

**The Effects of Healing Touch on
Anxiety in Women Undergoing a
Breast Biopsy**

Deborah Rae Goldberg

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The work reported in this thesis is original and carried out by me solely, except for the acknowledged direction and assistance gratefully received from colleagues and mentors.

Deborah Rae Goldberg

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ABSTRACT

This randomized research study's objective was to determine, through scientific measurement, the relationship between Magnetic Clearing (MC), a Healing Touch modality, the impact of the resulting scores of coping strategies, and anxiety in women undergoing a breast biopsy. Seventy-three women were randomized into two groups: (A) Control Group (CG) n=31 and (B) Intervention Group (IG) n=42. The (IG) received standard care and one fifteen-minute (MC) session prior to the biopsy procedure. The (CG) received standard care.

The Nurse Navigator set up the two psychological measurement inventories: the Coping Resources Inventory (CRI) and the State Trait Anxiety Inventory (STAI). A Mixed ANOVA was used to interpret the STAI and the CRI. There were three data collection points, pre-biopsy, post-biopsy, and the following day. The State Anxiety for the (IG) showed a statistically significant reduction of anxiety that maintained into the following day $F(2,142)=10.94$, $p<.001$. In Trait Anxiety there was a marginal change pre-and post-intervention to the day after $F(2,142)=5.15$, $p<.007$. The CRI had significant changes in two sub-categories for the (IG): the Emotional category shows a $F(2,142)=6.10$, $p=.003$) and the Spiritual/Philosophical category shows $F(2,142)=6.10$, $p<.001$.

The Nurse Navigator collected the data from two time periods for the three biological measurements or vital signs. The Mixed ANOVA showed (IG) respiratory rate at $F(1,70)=21.05$, $p<.001$, (IG) and (CG) pulse rate showed no significance at $F(1,71)=2.98$, $p=.08$, and the (IG) blood pressure, systolic rate, showed $F(1,71)=21.46$, $p<.001$.

Additional research findings are presented in Chapter 4. Discussions, conclusions, and suggestions for future research are included in Chapter 5.

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CHAPTER 1: Introduction

Women who learn that they may have a potentially cancerous breast mass feel fear and anxiety as their two strongest emotions.¹ Healing Touch (HT) is a bio-energetic technique used to reduce anxiety and enhance feelings of relaxation. To this end, the Healing Touch modality known as Magnetic Clearing, a non-invasive healing technique, was used in this study to determine whether it might diminish the anxiety of women undergoing a breast biopsy. The Chapter One sections include Background of Problem, Statement of the Problem, Purpose of the Study, Research Questions, Relevance to the Field of Healing, Delimitations and Limitations, and Summary.

Background of Problem

Anxiety is pervasive, in general, for women who are undergoing a breast biopsy from the moment the mass is discovered until after the whole process is completed. Oftentimes, there is a ripple effect of this anxiety which may affect the future emotional status of these women. In a research study on women and breast biopsy titled, "Uncertainty and Anxiety During the Diagnostic Period for Women With Suspected Breast Cancer," Mei-Nan Liao and others state, "Anxiety level increases significantly from the moment a breast lump is found until one is notified of the biopsy result and reaches a maximum when a patient is preparing for a breast biopsy."²

In an article retrieved at the web-site, breastbiopsy.com, a woman named Mari expressed her anxiety and fears of hospitals, doctors, and having a breast biopsy procedure. She discussed how her doctor spoke with her in-depth about the biopsy procedure and, when she arrived at the location of the biopsy, how she was comforted

with the reassuring voices of the radiologist and nurse. She felt calmed by the compassion of the nurse and the radiologist. She noticed that even their hands were warm.³

In a study by Val Woodward titled, “Women’s Anxieties Surrounding Breast Disorders: A Systematic Review of the Literature,” reported in a study by Ubhi and others, women who were diagnosed with cancer had less anxiety than women with a benign diagnosis.⁴ The women with a benign mass seemed to have had a higher level of anxiousness.⁵ Even though the tests ruled out cancer, these women still perceived themselves at a higher risk of future problems.⁶ According to Ubhi, a primary factor in reducing anxiety was the length of time before a woman with benign disease found out she was cancer-free which reflects the impact of immediate communication verses receiving important information a week later.⁷

Reducing anxiety for women who are undergoing a breast biopsy warrants more research into alternative methods that may prove helpful and, overall, increasing the patient’s quality of life. For example, a study by Julie Schnur and others, using hypnosis as the intervention prior to an excisional breast biopsy, demonstrated significantly positive results. Schnur reports, “The present study demonstrated that patients who received a brief (15 minute) hypnosis session before excisional breast biopsy experienced lower levels of pre-surgical distress than patients who received the same amount of professional attention but no active intervention. More specifically, patients who received hypnosis before their surgery were significantly less emotionally upset, less depressed, less anxious, and were significantly more relaxed before surgery (post-hypnosis) than patients who were in the attention control condition.”⁸ Communication,

compassion, and relaxation can be instrumental in reducing anxiety and distress for women undergoing a breast biopsy and hypnosis is a subtle energetic technique which has shown to have positive effects in reducing stress among patients.

Healing Touch as a Complementary Healing Technique

The purpose of the integration of Complementary/Alternative/Energy Medicine (CAM or Energy Medicine) into Western Medicine is to ensure the best possible outcome for the patient. Emily Jackson and others in, “Does Therapeutic Touch Help Reduce Pain and Anxiety in Patients with Cancer?” quotes the Post-White and others study titled, “Therapeutic Massage and Healing Touch Improve Symptoms in Cancer,” stating, “Energy medicine, in the form of Healing Touch, has proven to have beneficial effects in lowering blood pressure and respiratory rates as well as reducing anxiety, pain, and nausea in patients, thereby increasing the quality of life for the individual.”⁹

In an article written by Milos Pesic titled, “Does Anxiety Cause High Blood Pressure?” the study results confirmed the value of Healing Touch in reducing high blood pressure. Pesic notes that anxiety and stress can affect blood pressure by raising it beyond normal limits as the body produces vasoconstriction hormones that increase the blood pressure under stressful conditions. If the stress and anxiety continues over a prolonged period or is repeatedly high over time, hypertension may result.¹⁰ As well, there are additional therapeutic benefits to HT.

In a research study by Hermann Wang and others, Wang reported on the impact of Magnetic Clearing (MC) with patients who have varying degrees of dementia. The intention of the study was to determine whether MC could help decrease agitation among these people. The results confirmed that the incidences of agitated behavior significantly

decreased in all of the subjects treated with MC. The subjects also experienced physiological changes such as relaxed breathing, decreased muscle tension, and what appeared to be a more peaceful demeanor.¹¹

Cecilia Wendler used Healing Touch in a hospital setting involving one hundred and thirty eight (138) subjects with significant results. Wendler's research study titled, "Reducing Pain and Anxiety through Healing Touch," involved male and female patients with varying diagnoses. In this study, the Healing Touch treatment resulted in significantly reducing pain and anxiety for these hospitalized patients.¹²

In the randomized study by Barb MacIntyre, "The Efficacy of Healing Touch in Coronary Artery Bypass Surgery Recovery: A Randomized Clinical Trial," MacIntyre reported that patients receiving HT had a decrease in anxiety and had a shorter length of stay in the hospital.¹³ MacIntyre quotes the Post-White study as well and states, "Due to the HT intervention, patients undergoing chemo-therapy experienced a decrease in blood pressure, pain, and felt an improvement in their mood with less fatigue."¹⁴

The evolution of energy medicine and its healing properties has been a noticeable process since the early 1920's and tremendous strides have been made in its use and acceptance as evidenced by current research including testimonials, research results, and empirical studies.¹⁵

Statement of the Problem

Healing Touch and Therapeutic Touch have been in the public eye for quite some time with an increasing interest. According to Dorothea Hoover-Kramer, in *Healing Touch: A Guidebook for Practitioners*, "The energetic approaches, of which Healing

Touch and Therapeutic Touch are best known in the health care-field, have received increasing public interest and support. Many hospitals, nationally and internationally, have policies that allow skilled practitioners of either modality to implement an energetic approach when appropriate. Health care consumers are requesting this work before and after surgery and in emergency and intensive care settings.¹⁶

In Medical News Today, an article titled, “Study of The Effects of Healing Touch Therapy,” outlined a research study led by Nathan Schmulewitz, MD and co-authored by Judy Bowers, a nurse and a Healing Touch Practitioner. Conducted at the University of Cincinnati Hospital, Schmulewitz and Bowers introduced the idea of coupling complementary medicine with mild sedation for an endoscopic ultrasound (EUS) procedure. The study utilized three Healing Touch techniques: Magnetic Clearing, Mind Clearing, and Chakra Connection. Refer to the definitions of terms on page 17 for descriptions of these three techniques. They focused on relaxing the patient for the (EUS) procedure.¹⁷ The Health Touch technique, Magnetic Clearing, is the same technique used in this research study, “The Effects of Healing Touch on Anxiety in Women Undergoing a Breast Biopsy,” because it focuses on relaxing the subject and, therefore, reducing anxiety.

Bowers practiced Healing Touch for over seven years and administered this therapy to over forty (40) patients in this study. She believes that restoring balance in the energy system creates optimal conditions for a healing environment. She observed considerable positive results and noted some patients fell asleep before the intravenous sedation was even administered. Schmulewitz reported “If the study results are positive, it could reduce costs for the University Hospital and improve the care for the patients.”¹⁸

The Healing Touch technique, Magnetic Unruffling (Clearing), is described by Hover-Kramer in *Healing Touch: A Guidebook for Practitioners* as, “A technique that cleanses the body’s energy field in a systemic way. It also assists in releasing emotional debris and unresolved feelings, such as anger, fear, worry, tension, and anxiety.”¹⁹

The integration of Allopathic Medicine and Energy Medicine is on the cutting edge of health and healing. The support for research blending these two types of medicine is becoming more commonplace as continued studies substantiate the validity of Energy Medicine through empirical research. In the greater Minneapolis and St. Paul area, there are currently five hospitals that have integrated Healing Touch within their health care systems: Fairview Southdale Hospital (Edina), University of Minnesota Hospital (Minneapolis), Abbott Northwestern Hospital (Minneapolis), St. Joseph’s Hospital (St. Paul) and Woodwinds Hospital (Woodbury) are actively coupling Allopathic Medicine with Energy Medicine.

Purpose of the Study

The purpose of the study, “The Effects of Healing Touch on Anxiety in Women Undergoing a Breast Biopsy,” is to determine, through scientific measurement, the relationship between a Magnetic Clearing session and resulting scores of coping strategies and anxiety in women undergoing a breast biopsy.

The study engages the use of a complementary/alternative/energetic therapy, referred to as “Healing Touch.” Healing Touch is an energy medicine modality which has over 100 hand positions, many of which are intended to specifically reduce anxiety.²⁰ Magnetic Clearing is a specific Healing Touch technique that is being explored in this study. This study contributes to the field of Complementary and Alternative Medicine

(CAM) and seeks to demonstrate that non-invasive, non-pharmaceutical techniques are effective in reducing anxiety. The goal of this study is identify a possible holistic treatment option, Healing Touch/Magnetic Clearing, for women undergoing a breast biopsy procedure, which may improve their quality of life by lessening their anxiety.

Research Questions

The research question is: Does the Healing Touch technique, Magnetic Clearing, reduce anxiety in women undergoing a breast biopsy procedure? The samples drawn from the breast biopsy population of subjects had no statistical differences in both groups; there were no significant differences between the Intervention group and the Standard Care Group in regards to data collected at the pre- and post-biopsy stages.

The directional hypotheses are:

1. Women who experience Magnetic Clearing prior to a breast biopsy procedure will score lower on the State-Trait Anxiety Inventory and higher on the Coping Resource Inventory.
2. Women who experience Magnetic Clearing prior to a breast biopsy procedure will score lower on standard hospital pre- and post- measurements for blood pressure, respiratory rate, and heart rate.

The null hypotheses are:

1. Women who experience Standard of Care or the Intervention, Magnetic Clearing, prior to a breast biopsy procedure will not score lower on the State-Trait Anxiety Inventory and higher on the Coping Resource Inventory.
2. Women who experience Standard of Care or the Intervention, Magnetic Clearing, prior to a breast biopsy procedure will not score lower on standard

hospital pre- and post- measurements for blood pressure, respiratory rate, and heart rate.

Relevance to the Field of Healing

Uncertainty and anxiety are two very strong emotions that impact a woman undergoing a breast biopsy. And, levels of uncertainty and anxiety appear to be higher before the diagnosis than they are after any diagnosis. ”²¹ Sophie Lebel and others state, “Women waiting to undergo a diagnostic biopsy for breast cancer experience elevated levels of distress.”²² Healing Touch is a non-invasive subtle energy technique that has been shown to be effective in relieving or lessening anxiety and distress in individuals. Healing Touch International notes, “Healing Touch is a relaxing, nurturing energy therapy. Gentle touch assists in balancing the physical, mental, emotional, and spiritual aspects of well-being. Healing Touch works with the energy field to support the body’s natural ability to heal itself. It is safe for all ages and works in harmony with standard medical care.”²³ Research indicates there are many benefits to administering Healing Touch as follows:

- Stress reducing
- Relieving anxiety
- Scar integration
- Postoperative recovery
- Manages and decreases pain
- Fortifies the immune system
- Deepening a spiritual connection
- Enhancing recovery from surgery
- Helps to create a sense of well-being
- Easing chronic and acute conditions
- Having a positive effect on depression
- Positive effects on chemo-radiation²⁴

In modern medicine, the “objective touch,” such as the doctor reaching for a chart rather than reaching for the patient, is contrasted and exemplified by Healing Touch in an energy exchange between practitioner and subject, whether it is via actual physical touch or not. In some instances, there is no physical contact with the subject and, therefore, the energetic exchange is subtle and not tangible. Healing Touch has been coupled with intravenous sedation, unstable coronary syndromes, pain relief, hypnosis, Reiki, and massage with a very low risk of adverse effects.²⁵

Overall, the aforementioned research studies add to a body of knowledge suggesting that energy healing techniques are therapeutically valuable, as an adjunct to western medicine, in reducing anxiety among pre- and post-procedure patients. In addition, Healing Touch supports restoring the overall balance of the entire system, mind, body, and spirit.

Definition of Terms

The definitions of terms are derived from *Encarta*, *Merriam-Webster*, *Wikipedia*, and other professional resources found in this document.

Anxiety. A bodily response to a perceived threat or danger triggered by a combination of biochemical changes in the body, the patient's personal history, and memory; the social situation can also dictate the degree or level of response/reaction.

Bx. Breast biopsy exam.

PreBx. Pre breast biopsy exam

PostBx. Post breast biopsy exam

Biofield. An energy field which contains quantum-level information that encompasses the biochemical body and communicates to the body how to function appropriately; a field that forms as the result of sub-atomic events in the body, such as the emission of photons in atomic interactions; synonym for the human energy field.

Breast abnormality. A lump or abnormalities in the breast which can be detected in several ways: imaging studies, mammography, or through a physical examination.

Breast biopsy. A procedure performed to remove a sample of cells from a lump or abnormality of the breast either surgically or through a hollow needle.

Chakra Connection. This technique is a full body experience that facilitates the connection from chakra to chakra and movement of energy. There are a total of nineteen hand positions. The intent is to enhance the flow of energy and to open and balance the energy centers of the body.

Coping Resources Inventory (CRI). A five scale assessment of the cognitive (COG), social (SOC), emotional (EMO), spiritual/philosophical (SP), and physical (PHY) aspects of how individuals experience stressors and how they cope with these life experiences.

Energy. The capacity of a physical system to do work, the product of a force times the distance through which that force acts. In physics, energy is a term used to express the power to move things, either potential or actual.

Energy healing. The healing of mental or physical disorders by re-balancing the energy fields in the human body or by drawing upon spiritual energies or forces for such healing.

Energy Medicine. A form of complementary medicine/healing which involves healing through the manipulation of the human energy field.

Esoteric healing. The use of inner power towards correcting disease and disability; healing information that is understood by a small group or those specially initiated, or of rare or unusual interest.

Healing Touch. A biofield therapy that encompasses a group of non-invasive techniques that utilize the hands to clear, energize, and balance the human and environmental energy fields.

Human energy field. A complex combination of overlapping energy patterns which define the unique spiritual, mental, emotional and physical makeup of an individual; part of the Universal Energy Field (UEF) associated with that specific individual; term that describes energy meridians, chakras, and energy bodies.

Hypnosis. An artificially induced state of relaxation and concentration in which deeper parts of the mind become more accessible; used clinically to reduce reaction to pain, to encourage free association, etc.

Laying on of Hands. Usually considered a spiritual or religious ritual that accompanies certain practices aimed at healing an individual; the application of a faith healer's hands to the patient's body.

Magnetic Clearing. A subtle energy healing technique of Therapeutic Touch which promotes healing and reduces pain and anxiety by practitioners placing their hands on, or near, a patient to detect and manipulate the patient's energy field.

Mind Clearing. This technique focuses on the head. There are ten hand positions. Ideally the intent is to focus, relax, clear stress-related headaches, promote a state of peacefulness and quiet the mind.

State-Trait Anxiety Inventory (STAI). A research instrument for the study of anxiety in adults; a self-report assessment device which includes separate measures of state and trait anxiety; state anxiety reflects how a subject is feeling in the moment, i.e. a transitory emotional state or condition of the human organism; trait anxiety denotes a general tendency and/or long term personality trait in response to perceived threats in the environment.

Stereotactic breast biopsy. A non-surgical method of breast biopsy using ionizing radiation with a special mammography machine guiding the instrument directly to the abnormal site producing an x-ray of the breast.

Therapeutic Touch (TT). An [energy therapy](#) which promotes healing and reduces pain and anxiety by practitioners placing their hands on, or near, a patient to detect and manipulate the patient's energy field; a nine-step procedure with four dynamic, interactive phases, used to assist clients in re-patterning their energies to enhance the balance of the human energy field.

Ultrasound core needle biopsy. A locating device, based on the sonar principal that emits high frequency sound waves, describing the shape and size of the object and injecting a core needle (shallow receptacle or a trough encased in a sheath) into the suspected mass.

Universal energy field. A field of energy or force which is the basis of gravitational and inertial phenomena, of electromagnetic phenomena, and of subatomic or nuclear phenomena including cellular organic activity.

Delimitations and Limitations

The delimitations to this study are as follows:

1. The researcher is personally familiar with the Healing Touch modality, Magnetic Clearing.
2. The hospital is supportive of the study and provided the patients, massage table, and room for the study.

3. The researcher will be working with an experienced nurse familiar with the Standard of Care procedures at the hospital.
4. The researcher is familiar with the anxiety levels and fears of women who are about to undergo a breast biopsy procedure.

The limitations to this study are as follows:

1. The researcher has not experienced a breast biopsy procedure.
2. The researcher does not know the current mental health history of the participants.
3. The researcher does not know the verbal and non-verbal comments made to the participants from doctors, technicians, and nurses prior to the intervention and during breast biopsy procedure.
4. The researcher did not personally follow each participant along the protocol standards.

Summary

This research study examines whether Healing Touch (HT), specifically Magnetic Clearing (MC), demonstrates validity and effectiveness as an anxiety-reducing technique while adhering to allopathic medical research standards. Integrating western medicine with CAM approaches to treatment requires research studies to provide consistent outcomes from the data collected. In the use of Healing Touch, the patient's testimony is legitimate regarding positive outcomes from a Healing Touch technique. Yet, this type of testimony is seen as subjective. Western science, with its measurable outcomes, and energy science, with its subjective approach, can most effectively complement each other through ongoing research that provides consistent measurable outcomes. Alice Bailey,

pioneer in transpersonal healing, notes the essence of this healing partnership as she states, “The perfect healing combination is that of the medical man and the spiritual healer, each working in his own field, and both having faith in each other...both groups need each other.”²⁶

CHAPTER 2: Review of Literature

The History of Healing Touch

“All disease is caused by lack of harmony between form and life, between soul and personality; this lack of harmony runs through all the kingdoms in nature.”²⁷

Alice Bailey, a pioneer in the field of energy medicine and a practitioner from the early to mid-1900's, wrote many books, one of which was *Esoteric Healing*, published in 1953. Bailey believed it was essential for practitioners of energy medicine and western medicine to cooperate with each other to heal the patient, even though energy medicine was not accepted at that time. In *Esoteric Healing*, she describes the perfect team for healing, consisting of an orthodox medical doctor and a spiritual healer, working together and having faith and trust in each other's abilities to perform their jobs.²⁸ Moreover, in *Esoteric Healing*, Bailey's documentation makes specific distinctions between the various energetic techniques. These techniques and modalities are referenced in contemporary teaching manuals and books on both Healing Touch (HT) and Therapeutic Touch (TT).

Nursing professor, Dr. Delores Krieger, coined the term “Therapeutic Touch” and in 1972, Krieger and her colleague, Dora Kunz, introduced Therapeutic Touch to the health professions. By 1990, Krieger and Kunz had taught Therapeutic Touch to over 70,000 people in the health-care field. They mainly taught in nursing schools, educating individuals in over eighty colleges and universities in sixty-eight countries.²⁹ Initially,

Kunz was able to perceive subtle energies in the bio-field of living beings. To hone her abilities, she studied the nuances of these energies, in depth, under Charles W.

Leadbeater. Kunz worked closely with doctors and scientists who studied many other healers. She was later asked to join in healing research conducted by Otelia Bengssten, M.D.

Kunz was part of a team of researchers that documented direct patient contact by a healer named Estebany, a colonel in the Hungarian Cavalry.³⁰ He began his hands-on work with a beloved, critically ill horse. He stayed with the horse all night and caressed it, massaged it, talked to it, and prayed over it. In the morning, the horse was well. Over time, he became well-known for his abilities to heal other horses in the Cavalry, which eventually lead to healing other animals and, eventually, to healing humans.³¹

In a moment of desperation, Estebany's neighbor insisted that he look at his ailing daughter. Estebany initially resisted the idea and stated he only worked with animals. The neighbor persisted, Estebany agreed to treat the child, and she got better. The work with the child was pivotal in his healing career which changed his focus from animals to humans until he retired from the Cavalry.³²

Once Estebany retired from the Cavalry, there were a chain of events that led him to Canada where he began participating in research. Through Estebany's research, it was substantiated that, "...when people are treated by the laying on of hands, a significant change occurs in the hemoglobin component of their red blood cells."³³ This research confirmed the efficacy of Therapeutic Touch.

Healing Touch (HT) became independent from Therapeutic Touch (TT) in 1989. The principal founder of Healing Touch was a nurse named Janet Mentgen. Mentgen

was able to take Healing Touch to a higher level of recognition through her profession as a nurse. Prior to her death, Mentgen developed an extensive Healing Touch curriculum that consisted of five levels of training.³⁴ Today, the curriculum has been extended to six levels of training and the techniques that are taught in the curriculum for Healing Touch and Therapeutic Touch are used in hospital research and for the publication of healing-related articles.

Therapeutic Touch techniques are interventions that are derivatives of the Laying on of Hands.³⁵ Therapeutic Touch initiated and inspired the Healing Touch techniques, which share in the practices and principles of Therapeutic Touch.³⁶ Magnetic Clearing is a Healing Touch intervention. The common denominator of various energetic techniques such as Therapeutic Touch, the Laying on of Hands, Healing Touch, and Mesmerism, a form of hypnosis, is an energy exchange between the practitioner and the subject through the human biofield.

Nationally and internationally, hospitals have policies in place stating that practitioners of both Healing Touch and Therapeutic Touch modalities may practice their energetic applications when deemed appropriate. Patients may request a practitioner prior to surgery or post-surgery, in an emergency, and, in some cases, in intensive care settings.³⁷ Healing Touch and Therapeutic Touch do employ some of the same techniques yet, each has its own notable differences.³⁸ Therapeutic Touch integrates the Laying on of Hands and other ancient healing practices such as “the energy transfer” and “the inner healer.”³⁹ The vision of Healing Touch assimilates these teachings and those of other well-known healers.⁴⁰

Nursing specialist Emily Jackson, in her article, “Does Therapeutic Touch Help Reduce Pain and Anxiety in Patients with Cancer?” speaks to the evolution of the energetic applications of the techniques in Healing Touch as well as Therapeutic Touch and Reiki. Jackson finds that Healing Touch, Therapeutic Touch, and Reiki are closely related as hand-mediated or touch energy modalities of healing therapies. She suggests these energetic models are often used interchangeably, each modality having similarities yet, distinct differences.⁴¹ Jackson notes that Healing Touch uses the practices and principles of Therapeutic Touch.⁴² Both Healing Touch and Therapeutic Touch utilize energetic approaches to healing and are actively used in the health care field today.

In a study by Janet Quinn titled, “Therapeutic Touch as Energy Exchange: Testing the Theory,” Quinn refers to the Laying on of Hands, or LOOH, in studies involving enzymes, in vivo human hemoglobin, mice, and plants as subjects. In these studies, she notes Therapeutic Touch increased the activity of selected enzymes, increased healing of wounds in the study with mice, and increased the rate of growth in a study with plants. Quinn states there was no physical contact between the healer and the subjects. She references several other studies that suggest the effects of LOOH are directly connected or transferred from healer to subject.⁴³ Alice Bailey also refers to the subtle effects of energetic healing techniques and states, “The means of contact are subtle and not tangible.”⁴⁴

In addition, Dawn Wilkinson substantiates the connection between LOOH and resulting physiological effects in her Healing Touch study titled, “The Clinical Effectiveness of Healing Touch.” She discusses the scientific understanding of Healing Touch from a hard science perspective when she refers to James Oschman’s work.⁴⁵

Oschman, in his book, *Energy Medicine: The Scientific Basis*, discusses oscillating magnetic fields in treatment of various physical conditions. He also comments on an instrument that can measure the bio-magnetic field of the hands of a Complementary Alternative Medicine (CAM) therapist.⁴⁶ This measurement device is called a “superconducting quantum interference device” or SQUID.⁴⁷ According to Wilkinson, Oschman asserts that humans are a bio-electromagnetic energy field that can be measured.⁴⁸ From a physiological perspective, Healing Touch can also be measured through secretory immunoglobulin A (sIgA) in saliva and through Likert scales for distress ratings, pain relief, and a sense of health enhancement.⁴⁹

Jackson introduced a study that measured the subjective as well as objective elements of a human response to healing through the biofield. Published by the *Clinical Journal of Oncology Nursing*, Jackson’s study, “Does Therapeutic Touch Help Reduce Pain and Anxiety in Patients with Cancer?” produced statistical evidence of many CAM modalities such as Healing Touch, Therapeutic Touch, Reiki, massage, and music. In this research article, twelve (12) studies were analyzed and the results concluded that these modalities had a significant effect in reducing patients’ total mood disturbance, respiratory rate, heart rate, blood pressure, fatigue, and, as well, enhanced the patients’ sense of well-being. There were statistically significant shifts in pain, physical functioning, and vitality.⁵⁰ Jackson states, “The most distinctive changes occurred in emotional role functioning, mental health, and health transitions.”⁵¹

The evolution of energy medicine and its healing properties has been in a process of integration with western healing practices for many decades. From the early 1920’s to the 21st century, tremendous strides have been made in the use of energetic therapies as

evidenced by current research. Perceptions of energy medicine have been transformed by the insights of Alice Bailey, the work of Krieger, Kunz, and others. Modern day medicine is beginning to embrace energy medicine and measuring its healing capacities through testimonials, research results, and empirical studies. Energy medicine is in a process of integrating with western medicine to create the best possible health outcome for the patient. Energy medicine, in the form of Healing Touch, has been helpful in lowering blood pressure and respiratory rate as well as reducing anxiety, pain, and nausea in patients, thereby increasing the quality of life for the individual.⁵²

Healing Touch as an Energetic Healing Procedure

Healing Touch (HT) is a non-invasive complementary, integrative energetic healing process that may include gentle touch on or around the body of the subject. Healing Touch is performed with focused attention and is intended to promote healing or the release of stress in the body.⁵³ The Magnetic Clearing (MC) treatment is a technique in Healing Touch that was initially referred to as the “Magnetic Unruffle” technique. Janet Mentgen introduced this technique into the Healing Touch curriculum, developed for certificate training, as she recognized Magnetic Clearing as a process to release congested energy of the body.⁵⁴ Magnetic Clearing is used to provide energetic relief from the residue of various contaminants and stressors in the biofield of the individual. Some of these contaminants or stressors can be from prescription drugs, smoking, anxiety, pain, tension, fear, trauma, and environmental sensitivities.⁵⁵

In the research study, “The Effects of Healing Touch on Anxiety in Women Undergoing a Breast Biopsy,” the Magnetic Clearing procedure took approximately 15 minutes for completion. To begin, the subject was completely clothed and supine on a

massage table. The principal investigator (PI) raised her hands about six inches above the body and placed them about six inches apart. The open palms of the hands were parallel to the subject's body. The fingers were spread apart and slightly curled downward toward the subject in order to simulate a raking motion. The practitioners' hands hovered above the body and moved slowly and simultaneously parallel. This created a blanket of hands shadowing the center of the body and moving downward on either side of the person in one fluid stroke.⁵⁶ The practitioner felt the energy gathering in her hands, as if the hands were magnets collecting particles or filings. The motion was smoothly executed until the hands go beyond the toes and drop away. Each stroke was timed to be approximately 30 seconds long and the technique was repeated thirty times or until the biofield felt clear. The biofield felt smooth and free from disturbances when a treatment was completed. In this way, Magnetic Clearing helped to relieve anxiety, stress and enhance calmness.⁵⁷

Magnetic Clearing was used in a June 2002 pilot study with students with disabilities to determine its effectiveness with this population. The study by Linda Speel titled, "A Pilot Study on the Effect of Healing Touch, Mind Clearing and Magnetic Clearing (MC) on High School Students with Mental and Physical Disabilities," was conducted in a classroom. The objective was to determine if Magnetic Clearing would be effective in releasing congested energy from the body and clear the emotional field of unresolved feelings.⁵⁸ The study consisted of four subjects. One of the subjects that received the Magnetic Clearing was a 19 year-old male afflicted with severe cerebral palsy. The young man also had a tracheotomy, a gastrostomy, was a quadriplegic, had a seizure disorder, and had an intellectual disability. The Magnetic Clearing technique was

selected and performed to produce a calming effect on the subject and it appeared effective in reducing his spasms in 30 out of the 35 sessions.⁵⁹ The subject was calmer and appeared to grimace less. There were many other Healing Touch techniques performed with this subject throughout the study including Mind Clearing, Unruffling, Chakra Connection, Ultrasound, Chakra Spread, Scudder, and Pain Drain.⁶⁰ These techniques assisted in relaxing the subject's contractures and he was able to achieve greater extension in range of motion exercises.⁶¹

A similar study by Jon Seskevich compared four different noetic modalities as interventions. Seskevich's study titled, "Beneficial Effects of Noetic Therapies on Mood before Percutaneous Intervention of Unstable Coronary Syndromes" discusses the effectiveness of mind-body-spirit techniques that are known to reduce stress and worry and elicit relaxation without adverse effects.⁶² In Seskevich's study, the specific touch therapy technique used as an intervention was the Chakra Connection.⁶³

Throughout history, the names and descriptions of energy modalities have varied. Both Alice Bailey and James Esdaile practiced energy medicine using different names for their techniques. Alice Bailey documented a technique similar to Magnetic Clearing that she called "Magnetic Healing."⁶⁴ Prior to that, there was another energy technique similar to Magnetic Clearing that was used by James Esdaile in the mid-1840's called "Mesmerism." Mesmerism is known today as hypnosis. There are several variations and techniques of Mesmerism. One of the techniques of Mesmerism was referred to as "Coma" by Esdaile. Esdaile was able to use the "Coma" technique to perform surgeries of all types.⁶⁵

The similarities between Magnetic Clearing and Mesmerism are in the positioning of the subject, the position of the hands of the practitioner, and the technique. Esdaile placed the patient in a prone position. The hands were held parallel to the stomach and hovered approximately an inch above the body. Esdaile described the hands as curved-like claws that pass over the body toward the back of the head. As the process continued, Esdaile lingered above the face of the subject for several minutes while continuously breathing gently on the head and eyes of the subject. He then repeated the pass by moving down the sides of the neck and back toward the stomach. The process was continued for approximately fifteen minutes.⁶⁶

Esdaile performed many other techniques in Mesmerism. One of these he called, “Topical Mesmerizing (TM).” Esdaile used “Topical Mesmerizing” for pain reduction. He would suspend the tips of his fingers over the painful area of the subject and he would breathe on the affected area. Simultaneously, he would draw his fingers downward over the painful region, soothing or relieving the pain within an hour or two.⁶⁷ Esdaile was able to relieve nerve pain, tendon pain, joint pain, as well as surgical pain, with this technique.⁶⁸ This is similar to the Healing Touch technique called the “Magnetic Pain Drain.” Yet, there are a few differences between the techniques. The Magnetic Pain Drain requires directly resting the left hand on the affected area rather than hovering, and uses the right hand as a conduit to release the pain to the ground, as though the right hand is acting as a siphon. The subject may feel relief within three to five minutes.⁶⁹ Both of these techniques are forms of hands-on healing.

Therapeutic Touch (TT) is also a process referred to as LOOH. It is a modality that assists the body in returning to an energetic and physical balance.⁷⁰ Therapeutic

Touch is a modern interpretation of many ancient healing practices. Even though it is called Therapeutic Touch, the title may be a misnomer. There does not need to be physical touch from practitioner to subject as the practitioner works with the subject's energy field without physically touching the body.⁷¹ Krieger, in *Accepting Your Power to Heal*, states, "Therapeutic Touch is a healing practice based on the conscious use of the hands to direct or modulate, for therapeutic purposes, selected non-physical human energies that activate the physical body."⁷² One of the techniques of Therapeutic Touch is called "Energy Unruffling." Magnetic Clearing and Energy Unruffling have similar outcomes. Energy Unruffling is a technique that is able to soothe, clear, or free the energy field from disturbances. In Healing Touch, as in Therapeutic Touch, the energy field of the subject can be human, animal, plant, or enzyme. In Quinn's study, "Therapeutic Touch as Energy Exchange: Testing the Theory," she refers to the (LOOH) in tests with animals, plants, and selected enzymes and cites its effect on the level of in-vivo human hemoglobin. In this research study, the practitioner had no physical contact with the subjects.⁷³ Quinn's study demonstrated that subtle energy was responsible for the effects of the experiments because there was no physical contact. For example, in the plant experiment, a practitioner infused water with subtle energy and this water was then applied to the plant to enhance growth. The practitioner was nowhere near the plant.⁷⁴ In a book written by James Esdaile, *Mesmerism in India and its Practical Application in Surgery and Medicine 1902*, Esdaile, too, addressed mesmerizing water and the experiment having an effect on subjects.⁷⁵ Esdaile also notes a subtle energy exchange between people.⁷⁶

Research on Women’s Emotional Response to Breast Biopsy Procedures

Uncertainty and anxiety are two very strong emotions that impact a woman undergoing a breast biopsy. A breast biopsy is a standard procedure to investigate a suspicious breast, mass, tumor, lesion, lump, or growth located inside the breast. A small piece of the protuberance is removed through a needle or is surgically cut out for examination. A pathologist then views the sample under a microscope evaluating if it is cancerous (malignant) or non-cancerous (benign) tissue.⁷⁷ In a longitudinal study by Mei-Nan Liao and others titled, “Uncertainty and Anxiety during the Diagnostic Period for Women with Suspected Breast Cancer,” 127 women were given the “Uncertainty In Illness Scale” (UIIS) and the “State Anxiety Inventory” (STAI). The UIIS gauges the impact of uncertainty of the diagnosis in the emotional field of the patient, and the STAI determines the current level of anxiety of the patient, in this case, prior to the process of a breast biopsy. The data was collected at three different points: upon notice of a breast biopsy, before a breast biopsy, and after diagnosis. According to Liao, “The results showed that uncertainty and anxiety levels were significantly higher before than after diagnosis.”⁷⁸ The study provides evidence of a possible correlation between the stages of anxiety related to the uncertainty of a diagnosis.

In her study, Liao reports her findings regarding the uncertainty of diagnosis stating, “Anxiety level increases significantly from the moment a breast lump is found until one is notified of the breast biopsy results and reaches its maximum when a patient is preparing for a breast biopsy. This level of anxiety for women awaiting breast biopsy has been shown to be moderate to high.”⁷⁹ Liao also reports, “... even after the diagnosis when the outcome is benign, the anxiety level decreases but still remains at a high

level.”⁸⁰ Given this information, the potential for a diagnosis of breast cancer has an enormous psychological impact on women undergoing a breast biopsy. In her study, “Hypnosis Decreases Pre-surgical Distress in Excisional Breast Biopsy Patients,” Julie B. Schnur reports on data of ninety (90) patients that were randomly assigned to receive a 15-minute pre-surgery hypnosis prior to their excisional breast biopsy to determine if distress in patients could be reduced. Schnur states, “Excisional breast biopsy is associated with pre-surgical psychological distress. Such distress is emotionally taxing and may have negative implications for post-surgical side effects and satisfaction with anesthesia.”⁸¹ As stated below, this study focuses on hypnosis as an alternative to medication in reducing pre-surgical emotional distress with breast biopsy patients. According to Schnur, hypnosis has proven to be an effective means of stress reduction in many pre-procedure surgical settings including “...gynecological surgery, ambulatory surgery, and excisional breast biopsy. Patients presenting for excisional breast biopsy typically have substantial levels of pre-surgical emotional distress, which has been shown to predict both anesthesia-related (satisfactions with anesthesia, analgesic requirements) and post-surgical (nausea, fatigue, discomfort, pain) outcomes.”⁸²

In the discussion segment of this study, Schnur reports, “The present study demonstrated that patients who received a brief (15 minute) hypnosis session before excisional breast biopsy experienced lower levels of pre-surgical distress than patients who received the same amount of professional attention but no active intervention. More specifically, patients who received hypnosis before their surgery were significantly less emotionally upset, less depressed, less anxious, and were significantly more relaxed before surgery (post-hypnosis) than patients who were in the attention control

condition.”⁸³ Schnur states, “... that more than 75% of the participants in the hypnosis group felt significantly better (emotionally less distressed and more relaxed) than control participants.”⁸⁴ Imagine the relief of women waiting to undergo a breast biopsy if they were aware of alternative options to help relieve their distress and anxiety.

In a study conducted by Sophie Lebel and others, Lebel states, “Women waiting to undergo a diagnostic biopsy for breast cancer experience elevated levels of distress.”⁸⁵ As well, Benedict and others, quoted in Lebel’s study, found that 58% of women who had received a non-malignant diagnosis recalled experiencing a severe level of worry and 32% recalled moderate worry while waiting for a biopsy. A longitudinal study found a very high prevalence of anxiety (46%) in women prior to their recall visit after initial screening, while 11% reached clinical depression.”⁸⁶ Overall, these studies add to a body of knowledge suggesting that energy healing techniques are therapeutically valuable in reducing anxiety among pre- and post-procedure patients.

Summary

The study, “The Effects of Magnetic Clearing on Anxiety for Women Undergoing a Breast Biopsy,” has a protocol that parallels with the aforementioned studies. A common denominator in all of these studies is an objective to increase the quality of life for the patient by reducing distress and anxiety. From the study results, it is likely that subtle energy therapies have a high potential for reducing anxiety in women who are preparing to undergo a breast biopsy, therefore, increasing their quality of life.

Magnetic Clearing is one of many energetic techniques of Healing Touch that affects the biofield, as does Therapeutic Touch, Laying on of Hands, and Mesmerism. Current evidence suggests that energetic healing techniques reduce stress, tension, and

worry, and promote a relaxed state of being. Indeed, Magnetic Clearing may provide various healing benefits to individuals as a pre-procedure technique designed to decrease physiological and emotional stress and anxiety, and, increase a sense of calmness and relaxation. Valid and reliable research has been conducted in the field of energy medicine targeting anxiety and psychological distress.⁸⁷ This study has the potential to make a significant contribution to validating the effects of an energetic application, Magnetic Clearing, in reducing anxiety among women about to undergo a breast biopsy procedure.

The following section, Chapter 3 Research Methods, presents Research Instruments, Data Sources, Data Collection, Data Analysis, and Ethical Considerations.

CHAPTER 3: Research Methods

Quantitative Methods

The transpersonal research provided within this paper was composed from a randomized sample of convenience using an experimental design with a control and intervention group. This randomized, controlled study utilized a Healing Touch (HT) intervention technique defined as Magnetic Clearing (MC).

The Researcher's Role

The principal investigator (PI) in this study, Deborah R. Goldberg, M.A., and the nurse navigator, Margaret Bohman, R.N., M.S., conducted the study at the Fairview Southdale Breast Center. Goldberg is a psychotherapist in private practice in the community and is a doctoral student at Holos Graduate University Seminary. Goldberg has completed the Fairview Southdale Healing Touch Volunteer Services Orientation and Program and is qualified to interact with patients at the Breast Center. Bohman is a Clinical Nurse Specialist and Care Coordinator at Fairview Southdale Breast Center. Both researchers are trained in Healing Touch Techniques.

The Researcher's Role in the Interview Process

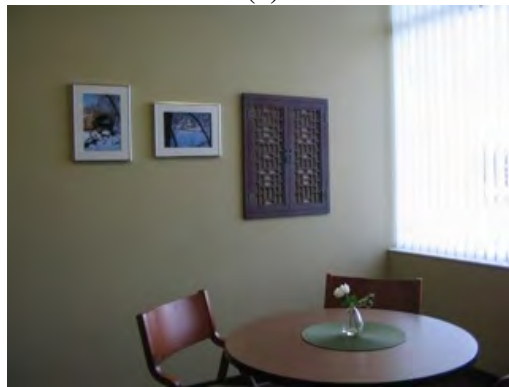
Once the subject checked in at the reception desk, the receptionist notified the researcher and nurse navigator, and the subject sat in the waiting room until she was greeted by Margaret Bohman and Deborah Goldberg. (See Figure 1)



(a)



(b)



(c)



(d)

Figure 1: Images of (a) Reception Desk, (b) Waiting Room, (c) Conference Room, and (d) Intervention Room.

The subject was then led to the small conference room and sat at a table where Bohman began the standard care process of answering any questions about the biopsy. The role of the researcher in this study was to assist the nurse navigator if there were any questions about Healing Touch or the intervention.

The subject filled out the proper forms prior to a biopsy: the HIPPA form, the consent form and procedure form. After her blood pressure, pulse rate, and respiratory rate data were collected, the Coping Resources Inventory (CRI) and the State Trait Anxiety Inventory (STAI) were completed by the subject.

Bohman directed their attention to the researcher for any questions they may have had about HT. Before the subject began filling out the CRI and the STAI, she was

offered a beverage she was checked in on while completing the questionnaires by Bohman or the researcher. Once she completed the CRI and STAI, Bohman and the researcher escorted the subject down the hall to Bohman's office, the Intervention Room, where the massage table was set up. The subject was fully clothed, laid down on the table, and was asked if she wanted to be covered with a blanket. The researcher reviewed the intervention with her and let her know that if she was at all uncomfortable with the process, we could stop at any time. The massage table was in the center of the room. The researcher began to administer the Healing Touch technique known as Magnetic Clearing.

The massage table was pre-set up in Bohman's office. Before the subject entered the room, it was pulled away from the wall with enough space for the researcher to freely move around both sides of the table. See Appendix C for further details.

Data Sources

The data for the study, "The Effects of Healing Touch on Anxiety in Women Undergoing a Breast Biopsy," was gathered from two subjective measurement inventories: State Trait Anxiety Inventory (STAI) and Coping Resources Inventory (CRI). Data was also gathered from the subjects' three biological measurements: respiratory rate, heart rate, and pulse rate. The subjects read and signed an Affirmation of Informed Consent for Surgery or Invasive Procedure Consent form, the Healing Touch Consent form, and the Post-Breast Biopsy Care Instruction form. See Appendix B for further details.

Population

The research was conducted at the Fairview-Southdale Breast Center in Edina, Minnesota. The subjects were all female and ranged in age from 18 to 85 years old. They were assigned via random selection to either Control Group A or Intervention Group B based on the date of their appointment. The standard protocol was followed when a patient was to be scheduled for a breast biopsy. The scheduler called the subject to select an appointment time. Once the subject made contact with the scheduler, the appointment was set and the subject was invited to participate in the study. If the subject indicated an interest in the research, she was told that the nurse navigator would be contacting her in the near future to answer any questions she may have about the biopsy and discuss the study. The subjects were asked to arrive 30 minutes early for their appointment if they chose to participate in the research.

After the study was completed, the subjects in Control Group A, who did not receive the intervention, were offered the Magnetic Clearing procedure at no additional fee. Subjects were not financially compensated for their participation in the study and were free to discontinue participation in the research study at any time. See Appendix B for further details.

Data Collection

The study proceeded after the Internal Review Board from the University of Minnesota approved the application. The location was at Fairview Southdale Breast Center, Edina, Minnesota. The research commenced on January 15th of 2010 and was completed on November 18th of 2010. The nurse navigator was a level IV/V Healing Touch practitioner and the Principal Investigator (PI) was a level IV/V Healing Touch

Practitioner. The PI administered the Magnetic Clearing Intervention to the subjects while the nurse navigator was present.

Interview Data

The nurse navigator identified subjects by phone during the intake interview by confirming the date and time of their appointment. As the subjects came in for their assigned appointment time for the breast biopsy, they were offered the consent form and appropriate papers regarding the study. At this time, they had another opportunity to ask any questions or voice concerns. The subject was also told whether they would be in Group A or Group B study groups:

- 1) Control Group A (even day of the week)– the subject will not receive the Magnetic Clearing procedure or
- 2) Intervention Group B (odd day of the week) – the subject will receive the Magnetic Clearing procedure.

Subjects in Group A (the Control Group) received standard care while waiting for the breast biopsy procedure. Group B (the Intervention Group) received standard care plus a 15-minute Healing Touch technique called Magnetic Clearing before the scheduled breast biopsy was performed. Both groups completed the CRI and the STAI prior to the biopsy. After the CRI and the STAI were completed, the subjects in Group B were led down the hall to the treatment room where the Magnetic Clearing technique was performed for 15 minutes.

Shortly after a subject finished the breast biopsy procedure, the subject was asked to complete a group of post-breast exam biopsy measurements which included standard care plus the STAI and CRI.

The nurse navigator administered the pre/post-test standard care measurements of blood pressure, respiratory rate, and heart rate. Then, she administered the STAI and CRI. After the subjects completed the surveys, they were handed a self-addressed envelope consisting of the last set of surveys and a blank answer sheet form to be completed the next day prior to receiving the biopsy results by telephone. After the surveys were completed by the subjects, they were sent directly back to the nurse navigator. The research nurse collected all three sets of data from the CRI, the STAI, and standard care process and delivered the raw data to the data entry person. See Appendix C for further details on the CRI and STAI.

Data Analysis

The subjects' raw data were entered into an Excel spreadsheet in three separate rows: pre-breast exam biopsy, post-breast exam biopsy, and the day after. The spreadsheet consisted of the demographic data, the data from the two surveys, and the physiological data consisting of respiratory rate, pulse rate, and heart rate. The Coping Resources Inventory consisted of sixty questions and the State Trait Anxiety Inventory (STAI) consisted of forty questions, with the total time for testing approximately fifteen minutes. For this research study, a Mixed ANOVA was used to analyze the data.

Research Instruments

The research project, "Effects of Healing Touch on Anxiety in Women Undergoing a Breast Biopsy," utilized two subjective measurement instruments to determine the subjects' level of anxiety and how women made use of their coping resources during the breast biopsy process. The first instrument was the State-Trait Anxiety Inventory (STAI). It is a psychological assessment tool that was specifically

used to measure the subjects' state and trait level of anxiety and emotional condition before and after the breast biopsy process until the next day. The second instrument, the Coping Resources Inventory (CRI), assessed the subjects' ability to access coping resources during the same time periods as the STAI of the breast biopsy procedure.

State Trait Anxiety Inventory (STAI)

The State-Trait Anxiety Inventory Form Y (STAI) was developed in 1970 by Spielberger, Gorsuch, and Lushene for research and clinical practice. It consists of two separate self-reporting scales measuring state anxiety (S-Anxiety) and trait anxiety (T-Anxiety). It is comprised of 40 questions in total, 20 questions for S-Anxiety and 20 questions for T-Anxiety. The S-Anxiety questions pertain to how the subject is feeling in the moment and the T-Anxiety questions pertain to how the subject feels in general. The S-Anxiety scale Y-1 Inventory is designed for the subject to circle the answer to the questions, using a four-point scale, to rate the intensity of their feelings right now: (1) not at all, (2) somewhat, (3) moderately so, and (4) very much so. The T-Anxiety scale indicates the subject's presence or absence of anxiety in their feelings and thoughts in general. The T-Anxiety scale Y-2 Inventory is designed for the subject to circle the answer to the questions, using a four-point scale, to rate the presence or absence of anxiety in general: (1) almost never, (2) sometimes, (3) often, and (4) almost always.⁸⁸

For this research, there were three data collection points to capture the various levels of anxiety: the first one was just prior to the biopsy, the second was immediately post-breast exam biopsy, and the third collection period was within twenty-four hours of the biopsy prior to receiving the outcome of the biopsy. The STAI'S ability to

substantiate the data due to the short time frames of data collection was verified by Spielberger and others in a personal communication.⁸⁹

The STAI is a reliable self-reporting scale with a conceptual framework developed from Cattell's ideas of trait and state anxiety along with Freud's danger signal theory. Spielberger utilized the concepts and theory to refine the STAI specifically for research and clinical practice.⁹⁰ In *Clinical Personality Assessment: Practical Approaches*, edited by James Butcher, Spielberger and others, in an article titled, "Assessment of Emotional States and Personality Traits: Measuring Psychological Vital Signs," report on the effectiveness of self-reporting and psychological measurements as the most popular and valid means of documenting and assessing Trait Anxiety.⁹¹ The development of the STAI has undergone major refinement since the original document was created in 1970. Over time, these revisions were influenced by other self-reporting measurement inventories. The modifications have helped to establish "(a) clarification of the nature of state and trait anxiety as scientific constructs (b) a sharper differentiation between anxiety and related theoretical concepts such as stress, threat, and psychological defense, and (c) the construction of theoretically relevant, objective, reliable, and valid measures of anxiety."⁹²

A *Journal of Personality Assessment* article, as reported by Ramanaiah, Franzen and Schill, challenged Spielberger's STAI and criticized the ability of the STAI to make the distinction between State-Anxiety and Trait-Anxiety. Spielberger revealed notable evidence of the internal consistency of the STAI with impressive results involving undergraduate psychology students. One of his studies consisted of two large groups of psychology students. These studies produced results validating the internal consistency

of the STAI.⁹³ In the same journal article, Levitt concluded, “Among anxiety scales, the STAI...is the most carefully developed instrument from both theoretical and methodical standpoints.”⁹⁴ Diane Novy reports, in her study, the use of the STAI as one of the most widely used measurement devices for detecting the anxiety levels in psychology literature.⁹⁵ See Appendix C for further details.

Coping Resources Inventory (CRI)

The Coping Resources Inventory (CRI) was used to reveal the inherent coping resources used by the subjects during stressful times. It was important to note the valuable role coping resources and skills play in mediating the coping process. The CRI had five scales of assessment that were utilized: cognitive (COG), social (SOC), emotional (EMO), spiritual/philosophical (SP), and physical (PHY). The resource is measured by the scale score of the five individual categories of the CRI. The higher the subject rated on the scale score indicated the higher the resource function.⁹⁶

The resource domains were established through research and copyrighted in 1988. Various levels of coping resources are inherent in subjects and positive coping skills enable individuals to manage their stressors more effectively. Coping resources aid the individual in experiencing stressors or trauma less intensely thus lessening the symptoms of stress once exposed to those experiences.⁹⁷ Each domain of the CRI records specific data:

1. Cognitive (COG): To what extent does the individual preserve positive self-worth, maintain optimism about life, and their outlook toward others?

2. Social (SOC): Who else, besides family, is a social network that supports the individual?
3. Emotional (EMO): How well can the individual express a range of affect of emotion that will help ameliorate the negative consequences associated with stress?
4. Spiritual (S/P): What actions does the individual rely on which are consistent to personal values, philosophy, religious beliefs, or cultural traditions and family? These values may help in defining and place meaning on events that may be potentially stressful, therefore, providing effective strategies for coping.
5. Physical (PHY): How much physical activity does the individual engage in and what does the individual do physically to enhance a sense of physical well-being? It is thought that if an individual routinely exercises, it can help in reducing stress and recovery may be enhanced.⁹⁸

The CRI was developed in 1988 by M. Susan Marting and Allen L Hammer. One of the goals in creating the inventory was to provide a diagnostic tool to identify resources that individuals already have in place. The CRI focuses on the positive or what is working for individuals rather than the perspective clinical theory or practice that focuses on what isn't working for individuals. The CRI emphasis is on resources, not deficits in their coping process.

In the research by M. Zeidner and A. Hammer, utilized the CRI in the study, "Coping with Missile Attacks: Resources, Strategies and Outcomes," Zeidner's subjects consisted of 261 adults who had been exposed to SCUD missile attacks in the first Gulf

War. The female subjects' CRI scores in the Social and Emotional domains scored higher in coping resources than the male subjects and the male subjects scored higher in the Physical domain of the CRI. In all five domains of the CRI, according to Zeidner's summary reporting, "A path analysis of the relationships among the variables showed that coping resources had both direct and indirect effects on outcome variables."⁹⁹

The CRI has also proven to be an effective measurement in multiple arenas. In a second research study conducted by Zeidner and Hammer titled, "Life Events and Coping Resources as Predictors of Stress Symptoms in Adolescents," Zeidner reported on 108 eight grade students. The CRI was administered twice, along with the symptoms checklist sixteen weeks apart. The summary analysis reported, "Analysis of the interaction term in the various regression equations suggested that both life events and coping resources had an additive effect on symptoms: there was no indication of a buffering effect of coping resources. Furthermore, the relationship between life events and coping resources suggested that resources were not depleted by life events."¹⁰⁰

The Coping Resources Inventory was utilized in a study regarding perceived resourcefulness and in the article by K.B. Matheny and others, "The Coping Resources Inventory for Stress: A Measure of Perceived Resourcefulness,"¹⁰¹ Matheny reviews previous studies that used the Coping Resources Inventory for Stress (CRIS) and compared the findings to a recent convergent/divergent study. Matheny analyzed the six CRIS scales to a single study conducted with 68 graduate student volunteers. According to Matheny, "Each of the CRIS scales converged with its validating test and diverged from a test that measures a different construct. Results offer considerable support for the

construct validity of CRIS scales.”¹⁰² Thus, the CRI has demonstrated validity in various research venues. See Appendix C for further details.

Ethical Considerations

The principal investigator abides by personal ethics and the ethical policies and standards set forth by the Fairview Southdale Breast Center and the Ethics and Academic Integrity Policy of Holos University¹⁰³. Participant identity and information included in this study is confidential at all times, unless required by law.

CHAPTER 4: Research Findings

Overview

The objective of this research was to determine the validity and potential usefulness of the Healing Touch technique referred to as Magnetic Clearing in reducing anxiety in women who are undergoing a breast biopsy. The data analysis provided in this chapter will report detailed results using a mixed analysis of variance.

The research results reflect the outcome of five testing measurement devices: the physiological measurements of respiratory rate, pulse rate, and blood pressure; and the State Trait Anxiety Inventory (STAI) and the Coping Resources Inventory (CRI) with five sub-categories as subjective measurements. The study consisted of two groups of women: (A) the Control Group (N=31) who received standard care and (B) the Intervention Group (N=42) who received standard care and the intervention, Magnetic Clearing. Demographics of the subjects are included in the analysis.

Final Analysis of Data

A Mixed ANOVA was used to analyze the data. The mixed analysis of variance used two ways using the data from the two measures of the respiration rate. There was one between the two groups, the control versus intervention. There was also one within the two groups. The data was collected from two time periods pre- and post-biopsy for the biological measurements; respiration rate, pulse rate, and systolic/diastolic blood pressure. With the State Trait Anxiety Inventory (STAI) and the Coping Resources Inventory (CRI), there were three data collection points.

The respiration rate remained flat or no change for the control group, while the intervention group's respiration decreased as a significant interaction effect was revealed analyzing the repeated measure factor $F(1,70)=21.05, p<.001$). The pulse rate data indicates both of the groups' pulse rate declined significantly, with the intervention group's decreasing more than the control group. There was not a significant interaction effect revealed analyzing the repeated measure factor $F(1,71)=2.98, p=.08$). The systolic blood pressure data indicates the control group's climbed from pre- to post-test whereas, the intervention group's systolic blood pressure dropped consistently and had a significant interaction effect that was revealed $F(1,71)=21.46, p<.001$). The diastolic blood pressure data indicates the control group's diastolic blood pressure data climbed from pre- to post-test whereas, the intervention group's diastolic blood pressure had a significant drop.

In regard to the STAI data, the control group had a much less significant drop from pre- to post-test, with an elevation in anxiety in the final data from the post-test data. Whereas, the intervention group's State Anxiety decreased from pre- to post-test and maintained a decline until the day after. The significant interaction effect revealed $F(2,142)=10.94, p<.001$). The Trait anxiety for the control group data indicates an elevation in Trait Anxiety from pre- to post-test at each subsequent measurement period. Whereas, the intervention group's Trait Anxiety decreased from pre- to post-test but there was a marginally significant change the day after. There was also a marginally significant interaction effect revealed $F(2,142)=5.15, p=.007$).

The Coping Resources Inventory (CRI), consisting of five sub-categories, reveals the following data: the Cognitive category had no significant interaction effect

F(2,142)=1.86, p=.16); the Social category had no significant interaction effect F(2,142)=.726, p=.486); the Emotional category had a significant interaction effect between the two groups, control versus intervention, at the pre-test period and the significance continued through the post-test period F(2,142)=6.10, p=.003). However, because the intervention group's data indicated an elevation in scores at the third data point, this revealed no significant difference between the two groups. The Spiritual/Philosophical category had a significant interaction effect between the two groups, control versus intervention, at the pre-test and the following day F(2,142)=8.95, p<.001). Initially the two groups were significantly different in the pre-test. The post-test indicated no difference between the groups. However, the intervention groups' data indicated an elevation in scores at the third data point with the final outcome revealing a significant difference between the two groups as at the pre-test scores but in the opposite direction. The Physical segment had no significant interaction effect F(2,142)=.57, p=.57.

The CRI Total Resource data indicates a significant interaction effect between the two groups, control versus intervention, at F(2,142)=7.15, p=.001. At the pre-test, there was a significant difference between the two groups. The post-test indicated no difference between the groups, because the intervention groups data indicated a slight elevation in scores at the final data point and the control group scores had a significant decrease.

Changes in Respiration Rate

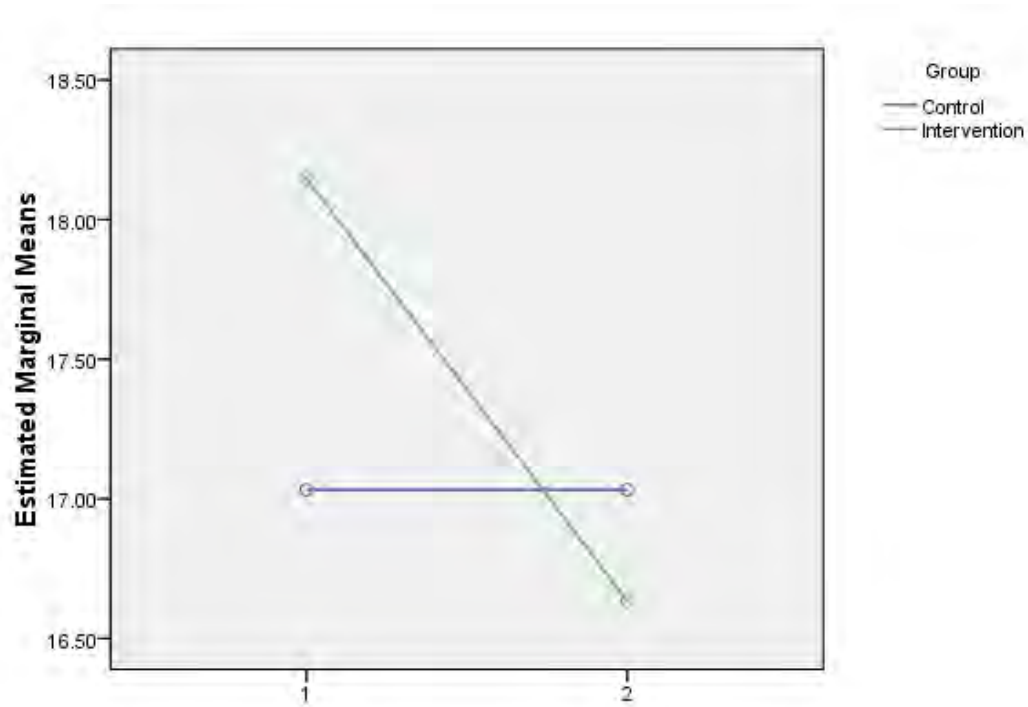


Figure 2: Changes in Respiration Rate

There was a mixed analysis of variance used two ways using the data from the two measures of the respiration rate. There was one between the two groups, the control v. intervention. There was also one within the two groups. A significant interaction effect was revealed analyzing the repeated measure factor $F(1,70)=21.05, p<.001$). The data indicates the control group's respiration remained flat while the intervention group's respiration decreased.

Changes in Pulse Rate

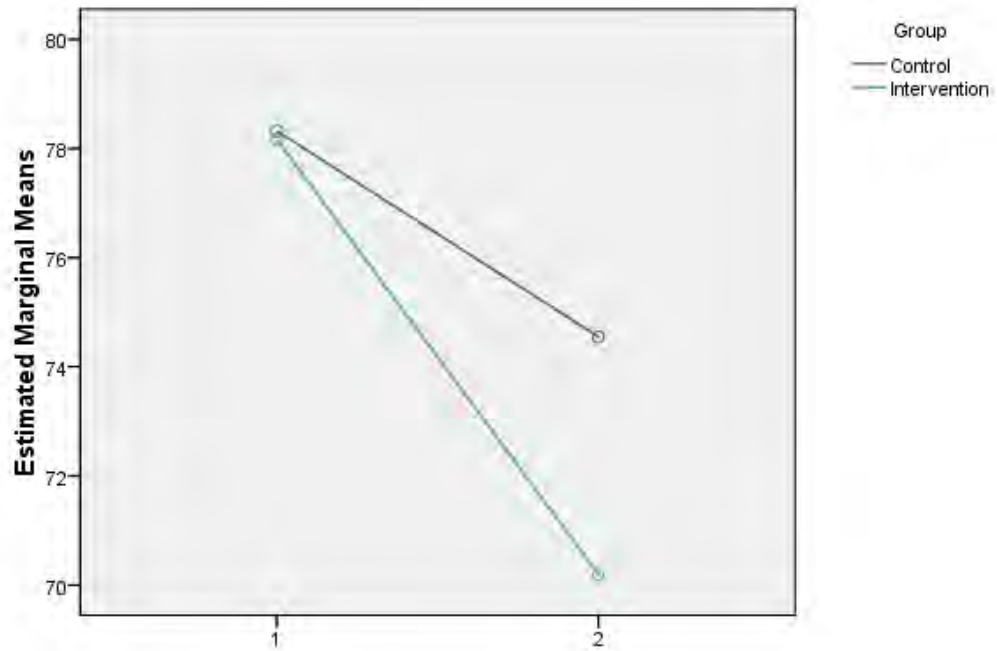


Figure 3: Changes in Pulse Rate

There was a mixed analysis of variance used two ways using the data from the two measures of the pulse rate. There was one between the two groups, the control v. intervention. There was also one within the two groups. There was not a statistical significant interaction effect revealed analyzing the repeated measure factor $F(1,71)=2.98, p=.08$). The above figure indicates both of the groups' pulse rate declined significantly, with the intervention group's decreasing more than the control group.

Changes in Systolic Blood Pressure Rate

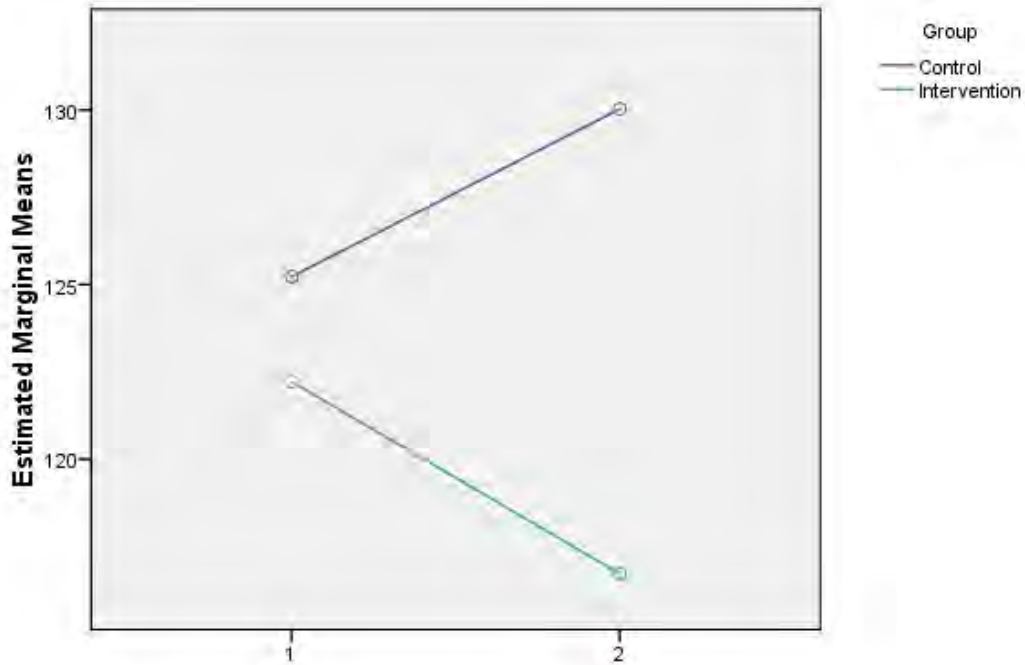


Figure 4: Changes in Systolic Blood Pressure Rate

There was a mixed analysis of variance used two ways using the data from the two measures of systolic blood pressure. There was one between the two groups, the control v. intervention. There was also one within the two groups. A significant interaction effect was revealed $F(1,71)=21.46, p<.001$). The above figure indicates the control group's systolic blood pressure continued to climb from pre- to post-test whereas, the intervention group's systolic blood pressure had a significant drop.

Changes in Diastolic Blood Pressure Rate

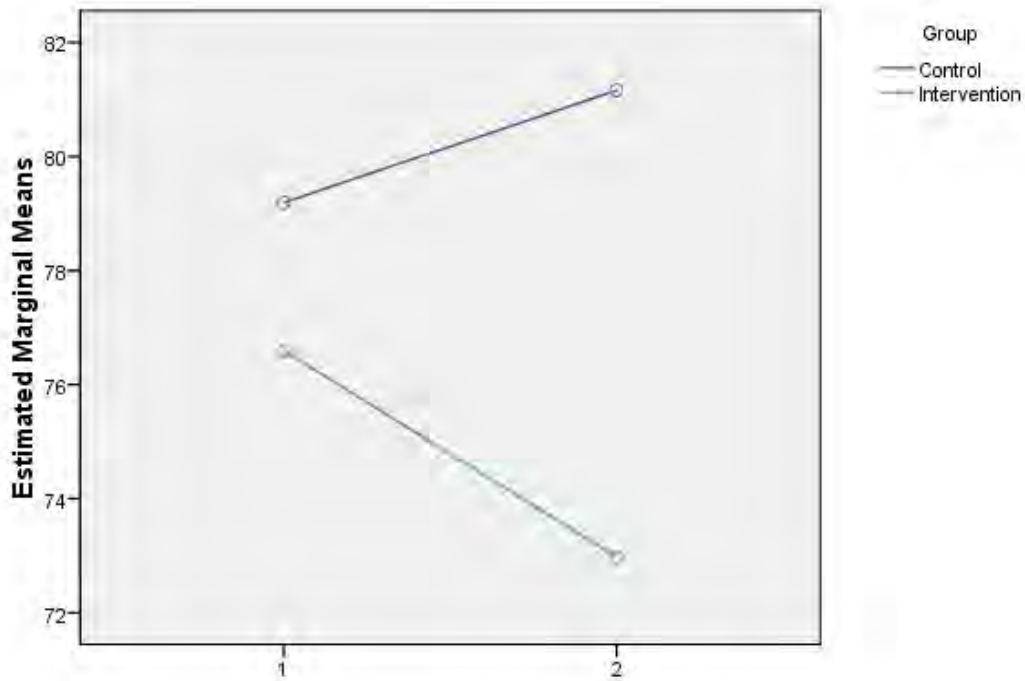


Figure 5: Changes in Diastolic Blood Pressure Rate

There was a mixed analysis of variance used two ways using the data from the two measures of systolic blood pressure. There was one between the two groups, the control v. intervention. There was also one within the two groups. A significant interaction effect was revealed $F(1,71)=13.81, p<.001$). The above figure indicates the control group's diastolic blood pressure climbed from pre- to post-test whereas, the intervention group's diastolic blood pressure had a significant drop.

Changes in State Anxiety

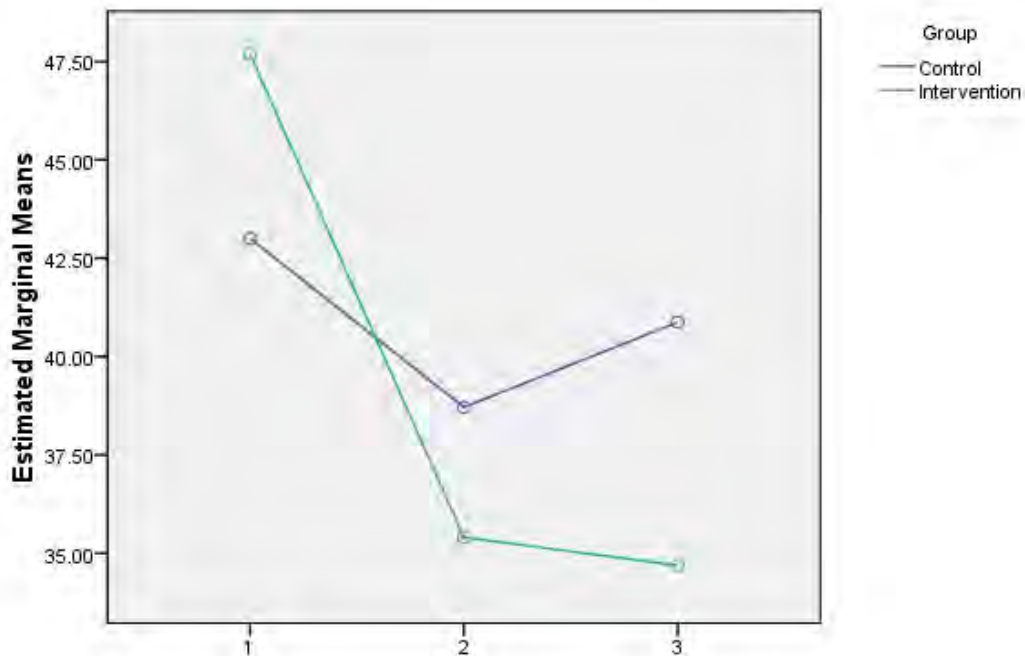


Figure 6: Changes in State Anxiety

There was a mixed analysis of variance used two ways using the data from the three measures of State Anxiety. There was one between the two groups, the control v. intervention. There was also one within the two groups. There were a total of three data collections, a pre-, post-, and day after. There was a significant interaction effect revealed $F(2,142)=10.94, p<.001$). The above figure illustrates a much less significant drop in State anxiety for the control group from pre- to post- test, with an elevation in anxiety in the follow up data. Whereas, the intervention group's State Anxiety decreased from pre- to post- and continued to decline the day after.

Changes in Trait Anxiety

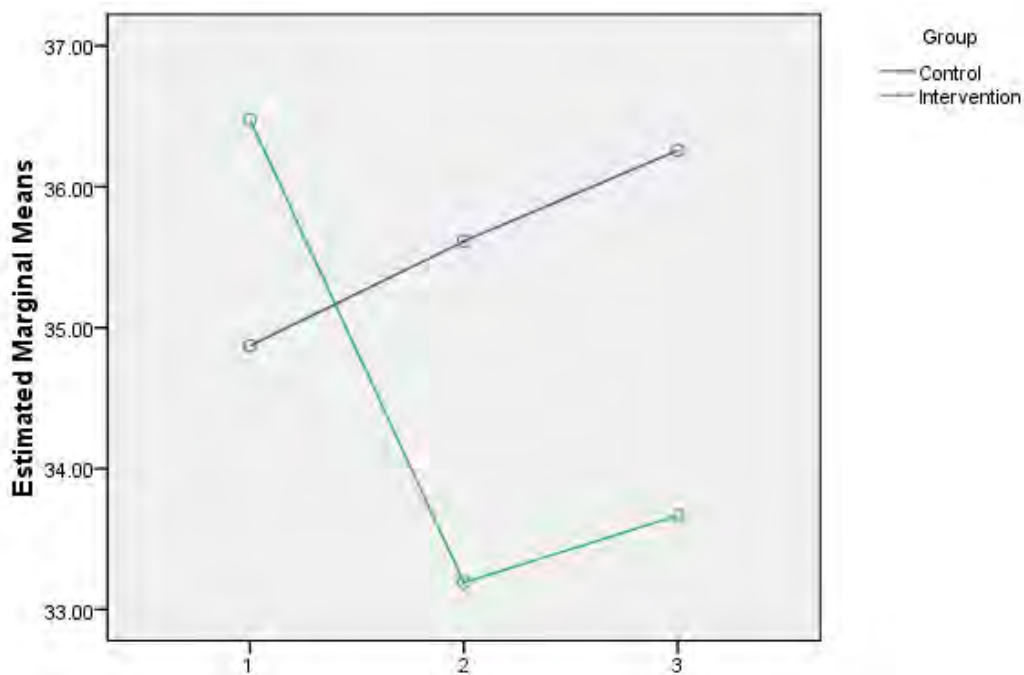


Figure 7: Changes in Trait Anxiety

There was a mixed analysis of variance used two ways using the data from the three measures of Trait Anxiety. There was one between the two groups, the control v. intervention. There was also one within the two groups. There were a total of three data collections, a pre-, post-, and day after. There was a marginally significant interaction effect revealed $F(2,142)=5.15, p=.007$). The above figure illustrates an elevation in Trait anxiety for the control group from pre- to post-test at each subsequent measurement period. Whereas, the intervention group's Trait Anxiety decreased from pre- to post- but there was no significant change the day after.

Changes in CRI Cognitive

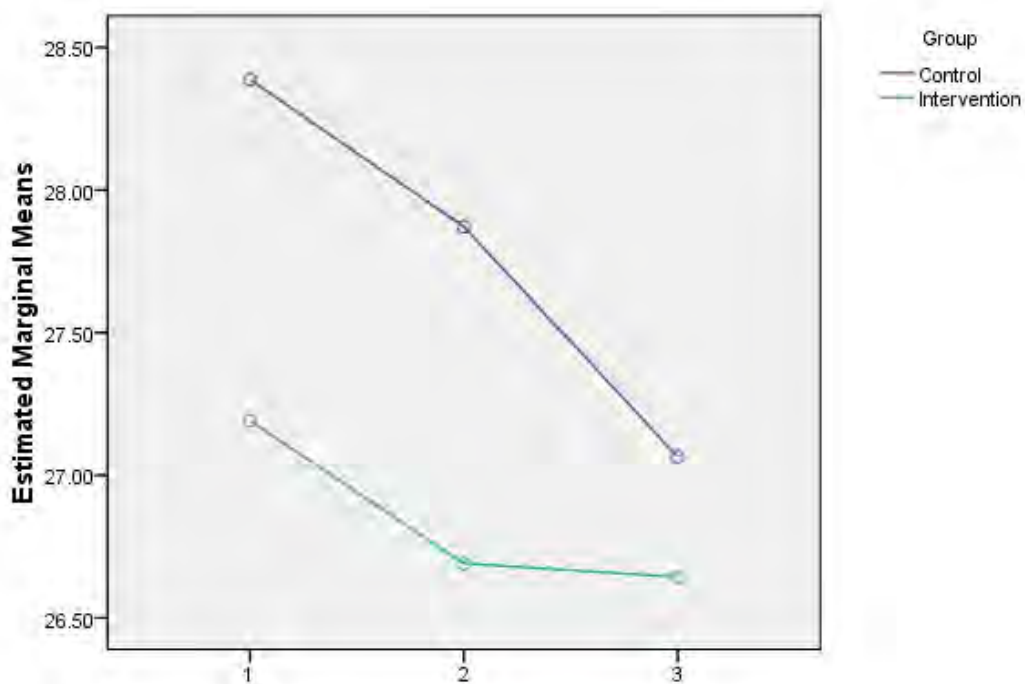


Figure 8: Changes in CRI Cognitive

There was a mixed analysis of variance used two ways using the data from the three measures in the Cognitive segment of the Coping Resources Inventory (CRI). There was one between the two groups, the control v. intervention. There was also one within the two groups. There were a total of three data collections, a pre-, post-, and day after. There was no significant interaction effect revealed $F(2,142)=1.86, p=.16$.

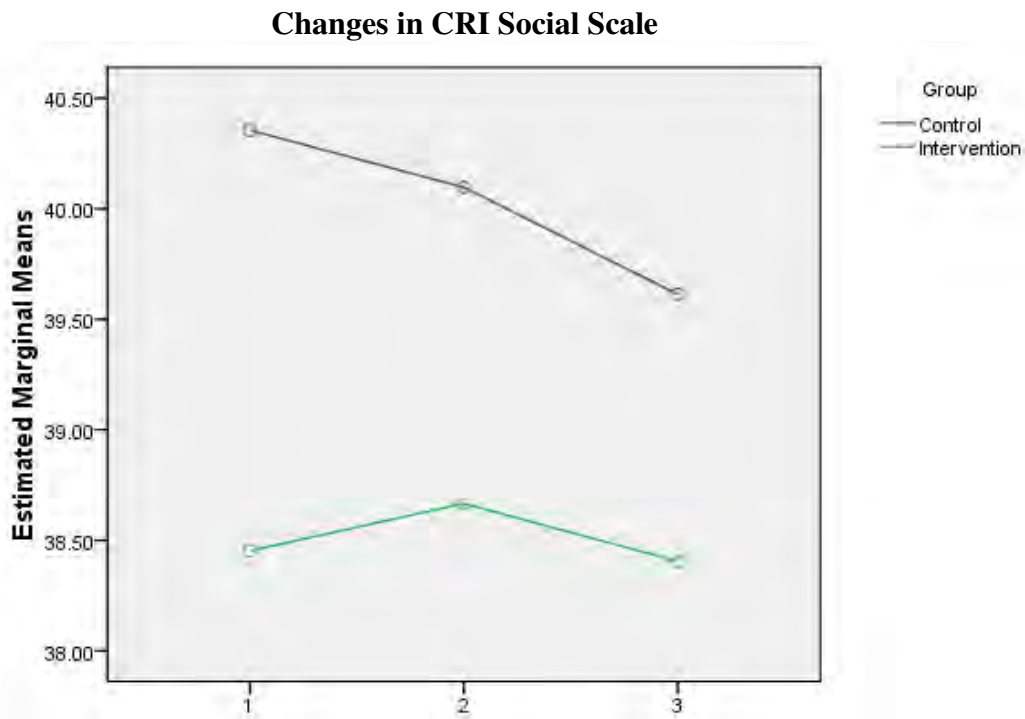


Figure 9: Changes in CRI Social Scale

There was a mixed analysis of variance used two ways using the data from the three measures in the Social segment of the Coping Resources Inventory (CRI). There was one between the two groups, the control v. intervention. There was also one within the two groups. There were a total of three data collections, a pre-, post-, and day after. There was no significant interaction effect revealed $F(2,142)=.726, p=.486$).

Changes in CRI Emotional Scale

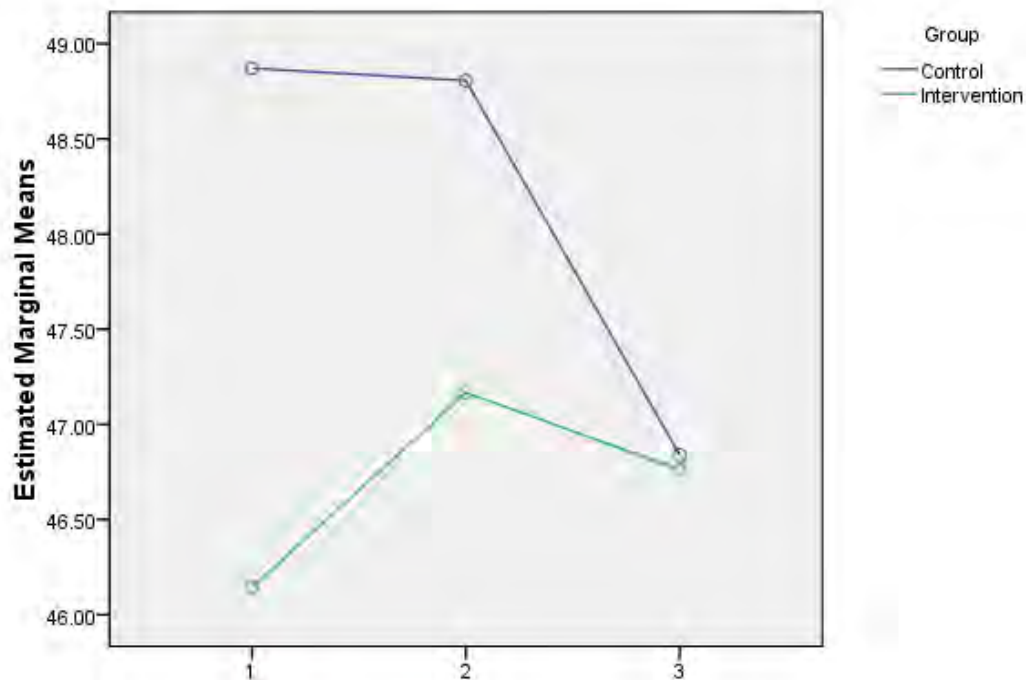


Figure 10: Changes in CRI Emotional Scale

There was a mixed analysis of variance used two ways using the data from the three measures in the Emotional segment of the (CRI). There was one between the two groups, the control v. intervention. There was also one within the two groups. There were a total of three data collections, a pre-, post-, and day after. The figure above shows a significant interaction effect between the two groups, control v. intervention, $F(2,142)=6.10$, $p=.003$) at the pre-test period and the difference continued through the post-test period. However, because the intervention group's data indicated an elevation in scores, the third data point revealed no significant difference between the two groups.

Changes in CRI Spiritual and Philosophical Scale

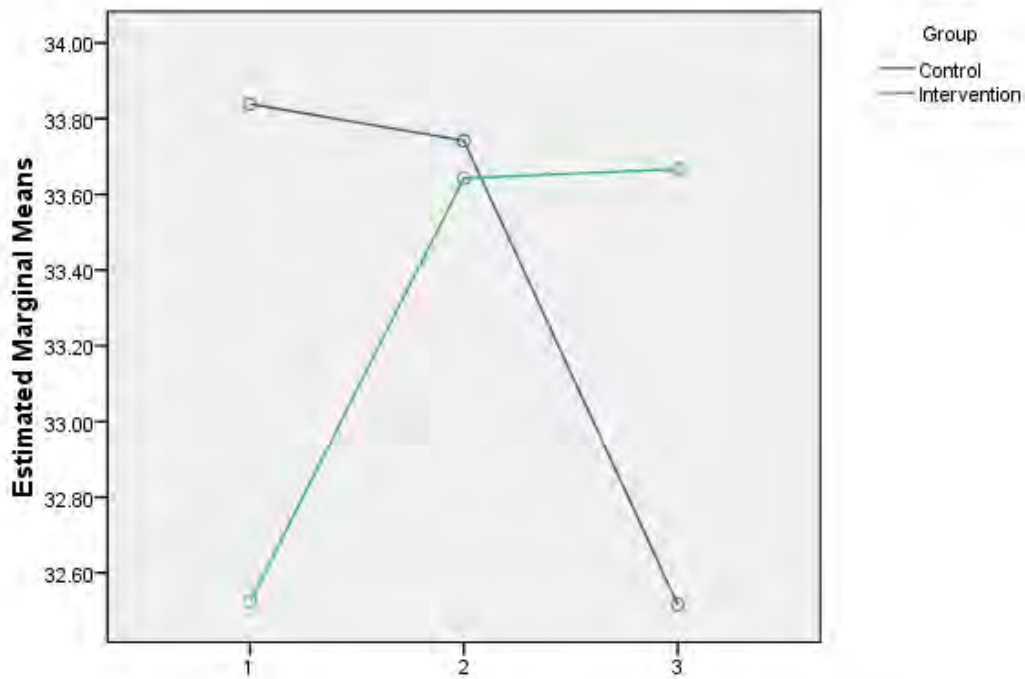


Figure 11: Changes in CRI Spiritual and Philosophical Scale

There was a mixed analysis of variance used two ways using the data from the three measures in the CRI-Spiritual/Philosophical segment of the CRI. There was one between the two groups, the control v. intervention. There was also one within the two groups. There were a total of three data collections, a pre-, post-, and day after. The figure above shows a significant interaction effect between the two groups, control v. intervention, at the pre-test $F(2,142)=8.95, p<.001$). The post-test indicated no difference between the groups. However, the intervention groups data indicated an elevation in scores at the third data point with the final outcome revealing a significant difference between the two groups as at the pre-test scores but in the opposite direction.

Changes in CRI Physical Scale

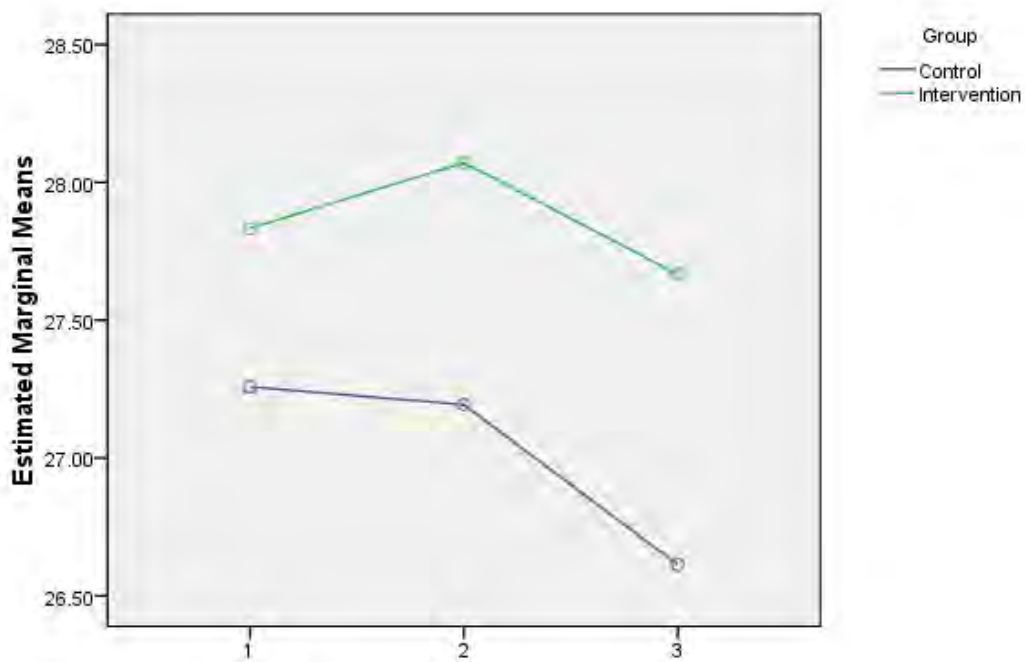


Figure 12: Changes in CRI Physical Scale

There was a mixed analysis of variance used two ways using the data from the three measures in the Physical segment of the (CRI). There was one between the two groups, the control v. intervention. There was also one within the two groups. There were a total of three data collections, a pre-, post-, and day after. There was no significant interaction effect revealed $F(2,142)=.57, p=.57$.

Changes in CRI Total Resources

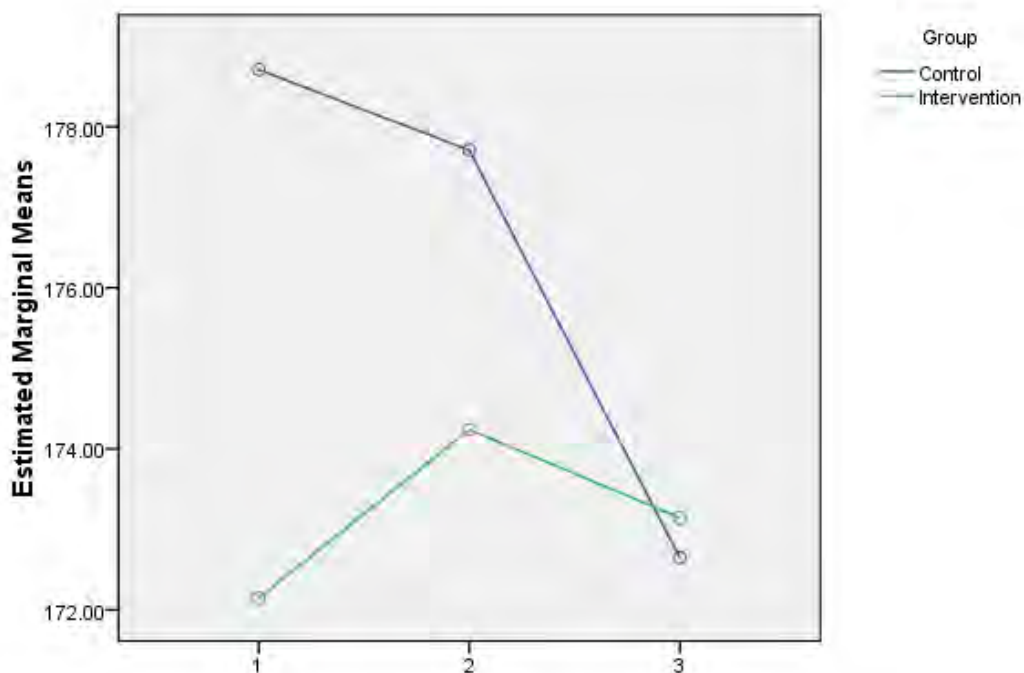


Figure 13: Changes in CRI Total Resources

There was a mixed analysis of variance used two ways using the data from the three measures in the CRI-Spiritual/Philosophical segment of the CRI. There was one between the two groups, the control v. intervention. There was also one within the two groups. There were a total of three data collections, a pre-, post-, and day after. The figure above shows a significant interaction effect between the two groups, control v. intervention, at $F(2,142)=7.15$, $p=.001$. At the pre-test, there was a significant difference between the two groups. The post-test indicated no difference between the groups, because the intervention group's data indicated a slight elevation in scores at the final data point and the control group's scores had a significant decrease.

Discussion of the Four Research Hypotheses

There are four research hypotheses to report consisting of two directional hypotheses and two null hypotheses.

Directional Hypotheses:

1. *Women who experience Magnetic Clearing prior to a breast biopsy procedure will score lower on the State-Trait Anxiety Inventory (STAI) and higher on the Coping Resource Inventory.*

A Mixed ANOVA was used to interpret the State-Trait Anxiety Inventory pre-breast exam biopsy, post-breast exam biopsy, and the day after the biopsy. The intervention for the State Anxiety section of the inventory for the Intervention Group had a statistical significance with a $p > 0.01$ in reducing State Anxiety. The results of the Magnetic Clearing were sustained with a difference in a reduction of anxiety post-breast exam biopsy through the following day. The Trait anxiety for the control group data indicates an elevation in Trait Anxiety from pre- to post-test at each subsequent measurement period. Whereas, the intervention group's Trait Anxiety decreased from pre- to post-test but there was no significant change to the day after. There was a marginally significant interaction effect revealed $F(2,142)=5.15, p=.007$).

The Coping Resources Inventory (CRI), consisting of five sub-categories, revealed the following data: the Cognitive category had no significant interaction effect, $F(2,142)=1.86, p=.16$), the Social category had no significant interaction effect, $F(2,142)=.726, p=.486$), the Emotional category shows a significant interaction effect between the two groups, control v. intervention, $F(2,142)=6.10, p=.003$), at the pre-test

period and the significance continued through the post-test period. However, the intervention group's data indicated an elevation in scores at the third data point which revealed no significant difference between the two groups overall. The Spiritual/Philosophical category had a significant interaction effect between the two groups, control v. intervention, at the pre-test and the following day, $F(2,142)=8.95$, $p<.001$). Initially the two groups were significantly different in the pre-test. The post-test indicated no difference between the groups. However, the intervention group's data indicated an elevation in scores at the third data point with the final outcome revealing a significant difference between the two groups as at the pre-test scores but in the opposite direction. The Physical category had no significant interaction effect revealed, $F(2,142)=.57$, $p=.57$.

2. Women who experience Standard of Care or the Intervention, Magnetic Clearing, prior to a breast biopsy procedure, will score lower on standard hospital pre and post measurements for blood pressure, respiratory rate, and pulse rate.

The systolic blood pressure data indicates the control group's climbed from pre- to post-test, whereas, the intervention group's systolic blood pressure dropped consistently and had a significant interaction effect that was revealed, $F(1,71)=21.46$, $p<.001$). The diastolic blood pressure data indicates the control group's diastolic blood pressure data climbed from pre- to post-test, whereas, the intervention group's diastolic blood pressure had a significant drop. The control group's data indicated the respiration rate remained flat or no change, while the intervention group's respiration decreased. A significant interaction effect was revealed analyzing the repeated measure factor, $F(1,70)=21.05$, $p<.001$). The pulse rate data indicates both of the

groups' pulse rate declined significantly yet, the intervention group's decreased more. There was not a statistically significant difference interaction effect revealed analyzing the repeated measure factor, $F(1,71)=2.98$, $p=.08$).

The Null Hypotheses:

1. Women who experience Standard of Care or the Intervention, Magnetic Clearing, prior to a breast biopsy procedure will not score lower on the State-Trait Anxiety Inventory and higher on the Coping Resource Inventory.

The data indicate the women who experienced the Magnetic Clearing prior to the breast biopsy procedure did score lower after the (MC) procedure with a $p < 0.001$ in reducing anxiety and maintained that difference in a reduction of anxiety post-breast exam biopsy through the following day. The two sub-categories that indicated significance in the CRI were: the Emotional category shows a $F(2,142)=6.10$, $p=.003$) and the Spiritual/Philosophical category shows a $F(2,142)=6.10$, $p<.001$.

2. Women who experienced (MC) procedure, prior to a breast biopsy procedure, will not score lower on standard hospital pre and post measurements for blood pressure, respiratory rate, and pulse rate.

The systolic blood pressure data indicates the control group's climbed from pre- to post-test, whereas, the intervention group's systolic blood pressure dropped consistently and had a significant interaction effect that was revealed, $F(1,71)=21.46$, $p<.001$). The diastolic blood pressure data indicates the control group's diastolic blood pressure data climbed from pre- to post-test, whereas, the intervention group's diastolic blood pressure had a significant drop. The control group's data indicated the respiration rate remained flat or no change, while the intervention group's

respiration decreased. A significant interaction effect was revealed analyzing the repeated measure factor, $F(1,70)=21.05, p<.001$). The pulse rate data indicates both of the groups' pulse rate declined significantly yet, the intervention group's decreased more. There was not a statistically significant difference interaction effect revealed analyzing the repeated measure factor, $F(1,71)=2.98, p=.08$).

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Age	73	18	85	52.59	12.665
Valid N (list wise)	73				

Table 1: Age Demographics

An aggregate sample of the control and intervention groups produced a mean age of 52.59 years (SD=12.66). There was not a significant difference in age ($p=.28$).

Group Statistics

Group	N	Mean	Std. Deviation	Std. Error Mean
Age Control	31	50.71	11.530	2.071
Intervention	42	53.98	13.408	2.069

Table 2: T-Test

The aggregate of the Control and Intervention groups were not significantly different in reference to age ($p=.28$).

Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Divorced	6	8.2	8.2	8.2
	Married	54	74.0	74.0	82.2
	Single	12	16.4	16.4	98.6
	Widowed	1	1.4	1.4	100.0
	Total	73	100.0	100.0	

Table 3: Marital Status

The demographics of the marital status of the subjects showed that 74% of the subjects were married.

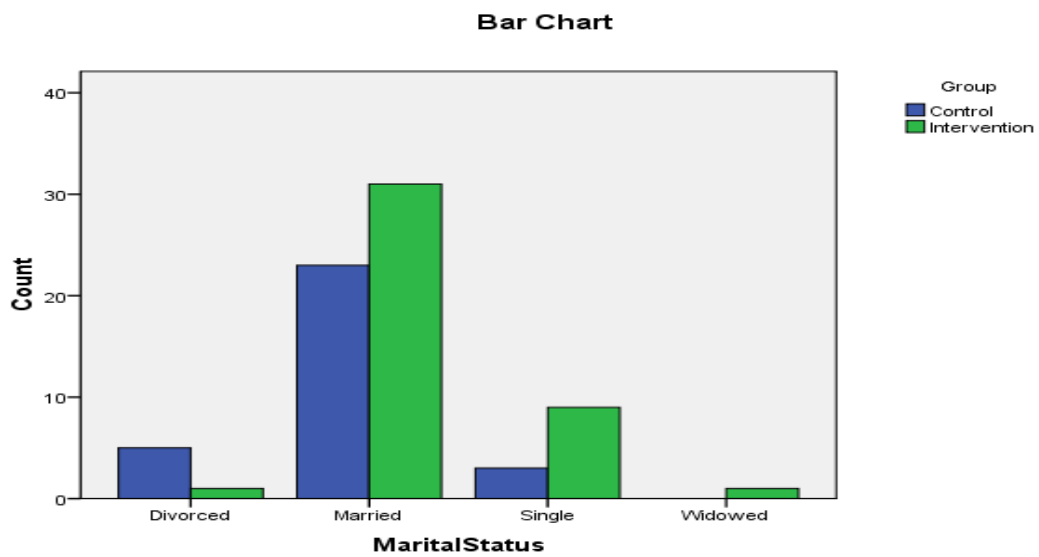


Figure 14: Bar Chart of Marital Demographics

Marital Status * Crosstab

Count		Group		
		Control	Intervention	Total
Marital Status	Divorced	5	1	6
	Married	23	31	54
	Single	3	9	12
	Widowed	0	1	1
	Total	31	42	73

Table 4: Marital Demographics: Crosstab

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.338 ^a	3	.096
Likelihood Ratio	6.963	3	.073
N of Valid Cases	73		

Table 5: Marital Demographics: Chi-Square Tests

Educational Demographics

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 11th	1	1.4	1.4	1.4
12th	12	16.4	16.4	17.8
6th	2	2.7	2.7	20.5
8th	1	1.4	1.4	21.9
8th grade	1	1.4	1.4	23.3
9th	2	2.7	2.7	26.0
Freshman College	6	8.2	8.2	34.2
Junior	3	4.1	4.1	38.4
Masters	2	2.7	2.7	41.1
Post Doc	1	1.4	1.4	42.5
Senior	32	43.8	43.8	86.3
Sophomore	10	13.7	13.7	100.0
Total	73	100.0		

Table 6: Educational Demographics

Education Level: Crosstab

Count		Group		
		Control	Intervention	Total
Education Level	11 th	1	0	1
	12 th	7	5	12
	6 th	0	2	2
	8th	0	1	1
	8th grade	0	1	1
	9th	0	2	2
	Freshman College	2	4	6
	Junior	2	1	3
	Masters	1	1	2
	Post Doc	0	1	1
	Senior	13	19	32
	Sophomore	5	5	10
	Total	31	42	73

Table 7: Education Level: Crosstab

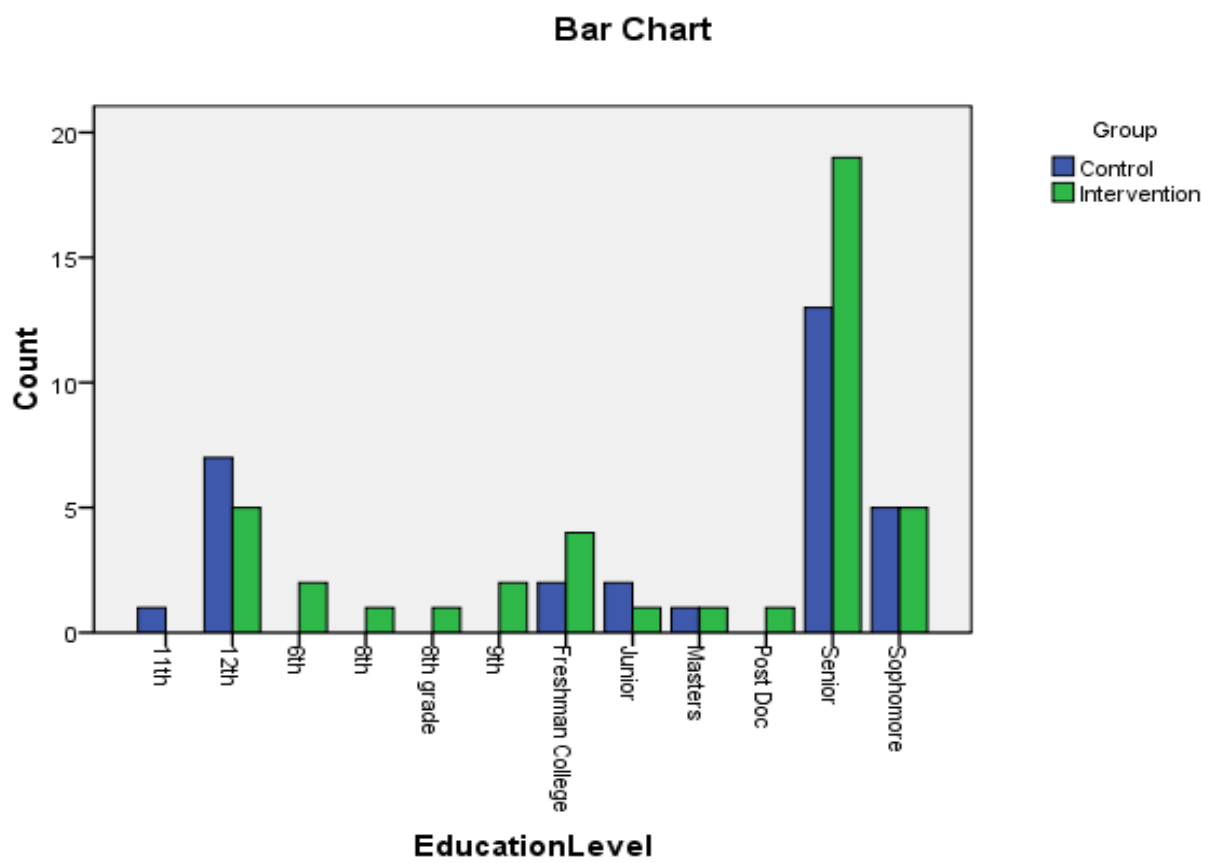


Figure 15: Bar Graph of Education Level

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.005 ^a	11	.621
Likelihood Ratio	11.912	11	.370
N of Valid Cases	73		

Table 8: Educational Demographics: Chi-Square Tests

The percentage of subjects that completed a modal education level of a senior in college was at 43.8%.

Stress Level Demographics

Stress Level

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid High	34	46.6	46.6	46.6
Low	25	34.2	34.2	80.8
Very High	11	15.1	15.1	95.9
Very Low	3	4.1	4.1	100.0
Total	73	100.0	100.0	

Table 9: Stress Level Demographics

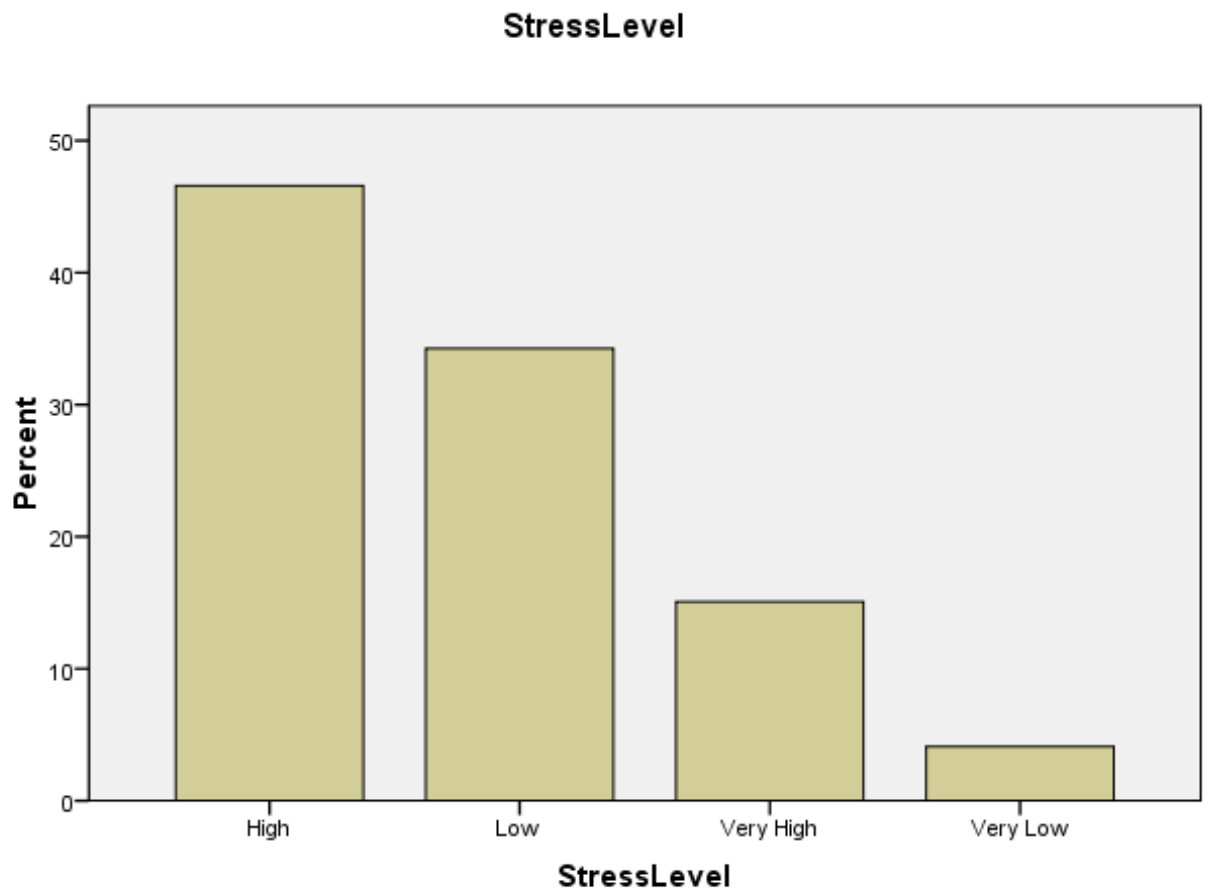


Figure 16: Bar Chart of Stress Level Percentages

The percentage of the subjects that reported a high level of stress was at 47%.

Stress Level: Crosstab

Count		Crosstab		
		Control	Intervention	Total
Stress Level	High	14	20	34
	Low	13	12	25
	Very High	2	9	11
	Very Low	2	1	3
	Total	31	42	73

Table 10: Stress Level Crosstab

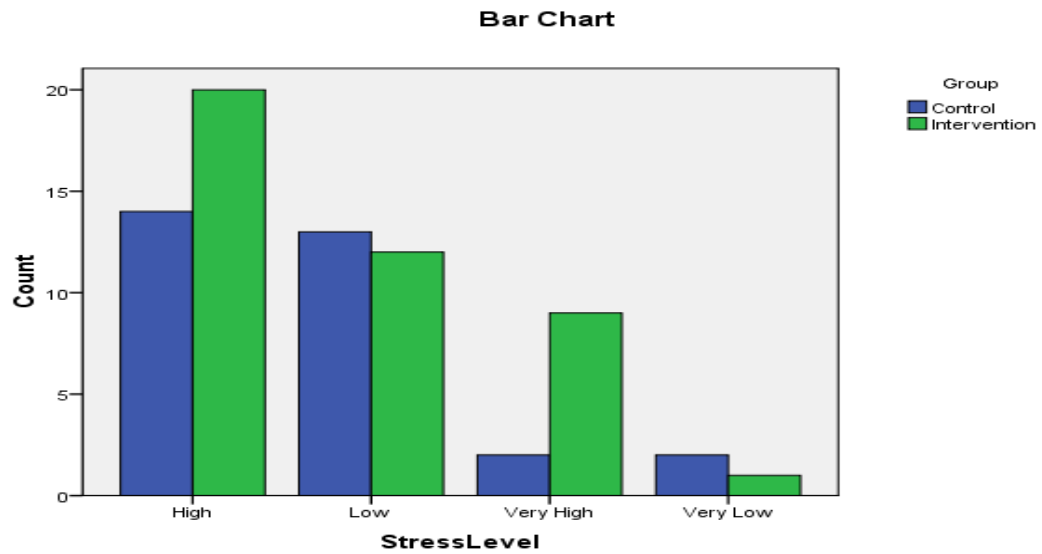


Figure 17: Bar Chart of Stress Level Counts

Chi-Square Tests

Pearson Chi-Square	4.327 ^a	3	.228
Likelihood Ratio	4.599	3	.204
N of Valid Cases	73		

Table 11. Stress Level: Chi-Square Tests

General Health Demographics: Crosstab

Crosstab

Count		Group		
		Control	Intervention	Total
General Health	Good	14	26	40
	Poor	2	1	3
	Very Good	15	15	30
	Total	31	42	73

Table 12: General Health: Crosstab

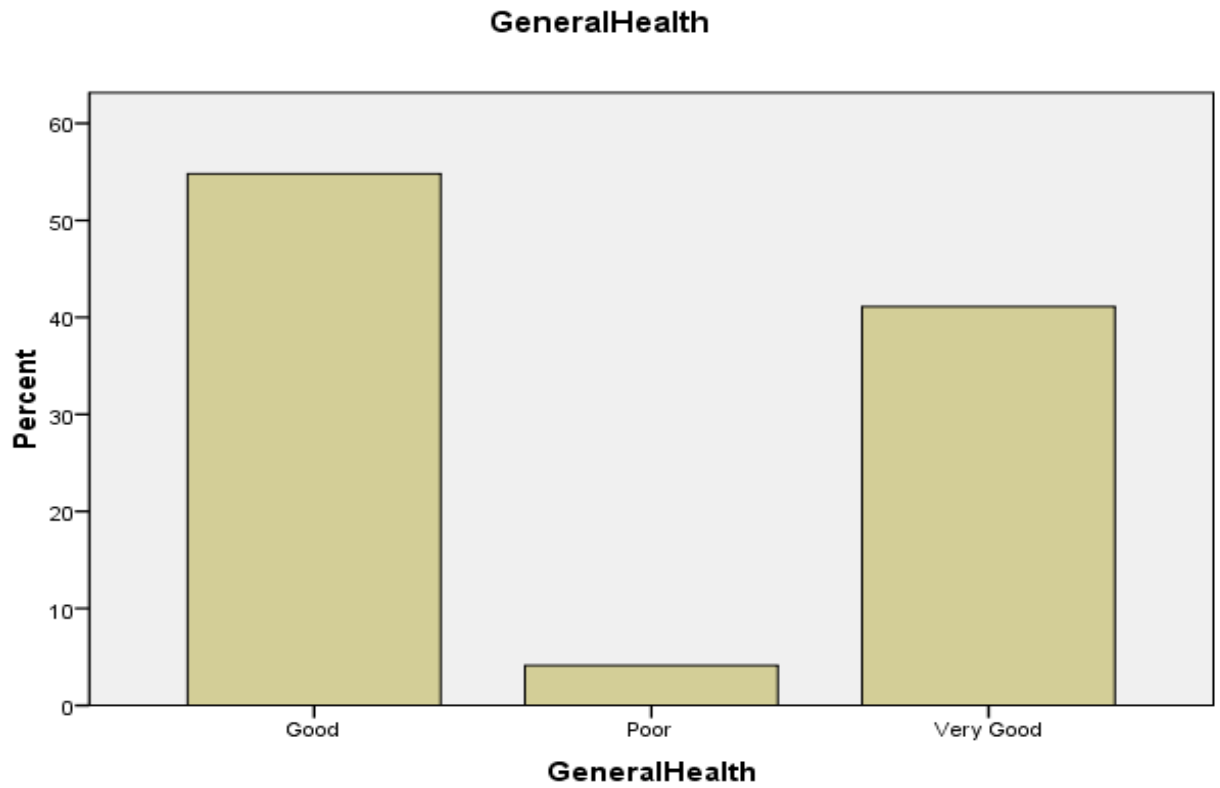


Figure 18: Bar Chart of General Health: Percentage

The percentage of subjects that stated they were in “very good” or “good” health was 96% of the population tested.

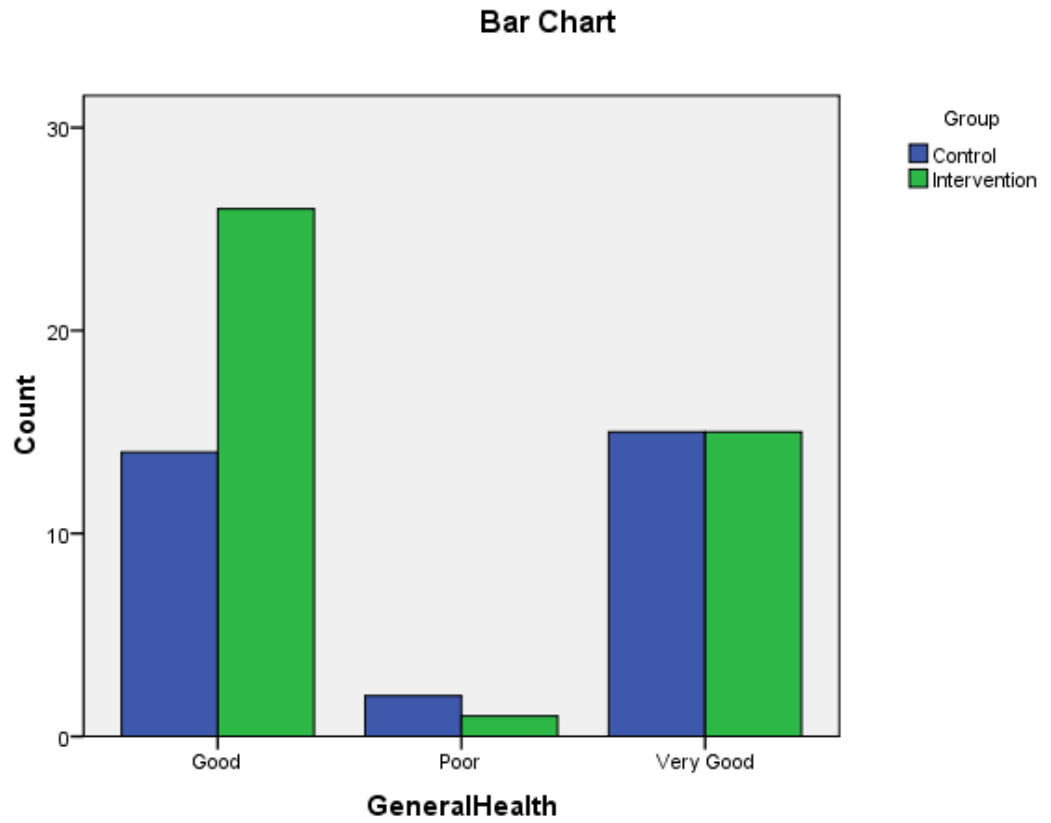


Figure 19: Bar Chart of General Health Count

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.329 ^a	2	.312
Likelihood Ratio	2.332	2	.312
N of Valid Cases	73		

Table 13: General Health: Chi-Square Tests

CHAPTER 5: Conclusions, Discussion, and Suggestions

Introduction

The primary objective of Chapter Five is to provide an overview of the research study results, draw conclusions from the data, discuss the implications of the study results, and offer suggestions regarding future research on Healing Touch. Chapter Five also includes suggestions for changes and improvements that might be considered in enhancing further research on Healing Touch.

Discussion of Research Protocol

In September of 2010, the primary researcher ran preliminary statistics to begin to see the trend of the study. The State Trait Anxiety Inventory (STAI) State data indicated the pre-biopsy mean score was slightly higher for the Intervention Group (B) with a baseline measurement of 48 and the Control Group (A) baseline measurement of 40. The difference in the two groups was not statically significant and therefore the two groups represented in this study are from the same sample group.

This difference between the two groups sparked interest in the researcher. Even though it is not considered statistically significant, the researcher began asking the question, “Why was there an initial difference between the Control Group’s and the Intervention Group’s baseline measurements?” Over the following two weeks, the researcher investigated the potential sources of the inconsistency. This led to finding several confounding variables. As a result, on November 11, 2010, the recruitment was

suspended for the research project # 0911M74492 with the Control Group (A) at n=(31) and the Intervention Group (B) at n=(42). Through a thorough examination, it was determined that the confounding variables in no way compromised the randomization of this study. The statistics produced by this study remain credible and worthy of continued research. See Appendix D confounding variables.

Conclusion

Facing the reality of a breast mass and the uncertainty of the outcome can be debilitating for a woman. The women who underwent this study experienced varying levels of anxiety from moderate to high. The statistics confirmed the levels of anxiety through the State Trait Anxiety scores, respiratory rate, and the women's pulse rate. The anxiety was identified and given numeric values. From pre-breast biopsy exam and the two post-breast biopsy exam measurements, the results indicated the Healing Touch (HT) technique, Magnetic Clearing (MC), reduced anxiety for all of these women.

The statistics indicated the Healing Touch technique, MC, had a profound effect on reducing anxiety for women undergoing a breast biopsy with a p-value < 0.001. Because there was no significance between the post-biopsy measurement data and the day after measurement, this indicates the MC intervention was effective in reducing anxiety from pre-breast exam biopsy (Pre Bx) to post breast exam biopsy (Post Bx) and maintained the reduction of anxiety into the day.

The biological measures recorded were the respiratory rate, pulse rate, and blood pressure. The statistics from these measurements indicated a significant decrease in two of the three baselines for the Intervention Group (B), ultimately providing the evidence of a reduction in anxiety.

Discussion of Responses by Women Subjects

It was hypothesized that the Healing Touch technique, Magnetic Clearing, would decrease anxiety in women who were undergoing a breast biopsy. This proved to be true according to the raw data that was collected and analyzed. In other words, the subjects benefited from the Magnetic Clearing intervention through a reduction in anxiety which maintained until the following day. The confounding variables possibly influenced the data, but, according to the statistical analysis, the confounding variables did not have significant impact on the raw data. The confounding variables did not interfere with the randomization process of the research subjects. Overall, the measurements used to collect the data revealed positive results.

The STAI and the CRI were the measurement devices used for this project. The Standard Care measurements of pulse rate, respiratory rate, and blood pressure were only recorded at two points in time, prior to the biopsy and just after the biopsy. This makes it difficult to verify conclusively, through the biological measurements, that the intervention was able to sustain until the following day, although, the results were favorable.

The following statements were samples of some of the subject's personal experiences, written down by the nurse navigator, after the MC session. Some were also received on the telephone from the subjects in the study:

- I felt something release or go away. The pain in my shoulder is gone now.
- I felt so relaxed for the biopsy. The Healing Touch is a great thing to offer.

Your clinic is very calming with tender loving care.

- Wanted to let you know I still feel quite relaxed today, even though I am quite convinced I have a malignant tumor. I have not experienced any pain whatever. I attribute that to your healing touch therapy.
- I did notice my breathing slowed down after the Healing Touch.
- I feel so much better- more relaxed.
- I slept better than usual, and I felt relaxed the rest of the day. I did not bruise or bleed and have only slight tenderness. I'm sure the healing touch helped. (Next day)
- I've had 2 family crises overnight- I wonder how that will show in my answers... I found the whole experience very interesting. (Next day)
- I felt something pulling then releasing like tangles being pulled out with a comb. I've suffered from PTSD from an auto accident and I slept better than I have in weeks. I think I even looked younger!
- I feel lighter.
- The healing touch really worked, I feel much lighter, not scared. I could feel the good energy entering me, like warmth. (Next day)

Experiences of the Researcher Recorded by the Nurse Navigator

During the 15 minutes it took to execute the Magnetic Clearing intervention, the Researcher experienced some unusual physical responses and visceral reactions. After the session was completed, the Nurse Navigator recorded the responses reported by the researcher of her personal experiences. These responses are listed below.

- The researcher felt “sick” nauseated – the patient was very anxious because her sister had recently passed from breast cancer- she was diagnosed with a pre-cancerous mass.
- The researcher felt thick resistance and sick. This subject’s biopsy was benign. She had been diagnosed with a severe case of rheumatoid arthritis. The treatment was a chemotherapy drug. The chemo was administered to suppress her immune system to manage the arthritis. The researcher is suggesting the chemo “sludge” was the resistance and discomfort the researcher felt.
- The researcher felt queasy, nausea and got very hot. This subject was diagnosed with breast cancer.
- The researcher described to the nurse navigator, Margaret, that seeing a blue-green color around the subjects head. It was reported to Margaret that the field began to clear around pass number 20. Margaret saw red around her at the beginning of the treatment which turned to a yellow-green at the end. Margaret also reported seeing multiple tangled strands covering her entire field and toward the end of the treatment, everything smoothed out.
- Prior to the beginning of the session, the client was noticeably anxious. As we began the standard care process in the conference room, she began to cry and expressed she was extremely fearful of a possible cancer diagnosis. Her vitals revealed an elevated blood pressure at 164/92, a pulse rate of 116 and a respiration rate of 20 per minute. She was led into the treatment room and began the MC. After the session was complete, she appeared visibly calmer. She stated

that she felt very relaxed to the point of drifting off to sleep during the session. After the procedure, her blood pressure was 130/85, her pulse was 80, and her breathing 16 per minute. She stated, “That was amazing and made such a difference for me. I hope your study proves the benefit of this- everyone should be so lucky as to have this available to them!” She stated that she possibly could have dozed off during the breast biopsy procedure.

- Margaret experienced a visual of the energy field changing from flat black to grey to a clear and expanded bubble. The subject stated next morning, “I was totally amazed, whatever you did, it lasted through the evening and into this morning. I still feel relaxed even though I don’t know what the biopsy results will show. I hope the study proves the benefit of this- everyone should be so lucky as to have this available to them.”
- The researcher is performing the Magnetic Clearing and Margaret is holding the energy in the room. Margaret notices, in her mind’s eye at the beginning of the session, that the subject has black over her chest and abdominal areas. At first, she doesn’t think much of it and thinks that it is the retinal image and the black is the opposite retinal image that shows up after staring at something white (the subject is wearing white striped shirt and white pants). My thought was the stripes should be in the retinal image also, but they were not. About half way through the session, the minds-eye image now is gray, situated again within the auric field around the chest and abdominal areas about 4-6 inches off the body. By the end of the session, the client has an expanded aura that is pure white and

expands as a bubble over her entire field, head to toe, at about 2 feet above the body.

Suggestions for Future Research

The evidence revealed by this research study on Healing Touch strongly indicates the value of continued research with this subtle energetic modality. In the future, modifications may be considered to the protocol, producing study results with greater reliability and internal validity. Healing Touch may best be experimentally examined for efficacy in multiple venues, complementing allopathic medicine, such as: prior to and after major or minor surgeries, after chemotherapy treatments, during labor for pain control, in clearing anesthesia, and to reduce stressors of the doctors, nurses, and patients.

Suggestions for future research that would enhance this research study are as follows:

1. Meet with all of the research staff prior to the beginning of the study and explain the importance maintaining fidelity to the research protocol.
2. Emphasize the importance of following the protocol for those directly in contact with the subjects.
3. Take the physiological measurements at three different points, making a third data point immediately after the intervention.
4. Introduce a third group (C) of subjects who just lie on the massage table for fifteen minutes and compare the data.
5. Check the holding power of HT by filling out another STAI and CRI at the 72 hour mark. The CRI is designed to indicate long term patterns and therefore in the future would not necessarily be an effective measurement device for a short term study. The

CRI may be more appropriate for a long term study to see if patterns of coping are influenced by the intervention.

6. Add a visual analog scale as another measurement device.

Summary

In summary, the aforementioned responses of the women in the study and the remarks by the PI and the nurse navigator speak to the tremendous power of Healing Touch. The impact of a one-time fifteen minute intervention proved to be a viable means to reduce anxiety for these women. The data reports the statistical significance of the intervention through several of the outcomes. Within the State Anxiety scores, biological marker states decreased which suggests a reduction in anxiety for this group of women.

Energy Medicine can be measured by Western Medicine standards. Alice Bailey, an Energy Medicine pioneer ahead of her time, "...describes the perfect team for healing, consisting of an orthodox medical doctor and a spiritual healer, working together and having faith and trust in each other's abilities to perform their jobs."¹⁰⁴

This study attributes the changes in the subject's temporary shift of anxiety to the Healing Touch intervention Magnetic Clearing, implying their quality of life was temporarily enhanced. The effectiveness of Magnetic Clearing, to relieve anxiety, has demonstrated to be successful as a non-invasive healing modality in this study. However, the need for future research to test the empirical value of HT is warranted. Healing Touch invites a holistic approach to patient care while working in conjunction with Allopathic Medicine. Healing Touch aligned and integrated with Western Medicine can enhance healing for the patient from a mind, body, spirit perspective.

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APPENDIX A

Healing Touch Study Telephone Script

Individual Responsible for Telephone Script: Nurse Navigator Margaret Bohman
This is the Standard Script that will be used to introduce potential subjects to the study during an initial telephone call.

1. (This first paragraph is part of standard care.)

Thank you for talking to me about your upcoming breast biopsy.

First, let me answer your questions about the biopsy procedure itself. (Answer questions)

Next, I'd like to review some medical information and obtain a list of current medications and vitamins or supplements you are taking... (The nurse completes procedure paperwork)

2. (This part is specific to the study)

You are also invited to participate in a research study to determine whether a Healing Touch technique is effective in reducing anxiety in women who are planning to undergo a breast biopsy.

This study is being conducted by Deborah R. Goldberg, M.A., a psychotherapist in private practice in the community, and me, a Clinical Nurse Specialist and Care Coordinator at Fairview Southdale Breast Center. We are both trained and certified in Healing Touch techniques.

We recognize that some women are nervous or anxious about the breast biopsy procedure itself or about what the biopsy results will be. As part of the study, we will ask participants to complete questionnaires before and after their breast biopsy that measure anxiety. Some study participants will be randomly selected to also have a Healing Touch relaxation session before their biopsy. We will then compare pre- and post-breast exam biopsy anxiety felt by participants who received a Healing Touch session with those who did not. The purpose of this study is to determine if Healing Touch is an effective way to reduce anxiety felt by patients.

Participation in this study is voluntary. The decision to participate or not will have no impact on the standard care provided to you.

3. Would you like to hear more about this study? (if patient says no then skip to the next section)

Healing Touch is an energy therapy that uses gentle hand movement above the physical body. It has the potential to relax you, reduce your stress and anxiety, and increase your sense of well-being. This is done while you are fully clothed and laying on your back on a massage table. It takes about 15 minutes. During the session, you

can ask questions or ask to stop at any time. Women frequently report feeling deeply relaxed and peaceful during and after the session.

If you agree to take part in this study, we will ask you to participate as follows:

- Arrive 30 minutes prior to your scheduled check in time.
- Read the study consent form, have your questions answered, and sign the consent form if you are willing to participate.
- A random selection will determine if you are in Group A or B.
- You will complete two self-evaluation questionnaires to describe your current feelings and rate your current anxiety level. The questionnaires will take approximately 10 to 15 minutes.
- If you are randomized to the Health Touch treatment group, you will participate in a 15 minute Healing Touch session.
- After you breast biopsy you will have standard care measurements taken by a nurse. These consist of blood pressure, pulse rate and breathing rate. You will also be asked to complete the two questionnaires again.
- Before you leave, you will be provided a copy of these two questionnaires to take home with you. Within 24 hours after your breast biopsy and prior to your test results, I will call you and will ask you to complete these questionnaires over the phone or you can mail them in before you are notified about your test results.

Do you have any questions for me regarding this study and what participation involves?

4. Would you like to receive a copy of the study consent form by mail so you can review it in detail prior to your scheduled biopsy appointment?

5. (This paragraph is part of standard care.)

Before we say goodbye, please let me confirm your check-in time at our clinic.

We will see you at Fairview Southdale Breast Center, Suite 250

On date..... time.....

May I clarify parking or other directions?

If you have other questions, my name is Margaret and my phone number is 952-836-3619.

Thank you for using Fairview Southdale Breast Center for ongoing care.

I look forward to meeting you. Have a good day!

APPENDIX B

Subject Consent Form

You are invited to participate in a research study to determine whether a Healing Touch technique referred to as Magnetic Clearing is an effective technique in reducing anxiety in women who are planning to undergo a breast biopsy. You were selected as a possible participant because you have an appointment scheduled for a breast biopsy at the Fairview Southdale Breast Center. We ask that you read this form and ask any questions you may have before agreeing to participate in the study.

This study is being conducted by Deborah R. Goldberg, M.A. and Margaret Bohman, R.N., M.S. Deborah Goldberg is a psychotherapist, in private practice, in the community and is also a doctoral student at Holos University. She is conducting this research study as part of her degree program. Margaret Bohman is a Clinical Nurse Specialist and Care Coordinator at Fairview Southdale Breast Center. Both researchers are Level IV Healing Touch practitioner apprentices.

Study Purpose

Before a breast biopsy, patients may have feelings of stress and anxiety. The purpose of this study is to determine if Healing Touch, specifically Magnetic Clearing, reduces anxiety in women who are undergoing a breast biopsy. The investigators plan to use the study results to determine whether there is a future for Healing Touch within the hospital system. Healing Touch therapy consists of a series of techniques that are thought to balance human energy for wholeness within a person's body, mind and soul. Healing Touch is an energy therapy that can be used in conjunction with other traditional medical treatments.

This study will be conducted at the Fairview Southdale Breast Center and will enroll a total of 80 participants.

Study Procedures

If you agree to participate in this study, we will first ask you to sign this consent form. You will then be asked to complete two psychological inventory measurements pre-breast exam biopsy procedure, which include: The State Trait Anxiety Inventory (STAI), The Coping Resource Inventory (CRI).

The STAI is a 40 question self-evaluation questionnaire. It takes approximately three to four minutes to complete. The CRI is a 60 question self-evaluation questionnaire and will take between 9 and 12 minutes to complete. You will be asked to complete these measurements at three different times.

You will then be randomly assigned to one of two study groups:

- 1) Control Group (A) – you will not receive the Magnetic Clearing therapy

2) Treatment Group (B) – you will receive the Magnetic Clearing therapy

If you are assigned to the Treatment Group (B), you will receive Magnetic Clearing therapy before you have your scheduled breast biopsy performed. This will occur in the treatment room at the Breast Center where you will be asked to lie down on your back, face up, on a massage table. The practitioner will begin the Magnetic Clearing procedure while the patient is on the massage table. The starting point of the technique is the head. The hands are placed about six inches apart and about six inches above the crown of the participant's head. The open palms of the hands are faced down parallel to the participant's body. The fingers are spread apart and slightly curled downward toward the participant's body in order to simulate a raking motion. The practitioner will move slowly downward of the patient's body in one fluid stroke approximately six inches above the body. Each stroke is timed to be approximately 30 seconds and the technique is repeated thirty times or until clear.

Shortly after your breast biopsy once you are dressed, you will be asked to complete a group of post-breast exam biopsy measurements of standard care plus the STAI, and the CRI. The last set measurements, the STAI, and the CRI, will be presented to you in a self-addressed envelope prior to your departure from Fairview Southdale. Within 24 hours after your breast biopsy and prior to your test results, Margaret Bohman will call you and will ask you to complete the STAI and the CRI over the phone with her or that you complete and mail them back to the hospital prior to your biopsy results as the final set of data collection.

Risks of Study Participation

The risks of this study to you are very low. Healing Touch techniques have been used safely for many years. It is possible that participation in this study may elevate your anxiety because you will be asked to complete the study inventories measurements because these inventories do take additional time to complete.

Benefits of Study Participation

No direct benefit can be promised to you as a result of your participation in this research study. If you are in the study treatment group and receive Magnetic Clearing then you may experience a sense of well-being, reduced anxiety, and a relaxed sensation during the biopsy procedure. It is hoped that information gained from this study will further our understanding of the effectiveness of Healing Touch techniques, specifically Magnetic Clearing, in treating symptoms of pre-procedure anxiety. If you are not in the treatment group you will be offered a MC session free of charge after the study has been completed.

Study Costs/Compensation

There is no cost or compensation to you for participation in this study.

Research Related Injury

In the event that this research activity results in an injury, treatment will be available, including first aid, emergency treatment, and follow-up care as needed. Care for such injuries will be billed in the ordinary manner to you or your insurance company. If you think that you have suffered a research related injury, let the study physicians know right away.

CONFIDENTIALITY

The records of this study will be kept private. In any publications or presentations, we will not include any information that will make it possible to identify you as a participant. Your study records for this study may be accessed by both researchers, one of which is not a Fairview employee. Your data from the study may also be reviewed by departments at Fairview Health Services, Holos University, and the University of Minnesota with appropriate regulatory oversight. To these extents, confidentiality is not absolute.

VOLUNTARY NATURE OF THE STUDY

Participation in this study is voluntary. Your decision whether or not to participate in this study will not affect your current or future relations with the University of Minnesota, Holos University, or Fairview Southdale Hospital. If you decide to participate, you are free to withdraw at any time without affecting those relationships.

CONTACTS AND QUESTIONS

The researchers conducting this study are Deborah Goldberg and Margaret Bohman. Deborah Goldberg's academic advisor is Dr. Noel Kilgarriff. You may ask any questions you have now or if you have questions later, you are encouraged to contact: Deborah Goldberg at 612-619-5990, Dr. Noel Kilgarriff at 480-980-1834 and Margaret Bohman at 952-836-3619.

If you have any questions or concerns regarding the study and would like to talk to someone other than the researcher(s), you are encouraged to contact the Fairview Research Helpline at telephone number 612-672-7692 or toll free at 866-508-6961. You may also contact this office in writing or in person at University of Minnesota Medical Center, Fairview-Riverside Campus, 2200 Riverside Avenue, Minneapolis, MN 55454.

STATEMENT OF CONSENT

I have read the above information. I have asked questions and have received answers. I consent to participate in the study. You will be given a copy of this form to keep for your records.

Signature of Participant _____ Date _____

Signature of Investigator _____ Date _____

APPENDIX C

Coping Resources Inventory and State-Trait Anxiety Inventory

For use by Deborah Goldberg only. Received from Mind Garden, Inc. on November 9, 2009

Permission for Deborah Goldberg to reproduce 300 copies within
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Coping Resources Inventory

by

M. Susan Marting

and

Allen L. Hammer

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N = Never or rarely S = Sometimes O = Often A = Always or almost always
Use the CRI Answer Sheet to mark your responses.

1. *I have plenty of energy.*
2. *I say what I need or want without making excuses or dropping hints.*
3. *I like myself.*
4. *I am comfortable with the number of friends I have.*
5. *I eat junk food.*
6. *I feel as worthwhile as anyone else.*
7. *I am happy.*
8. *I am comfortable talking to strangers.*
9. *I am part of a group, other than my family, that cares about me.*
10. *I accept the mysteries of life and death.*
11. *I see myself as loveable.*
12. *I actively look for the positive side of people and situations.*
13. *I exercise vigorously 3 – 4 times per week.*
14. *I accept compliments easily.*
15. *I show others when I care about them.*
16. *I believe that people are willing to have me talk about my feelings.*
17. *I can show it when I am sad.*
18. *I am aware of my good qualities.*
19. *I express my feelings to close friends.*
20. *I can make sense out of my world.*
21. *My weight is within 5 lbs. of what it should be.*
22. *I believe in a power greater than myself.*
23. *I actively pursue happiness.*
24. *I can tell other people when I am hurt.*
25. *I encourage others to talk about their feelings.*
26. *I like my body.*
27. *I initiate contact with people.*
28. *I confide in my friends.*
29. *I can cry when sad.*
30. *I want to be of service to others.*

Please go on to the next page →

N = Never or rarely S = Sometimes O = Often A = Always or almost always
Use the CRI Answer Sheet to mark your responses.

31. *I can say what I need or want without putting others down.*
32. *I accept problems that I cannot change.*
33. *I know what is important in life.*
34. *I admit when I'm afraid of something.*
35. *I enjoy being with people.*
36. *I am tired.*
37. *I express my feelings clearly and directly.*
38. *Certain traditions play an important part in my life.*
39. *I express my feelings of joy.*
40. *I can identify my emotions.*
41. *I attend church or religious meetings.*
42. *I do stretching exercises.*
43. *I eat well-balanced meals.*
44. *I pray or meditate.*
45. *I accept my feelings of anger.*
46. *I seek to grow spiritually.*
47. *I can express my feelings of anger.*
48. *My values and beliefs help me to meet daily challenges.*
49. *I put myself down.*
50. *I get along well with others.*
51. *I snack between meals.*
52. *I take time to reflect on my life.*
53. *Other people like me.*
54. *I laugh wholeheartedly.*
55. *I am optimistic about my future.*
56. *I get enough sleep.*
57. *My emotional life is stable.*
58. *I feel that no one cares about me.*
59. *I am shy.*
60. *I am in good physical shape.*

The Coping Resources Inventory

Answer Sheet

Complete the following:

1. Name: _____
(First) (Last)
2. Gender: Male / Female
(Circle one)
3. Circle the highest grade you have completed in school:
6th Freshman College
7th Sophomore
8th Junior
9th Senior
10th Masters
11th Doctorate
12th Post. Doc.
4. Today's date: ____/____/____.
(mm/dd/yyyy)
5. Age: _____.
6. In general, how is your health? Very poor / Poor / Good / Very good
(Circle one)
7. What is your level of stress today? Very low / Low / High / Very high
(Circle one)
8. Marital status: single / married / widowed / separated or divorced
(Circle one)

Directions: For each of the sixty statements in the CRI item booklet, mark an X on the response that best describes you in the last six months. For each statement mark one of the following descriptions:

- N** = Never or rarely
- S** = Sometimes
- O** = Often
- A** = Always or almost always

It is important that you try to answer every question.

Please turn to the next page when you are ready to begin.

State-Trait Anxiety Inventory for Adults

Charles D. Spielberger

The STAI Form Y is the definitive instrument for measuring anxiety in adults. It clearly differentiates between the temporary condition of "state anxiety" and the more general and long-standing quality of "trait anxiety". It helps professionals distinguish between a client's feelings of anxiety and depression. The inventory's simplicity makes it ideal for evaluating individuals with lower educational backgrounds. Adapted in more than forty languages, the STAI is the leading measure of personal anxiety worldwide. The STAI has forty questions with a range of four possible responses to each. Note that the STAI Form X (the previous form) is available from Mind Garden if needed.

- ❖ Determines anxiety in a specific situation and as a general trait
- ❖ Two twenty-item scales
- ❖ For individual or group administration
- ❖ Provides norms for clinical patients, high school and college students, and working adults
- ❖ Efficiently scored
- ❖ Can be completed in about ten minutes
- ❖ Sixth grade reading level

Contents of Manual:

- ❖ Procedures for administering and scoring the scales
- ❖ Normative data and the N's of these populations with percentile tables
- ❖ Empirical support for the scales
- ❖ Psychometric data of the scales
- ❖ Correlations with other tests
- ❖ References

Uses:

- ❖ Psychological and health research
- ❖ Clinical diagnosis
- ❖ Differentiating anxiety from depression
- ❖ Assessment of clinical anxiety in medical, surgical, psychosomatic, and psychiatric patients
- ❖ Evaluates how respondents felt at a particular time in the recent past and how they anticipate they will feel either in a specific situation that is likely to be encountered in the future or in a variety of hypothetical situations.
- ❖ Is found to be a sensitive indicator of changes in transitory anxiety experienced by clients and patients in counseling, psychotherapy, and behavior-modification programs.
- ❖ Assesses the level induced by stressful experimental procedures and by unavoidable real-life stressors such as imminent surgery, dental treatment, job interviews, or important school tests.

- ❖ For screening high school and college students and military recruits for anxiety problems, and for evaluating the immediate and long-term outcome of psychotherapy, counseling, behavior modification, and drug-treatment programs.
- ❖ Proven useful for identifying persons with high levels of neurotic anxiety and for selecting subjects for psychological experiments who differ in motivation or drive level.

Norm Groups: High School, College, 19-39 years old, 40-49 years old, 50-69 years old

Norm Tables: Working Adults, College Students, High School Students, Military Recruits

Inventory Booklet: Individuals respond to each item on a four-point Likert scale, indicating the frequency with which each strategy is used.

Example:

- The **S-Anxiety scale** consists of twenty statements that evaluate how respondents feel "right now, at this moment."

1 = NOT AT ALL 2 = SOMEWHAT 3 = MODERATELY 4 = VERY MUCH SO

- A. I feel at ease 1 2 3 4
- B. I feel upset 1 2 3 4

- The **T-Anxiety scale** consists of twenty statements that assess how respondents feel "generally."

1 = ALMOST NEVER 2 = SOMETIMES 3 = OFTEN 4 = ALMOST ALWAYS

- A. I am a steady person 1 2 3 4
- B. I lack self-confidence 1 2 3 4

State-Trait Anxiety Inventory:

STAIS-AD Manual and Sampler Set.....	\$30.00
STAID-AD Duplication Set (150 copies @ \$0.80 each)	\$120.00
STAIB-AD Bulk Permissions	
Bundle of 200 @ \$0.75 each	\$150.00
Bundle of 300 @ \$0.75 each	\$210.00
Bundle of 400 @ \$0.65 each	\$260.00
Bundle of 500 @ \$0.60 each	\$300.00
<i>For larger quantities please contact us</i>	
STAIE-AD Inventory Booklets (package of 25).....	\$30.00
STAIK-AD Scoring Key only	\$10.00

The STAI can be ordered from:

Mind Garden, Inc.
 855 Oak Grove Ave., Suite 215
 Menlo Park, CA 94025
 Phone: (650) 322-6300 Fax: (650) 322-6398 e-mail: info@mindgarden.com
 www.mindgarden.com

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 circle the appropriate number 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.

VERY MUCH SO
MODERATELY SO
SOMEWHAT
NOT AT ALL

- 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

SELF-EVALUATION QUESTIONNAIRE

STAI Form Y-2

Name _____ Date _____

DIRECTIONS

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you *generally* feel.

ALMOST NEVER
SOMETIMES
OFTEN
ALMOST ALWAYS

- | | | | | |
|--|---|---|---|---|
| 21. I feel pleasant..... | 1 | 2 | 3 | 4 |
| 22. I feel nervous and restless..... | 1 | 2 | 3 | 4 |
| 23. I feel satisfied with myself..... | 1 | 2 | 3 | 4 |
| 24. I wish I could be as happy as others seem to be..... | 1 | 2 | 3 | 4 |
| 25. I feel like a failure..... | 1 | 2 | 3 | 4 |
| 26. I feel rested..... | 1 | 2 | 3 | 4 |
| 27. I am "calm, cool, and collected"..... | 1 | 2 | 3 | 4 |
| 28. I feel that difficulties are piling up so that I cannot overcome them..... | 1 | 2 | 3 | 4 |
| 29. I worry too much over something that really doesn't matter..... | 1 | 2 | 3 | 4 |
| 30. I am happy..... | 1 | 2 | 3 | 4 |
| 31. I have disturbing thoughts..... | 1 | 2 | 3 | 4 |
| 32. I lack self-confidence..... | 1 | 2 | 3 | 4 |
| 33. I feel secure..... | 1 | 2 | 3 | 4 |
| 34. I make decisions easily..... | 1 | 2 | 3 | 4 |
| 35. I feel inadequate..... | 1 | 2 | 3 | 4 |
| 36. I am content..... | 1 | 2 | 3 | 4 |
| 37. Some unimportant thought runs through my mind and bothers me..... | 1 | 2 | 3 | 4 |
| 38. I take disappointments so keenly that I can't put them out of my mind..... | 1 | 2 | 3 | 4 |
| 39. I am a steady person..... | 1 | 2 | 3 | 4 |
| 40. I get in a state of tension or turmoil as I think over my recent concerns and interests..... | 1 | 2 | 3 | 4 |

APPENDIX D

Confounding Variables

On November 11, 2010, I suspended recruitment for the research project # 0911M74492 because I realized a difference in the baseline measurements for the control and intervention groups of the study. Over the following two weeks, I investigated the potential sources of the inconsistency. The discrepancies were discovered to be primarily due to protocol deviations by the scheduler of appointments and the nurse navigator. The role of the scheduler was to schedule an appointment for the subject and inform the patients of the study. If a subject had an interest in the study, the scheduler was to offer a further discussion of the study with the nurse navigator (the secondary principal investigator). The nurse navigator provided detailed explanations of the study, reviewed the consent form, and enrolled the subjects.

The following deviations did not increase the risks to subjects, yet the internal validity of the study was potentially compromised.

The Protocol Deviations are Listed Below.

The Scheduler:

1. Did not follow the IRB-approved phone script and, instead, used it as a rough template for introducing the study.
2. Initially told potential subjects about her personal experience with the Healing Touch intervention when introducing the study and, then, stopped telling them at about the 3 month mark because she thought it may influence them (she had a positive experience with Healing Touch).

3. Did not refer to it as a “research study,” but as a “study with questionnaires.”
4. Changed her approach on October 18th by following a script that the nurse navigator re-wrote and gave her. She was directed to tell the subject on the phone that there were two groups and they may or may not be in the one receiving the treatment.

The Nurse Navigator:

1. Did not follow the IRB-approved phone script and, instead, improvised sections and used it as a rough template for explaining the study.
2. Told some subjects that they were in the treatment group several days in advance of receiving the study intervention/treatment.
3. Did not follow consent protocol. Subjects were to sign the consent form prior to knowing which group they were randomized into. All subjects that signed the consent form would be considered enrolled, and subjects who withdrew, due to randomization, would be documented as such. Instead, the nurse navigator told the subject which group she would be in due to prior randomization, and if she were still interested, she would enroll her. There were several instances where the potential subject did not sign the consent due to randomization into the non-intervention group.
4. Changed the scheduler’s script. When recruitment started to target controls because the intervention group was full, she added the sentence: “We are comparing ladies that get Healing Touch to those that do not. If you do not receive Healing Touch for the study, you may receive it afterwards.” The intention was to inform patients they may not receive Healing Touch, since she knew they would not. Initially, only the nurse navigator explained the randomization process to potential subjects after the

randomization process was completed. I was not notified of any change and the nurse navigator did not get approval from the IRB for the script change.

The result of these deviations was that some potential subjects were unwilling to participate in the study once they knew they may not receive the intervention, Healing Touch. Healing Touch is a non-invasive complementary therapy that uses gentle touch on the body or hand movement above the body to help the patient relax, reducing stress and anxiety. Most women chose to receive this therapy when it is explained to them.

The deviations possibly skewed our patient group because only women who were minimally nervous for their scheduled breast biopsy were willing to enroll in the study when they found out they would not receive Healing Touch. The randomization process was not skewed because the scheduler was not aware of the protocol for randomization and, therefore, scheduled patients as usual. The randomization was determined once the patient chose their appointment date. The appointment date determined into which group they would be assigned. The odd day of the week appointments were assigned to the Intervention Group (B) and the appointments on the even day of the week were assigned to the Control Group (A).