐ 7 Strongly Agree

Empathy is a therapeutic skill without which a health care provider's success is limited.
- ☐ 1 Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4 Neutral
- ☐ 5
- ☐ 6
- ☐ 7 Strongly Agree

Health care providers' understanding of the emotional status of their patients, as well as that of their families is one important component of the health care provider - patient relationship.
- ☐ 1 Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4 Neutral
- ☐ 5
- ☐ 6
- ☐ 7 Strongly Agree

Health care providers should try to think like their patients in order to render better care.
- ☐ 1 Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4 Neutral
- ☐ 5
- ☐ 6
- ☐ 7 Strongly Agree

Health care providers should not allow themselves to be influenced by strong personal bonds between their patients and their family members.
- ☐ 1 Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4 Neutral
- ☐ 5
- ☐ 6
- ☐ 7 Strongly Agree

I do not enjoy reading non-medical literature or the arts.
- ☐ 1 Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4 Neutral
- ☐ 5
- ☐ 6
- ☐ 7 Strongly Agree

I believe that empathy is an important factor in patients' treatment.
- ☐ 1 Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4 Neutral
- ☐ 5
- ☐ 6
- ☐ 7 Strongly Agree

## VII. Sample

The study used a convenience sample derived from the senior BSN students in Texas State University's School of Nursing's Class of 2015. There were 86 students: 10 Males and 76 Females. Ages ranged from 20-46. Subjects were of mostly white or

Hispanic/Latino ethnicity, though a few were Asian or African-American, and all were in an overall good state of health. Criteria for inclusion was that the subject be a senior level baccalaureate of science nursing student at Texas State University. This special selection of subjects was conducive to help narrow the results of the study. Because I am both Primary Investigator (PI) and one of the 86 senior nursing students, I removed myself from the survey pool to avoid conflict of interest. The remaining 85 students, consisting of 10 men and 75 women, composed the sample. There was a 27% return. A total of 4 men and 19 women completed the survey. There was a 17% response rate by men with 83% response rate from women. This matched closely with the class demographic of 12% men and 88% women. Therefore, this return is enough to make the results statistically valid.

## VIII. Data Collection

The survey was converted into an online form using "Snap Surveys". The survey was then e-mailed to the selected students via the university e-mail tool on Monday, April 13th, 2015 and again on Thursday, April 16th, 2015. The data was downloaded into SPSS Version 21 on April 20th, 2015. The data was cleaned and variable labels were applied.

## IX. Data Analysis

The survey was analyzed using Microsoft Excel and SPSS version 21 by IBM Inc. Descriptives for dependent variable: empathy.

Interpretation: The dependent variable, empathy, met the assumptions of homogeneity of variance and normal distribution. Mean empathy score was 111.91 (*S.D.* = -.21)

## Histogram

Mean = 111.91
Std. Dev. = 13.263
N = 23

**Statistics**

Nsg Student Empathy

| | | |
|---|---|---|
| N | Valid | 23 |
| | Missing | 0 |
| Mean | | 111.91 |
| Median | | 114.00 |
| Std. Deviation | | 13.263 |
| Skewness | | -.209 |
| Std. Error of Skewness | | .481 |
| Kurtosis | | -.545 |
| Std. Error of Kurtosis | | .935 |
| Minimum | | 84.00 |
| Maximum | | 134.00 |
| Percentiles | 25 | 102.00 |
| | 50 | 114.00 |
| | 75 | 122.00 |
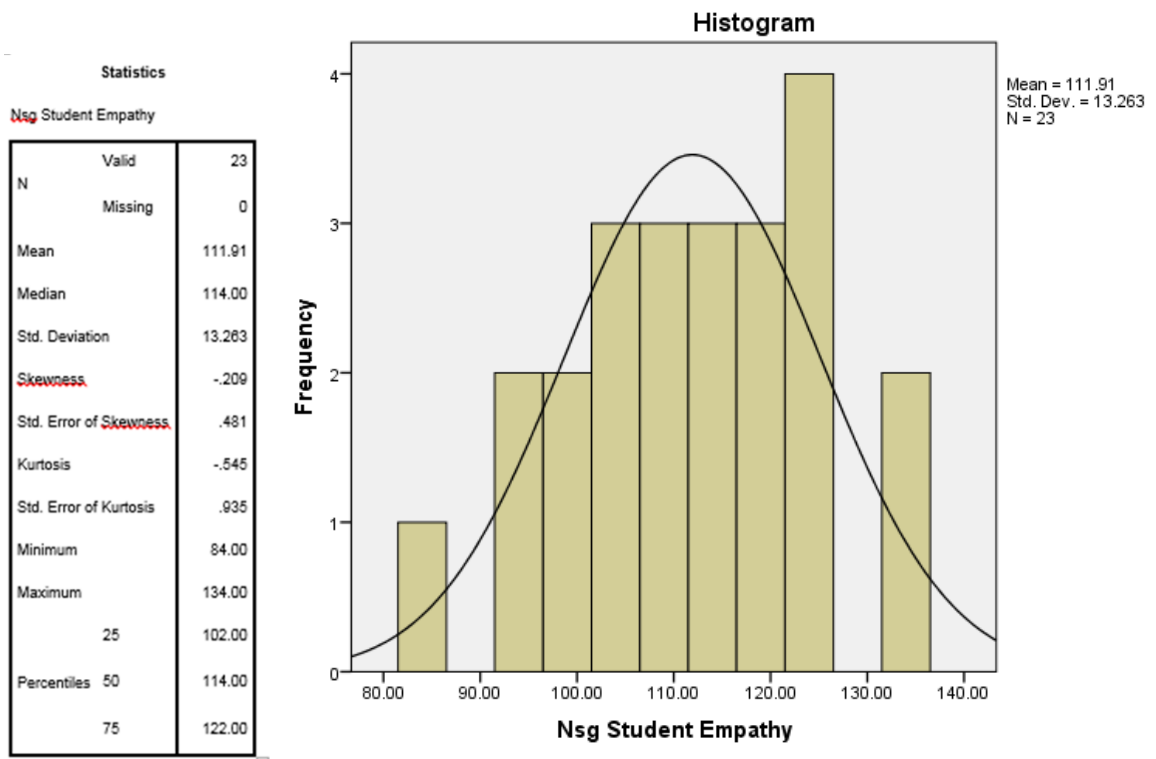
Statistical Analyses

T-test, empathy by gender

**Interpretation:** The sample consisted of 4 men (17%) and 19 women (83%). Overall, men differed significantly, scoring higher than women on the Jefferson Scale of Empathy ($t$ = -2.59, $p$ = .017).

**Gender Descriptives**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Female | 19 | 82.6 | 82.6 | 82.6 |
| | Male | 4 | 17.4 | 17.4 | 100.0 |
| | Total | 23 | 100.0 | 100.0 | |

**Independent Samples Test Empathy x Gender**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means |
|---|---|---|---|---|
| | | F | Sig. | t |
| Nsg Student Empathy | Equal variances assumed | 3.344 | .082 | -2.591 |
| | Equal variances not assumed | | | -5.237 |

**Independent Samples Test Empathy x Gender**

| | | t-test for Equality of Means | | |
|---|---|---|---|---|
| | | df | Sig. (2-tailed) | Mean Difference |
| Nsg Student Empathy | Equal variances assumed | 21 | .017 | -16.84211 |
| | Equal variances not assumed | 20.799 | .000 | -16.84211 |

**Independent Samples Test Empathy x Gender**

| | | t-test for Equality of Means | | |
|---|---|---|---|---|
| | | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | Lower | Upper |
| Nsg Student Empathy | Equal variances assumed | 6.50082 | -30.36131 | -3.32290 |
| | Equal variances not assumed | 3.21615 | -23.53440 | -10.14981 |

1-way ANOVA, empathy by healthcare profession

Group 1: No history of healthcare profession job

Group 2: Hospital Volunteer

**Interpretation:** Eleven students reported never having had a healthcare profession job, two students had worked as hospital volunteers, and 10 reported having had healthcare profession jobs including nurse tech and physical therapist tech. There was no statistically significant difference in empathy by healthcare job experience, but it was close to significant and may well be clinically significant in a larger sample ($F$ (2,20) = 3.371, $p$ = .055).

**Descriptives**

Nursing Student Empathy x Health Care Professional (HCP) job experience

|  | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean |
|---|---|---|---|---|---|
|  |  |  |  |  | Lower Bound |
| No HCP experience | 11 | 109.64 | 9.11 | 2.75 | 103.51 |
| Hospital Volunteer | 2 | 95.00 | 15.56 | 11.00 | -44.77 |
| Direct patient care job | 10 | 117.80 | 14.23 | 4.50 | 107.62 |
| Total | 23 | 111.91 | 13.26 | 2.77 | 106.18 |

**What health care position(s) did you have?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | | 10 | 43.5 | 43.5 | 43.5 |
| | Caregiver | 1 | 4.3 | 4.3 | 47.8 |
| | Emergency Department | 1 | 4.3 | 4.3 | 52.2 |
| | Hospital volunteer | 3 | 13.0 | 13.0 | 65.2 |
| | Medical Assistant | 1 | 4.3 | 4.3 | 69.6 |
| | Patient care tech | 4 | 17.4 | 17.4 | 87.0 |
| | Patient care tech & Hospital volunteer | 1 | 4.3 | 4.3 | 91.3 |
| | Personal Service Assistant at Assisted Living Facility | 1 | 4.3 | 4.3 | 95.7 |
| | Physical therapist tech | 1 | 4.3 | 4.3 | 100.0 |
| | Total | 23 | 100.0 | 100.0 | |

**ANOVA**

Nursing Student Empathy  x HCP job experience

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 975.68 | 2 | 487.84 | 3.37 | .055 |
| Within Groups | 2894.15 | 20 | 144.71 | | |
| Total | 3869.83 | 22 | | | |

1-way ANOVA: empathy by age

**Interpretation:** Eleven (47.8%) students were 19-24 years of age, 6 students were 25-30 years of age, and 6 students were 31-36 years of age.  There were no significant differences in empathy by age group ($F(2,20) = 1.828, p = .187$).

**age categories**

|  | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| 19-24 | 11 | 47.8 | 47.8 | 47.8 |
| 25-30 | 6 | 26.1 | 26.1 | 73.9 |
| Valid 31-36 | 6 | 26.1 | 26.1 | 100.0 |
| Total | 23 | 100.0 | 100.0 | |

**ANOVA**

Nursing Student Empathy  x age

|  | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 598.08 | 2 | 299.04 | 1.83 | .187 |
| Within Groups | 3271.74 | 20 | 163.59 | | |
| Total | 3869.83 | 22 | | | |

ANOVA Empathy by Prior Degree

**Interpretation:** Six students reported having received bachelor's degrees prior to entering nursing school.  Three held previous degrees in fields related to nursing (sociology, kinesiology, rehabilitation services), and two held humanities degrees, and one held a business degree.  There were no significant differences in empathy between

33

those who held a previous bachelor's degree, and those that did not ($F(18,4) = .711$, $p = .558$).

**Please write in what your first degree was.**

|  | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Bachelor of Arts in History | 1 | 4.3 | 4.3 | 78.3 |
| Bachelors in Kinesiology | 1 | 4.3 | 4.3 | 82.6 |
| Bachelors of Science in Rehabilitation Services | 1 | 4.3 | 4.3 | 87.0 |
| Business Marketing | 1 | 4.3 | 4.3 | 91.3 |
| Radio, TV, Film | 1 | 4.3 | 4.3 | 95.7 |
| Sociology | 1 | 4.3 | 4.3 | 100.0 |
| Total | 23 | 100.0 | 100.0 | |

Prior Degree Category

| Prior Degree | N | Mean | Std. Deviation |
|---|---|---|---|
| No prior degree | 17 | 111.53 | 14.21 |
| Humanities | 3 | 119.33 | 5.86 |
| Sciences | 2 | 111.50 | 13.44 |
| Business | 1 | 97.00 | . |
| Total | 23 | 111.91 | 13.26 |

**ANOVA**

Nursing Student Empathy  x Prior Degree

|  | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 390.42 | 3 | 130.14 | .71 | .558 |
| Within Groups | 3479.40 | 19 | 183.13 | | |
| Total | 3869.83 | 22 | | | |

## X. Results

After compiling the data, it was determined that the student sample yielded a mean empathetic score of 111.91. The highest empathetic score one could achieve is 140. Overall, the students scored a high average empathetic score. The scores did not differ by age, prior degree, or even by previous healthcare experience. However, the only group with an average empathetic score that did differ was that of gender.

The average empathetic score results are consistent with findings from another study. According to Ward et al, 2009, in a previously conducted study at Thomas Jefferson University, 333 nursing students were surveyed to determine their level of empathy where higher scores indicate a more empathic orientation. In this study, the students scored an average score of 114; very similar to the mean empathetic score discovered in the study examining Texas State's students. The study found that women scored higher than men; students with more clinical experience scored higher than those with less experience; and those with a higher level of education previous to nursing school scored higher average scores than the others.

In this particular study at Texas State University, it was expected that results will be similar to those found in the afore-mentioned study and the senior level BSN students will obtain a high score due to their vast simulation and hospital experience. However, this research differed from that study due to the fact that men scored higher than women

in empathetic capability. As well, those with more clinical experience due to outside patient care jobs scored the same as those who did not hold patient care jobs. Lastly, those who held previous degrees did not have higher empathetic capabilities. With a $p=.055$ this is nearly statistically significant. The results would have been statistically significant had the $p=.05$. However, this study's findings do not mirror that of the other study.

## XI. Discussion

The scores did not differ by age, prior degree, or even by previous healthcare experience. This is significant because it shows that older students are not more empathetic than younger students, prior education in both non-healthcare and healthcare related degree does not enhance empathetic capability, and students with patient care jobs outside of school are not learning empathetic skills through that experience. Most importantly however, the data is showing that all students, regardless of age, previous experience, and previous degree, are coming out of this program with equal amounts of empathetic capability. This intriguing result regarding empathy capability speaks highly to the program's ability to equally prepare all students regardless of personal background and experience.

In addition, it is extremely interesting to find that men scored higher average scores on the empathetic scale than did their women counterparts. Factors to consider in this surprising finding would be the specialty the men were going to pursue. For example, those specializing in pediatrics may be more inclined to hold empathetic capabilities. As well, male nurses tend to work in more critical specialty areas, and may be more inclined to exhibit empathetic skills due to the nature of their job.

36

## XII. Limitations of the study

Although the strength of this study was its determination that its findings differed from another study regarding nursing students, it also had some limitations. First, I could not specifically conclude that the degree of empathy exhibited was strictly due to the amount of hours spent in simulation scenarios or clinical rotations. Determining the extent to which each source, simulation or clinical experience, was effective should be addressed in future studies to develop more effective educational programs that promote empathetic capability in nursing students.  Also, a longitudinal study should be conducted to determine more concrete results. Second, the study was limited by the small convenience sample. Unfortunately, this limits the generalizability of the results. A larger group of BSN students is needed from a more diverse population. As well, BSN students from different nursing schools and from various regions of the country should be surveyed for purposes of generalizability. Third, there is possible bias in the answers because students may have felt that as graduating seniors they should answer in a certain way. Lastly, the students themselves answered the questions in self-report and the researcher has to assume they were answering truthfully. In future studies, the students could be observed in communication scenarios and the answers to the questions on the tool identified by the observer. Another recommendation is to use this tool in a study over the two years of nursing school to see how the empathetic communication developed over the five semesters.

## XIII. Conclusion

In conclusion, the study yielded some very interesting results that require further investigation. It was intriguing to discover that not only did men score higher than

women, but that all students came out of this program equally prepared with empathetic capabilities regardless of previous experience. This is significant in that it supports the findings from the literature review that empathy is a cognitive entity, and can be a learned skill through a nursing program. Most importantly, it is imperative that such findings be implemented into current nursing education practices. With this new found information, steps can be taken to ensure the implementation of curriculum supportive of empathetic development.

## XIV. Funding and Donations

This research received no special grant from any funding agency in the public, commercial, or not-for-profit sectors. However, the School of Nursing donated the rewards to the randomly selected participants. The items awarded to the randomly selected participants included: five flash drives, five Texas State University water bottles, and one backpack.

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