

**The Effects of Directed Acupressure Point Holding
Combined with Mental Imagery on
Female College Swimmers' Timed
50 Meter Speeds**

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Dissertation
submitted to the Faculty of
Holos University Graduate Seminary
in partial fulfillment of the requirements
for the degree of

DOCTOR OF THEOLOGY

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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.

Verna Pearl Hagen

ACKNOWLEDGEMENTS

Thank you to my Co-Committee Chairman, Bob Nunley, Ph.D., Co-Chairwoman Delphine Rossi, Th.D., and Committee members Paul Thomlinson, Ph.D. and Bernard Williams, Ph.D.

I have received help from many special people and professors through the years, but I dedicate this work to my father, Vern S. Hagen. He attempted his doctorate without completion. He wanted me to earn mine. I did, with the blessings of his emotional and financial support. Thank you, Vern.

My blossoming daughter, Delfina, for molding me into the highly-focused character I pulled on so often while multi-tasking with motherhood, private practice and doctoral academic work.

My son, Sean Lauder, whose tenacious devotion to his creativity and his dream path inspires me to come out of my cocoon and re-invent myself according to my potential.

My brother Carl, who uncled my children with generosity and sweetness, which offered a support to my strenuous academic life, without which I can barely imagine succeeding.

My sister Martha who auntied my children, so I could be co-parent instead of single parent. She saw me succeeding in my academic goals, even when I couldn't.

My sister Judy who rooted for me with love.

My friend Lauderly for loving me with such great power.

My trainers Scott Walker DC and Deb Walker DC for welcoming me into their life's work of Neuro-Emotional Technique (NET).

My friend and supervisor, Elaine LeVine, PhD, for saying that I was more than up to the task of earning my doctorate and that my dissertation was not about saving the world, but about doing something manageable and finishing it.

My friend Genevieve Chavez Mitchell, ND, for listening to me read aloud various course writings, for feeding me delicious food, working flower essences and homeopathic remedies for me and mine and for generously sharing her library.

My friend Susan Davis, ThM for being the chirpiest of schoolmates and a rare colleague.

My friend Peggy Shinn for welcoming me into her "charmed life."

My friend Allan Kaplan, PhD, for seeing more of me than I was showing and for calling me Dr. Pearl with foresight and tangible enthusiasm.

My friend Joann McLeod for envisioning more of me than I could see and being an instrument of hope in my life's transitional trajectory.

My friends Dorrienne Kabo, Esq. and her husband Lyndon for hand-holding me into Malibu, where I finally cocooned and wrote my dissertation.

My professors Red Bird, PhD and Mischke, MA, who lightheartedly opened doors for me as an undergraduate into the worlds of Carl Jung and Joseph Campbell.

My friend Marilyn McGeehe, who was to me at Holos University as groundskeeper Boothby was to Jean-Luc Picard at Star Fleet Academy. (*Star Trek: The Next Generation*, episode "The First Duty")

My many, many clients who trusted me to serve them and thus to learn and grow.

Stell Neuman, PhD, the first PhD I ever met, about 30 years ago. I said, "Wow, you must be so smart." He answered, "No, just persistent." That knowing of persistence above all else was bedrock to completing my doctorate.

Lastly, myself because this 20 year academic culmination of a bachelor's degree, two master's degrees and now my doctoral degree was a tough, grumpy road with more adversity and submission to the rules than my creative soul meant to sign up for. As my father was fond of saying, quoting Shakespeare: "Sweet are the uses of adversity, which, like the toad, ugly and venomous, wears yet a precious jewel in its head."

And for all the family, friends, dreams, ideas, adventures, vacations and conversations that waited for me while I single-mindedly earned my first chakra doctoral authority and liberty.

ABSTRACT

The purpose of this quantitative research study was to determine whether female college team swimmers demonstrate a significant improvement in their timed 50 meter freestyle speeds after two, one-hour sessions of directed acupressure points holding combined with mental imagery from an experienced practitioner. The intervention of directed acupressure points holding combined with directed imagery was used in two sessions given during a one-week period. The mental imagery in the first session was directed toward each swimmer's worst experience(s) as a swimmer. The mental imagery of the second session was directed toward their upcoming swimming competition. The research subjects consisted of the entire college swim team, fifteen females between the ages 18 to 21. They were distributed, by convenience, into the experimental or control group. All participants completed the study. Each of the individuals in the experimental group received two sessions, one hour in duration each, for a total of two hours. Before the intervention, each swimmer's 50 meters freestyle and stroke of choice were timed and recorded. The week after the intervention, each swimmer's times were again recorded. Data were measured using a repeated measure design. Results indicated no measurable improvement in the swimmers' 50 times in the experimental group. The intervention was replicated with the control group, which received the same protocol the following week. This second group did show a measurable improvement in their times. No improvement was measured using the self-evaluation tool State Trait Anxiety Inventory (STAI) with either group. This study suggests that an experienced practitioner using directed acupressure point holding combined with mental imagery may have a measurable effect on female college swimmers' timed 50 speeds.

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CHAPTER 1: INTRODUCTION

The underlying idea behind this research study is that athletes have been confronted with many painful, confusing, and awkward situations in their athletic careers, in which their emotional reactions had to be repressed. The reasons for this are myriad. Examples include staying out of trouble with their coach, getting along with their teammates, or dismissing a physical pain which would prevent them from competing. This means that their subconscious minds would potentially become full of unresolved emotions. In theory, these unresolved emotions consume energy from them and thus decrease the energy available to them for focusing on their athletic performances. In the field of energy medicine, it is recognized that:

Our bodies have an intricate and multilayered self-regulating feedback arrangement. We know, on the psychological level, that a person's emotions affect the efficiency of healing and the level of pain, and there's every reason to believe that emotions, on the physiological level, have their effect by modulating the current that directly controls pain and healing.¹

This brings up the possibility that emotions may also have an effect on an athlete's ability to perform at their peak.

The field of sports psychology is devoted to the maximization of athletes' performance, hence the importance of not just knowing the content of athletes' subconscious minds and what might be hindering them, but the development and use of techniques to clear or neutralize the emotional hindrances. Medical physician John E. Sarno found that his "patients' physical symptoms were the direct result of strong feelings repressed in the unconscious."² He further suggests that:

Conflicts rage constantly in the unconscious, born of the various elements that represent the mosaic of the human psyche. These conflicts result in the

development of emotions that cannot be tolerated and, therefore, must be repressed. Because these undesirable feelings appear to strive for recognition, the mind must do something to prevent them from coming to consciousness. Hence, the mindbody symptom.³

A potential area where these mindbody symptoms might show up could include athletic performance. “It is stated that contemporary individuals are striving to meet their positive goals and avoid unwanted outcomes. This is determined by components of the self-schema and their projections as to what they might become.”⁴ Therefore athletes who strive to improve their performances may benefit from such a technique where they would focus not just on recovery but on future projections of themselves during their athletic performances.

Naturally, concerns of improved athletic performance would include reduction or elimination of any prior physical injury or repetitive stress condition, which causes any degree of pain, which might have a negative impact on an athlete’s performance. These concerns include the idea that, “pain syndromes are multidimensional. That is, pain syndromes are a combination of physical, psychological and social factors (including emotional characteristics) that integrate and manifest themselves as a pain response to alter behavior.”⁵ This suggests the possibility that a technique for accessing and desensitizing the emotional aspect of pain might have a positive impact on the performance of athletes.

Additionally, this improvement of athletic performance might be enhanced by guided imagery. According to Martin L. Rossman, “When people imagine moving, areas of the brain (the prefrontal motor cortex) that instruct the body to move become active.”⁶ This stimulation of the prefrontal motor cortex when imagining movement implies the possibility of improved athletic performance from the practice of guided imagery of an athlete’s performance.

Purpose of the Study and Research Questions

Candace Pert, a pioneer in the field of research into neuropeptide receptors in the brain, suggests that, “peptides and other informational substances are the biochemicals of emotion.”⁷ She further suggests that, “When stored or blocked emotions are released through touch or other physical methods, there is a clearing of our internal pathways, which we experience as energy.”⁸ The possibility that clearing these “internal pathways” would have a measurable effect on college swimmers’ performances was the inspiration behind this research study.

The purpose of this study was to straddle the hidden realm between college athletic swimmers’ subconscious minds and the measurable realm of their athletic performances. The study strove to discover if the technique of acupressure point holding combined with guided imagery, as used by the researcher, would improve the swimmers’ State Trait Anxiety Inventory (STAI) and times of their 50 meter freestyle stroke and stroke of choice. The research questions are:

1. Does the intervention have a significant effect on the swimmers’ STAI State scores?
2. Does the intervention have a significant effect on the swimmers’ STAI Trait scores?
3. Does the intervention have a significant effect on the swimmers’ 50 meter freestyle times?
4. Does the intervention have a significant effect on the swimmers’ 50 meter stroke of choice times?

The directional hypotheses are:

1. There is a significant improvement between repeated measures on the swimmers’ STAI State scores.

2. There is a significant improvement between repeated measures on the swimmers' STAI Trait scores.
3. There is a significant improvement between repeated measures on the swimmers' 50 meter freestyle times.
4. There is a significant improvement between repeated measures on the swimmers' 50 meter stroke of choice times.

The null hypotheses are:

1. There is no difference between repeated measures on the swimmers' STAI State scores.
2. There is no difference between repeated measures on the swimmers' STAI State scores.
3. There is no difference between repeated measures on the swimmers' 50 meter freestyle times.
4. There is no difference between repeated measures on the swimmers' 50 meter stroke of choice times.

The level of significance of study findings is set at .05.

Relevance of Study to the Field of Athletic Performance

The athletic drive to peak performance is ultimately motivated from within the personal psyche of each athlete, no matter what the apparent external motivation may be. These external motivations may include parental approval, peer approval, or self-esteem boosting. These motivations may come from the realms finances, such as a college scholarship or a professional athlete's contract. Apart from the external motivation, an athlete's performance is contingent upon physical and emotional/psychological components. The study of sports psychology is devoted to improving athletic performance by clearing and strengthening an athlete's psychological health and strength.

Understanding that the development of psychological health often means understanding what past experiences are having a negative impact on current performance, the ability to identify and clear past negative memories could potentially improve an athlete's performance. This study attempted to discover if the researcher's technique of muscle testing volunteers for negative emotions, as read through acupuncture wrist pulse points and the corresponding emotion and holding points to clear those negative emotions, would improve the athletes' performances.

Scope of the Study

The scope of the study was very narrow. The intervention was a personal protocol of the researcher and therefore not actually replaceable by another researcher. The study population all came from a very small demographic in regards to age, gender, and location. All volunteers were female between the ages of 18 to 21 attending New Mexico State University and were all team members on the competitive college swim team. They all attended college with full-time academic loads, between 12 and 18 credits, and maintained a minimum 2.50 grade point average.

Delimitations and Limitations

The delimitations to this research study are as follows:

- The researcher is personally familiar with competitive swimming.
- The researcher is familiar with people who swim laps at the pool where the study was conducted.
- The researcher has successfully worked with clients in a professional setting with some aspects of the research protocol.

- The researcher had personal experience as a competitive swimmer and knowledge of how emotional conflicts can affect athletic performance.

The limitations of the research study are as follows:

- The researcher did not know the psychological health histories of the study volunteers.
- The physical health habits/lifestyle habits of the volunteers was unknown.
- The only requirement for the volunteer participation was being on the New Mexico State University swim team.
- All of the swimmers on the swim team were female. Results may have been confounded by effects of menstrual cycles.
- All of the study volunteers were between the ages of 18-21.
- The amount of time available for the researcher to interact with the volunteers was during the interventions. The researcher avoided any interactions with the volunteers at other times.
- There was only a small pool of participants.
- The protocol used was not the exact protocol used by the researcher in her private practice.
- The data could not be compared to previous studies.
- Only one college swim team at one school was used in the study.
- The researcher could not know if the study volunteers were following the directions regarding specific images during the interventions.
- All the study volunteers received the interventions at the same time, sitting on a bench next to each other.

CHAPTER 2: REVIEW OF LITERATURE

Sports psychology is a growing field, with a major emphasis on optimal athletic performance.⁹ Interest in the study of emotion-performance relationships is also increasing.¹⁰ Physical and emotional tension can accumulate, causing limitations to an athlete's performance. "Using energy work to enhance sports performance is a relatively new area."¹¹ The possibility of reducing performance anxiety and the thought patterns therein could benefit many collegiate swimmers in pursuit of increased athletic excellence.

The ancient Chinese healing technique of acupuncture is based on Traditional Chinese Medicine (TCM) understanding of the human body's energetic flows through meridians and specific points on the body.¹² These meridians have specific emotions connected with them.¹³ C. Norman Shealy writes about Ukrainian quantum physicists who "believe that each organ collectively projects its vector, or energy, along a specific pathway for that organ, the **acupuncture meridian** for that organ."¹⁴ Further support for the physiological aspect of meridians comes from the discovery of neuropeptides in different organs of the body. "The study of neuropeptides and their receptors suggests a network in which information of all kinds, including emotional information, is circulated throughout the body, allowing organs and systems to affect each other."¹⁵

The term acupressure points refer to the physical locations on the human body of this ancient healing art without the use of needles.¹⁶ In addition to acupressure points on the body, pulse points on the wrists are also central to insight and treatment within the paradigm of Chinese medicine.¹⁷ When there is tension, as in a repetitively-used muscle, that "tension tends to spread to points and muscles in the same segment. Gradually, other

points along the related meridians also become blocked.”¹⁸ A pilot study using acupressure to reduce agitation in patients with dementia indicated significant reduction in agitation,¹⁹ supporting the possibility of using acupressure points to reduce performance anxiety and thus enhance performance in athletes.

The use of imagery, as an anxiety management technique to rehearse and improve athletic performance, has been used with athletes by sport psychologists.²⁰ There is a therapeutic precedence for using imagery “as projections and reworking of mental and emotional processes.”²¹ Another way of perceiving the work of imagery is through recognizing thought forms, which are “created, built and maintained by their owners through habitual thoughts...[they] may or may not be conscious.”²²

The origin of sports psychology is perceived as beginning in 1898, as Dr. Norman Triplett published the first experiment regarding “social influence variables”²³ in cyclists – when his study showed “the favorable effect of observers on one’s performance.”²⁴ After Triplett, came Dr. Coleman Roberts Griffith, who established the first sports psychology laboratory at the University of Illinois in 1925. The primary focus of Griffith’s research regarding athletic performance was two-fold: “psychological and environmental factors that influence the learning and performing for motor skills, and personality in sport.”²⁵ The growth of textbooks, research publications and academic programs in basic physical education combined with the development of studying and understanding the psychological aspects of athletic performance laid the foundation for our current knowledge and practice of sports psychology. In 1967, the field’s first professional association North American Society for the Psychology of Sport and Physical Activity (NASPSPA), started holding its annual meeting. Then in 1986, the Association for the Advancement of Applied Sport

Psychology (AAASP) was created with three sub-divisions: 1) *health psychology* which studies the psychological effects of physical activity; 2) *intervention* studies the effects of psychological and behavioral techniques on sport performance and; 3) *social psychology* which studies the influences of environmental factors on both athletes and coaches.²⁶

Sports psychology thus developed over time and in multidimensional aspects. These multidimensional aspects of sports psychology and physical activity are described by Dr. Mark H. Anshel as consisting of “educational psychology, social psychology, developmental psychology, psychophysiology, cognitive psychology, clinical psychology, health/exercise psychology and personality psychology.”²⁷ Basic to sport psychology’s foundation is the development of sports and physical education as a measurable science, measuring athletic performance and potential in terms of achievement in areas such as speed, endurance, range of motion and weight lifting.²⁸

Just as the physical achievement aspects of sports performance are measured, so too the testing of athletes has been transferred to the measuring of psychological aspects of athletic performance. The primary type of test used by sports psychologists is the personality inventory, used to “examine the relationship between personality characteristics and behavior.”²⁹ Many of these are self-administered pen and paper tests, which use a Likert scale of measurement. An example of this type of personality test is the *State-Trait Anxiety Inventory* (STAI). Although the STAI was often used in sports psychology research in the 1970’s and 1980’s, it is less used since then because it does not specifically ask the respondent about “their thoughts and feelings in sports situations.”³⁰ Hence, there have been many sports-specific tests developed in the last three decades. One example is the often-used *Sport Competition Anxiety Test* (SCAT) by Dr. Rainer Martens, which was

normed on college age adults.³¹ SCAT uses 15 “I” statements regarding the respondents’ thoughts and feelings regarding their experiences while competing in sports.³² The measurement of the respondent’s competitive anxiety is the primary focus of the test.

The measurement of the athlete’s anxiety is related to their performance. “*State anxiety* is an existing or current emotional state characterized by feelings of apprehension and tension associated with activation of the organism. State anxiety [known as A-state] is linked with negative affect.”³³ It is important in sports psychology to differentiate between anxiety as a personality trait and as a state in reference to sport-specific situations.

Concerns regarding sport personality research have been expressed by sports psychologists. Martens expressed these concerns in the three categories of conceptual, methodological and interpretive.³⁴ Basically, the concern about personality profiles in terms of explaining sport and exercise behavior is the tests’ inability to relate to specific behaviors.³⁵ However, future research in “self-motivation, attentional style [and] competitive anxiety”³⁶ is expected to increase both knowledge and application in sports psychology.

Overview of Sports Psychology

The psychology of the athlete has been studied and measured in a variety of areas. One of these areas is the athletes’ attentional style, whether they use associative or dissociative strategies during endurance sports and the concept of peak performance, also known as *flow*.

The study of an athlete’s attentional style was initiated in the 1970’s by Robert M. Nideffer, who suggested that, “attentional style exists along two dimensions, *width* and *direction*.”³⁷ These two dimensions are further described in Nideffer’s model of attentional

focus in four directions: internal versus external and broad versus narrow. There are different degrees of attention, which can be practiced in any of the four quadrants, and the optimum style depends on the sport and the aspect of performance. From that perspective for example, an athlete's attentional style might be measured as internal and narrow. That would be excellent for an endurance event such as weight lifting. However, a football quarterback needs their attention to be broad and external on the field.³⁸

Nideffer developed the *Test of Attentional and Interpersonal Style* (TAIS) for defining and studying athletes' attentional styles.³⁹ Examples of his attentional subscale are helpful in understanding the types of individual athlete mindset. These types include: Broad-External, External Overload, Broad-Internal, Internal Overload, Narrow Effective Focus and Errors of Underinclusion. An example of statements used on the Likert scale test for measuring Internal overload are: 1) When people talk to me, I find myself distracted by my own thoughts and ideas; 2) I have so many things on my mind that I become confused and forgetful.⁴⁰ An athlete who tested high in this area of Internal Overload would be considered probable to make mistakes based on too many simultaneous thoughts and "interfered with by his or her own thoughts and feelings."⁴¹ Although these tests can be very helpful in defining the areas where an athlete may benefit from change and development, they are merely a measurement and do not offer any helpful techniques.

After Nideffer's original development of TAIS, other sport psychologists have built on and expanded his test for specific sport testing, such as tennis and baseball. Some of this later work in attention has expanded beyond the internal versus external model into "a bandwidth dimension with two components, scanning and focusing."⁴² In addition to these

varied types of tests being used, physiology is also included as an aspect of an athlete's psychology.

The psychological patterns of how an athlete deals with stress are also a major aspect of study. The causes of stress may include physical pain, the coach's pressure to perform and win, criticism after losing and physical or mental errors.⁴³ The focus of study in this area has to do with association and dissociation. An associative strategy can be defined as an athlete being "focused on their breathing, paying attention to the feelings in their leg muscles, or otherwise adopting an internal attentional focus and monitoring their bodily sensations."⁴⁴ In contrast, an athlete using a dissociated style of focus might be thinking about events of their day or the rhythm of a particular song. Although research studies have shown that elite athletes tend to use an associative style of focus, there are also studies that show this not true for all endurance sports.⁴⁵

The ability of an athlete to access their psychological state for peak performance is another area of research. Bryant J. Cratty categorized peak performance states, or *flow* states, including anxiety or arousal.⁴⁶ Anxiety or arousal, although sometimes used interchangeable, are distinctly separate in studying the psychology of the athlete. "Arousal is *essentially* a physiological response and anxiety is *primarily a cognitive process* [and] both...contain psychological and physiological manifestations."⁴⁷ An athlete who is in a state of arousal, which means he or she has "drive, activation, readiness, or excitation" is in a state considered "a requisite for optimal sports performance."⁴⁸ While this state comes naturally to many athletes, research indicates that it can be enhanced. Joseph B. Oxendine, speculated different optimal arousal levels for specific sports. For example, the highest level (measured as a #5) was for football blocking and tackling. Oxendine speculated that

swimming races are best swum by an athlete at a #4 level of arousal, while archery and bowling optimally occurred at a #1 level, meaning a state of slight arousal.

Use of Imagery in Sports Psychology

The use of imagery in sports has taken two primary paths. The first path uses imagery as an aid for relaxation of the athlete. The second, and most researched, is imagery as a technique used by the athlete to “mentally rehearse a skill and improve subsequent performance.”⁴⁹ A variety of measurement tools have been created to assess imagery ability. Very few of these measurements focus specifically on imagery as an enhancer of sports performance.

The work of Dr. M. J. Mahoney, as presented by Dr. Diane L. Gill, is based on a cognitive-behavioral approach to sports psychology, presents three basic positions regarding the use of mental practice for improved athletic performance. First, Mahoney suggests that an athlete’s familiarity with the task makes mental practice more effective, especially when it is interspersed with the actual motor activity. Second, Mahoney recommends the athlete use an internal perspective while imaging the kinesthetic feelings of the actual motor skill, versus viewing himself or herself from an observer’s perspective. Lastly, Mahoney suggested the possibility of using a coping model to help athletes imagine recovering from a mistake during an athletic event – but there are concerns that such a practice may increase the possibility of mistakes.⁵⁰

Dr. Deborah L. Feltz and Dr. Daniel M. Landers did analysis of the literature regarding the useful benefits of imagery and mental rehearsal for athletes. They theorized that mental practice is most effective in “tasks involving movement sequences, timing, or cognitive problem solving.”⁵¹ Feltz and Landers also support in the literature for benefits

from mental practice by athletes at both the early and later stages of learning. In other words, before a skill has become familiar, mental rehearsal can be beneficial to the athlete's learning process. Additionally, after a skill has become well-rehearsed, mental rehearsal can also be beneficial to the athlete's learning process. In regards to psychological preparation for performing a specific skill, Feltz and Landers also found that mental practice appears to assist the athlete.⁵²

Another researcher in the area of imagery with athletes is Dr. Richard Suinn. He has done work called visuomotor behavioral rehearsal (VMBR), which "emphasizes imagery as a total sensory recreation of a skill and not simply a visual picture."⁵³ Suinn recommends the use of relaxation training prior to an athlete visualizing a specific motor activity. He calls it "the mental equivalent of physical practice...It may be that your muscles start to learn through this visualization practice the proper way of moving. There is in fact research evidence that indicates that when athletes use visualization after relaxation, their performance does improve."⁵⁴

Dr. Mark H. Anshel refers to mental imagery as both an art and science – an art because some people are better at it than others and a science because there are specific techniques and skills involved.⁵⁵ Anshel presents examples of imagery programs for different athletic objectives, such as learning a new skill or strategy, gaining self-confidence and overcoming a slump.⁵⁶ In all of these, he directs the athlete to first relax, as suggested by Suinn, before proceeding with the rest of the directed visualization exercise.

Examples of Applied Sports Psychology Research

Since the days when sports psychologist pioneers began researching the field of athletic performance, the field has grown extensively. There is now a plethora of books and peer-reviewed journals on the topic. A brief overview of four of these studies follows.

Prue Cormie et al studied the *Acute Effects of Whole-Body Vibration on Muscle Activity, Strength and Power*. In their 2006 study with 9 male athletes, the researchers used a sham control group and an intervention group. The control group received a fake intervention while the intervention group received real “whole-body vibration.”⁵⁷ The vibration was done using a vibrating platform that the athletes stood on while in a half-squat position. The researchers used four testing sessions in a randomized order. After the subjects completed four testing sessions with the intervention or a sham intervention they were measured performing their specific athletic event. Results indicated a statistically significant difference in the athletes who received the intervention. The control group did not show any significant differences.

Claudio Robazza et al studied the *Perceived Effects of Emotion Intensity on Athletic Performance: A Contingency-Based Individualized Approach*. Their 2006 study did not have an intervention with control and intervention groups. Instead, this study had 35 athletes, both male and female, using a Borg Category Ratio10 scale to report their self-perception regarding their emotions and body symptoms during their peak athletic performance. The researchers used the data to rate athletic performance and emotional states. According to this article, the Borg Category Ratio scale has been used in psychophysical studies of exercise, capacity, exertion and pain. The findings showed a “large interindividual variability in the content of emotions.”⁵⁸

Bethany A. Lohr and Forrest Scogin studied the *Effects of Self-Administered Visuo-Motor Behavioral Rehearsal on Sport Performance of Collegiate Athletes*. In their 1998 study, 36 athletes, both male and female, were randomly placed in a control group and an intervention group. The intervention group received self-administration training material of the psychological skill package, visuo-motor behavioral rehearsal, developed by Suinn.⁵⁹ Results indicated a significant increase in sport performance and decrease of sport competition anxiety in the intervention group.

Carrie Campen and Dawn C. Roberts studied *Coping Strategies of Runners: Perceived Effectiveness and Match to Precompetitive Anxiety* in 2001. Their study used 52 recreational athletes, both male and female. There was no intervention studied. Instead, the participants were measured using two standardized tests: the Competitive State Anxiety Inventory – 2 and the State-Trait Anxiety Inventory. Then they used a 30-item survey developed by the researchers to study the athletes' coping strategies. Results indicated that participants' satisfaction with their performances was not significantly related to either subscale of the STAI. In the area of coping strategies, a significant difference in gender was revealed, with females preferring to use self-distraction.⁶⁰

These four research studies give a brief view of the many types of research studies performed by sports psychologists, including the use of direct interventions and the study of coping skills for athletic stress. The results of this sample of studies show a variety of measurements of outcomes.

Overview of Muscle Testing and Acupressure Point Holding

The field of muscle testing had its first research study published in 1915.⁶¹ One of the primary researchers of this technique is the chiropractor George Goodheart, Jr., who

found that, “manual muscle tests evaluate the ability of the nervous system to adapt the muscle to meet the changing pressure of the examiner’s test.”⁶² Muscle testing is “primarily a diagnostic technique,”⁶³ most used by “chiropractors, physical therapists, and neurologists was shown to be a clinically useful tool.”⁶⁴ In the professional world of chiropractic medicine, Dr. George J. Goodheart, Jr. is credited as the founder of Applied Kinesiology (AK), which uses muscle testing. Goodheart describes AK as having “a simple beginning in 1964, based on the concept that muscle weakness is involved in most muscle spasms...[and] on the fact that body language never lies. The opportunity of understanding body language is enhanced by the ability to use muscles as indicators for body language.”⁶⁵

The use of the information obtained can be used to assist the body back to health or into maximum performance. “The diagnostic techniques of AK [Applied Kinesiology] allow one to determine which body system is disturbed and which treatment modalities are best suited to the correction of the disturbance. Interventions of all sorts (structural, chemical, nutritional, mental, electromagnetic, etc.) may be individually tested in advance to assess their worth in treating a specific problem.”⁶⁶ This is very exciting in the broad avenues open to the possible beneficial uses of muscle testing beyond just the muscular and skeletal systems of the body.

The technique of acupressure point holding originates with the Traditional Chinese Medicine’s (TCM) knowledge of the human body’s energy centers based on acupuncture points without the use of needles. “TCM is derived from the entire history of some twenty centuries of Chinese medicine and attempts to unify these segments...The practice of Chinese Medicine has been summarized by the saying...⁶⁷ ‘The proposing of treatments

based on the differentiation of patterns.”⁶⁸ This focus on patterns is essential in understanding and working with the concepts inherent in acupressure point holding. “TCM/OM [Oriental Medicine] is *in part* a ‘holistic’ method that evolved from the way body systems are viewed to affect one another and by the environment with great emphasis on *balance*.”⁶⁹ So we see that to work with TCM is to work holistically with patterns and their balance in a person’s totality.

Acupuncture is one of the main treatment modalities of TCM [Traditional Chinese Medicine]. In the classic TCM model, proper use of acupuncture is based on an accurate evaluation of the meridians, which is done by palpating the pattern and characteristics of the wrist pulses and by assessing the physical manifestations of the meridians....Alternatives to using needles include applying sustained manual pressure using a finger, called acupressure.

Niel-Asher describes acupuncture points as “localized concentrations of ‘energy’ that develop along electromagnetic lines (meridians).”⁷⁰ Robert O. Becker and Gary Seldon eloquently write that, “Acupuncture is such a delicate blend of tradition, experiment, and theory.”⁷¹ Additionally, about their research with meridians, they state, “Our readings also indicated that the meridians were conducting currency, and its polarity.”⁷²

In 1979 George Goodheart Jr. “researched and detected a direct correspondence between the muscle-organ/gland associations found in acupuncture....The correlations of muscles with organs/glands, and meridians provide the therapist who uses AK [Applied Kinesiology] a framework within which to systematically research the causes of any health [or emotional] problem.”⁷³

This potential access to reading the body’s language into the realm of emotion is basic in the meridian paradigm of Traditional Chinese Medicine. “Meridians are the body’s energy channels that transfer prana [life force] to and from the chakras and nearby

organs and parts of the body.”⁷⁴ It is important to recognize the incorporation of emotions, versus their separation, in this form of balancing the human mind and body. “In traditional Chinese medicine, the major meridians have a specific emotional quality, such as, anger, fear or grief.”⁷⁵ (See Appendix I for more detail of emotions associated with specific meridians.)

The basis of the Neuro Emotional Technique (NET) in which “the cognitive-emotional processing of an event facilitates an expedited resolution of the event, which is enhanced by the body’s energy system”⁷⁶ therefore has the potential of not just healing a symptom dysfunction, but actually increasing the body’s performance. “An objective of NET is to help patients become less physiologically reactive to distressing stimuli and become more capable of choosing alternative responses.”⁷⁷ This decrease in reactivity and increase in responsive choice could be of benefit to athletic performance.

Another method of working with acupressure points for emotional clearing is Emotional Freedom Technique (EFT). This is a method is freely accessible through books and websites to laypeople, with no background or special training in psychology, anatomy or physiology. As its name suggests, this technique focuses on emotional releases. “These methods typically require light manual stimulation of the end points of traditional acupuncture meridians, or ‘energy pathways.’”⁷⁸ Researchers found that, “Meridian-based desensitization is reported to occur very rapidly in many instances...Clinically, these meridian-based techniques have the advantage of being extremely easy for patients to self-administer, and are reported to be as effective when used only with imagery or repetitive verbal descriptions”⁷⁹ of the desired outcome.

Examples of Muscle Testing and Acupressure Point Holding Research

Research in the field of muscle testing and/or acupressure point holding is relatively recent. A good portion of the research being done in this area is conducted by chiropractic doctors. A brief overview of four of these studies follows.

Daniel A. Monti et al studied *Muscle Test Comparisons of Congruent and Incongruent Self-Referential Statements*. In their 1999 study with 89 undergraduate students, the researchers used an apparatus called a PowerTrack II dynamometer to muscle test the subjects. The purpose of the study was to investigate whether muscle testing “responds to the congruency of self-referential statements.”⁸⁰ Each subject was tested by the apparatus as they made four different statements, two of which were true and two of which were false. The findings indicated that the order of the true and false statements did not significantly influence the results.⁸¹

Kristopher B. Peterson studied *A Preliminary Inquiry into Manual Muscle Testing Response in Phobic and Control Subjects Exposed to Threatening Stimuli*. In his 1996 study, he had 13 subjects who were diagnosed as phobic in his study group and 15 subjects in his control group. Two chiropractic physicians, with a minimum of 10 years of manual muscle testing each, were blindfolded and with the help of an assistant tested randomly assigned individual subjects who looked at a word signifying a specific phobia such as “snake.” Results of this study indicated a strong independence for valid muscle testing with both examiners.⁸²

Fay Karpouzis et al studied *Separation Anxiety Disorder in a 13-year-old Boy Managed by the Neuro Emotional Technique as a Biopsychosocial Intervention*. In this 2008 case study, the 15 step protocol was conducted on the subject for a total of 8 sessions;

each session lasted approximately 15 minutes each. The sessions were conducted over a four month period. At the end of the four months, the subject's clinical psychologist re-evaluated his diagnosis. Results of this re-evaluation indicated that the subject no longer met the criteria for separation anxiety disorder (SAD).⁸³

Peter Bablis et al studied *Neuro Emotional Technique for the Treatment of Trigger Point Sensitivity in Chronic Neck Pain Sufferers: A Controlled Clinical Trial*. In their 2008 study, 60 subjects were sequentially separated into treatment and control groups. The treatment group received the NET protocol and the control group received a sham protocol. Assessments for trigger point pain were taken with a hand-held device called a pressure gauge algometer before the interventions and again three days after the interventions. A significant improvement was measured in the treatment group, while no improvement was measured in the control group.⁸⁴

These four research studies give a brief view of the research beginning to establish a body of work to support the use of muscle testing by chiropractors and potentially an increase of its use by other professionals.

Examples of Guided Imagery Research in Sports

Guided imagery in sports is “regarded as one of the most popular and effective techniques to enhance the learning and performance of skills and strategies, to regulate arousal and anxiety, and to modify cognition.”⁸⁵ Additionally, it has been used during rehabilitation of injured athletes to assist with healing and returning to practice. A brief survey of four of these studies follows.

Michael S. Silbarnagel et al studied *Athletes' Use of Exercise Imagery During Weight Training*. In this 2007 quantitative study, 297 subjects of mixed gender college students participated. The study used self-evaluation questionnaires about weight lifting and imagination. There was no intervention. Findings supported “previous research in exercise imagery that appearance imagery is most used followed by technique and energy imagery.”⁸⁶

Eva Monsma et al studied *Keeping Your Head in the Game: Sport-Specific Imagery and Anxiety Among Athletes*. In this 2009 study, 36 college athletes, of mixed gender participated. Several self-evaluation instruments were used in this study regarding the participants' use of imagery and anxiety regarding returning to practice after injury. There was no intervention. Findings from the study included that men reported using more excitement imagery than women. Women reported higher scores for worry and concentration disruption than men.⁸⁷

Magali Louis et al studied *Effect of Imagined Movement Speed on Subsequent Motor Performance*. In this 2008 study, 24 graduate students of mixed gender participated. The intervention was a script that the athletes used independently to practice “motor imagery,” a form of mental practice for a specific amount of time over a 3-week training period. The evaluation tools were times of a specific series of body movements and a self-evaluation questionnaire. The researchers reported that the intervention resulted in no measurable effect on the athletes.⁸⁸

Aymeric Guillot et al studied *Using Motor Imagery to Learn Tactical Movements in Basketball*. In this 2009 study, the subjects were 10 semi-professional basketball players, all female. The intervention was “motor imagery,” a form of mental practice of specific

basketball moves. The evaluation was of the basketball moves as well as a self-evaluation questionnaire. Researchers in this study reported that, “Motor Imagery was not found to be significantly more efficient than physical practice alone.”⁸⁹

These four research studies give a brief view of the many types of research studies performed by researchers studying the possible benefits of different types of imagery in the various aspects of sports and their variety of results.

Examples of Guided Imagery Research

Guided imagery is a term that refers to both free form guidance and step-by-step approaches such as Inner Counselor™ and Releasing the Inner Magician™. Research utilizing different forms of guided imagery has been conducted in many settings beyond athletic, such as medical and psychological. A brief survey of four of these studies follows.

Susan Davis studied *The Effects of the Inner Counselor Process (ICP™) and Positive Affirmations on Anxiety in a Population Supporting the Military Community of Fort Carson, Colorado*. In her 2008 master’s thesis, 12 subjects participated. There were two group sessions for a pre and post self-evaluation questionnaire and time to write about their experiences in the four one-to-one intervention sessions, which included the guided imagery of Inner Counselor Process. Results of this study showed statistically significant improvement after the intervention.⁹⁰

Vincent Bonadies studied Guided Imagery as a *Therapeutic Recreation Modality to Reduce Pain and Anxiety*. His 2009 case study intervention was four private sessions of “Therapeutic Recreation” integrated-guided imagery with a 52-year old male inpatient with a diagnosis of AIDS. Each session lasted about 20 minutes. Evaluation of the intervention was a “pain intensity scale” of zero to ten, which the researcher used as a verbal test before

and after every intervention as well as observations by the researcher of the patient's interactions within the hospital setting. The results of this case study, collected as qualitative verbal reports, found the patient reported a positive improvement from the intervention.⁹¹

Eri Watanabe et al studied *Differences in Relaxation by Means of Guided Imagery in a Healthy Community Sample*. This 2006 study, conducted in Japan, had the intervention of two group sessions of 148 volunteer participants who received guided imagery. The evaluation was a saliva test measuring salivary cortisol and a Japanese based self-evaluation questionnaire designed to measure different emotional states of mood. Results of the study showed a reduction in salivary cortisol as a result of the intervention.⁹²

These three research studies give a brief view of the many types of research studies performed by researchers studying the possible benefits of guided imagery. "Given the last 20 years of research findings from various clinical trials, it is surprising that guided imagery is not more frequently prescribed as a universal, low-cost preventive health tool."⁹³

CHAPTER 3: RESEARCH METHODS

As a holistic consultant in private practice, the researcher has spent thousands of hours face-to-face and long distance with clients of all ages. Although she holds a master's degree in mental health counseling and has received certifications after intensive trainings in different modalities, each client and each session has a uniqueness that cannot be replicated.

In the development of the intervention protocol for this research study, the researcher strove to set specific perimeters on her protocol for replication purposes between sessions and groups.

Development of Intervention Protocol

The techniques used by the researcher for the intervention deserve special description. They were developed by her over a five year time period. The first layer of her technique was Neuro-Emotional Technique (NET). As she practiced the technique, she altered it beyond the structured protocol taught by NET's founders. In time, she was unable to close down the expanded manner of intuitive reading, which she had incorporated into the NET protocol in both her personal and professional practice. Therefore this research study is not a study of NET, nor can it present without giving credit to the original source of her intervention development.

Neuro Emotional Technique

The original foundation of the researcher's technique was based upon the Neuro-Emotional Technique (NET) as developed and taught by chiropractors Dr. Scott Walker and Dr. Deb Walker. In a published interview, Scott Walker defined NET as "a simple mind-body stress reduction intervention aimed at improving behavioral and physical problems, such as in chronic injuries, subluxations, pain, worry, anxiety, depression, etc."⁹⁴

The technique is further described in the *Chiropractic Journal of Australia* as a:

15-step standardized protocol that identifies emotions that are contributing to meridian imbalance. Using diagnostic strategies from Applied Kinesiology such as manual muscle testing, the NET practitioner finds and corrects aberration in the meridian system that may be relevant to the patient's condition. The meridian aberrations detected may be resultant or causal to the individual's presentation. The major components from the meridian theory including principles of Qi flow, pulse diagnosis and the concepts of Yin and Yang and incorporated into NET protocols. In addition to the above-mentioned TCM [Traditional Chinese Medicine] concepts NET also uses points on the body known as Meridian Access Points (MAPs). In NET the MAPs describe points on the surface of the body in which the internal organs and their associated meridians may be examined. Some of these MAPs points correspond with the mu points of TCM whilst others are simply areas on the body overlying internal organs.⁹⁵

The researcher was first exposed to this method during a four-day workshop.

Attendees were required to send in proof of at least a master's level degree and a license to practice. The researcher faxed in documentation of her master's degree in special education and her teacher's license. At the seminar, it was explained that these requirements were based on the long-term plan to make NET accepted in the larger medical community. First, the founders planned to get their technique approved for inclusion in the curriculum at chiropractic colleges. After that, they were seeking recognition from the mainstream medical community so that it might be included in the curriculum at medical schools. Their desire for inclusion in the hierarchical and cliquish world of the American Medical Association (AMA) appeared to limit laypersons' access to the technique, closing

its flow into the world, instead of increasing its access to both practitioners and recipients - known as patients or clients. I saw this in contrast to the manner in which Emotional Freedom Technique (EFT), another meridian-based technique, has been given freely into the world by its founder, Gary Craig.

On Craig's EFT website, a basic manual of EFT is available to download. Craig writes, "This is my gift to you! No charge, no strings and no obligation."⁹⁶ This "open hand policy" honors the use of the technique by individuals to improve their own lives, without the need to be a patient or client and pay a professional for help. Oftentimes people can help themselves without needing a professional. On the other hand, Craig wrote about the downside to his "open hand policy" of EFT.

With so many diverse attitudes and abilities among the EFT Community, EFT has been spread in an inconsistent manner. While some of this has simply reflected individual variations and personalities of the presenters, some of it, unfortunately, has been downright unethical or embarrassing. These inconsistencies, if left unattended, will tend to erode EFT's credibility in the world.⁹⁷

This discussion about credibility helps to justify the stringent manner in which the NET information is managed.

The majority of the Neuro Emotional Technique seminar attendees were chiropractic doctors. Many of them were earning their required continuing education credits by attending the seminar. Minority categories of attendees included therapists, social workers, naturopaths, acupuncturists and homeopaths. There was usually one or two medical doctors in attendance at the seminars. The researcher noted a special attention paid to these medical doctors, which she perceived as related to the long-term plan to gain AMA recognition of NET. Based on the professional settings in which the majority of the seminar attendees would be practicing NET, most of them would barely use it on their

patients, whom they generally saw for an average of 6 to 15 minutes each. The therapists or social workers appeared to be the practitioners who might use the technique for longer periods of time and therefore more thoroughly address deep-seated emotional issues.

Before the seminar began, attendees were required to sign an agreement that they would not share or teach any of the information to anyone who had not taken the seminar. This exclusivity of information defined the perimeters in which the technique could be learned or practiced.

The seminar was a combination of lecture, on-stage demonstration using an attendee as the patient and workshop practice between seminar attendees. The researcher was impressed the very first time she received NET from an experienced seminar attendee during the first workshop portion on the first day. She would have liked to receive hours of the technique, based on her positive results of feeling better afterwards. (She had received primarily talk therapy at various times over a 20-year span. She cognitively knew her emotional issues and their causes but this had not relieved the emotional/physiological reactions to challenges in her life.) Her desire for hours of NET was a problem, because there were no NET practitioners in her area. As a result, she traveled to and attended as many seminars as quickly as possible. These seminar attendances were also required to earn certification in NET, which she did.

After her first four-day seminar, the researcher returned home with great motivation to practice NET. She practiced on anyone who would let her. Apart from a few friends, she mostly practiced on her teenage daughter, who had a documented learning disability in math, but was so mentally/emotionally challenged that she was not able to function age-appropriately in many areas of her life. For example, she was so spatially challenged that

she was not able to walk around the block alone. Less than a month after the researcher's first NET training was her daughter's three-week school Christmas vacation. During those three weeks, the researcher kept her training manuals handy and practiced NET on her daughter every day. During those three weeks of vacation, the researcher's daughter, receiving NET every day, often four sessions a day, had extreme experiences of clearing emotional trauma which had occurred before the age of two. During this time, the daughter went in and out of fevers, as she released the emotional holds the early trauma had on her emotionally, mentally and physically.

The daughter had previously received long-term play therapy at two different times in her life. She had also received four sessions of Eye Movement Desensitization Reprogramming (EMDR) from a therapist. However helpful these therapies and therapists had been, the daughter remained severely challenged in her ability to function independently and age-appropriately in many life skills and cognitive abilities.

At the end of those three weeks, when the daughter returned to school and attended her choir's audition for the upcoming show, the choir director noticed such a difference in the daughter's singing ability that she was included in the opening of the upcoming show. Her ability to learn and function altered so rapidly, that she went to driving school and obtained her drivers license within four months of beginning NET sessions from her mother. Two months after that, she received a car and drove across town to summer school four days a week. She passed her intensive summer school class with a B. Her mother did not help her, nor did she receive tutoring during that time. The depth and speed of her independence and cognitive ability established her mother's conviction regarding the

validity of this protocol, which the mother/researcher had already altered beyond the perimeters of NET's official protocol.

Beyond NET

For the researcher, moving beyond the prescribed protocol of NET was an act of taking personal ownership of a technique that was taught and marketed as the private property of Dr. Walker. It was also the technique which had changed her life in so many ways: maternally in her daughter's dramatically increased functional abilities; personally in her improved emotional state; academically in her return to graduate school for a second masters degree in mental health counseling; and lastly, professionally in her launch into opening a professional office as a wellness consultant where the basic protocol of NET was the primary technique she used with her clients.

The change in her maternal aspect was the precursor for all the other changes. Her daughter could drive and grocery shop and independently continue in her life. The researcher/mother had been concurrently getting personal help with modified NET. The official teaching was that muscle testing and NET had to be done in person. This was perceived as increasing the possibility of getting mainstream, meaning orthodox medical community, recognition for the alternative technique. Despite the founders' plan to control the NET protocol, the researcher met unorthodox practitioners at the NET seminars that could work with her by telephone. She learned from them to muscle test a person (and later herself) by setting her intention to "read" and then muscle test from the chart or muscle test the wrist pulse points, in her imagination, which informed her which meridian on the chart, from which she could muscle test the emotions associated with that meridian. She found other intuitive alternative practitioners in her town who could also muscle test

by hand. She showed them what she was doing and developed three reciprocal relationships with practitioners locally.

As she was getting worked on with modified NET and improving herself emotionally, the researcher attended night courses. Her professional plan was to be a wellness consultant using NET until she completed her master's degree in mental health counseling and obtained her license so that her clients could get their health insurance to pay for sessions with her. She was striving to be mainstream, which, by its very construct, limited her ability to freely follow inner guidance. Days after her first NET training, the researcher had returned to graduate school to earn her second masters degree in mental health counseling. She did this in order to practice NET within the structure of a licensed professional. Much of what she was learning in her graduate classes did not recognize any alternative modalities. NET was definitely an alternative modality. This experience of being alternative in the academic realm fed her thrust to be alternative within the realm of NET, where she was finding a similar restriction to her intuitive guidance and personal experience of working outside the technique's set protocol.

In the area of her professional life, the researcher had opened a private practice office as a "wellness consultant." She chose the title because it required no license to practice. As she worked with a variety of clients' needs, she developed drop-down menus in her mind, borrowing the name from the lingo of computer software. She moved beyond the original NET chart into utilizing and muscle testing about such varied subjects as chakras, auric fields, generational patterns, archetypes, past lives, nutrition, homeopathy, flower essences, and crystals. Over time, her practice expanded beyond her office into phone work with clients in different states, the majority of whom she never met in person.

The researcher's development of her reading skills may be understood through the explanations of Penny Pierce. "We are all born sensitive and empathic, but through lack of validation and training, the ability often shuts down or is placed on a shelf labeled 'For Use at a Later Date.'"⁹⁸ The daily work of muscle testing other people was activating the researcher's sensitivity. Pierce also wrote about "sensing people with my whole body."⁹⁹ The researcher also used to sense people with her whole body and found it very hard on her physicality when she saw clients at least eight hours a day. She found muscle testing with her own hands a much more physically detached, precise and personally protective technique for reading.

In terms of the expansiveness available in the field of intuitive perception, Pierce writes a lovely description of how she reads:

Relax into a soft, less-defined personal identity and expand to include more space and time, raising the frequency of my body, emotions and mind to a higher level. As I stay focused on the person and match the frequency of my energy to theirs, I become aware of an equally expanded amount of them, or feel into them.¹⁰⁰

The experience, or ability, of matching the frequency of another person may be an explanation of how the researcher was reads individuals, even when they are sitting in a group, or how she reads over distance when she works by telephone.

Another author in the field of intuition development, Valerie V. Hunt, discusses the potential of intuitive development.

Without external stimuli, one can experience heightened sensations from memory stored in nerves. But these differ from memories held in the field. Mystics easily read field memories, but rarely nervous tissue memories. In other words, they read material thoughts in vibrational patterns or experiences held in the field state."¹⁰¹

Hunt's discussion of reading vibrational patterns helps to describe the researcher's own developmental experience as she read more and more people in her daily professional life.

Gregg Braden refers to this phenomenon of increasing intake of energetic information as “entrainment,” which he defines as “an alignment of forces, or fields of energy, to allow maximum transfer of information or communication.”¹⁰²

This development of the researcher’s ability to read was not an easy subject to discuss. There was not any precedence in her academic or professional background to explain the territory she had entered and was now working in on a daily basis. The words of Eric Pearl, a successful chiropractor expanded into the realm of energetic healing, help to explain her experience.

What are colors: Different frequencies of visible light as interpreted by our brains. What are heat and cold? Different frequencies of molecular movement, again interpreted by our brains. This continues clear down to the level of the tiniest subatomic particles....physics is just coming around to confirming the long-held belief that, ultimately, everything in the universe consists of vibrations occurring at different frequencies. Change the frequency of that vibration and you change the nature of the particle that the vibration defines.¹⁰³

This may help explain how the researcher was reading her clients without touching them.

This expansion of the researcher’s energetic work so far beyond the constraints of NET protocol and even the constraints of face-to-face muscle testing initiated her confidence to consider doing her dissertation research using a small, measurable aspect of her techniques. Her professional success, based on the feedback from satisfied clients and their referrals, implied that her techniques were effective. She therefore decided to take the simplest and smallest portion of her work to design a research study of manageable proportions. She had found herself capable of reading multiple people, such as when a grandmother client came in with three of her grandchildren and the researcher worked with all four of them in a session simultaneously. For her, it was simply the focus of reading each individual at a time. The emotions were read using a chart developed by Dr. Walker

for NET practitioners. They have not approved any publication of their chart by outside parties; therefore it is not included in this document. However, a similar list of emotions, or psychological states, is presented (see Appendix H). After she had all of them holding acupuncture points associated with the emotion she read, she muscle tested the group to find out when someone was ready to change points. She did this by silently asking a yes/no question such as, “Everyone in the correct spot?” If the answer was “yes,” she would muscle test which person, then test the wrist point in her imagination or use the NET chart if it was visually available. By the time she conducted the research for this dissertation, she was working strictly from drop down menus in her mind, without any external chart.

Muscle Testing

Muscle testing is most commonly practiced by alternative health care practitioners who are hands-on with the person they are testing. According to David R. Hawkins, in his revolutionary book, *Power vs Force: The Hidden Determinant of Human Behavior*, which describes his extensive research with muscle testing, “Kinesiology is now a well-established science, based on testing of an all-or-nothing muscle response to stimuli. A positive stimulus provokes a strong muscle response; a negative stimulus results in a demonstrable weakening of the test muscle.”¹⁰⁴

A standard form of this technique is described here by E. Whalen, from the forward of Hawkin’s book:

Dr. Diamond’s outline, from his 1979 book, *your body doesn’t lie* of the procedure adapted by him from the classic description of H.O. Kendall’s *Muscles: Testing and Function* (Baltimore: Williams & Wilkins, 2nd ed., 1971).

It takes two people to perform a kinesiological test. Choose a friend or a family member for testing. We’ll call him or her your subject.

1. Have the subject stand erect, right arm relaxed at his side, left arm held out parallel to the floor, elbow straight. (You may use the other arm if you wish.)
2. Face your subject and place your left hand on his right shoulder to steady him. The place your right hand on the subject's extended left arm just above the wrist.
3. Tell the subject you are going to try to push his arm down as he resists with all his strength.
4. Now push down on his arm fairly quickly, firmly and evenly. The idea is to push just hard enough to test the spring and bounce in the arm, not so hard that the muscle becomes fatigued. It is not a question of who is stronger, but of whether the muscle can "lock" the shoulder joint against the push.

Assuming there is no physical problem with the muscle and the subject is in a normal, relaxed state of mind, receiving no extraneous stimuli (for this reason it is important that the tester not smile or otherwise interact with the subject), the muscle will "test strong" –the arm will remain locked. If the test is repeated in the presence of a negative stimulus (for example, artificial sweetener), although you are pushing down no harder than before, the muscle will not be able to resist the pressure and the subject's arm will fall to his side.¹⁰⁵

The researcher was trained in this hands- on technique, from which she moved to muscle testing using a technique referred to o-ring testing. She makes a circle, or o-ring with her left thumb and index finger. Into this ring, she places her right thumb and index finger. With her right hand, she applies pressure outward, while asking the test question or imaging a drop down menu in her mind. If the answer is yes, the left thumb and index finger muscles stay strong and the o-ring stays closed. If the answer is no, the left thumb and index finger muscles go weak and the o-ring opens (See Appendix J).

The simplicity of this technique is binary, meaning yes or no, black or white. "Hawkins found that questions must be phrased so that the answer is very clearly yes and no, like a nerve synapse that is on or off, like the most basic cellular forms of 'knowledge,' like so much of what our cutting-edge physicists tell us is the essential nature of universal energy."¹⁰⁶ In addition to the yes/no aspect of muscle testing, Hawkins also used muscle testing to "calibrate" or count numerical frequencies of words, emotions, images etc.

Research Protocol

For the research protocol, the researcher utilized a very small aspect of her professional repertoire. The questions the researcher asked in her mind for each individual subject, which she read through muscle testing, were:

Protocol Questions for First Steps

1. “Right or Left?”
 - If Right: “Water? Wood? Fire? Conception Vessel/Governing Vessel (CV/GV)?”
 - If Left: “Fire? Earth? Metal? CV/GV?”
2. “Body or Wrist?”
 - If Body Lung: “Right or Left?”
 - If Body Kidney, “Right or Left?”
 - If CV/GV, “Top, Bottom, or Both?”

After every participant was holding a point, the researcher asked in her mind for the following questions about the group, which she read by scanning and muscle testing:

Protocol Questions for Second Steps

1. “Everyone in present in their body?”
 - If yes, ask next question.
 - If no, test who it is.
 - o Stand in front of her.

- o If still tests not present in her body, have her drink water and/or tap breastbone (thymus point) until tests present in her body.
 - o Repeat Protocol for First Steps
2. “Everyone in the correct spot?”
 3. If no, scan each individual to find person ready to move point and repeat Protocol

Questions for First Step.

The following plates 1 - 15 show the points for wrist pulse and the points for meridians and their associated.



Plate 1. Right Wrist Pulse Points with Meridians Labeled



Plate 2. Left Wrist Pulse Points with Meridians Labeled



Plate 3. Holding Acupressure Wrist Pulse Point and Forehead



Plate 4. Wood Meridian, Liver & Gall Bladder Point and Forehead



Plate 5. Earth Meridian, Spleen Point and Forehead



Plate 6. Earth Meridian, Stomach Point and Forehead



Plate 7. Combination Liver & Spleen Points and Forehead



Plate 8. Metal Meridian, Lung Point and Forehead



Plate 9. Metal Meridian, Large Intestine Point and Forehead



Plate 10. Water Meridian, Kidney Point and Forehead



Plate 11. Water Meridian, Bladder Point and Forehead



Plate 12. Fire Meridian, Pituitary Point and Forehead

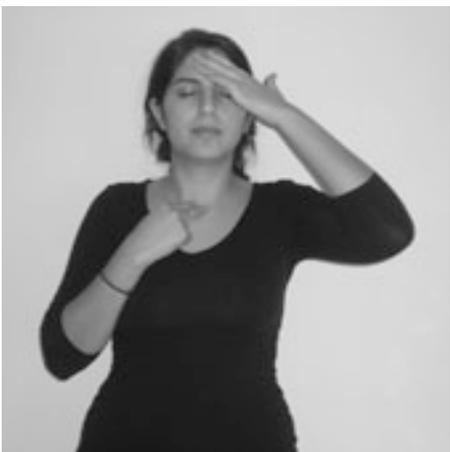


Plate 13. Fire Meridian, Thyroid Point and Forehead



Plate 14. Fire Meridian, Heart Point and Forehead



Plate 15. Fire Meridian, Small Intestine Point and Forehead

(Not shown: Fire Meridian, Genitals Point)

Research Design

This study was a 2x3 repeated measure design with one measure between groups and one within groups factor. The quantitative design based on two sets of numerical data collected from both the control group and the intervention group over time. The first set of numerical data was the 50 meters freestyle and stroke of choice timed trials of the female college swimmers ages 18 to 21. This data was collected pre- and post-intervention for

both the experimental and control groups. The second set of numerical data was the scores of the State Trait Anxiety Inventory (STAI), taken by the swim team volunteers pre- and post-intervention. After the experimental group received their intervention, the control group also received the same intervention, serving as its own control group, and underwent the collection of both forms of data for a third time.

The study subjects were selected into two groups by the head swim team coach, Rick Pratt, based on his ease of scheduling the swimmers. The experimental group received the intervention on two different days for one hour per session for a total of two hours in two days. During this time the control group received no intervention. The subjects' timed 50 meters freestyle and stroke of choice were measured in both groups of swimmers by the assistant coach. The intervention was given to the experimental group during morning workouts while the rest of the swim team participated in their normal practice. The post-test timed 50 meter freestyle and stroke of choice measured both groups of swimmers again on the following week.

After the first week of interventions with the experimental group and collecting the 50 meters freestyle and stroke of choice times of both groups, the control group then received the intervention the next week. Ethically, this allowed the control group to receive the same intervention as the experimental group prior to any swimming competition. Experimentally, it offered the researcher two sets of timed data. This may have been an uncontrolled extraneous variable, causing a diffusion of effects with the second group because they saw the first group receiving the intervention and may have also heard the first group talk about their experiences with the intervention.

Setting

The setting for all the timed swimming was New Mexico State University (NMSU) Natatorium in Las Cruces, New Mexico. The swimmers were in their familiar workout pool, which is Olympic size, 50 meters in length. The assistant coach, Heidi Voigt, at the convenience of her schedule and the swimmers' schedules, conducted the administration of the STAI and timed trials.

Subjects

All subjects were recruited from the NMSU college swim team. The head coach, Rick Pratt, supported the research study and all 15 team swimmers volunteered to participate in the study. The team was made up of Caucasian female college students between the ages of 18 and 21. All of them carried a full-time load, with 12-18 credits during the spring semester of the study. All of them met the team's required grade point average (GPA) of 2.5.

According to Heidi Voigt, assistant swim coach, there are eighty-three schools with Division one swimming, out of those about fifty-five teams had someone or numerous people qualify for NCAA's. They had their first qualifier in the 2008 season. The subjects' basic week schedule is as follows:

- Monday morning includes swimming for one and a half hours with focus on technique. Evening utilizes weights for forty-five minutes and swimming for two hours focusing on kicking.
- Tuesday practice on dry land for forty minutes, and swimming for two hours focusing on aerobic base.
- Wednesday morning includes swimming for one and a half hours with focus on technique. Evening utilizes weights for forty-five minutes and swimming for two

hours focusing on race pace.

- Thursday practice on dry land for forty minutes, and swimming for two hours focusing on kicking and technique.
- Friday morning involves swimming for one and a half hours with focus on technique. Evening practice uses weights for forty-five minutes, and swimming for two hours focusing on aerobic base.
- Saturday includes dry land for forty minutes, and swimming for two hours focusing on race pace.

Attrition

All of the original subjects completed the study. This is very rare and may be due to the discipline and dedication involved in qualifying for and retaining the position of a college athlete, most of who received an academic scholarship based on their athletic performances.

Criteria for Inclusion of Subjects

As a prerequisite for participation in the study, each subject was required to complete and sign a consent form (Appendix F). All subjects were female swim team members at New Mexico State University between the ages of 18 to 21.

Materials

The materials used for the quantitative pre- and post-test data collection portions of this research were twofold. The first was the NMSU Natatorium outdoor Olympic size pool, starting blocks and stopwatches, which were used for the collection of the timed trials data. The timer was the swim team assistant coach, Heidi Voigt. The second type of

material used for the quantitative pre- and post-test portion was printed copies of the State Trait Anxiety Inventory (STAI) (see Appendix I).

For the intervention, the materials used by the researcher were the scripts she wrote out and read to the volunteers before the first and second day interventions (Appendices B & C), a small clock that she placed on the bleachers to time the interventions given to each group and her own water bottle.

Procedures

Before the research was conducted, Holos University's Institutional Review Board (IRB) approved the research protocol for a study on human subjects (Appendix E).

The fifteen members of the New Mexico State University swim team were clustered by convenience into the intervention group or the control group by their head coach, Rick Pratt. The intervention group had seven subjects and the control group had eight subjects.

The researcher worked with the NMSU swim team head coach, Rick Pratt, to determine the best days and times for the experimental group to receive the intervention and for the control group to receive the same intervention the following week.

Arrangements were made with the assistant coach, Heidi Voigt, for the timed trials held before the initial intervention, after the intervention and after the control group's intervention. The head coach graciously designed the swim practice schedule to include these timed trials.

Research Intervention

During the week before the first intervention, timed trials were held by the assistant coach, Heidi Voigt, during the New Mexico State University swim team's practice.

Interventions were held on bleachers beside the indoor pool during morning practice while

the other group was swimming. They were held during the morning practice on both days. This choice of time was made by the head coach, Rick Pratt, and allowed the subjects to have no extra strain on their already full schedules.

On the mornings of intervention, the researcher came prepared to the New Mexico State University Natatorium with her prepared scripts and small clock. For all of the interventions, she wore a white t-shirt, blue jeans and black walking shoes. This consistency was chosen to prevent any variation of distraction that different colors and/or written messages on a shirt may have had on the volunteers' focus.

Two copies of the consent forms (Appendix F) were distributed to each volunteer prior to the day of the intervention by the assistant coach, Heidi Voigt, who also collected the signed consent forms. This was done to streamline the time impact on the volunteer swimmers and also to minimize the researcher's interaction with the volunteers before the interventions.

At the beginning of the interventions, the volunteers sat on the bleachers in a single row. Most of them had water bottles. The researcher stood in the middle of row and read the script composed for the first day and the second day (see Appendices B & C). She also demonstrated on herself how to hold acupressure pulse points on their wrists or meridian access points on their bodies in conjunction with the forehead acupressure emotion points (see Plates 1-15). She then set a timer to measure the 50-minute session.

The intervention sessions consisted of the researcher starting at one end of the row of volunteers and muscle testing each one individually. On the first day, she had verbally directed the subjects to imagine their worst experience(s) as a swimmer. Using her own hands to muscle test each subject individually, she directed each subject individually to

hold a specific acupressure pulse point on their wrist or meridian access point on their body in conjunction with the forehead acupressure emotion points and to remember the experience(s) as vividly as possible. In this fashion, she moved back and forth in front of the row of subjects. She also tested whether individuals were energetically present in their bodies. If they were not, she had them drink water and/or tap on their breastbone, which is a way of accessing their thymus gland to help them be present.

At the end of the timed hour session, the researcher again read from her script to the volunteers to maintain maximum consistency between the experimental and control groups. She also confirmed the next day's intervention at the same place and time with the coaches.

On the next day the intervention was followed the same as the first day (see above), with one alteration. The researcher's directions from her script, verbally directed the subjects to imagine themselves in their upcoming swim competition. Again at the end of the hour, the researcher read the closing aspect of her script and thanked the coaches for their help with scheduling and data collection.

Research Instrument

The study used two types of quantitative methods to collect data regarding the impact of the intervention of the volunteer subjects. The first quantitative method used was timed trials of the swimmers freestyle 50 meters and a stroke of choice. The second quantitative method used Statistical analysis of the swimmers' scores on the State Trait Anxiety Inventory (STAI).

The 40-item STAI assesses state and trait anxiety, scored on a 4-point Likert scale¹⁰⁷ (See Appendix I). State anxiety and trait anxiety are measured separately, based on the following understanding by the author of STAI, Charles D. Spielberger.

The term anxiety is currently used to refer to at least two related, yet logically quite different, constructs. Empirically, anxiety is perhaps most often used to describe an unpleasant emotional state or condition. Anxiety is also used to describe relatively stable individual differences in anxiety-proneness as a personality trait...An emotional state exists at a given moment in time and at a particular level of intensity. Anxiety states are characterized by subjective feelings of tension, apprehension, nervousness, and worry, and by activation or arousal of the autonomic nervous system.¹⁰⁸

In other words, “State anxiety reflects a momentary anxiety, and trait anxiety refers to a general tendency to respond with anxiety to perceived threats in the environment.”¹⁰⁹ These two aspects of anxiety are therefore measured and scored separately.

The decision to use the STAI was based on its widespread recognition as a valid measurement tool. “The STAI has appeared in over 3,000 studies and has been translated into over 30 languages (Spielberger, 1989). In fact, a recent PsycINFO search for the STAI revealed over 400 journal articles since the Spielberger (1989) review, which suggests that the measure continues to be very popular in psychological research.”¹¹⁰

The norming of STAI scores were done on both male and female college students,¹¹¹ although this study’s participants were only female. Results of those statistical tests for the STAI scoring for S-Anxiety and T-Anxiety means, standard deviations and alpha coefficients for college students, both males and females are as follows (See Figure 1 for statistical detail):

S-Anxiety	Males	Females
Mean	36.47	38.76
Standard Deviation	10.02	11.95
<i>Alpha</i>	<i>0.91</i>	<i>0.93</i>
T-Anxiety	Males	Females
Mean	38.30	40.4

S-Anxiety	Males	Females
Standard Deviation	9.18	10.15
<i>Alpha</i>	<i>0.9</i>	<i>0.91</i>

Figure 1. Statistical Detail of STAI¹¹²

In addition to college students, norming for the STAI was also conducted on other populations, including military recruits, high school students and working adults in three different age groups: 19-39, 40-49 and 50-69¹¹³ and male neuropsychiatric patients, general medical and surgical patients and prison inmates.¹¹⁴

Results of statistics on the STAI, with a scoring range of 20-80, indicated a minimum score of 10. (See Figure 2 for statistical detail):

	Minimum	Maximum	Mean	Std. Deviation
S-Anxiety	20	80	50	10
T-Trait	20	80	50	10

Figure 2. Mean Score of the STAI

Data Analysis

The design used for gathering data for this research can be understood in three parts. The first set of baseline data was collected when both groups swam timed trials. The second set of timed trials data was collected a week later after the intervention group has received the intervention and the control group had not. The third set of data was collected another week later, after the control group had also received the intervention.

(Appendix L) The statistical test used to process the data from this research was the two factor mixed design Analysis of Variation (ANOVA). This design was chosen because it measured differences between the intervention group and the control group as well as differences within each group over time.

The ANOVA therefore involved “one independent measures factor and one repeated measures factor.”¹¹⁵ The independent measure variable was the intervention of directed acupressure point holding combined with guided imagery. The dependent variables were time and anxiety. The dependent variable of time was measured in seconds. The dependent variable of anxiety was measured by the State Trait Anxiety Inventory (STAI), with a Likert scale questionnaire using a scale of 1 – 4 (See Appendix I).

Ethical Considerations

The principal investigator abides by personal ethics and the ethical principles and standards set forth in the Ethics and Academic Integrity Policy¹³ of Holos University Graduate Seminary.¹¹⁶ Participant identity and information included in this study are confidential at all times, unless required by law.

Pilot Study Results

I conducted my pilot study on two weekend mornings in November 2008. I received permission from the Institutional Review Board from Holos University prior to commencement of research (Appendix A). I recruited the five volunteers from the Masters Swim Team in Las Cruces, New Mexico. This adult swim team uses the New Mexico State (NMSU) Natatorium for their workouts. Of the five volunteers, three were male and two were female. The age range was 22 to 68. All the swimmers were committed to their athletic performances and participated in competition swimming.

I was very excited to conduct my pilot study. I knew it was a dry run for my dissertation research and that I would discover what would need to be done differently during the real interventions.

The first intervention was held at the NMSU Natatorium on benches near the outdoor 50 meter pool. Before commencing, I had all the participants fill out two documents. The first document was their information and signed permission to participate (Appendix D). The second document was a short questionnaire (Appendix E) that I devised to practice obtaining pre and post test results on the emotional impact of the intervention on the volunteers.

My original plan was to oversee the timed trials of the participants swimming in, order to make sure that all the times were taken in a controlled atmosphere. I failed to do this and saw it as a weakness of my pilot study, as I left too much control of my vital data in the hands of volunteers. The volunteers did not deliver timed trials of the 50 meter freestyle stroke swims as I had hoped. In the end, I had what they remembered as their times, versus a time that was measured just before (and after) the interventions.

At the beginning of the first intervention, as I was verbally introducing the volunteers to the plan of the intervention, I realized that I would require a written script for my dissertation research study in order to maintain consistency of my presentation between intervention groups (Appendices B and C).

The first intervention was held outdoors at the NMSU Natatorium on two benches. The volunteers informed me that they felt crowded on the benches, so close to each other. The second intervention was held at my professional office. The volunteers agreed that they were comfortable with the increased seating space, however they preferred having the

intervention at the swimming pool. Based on their feedback, the dissertation research was conducted at the swimming pool, but it was on the indoor bleachers instead of on the outdoor benches.

During the pilot study, I not only “read” the emotion for the volunteer by muscle testing him or her with my own hands, I also read the emotional age and if another person, such as a father, was involved. I whispered the information into each volunteers’ ear. This appeared to be more information than some of the volunteers knew how to handle emotionally without the arrangement of a private one-to-one setting that I used to professionally. Based on this experience during my pilot study, I decided to simply tell the dissertation research volunteers which acupressure point or meridian body point to hold without any other information.

CHAPTER 4: RESEARCH FINDINGS

The findings of this research study indicated no statistically significant change in the intervention group (0), either in their STAI scores or in their 50 meter swim times. When the control group (1) received the intervention protocol, their swim times showed an improvement and their STAI scores showed no statistical significance. (Some possible reasons for this difference are discussed in Chapter 5 Discussion section.)

Demographics

All of the subjects were on the New Mexico State University swim team. All members of the team participated in the study. The ages of participants ranged from 18 to 21 years with a mean of 19.6 years. The years of education of the participants ranged from 13 to 15.5 with a mean of 14.7 years. The years of competitive swimming (CS) of the participants ranged from 9 to 13 with a mean of 10.7 years.

Results of statistics on the demographic variables indicated the following (See Figure 3 for statistical detail):

	Minimum	Maximum	Mean	Standard Deviation
AGE	18	21	19.6	1.06
EDUCATION	13	16	14.7	1.17
YEARS of CS	9	13	10.7	1.88

Figure 3. Variables of Age, Education, and Years of Competitive Swimming

Results of Analysis of STAI State Scores

A 2x3 mixed analysis of variance was conducted to evaluate changes between groups' STAI State scores over time.

Results of statistical tests for STAI State scores Multivariate Tests(b) are as follows

(See Figure 4 for statistical details):

Effect		Value	F	Hypothesis df	Error df	Sig.
state	Pillai's Trace	0.853	34.860(a)	2.000	12.000	0.000
	Wilks' Lambda	0.147	34.860(a)	2.000	12.000	0.000
	Hotelling's Trace	5.810	34.860(a)	2.000	12.000	0.000
	Roy's Largest Root	5.810	34.860(a)	2.000	12.000	0.000
state * group	Pillai's Trace	0.127	.876(a)	2.000	12.000	0.441
	Wilks' Lambda	0.873	.876(a)	2.000	12.000	0.441
	Hotelling's Trace	0.146	.876(a)	2.000	12.000	0.441
	Roy's Largest Root	0.146	.876(a)	2.000	12.000	0.441

a Exact statistic

b Design: Intercept+group

Within Subjects Design: state

Figure 4. Statistical detail of State scores Multivariate Tests(b)

Results of statistical tests of Within-Subjects Effects for STAI State scores are as follows (See Figure 5 for statistical details):

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
state	Sphericity Assumed	2354.517	2	1177.258	27.401	0.000
	Greenhouse-Geisser	2354.517	1.845	1275.828	27.401	0.000
	Huynh-Feldt	2354.517	2.000	1177.258	27.401	0.000
	Lower-bound	2354.517	1.000	2354.517	27.401	0.000
state * group	Sphericity Assumed	89.272	2	44.636	1.039	0.368
	Greenhouse-Geisser	89.272	1.845	48.373	1.039	0.364
	Huynh-Feldt	89.272	2.000	44.636	1.039	0.368
	Lower-bound	89.272	1.000	89.272	1.039	0.327
Error(state)	Sphericity Assumed	1117.083	26	42.965		
	Greenhouse-Geisser	1117.083	23.991	46.562		
	Huynh-Feldt	1117.083	26.000	42.965		
	Lower-bound	1117.083	13.000	85.929		

Figure 5. Within-Subjects Effects for STAI State Scores

Results of statistical tests of Within-Subjects Contrasts for STAI State scores are as follows (See Figure 6 for statistical details):

Measure: MEASURE_1

Source	state	Type III Sum of Squares	df	Mean Square	F	Sig.
state	Linear	1446.715	1	1446.715	40.961	0.000
	Quadratic	907.802	1	907.802	17.937	0.001
state * group	Linear	58.315	1	58.315	1.651	0.221
	Quadratic	30.957	1	30.957	0.612	0.448
Error(state)	Linear	459.152	13	35.319		
	Quadratic	657.932	13	50.610		

Figure 6. Within-Subjects Contrast for STAI State Scores

Results of statistical tests of Between-Subjects Effects for STAI State scores are as follows (See Figure 7 for statistical details):

Measure: MEASURE_1
 Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	93659.432	1	93659.432	1528.779	0.000
group	148.143	1	148.143	2.418	0.144
Error	796.435	13	61.264		

Figure 7. Between-Subjects Contrast for STAI State Scores

Results of statistical tests of Estimated Marginal Means of STAI State scores are as follows (See Figure 8 for statistical details):

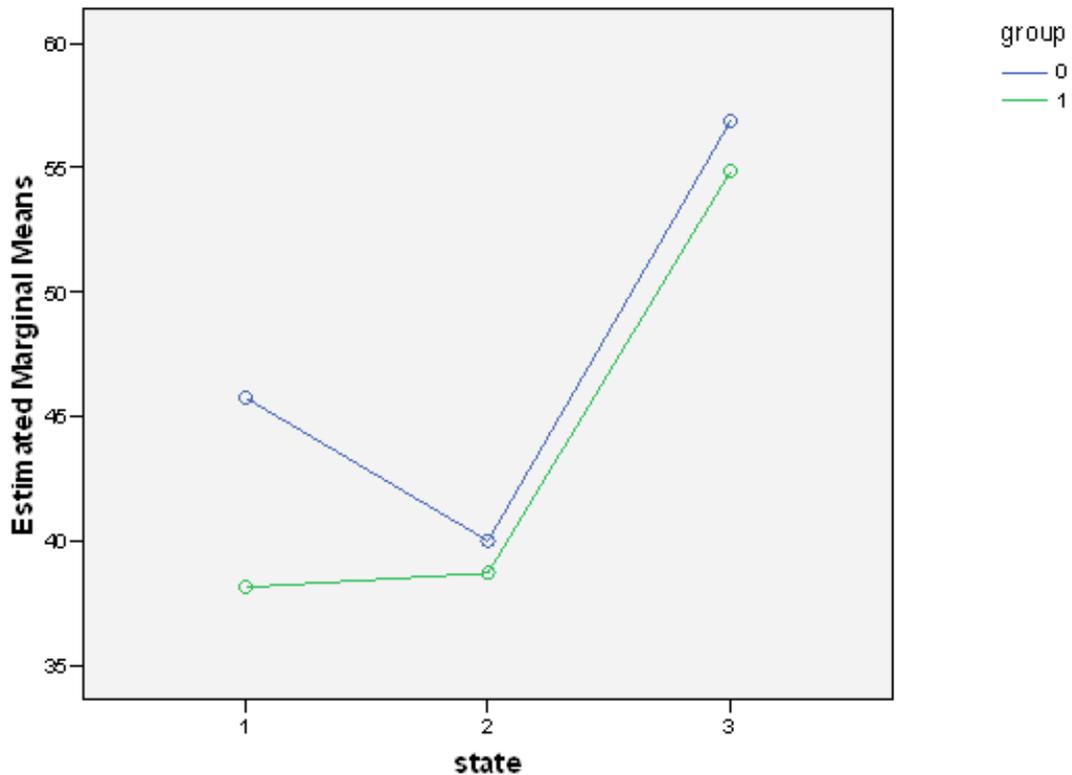
group

Measure: MEASURE_1

group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
0	47.542	1.598	44.090	50.993
1	43.905	1.708	40.215	47.595

Figure 8. Estimated Marginal Means for STAI State Scores

Estimated Marginal Means of MEASURE_1



Graph 1. Estimated Marginal Means of STAI State Scores

The results of the mixed analysis of variances for STAI State scores as shown in Figure 8 and Graph 1 revealed no significant interaction effect ($F = 1.04, p = 0.4$). This means, of course, that there were no significant differences between the two groups across time in STAI State scores.

Results of Analysis of STAI Trait Scores

A 2x3 mixed analysis of variance was conducted to evaluate changes between groups' Trait scores over time.

Results of statistical tests for the Multivariate Tests of STAI Trait scores are as follows (See Figure 9 for statistical details):

Effect		Value	F	Hypothesis df	Error df	Sig.
trait	Pillai's Trace	0.179	1.310(a)	2.000	12.000	0.306
	Wilks' Lambda	0.821	1.310(a)	2.000	12.000	0.306
	Hotelling's Trace	0.218	1.310(a)	2.000	12.000	0.306
	Roy's Largest Root	0.218	1.310(a)	2.000	12.000	0.306
trait * group	Pillai's Trace	0.152	1.077(a)	2.000	12.000	0.372
	Wilks' Lambda	0.848	1.077(a)	2.000	12.000	0.372
	Hotelling's Trace	0.179	1.077(a)	2.000	12.000	0.372
	Roy's Largest Root	0.179	1.077(a)	2.000	12.000	0.372

a Exact statistic
b Design: Intercept+group
Within Subjects Design: trait

Figure 9. Multivariate Tests(b) of STAI Trait Scores

Results of statistical tests for STAI Trait scores Within-Subjects Effects are as follows (See Figure 10 for statistical details):

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
trait	Sphericity Assumed	107.077	2	53.538	1.266	0.299
	Greenhouse-Geisser	107.077	1.803	59.377	1.266	0.297
	Huynh-Feldt	107.077	2.000	53.538	1.266	0.299
	Lower-bound	107.077	1.000	107.077	1.266	0.281
trait * group	Sphericity Assumed	122.277	2	61.138	1.446	0.254
	Greenhouse-Geisser	122.277	1.803	67.806	1.446	0.255
	Huynh-Feldt	122.277	2.000	61.138	1.446	0.254
	Lower-bound	122.277	1.000	122.277	1.446	0.251
Error(trait)	Sphericity Assumed	1099.679	26	42.295		
	Greenhouse-Geisser	1099.679	23.444	46.908		
	Huynh-Feldt	1099.679	26.000	42.295		
	Lower-bound	1099.679	13.000	84.591		

Figure 10. Within-Subjects Effects for STAI Trait Scores

Results of statistical tests for STAI Trait scores Within-Subjects Contrasts are as follows (See Figure 11 for statistical details):

Measure: MEASURE_1

Source	trait	Type III Sum of Squares	df	Mean Square	F	Sig.
trait	Linear	59.438	1	59.438	2.092	0.172
	Quadratic	47.639	1	47.639	0.848	0.374
trait * group	Linear	13.038	1	13.038	0.459	0.510
	Quadratic	109.239	1	109.239	1.945	0.187
Error(trait)	Linear	369.429	13	28.418		
	Quadratic	730.250	13	56.173		

Figure 11. Within-Subjects Contrasts for STAI Trait Scores

Results of statistical tests for Between-Subjects Effects are as follows (See Figure 12 for statistical details):

Measure: MEASURE_1 Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	66076.673	1	66076.673	644.616	0.000
group	15.873	1	15.873	0.155	0.700
Error	1332.571	13	102.505		

Figure 12. Between-Subjects Effects for STAI Trait Scores

Results of statistical tests for Groups 1 and 2 STAI Trait scores Estimated Marginal Means are as follows (See Figure 13 for statistical details):

1. group

Measure: MEASURE_1

group	Mean	Std. Error	95% Confidence Interval		Upper Bound
			Lower Bound	Upper Bound	
0	39.000	2.067	34.535	43.465	
1	37.810	2.209	33.037	42.583	

2. trait

Measure: MEASURE_1

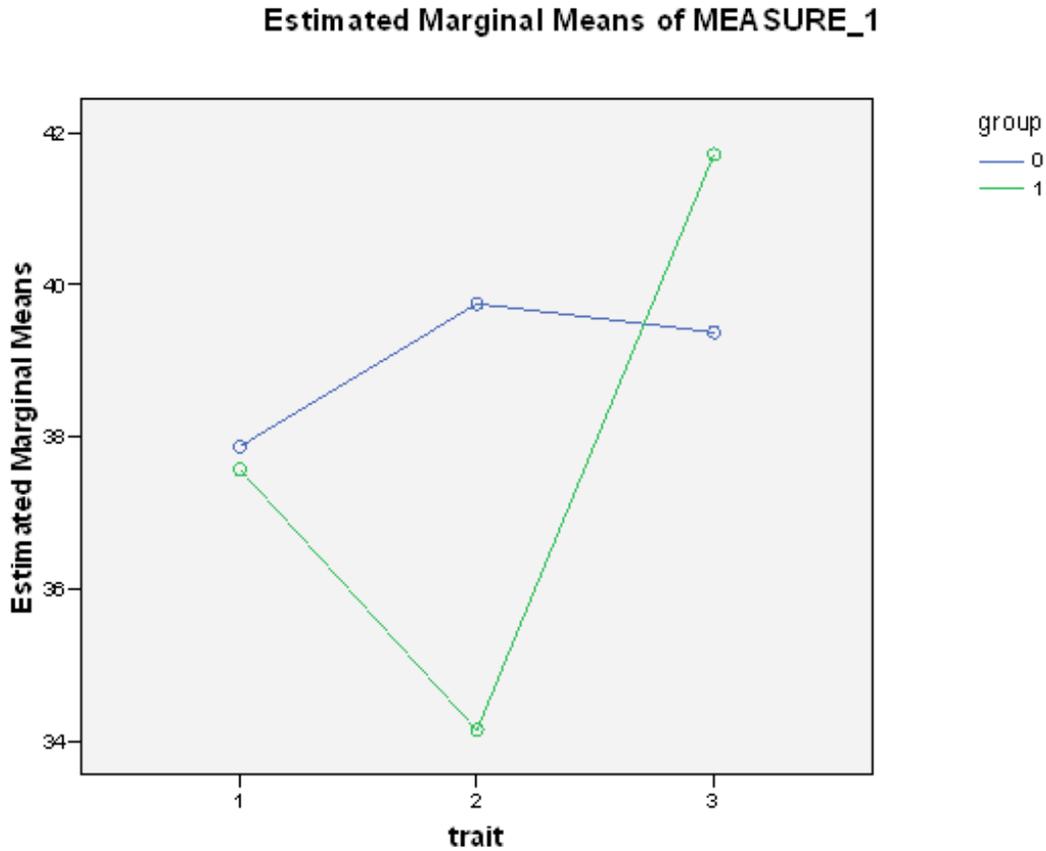
trait	Mean	Std. Error	95% Confidence Interval		Upper Bound
			Lower Bound	Upper Bound	
1	37.723	1.580	34.310	41.136	
2	36.946	2.900	30.682	43.211	
3	40.545	1.274	37.791	43.298	

3. group * trait

Measure: MEASURE_1

group	trait	Mean	Std. Error	95% Confidence Interval		Upper Bound
				Lower Bound	Upper Bound	
0	1	37.875	2.159	33.212	42.538	
	2	39.750	3.962	31.191	48.309	
	3	39.375	1.741	35.613	43.137	
1	1	37.571	2.308	32.586	42.557	
	2	34.143	4.235	24.993	43.293	
	3	41.714	1.861	37.693	45.736	

Figure 13. Estimated Marginal Means for STAI Trait Scores



Graph 2. Estimated Marginal Means of STAI Trait Scores

The results of the mixed analysis of variances for Trait scores as shown in Figure 13 and Graph 2 revealed no significant interaction effect ($F= 1.45, p = 0.25$). This means, of course, that there were no significant differences between the two groups across time in STAI Trait scores.

Analysis of 50 Meter Freestyle Times

A 2x3 mixed analysis of variance was conducted to evaluate changes between groups' 50 meter freestyle times over time.

Results of statistical tests of Multivariate Tests(b) of 50 meters freestyle times are as follows (See Figure 14 for statistical details):

Effect		Value	F	Hypothesis df	Error df	Sig.
fifty-meter	Pillai's Trace	0.450	4.905(a)	2.000	12.000	0.028
	Wilks' Lambda	0.550	4.905(a)	2.000	12.000	0.028
	Hotelling's Trace	0.817	4.905(a)	2.000	12.000	0.028
	Roy's Largest Root	0.817	4.905(a)	2.000	12.000	0.028
fifty-meter * group	Pillai's Trace	0.267	2.189(a)	2.000	12.000	0.155
	Wilks' Lambda	0.733	2.189(a)	2.000	12.000	0.155
	Hotelling's Trace	0.365	2.189(a)	2.000	12.000	0.155
	Roy's Largest Root	0.365	2.189(a)	2.000	12.000	0.155

a Exact statistic b Design: Intercept+group
 Within Subjects Design: fifty-meter

Figure 14. Multivariate Tests(b) for 50 Meters Freestyle Times

Results of statistical tests of Within-Subjects Effects of 50 meters freestyle times are as follows (See Figure 15 for statistical details):

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
fifty-meter	Sphericity Assumed	15.568	2	7.784	5.252	0.012
	Greenhouse-Geisser	15.568	1.144	13.607	5.252	0.033
	Huynh-Feldt	15.568	1.279	12.174	5.252	0.028
	Lower-bound	15.568	1.000	15.568	5.252	0.039
fifty-meter * group	Sphericity Assumed	12.803	2	6.401	4.319	0.024
	Greenhouse-Geisser	12.803	1.144	11.190	4.319	0.051
	Huynh-Feldt	12.803	1.279	10.011	4.319	0.045
	Lower-bound	12.803	1.000	12.803	4.319	0.058
Error(fifty-meter)	Sphericity Assumed	38.537	26	1.482		
	Greenhouse-Geisser	38.537	14.873	2.591		
	Huynh-Feldt	38.537	16.625	2.318		
	Lower-bound	38.537	13.000	2.964		

Figure 15. Tests Within-Subjects Effects 50 Meters Freestyle Times

Results of statistical tests of Within-Subjects Contrasts of 50 meters freestyle times are as follows (See Figure 16 for statistical details):

Measure: MEASURE_1

Source	fiftymeter	Type III Sum of Squares	df	Mean Square	F	Sig.
fiftymeter	Linear	7.520	1	7.520	3.589	0.081
	Quadratic	8.048	1	8.048	9.260	0.009
fiftymeter * group	Linear	9.936	1	9.936	4.742	0.048
	Quadratic	2.867	1	2.867	3.298	0.092
Error(fiftymeter)	Linear	27.239	13	2.095		
	Quadratic	11.298	13	0.869		

Figure 16. Tests Within-Subjects Contrasts 50 Meters Freestyle Times

Results of statistical tests of Tests Between-Subjects Effects of 50 meters freestyle times are as follows (See Figure 17 for statistical details):

Measure: MEASURE_1 Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	43105.723	1	43105.723	5714.441	0.000
group	9.168	1	9.168	1.215	0.290
Error	98.063	13	7.543		

Figure 17. Tests Between-Subjects Effects 50 Meters Freestyle Times

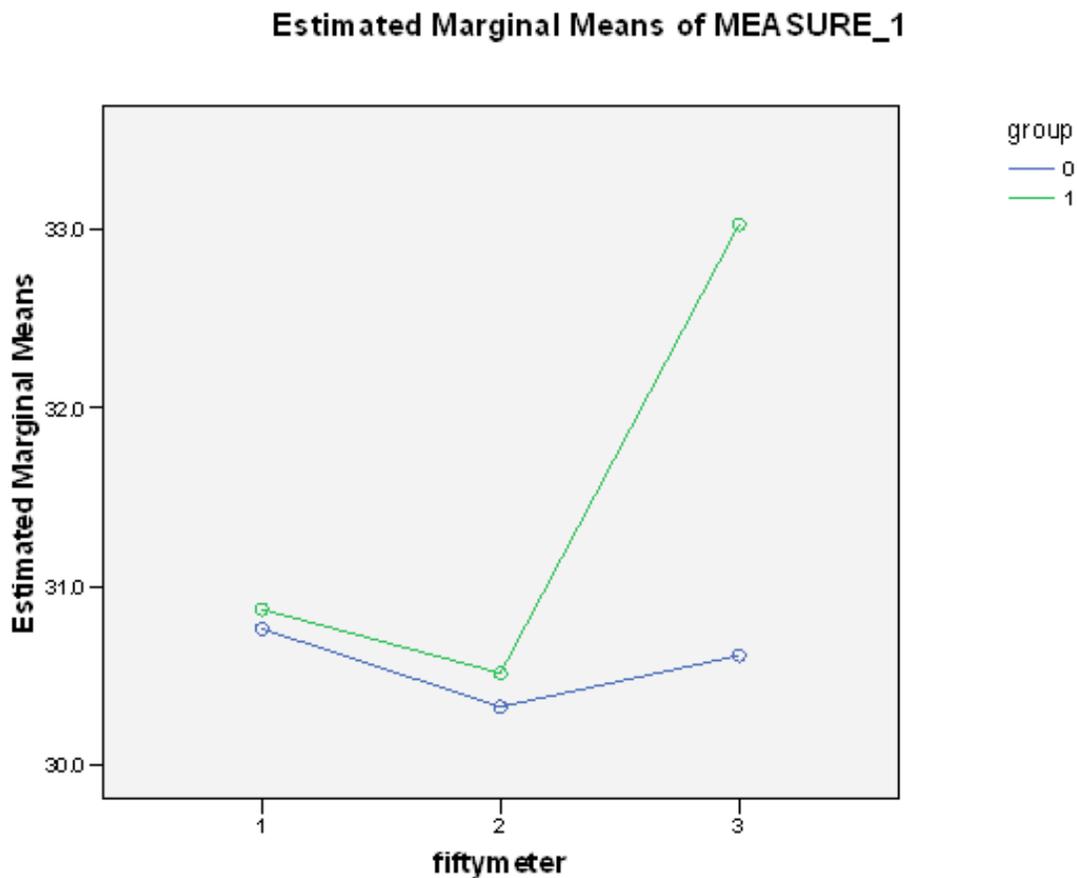
Results of statistical tests of Tests Estimated Marginal Means of 50 meters freestyle times are as follows (See Figure 18 for statistical details):

group

Measure: MEASURE_1

group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
0	30.567	0.561	29.356	31.778
1	31.471	0.599	30.177	32.766

Figure 18. Tests of Estimated Marginal Means for 50 Meter Freestyle Times



Graph 3. Estimated Marginal Means of 50 Meter Freestyle Tim

The results of the mixed analysis of variances for 50 meter times as shown in Figure 18 and Graph 3 revealed no significant interaction effect ($F = 4.32, p = .02$). There was a significant increase in times for the intervention groups at time three, which was significantly higher than the control group.

The 50 meter freestyle timed trials showed significance within the group of fifteen participants as follows: 0-2, 0-4, 0-6, 1-2 and 1-5 had slower times; 1-7 had the same time, and 1-3, 1-1, 0-1, 0-5, 1-4, 0-3, 0-7, 1-8 improved their times. and 1-6 had a 2.5 second improvement in her time.

Analysis of 50 Meter Stroke of Choice Times

A 2x3 mixed analysis of variance was conducted to evaluate changes between groups' 50 meter stroke of choice times over time.

Results of statistical tests of Multivariate Tests(b) of 50 meters stroke of choice times are as follows (See Figure 19 for statistical details):

Multivariate Tests(b)

Effect		Value	F	Hypothesis df	Error df	Sig.
soc	Pillai's Trace	0.339	3.078(a)	2.000	12.000	0.083
	Wilks' Lambda	0.661	3.078(a)	2.000	12.000	0.083
	Hotelling's Trace	0.513	3.078(a)	2.000	12.000	0.083
	Roy's Largest Root	0.513	3.078(a)	2.000	12.000	0.083
soc * group	Pillai's Trace	0.162	1.163(a)	2.000	12.000	0.345
	Wilks' Lambda	0.838	1.163(a)	2.000	12.000	0.345
	Hotelling's Trace	0.194	1.163(a)	2.000	12.000	0.345
	Roy's Largest Root	0.194	1.163(a)	2.000	12.000	0.345

a Exact statistic

b Design: Intercept+group
Within Subjects Design: soc

Figure 19. Multivariate Tests(b) for 50 Meters Stroke of Choice Time

Results of statistical tests of Tests of Within-Subjects Effects of 50 meters stroke of choice times are as follows (See Figure 20 for statistical details):

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
soc	Sphericity Assumed	130.944	2	65.472	2.686	0.087
	Greenhouse-Geisser	130.944	1.188	110.184	2.686	0.117
	Huynh-Feldt	130.944	1.340	97.728	2.686	0.111
	Lower-bound	130.944	1.000	130.944	2.686	0.125
soc * group	Sphericity Assumed	71.291	2	35.645	1.462	0.250
	Greenhouse-Geisser	71.291	1.188	59.988	1.462	0.251
	Huynh-Feldt	71.291	1.340	53.207	1.462	0.252
	Lower-bound	71.291	1.000	71.291	1.462	0.248
Error(soc)	Sphericity Assumed	633.814	26	24.377		
	Greenhouse-Geisser	633.814	15.449	41.025		
	Huynh-Feldt	633.814	17.419	36.387		
	Lower-bound	633.814	13.000	48.755		

Figure 20. Tests of Within-Subjects Effects for 50 Meters Stroke of Choice Times

Results of statistical tests of Within-Subjects Contrasts of 50 meters stroke of choice times are as follows (See Figure 21 for statistical details):

Measure: MEASURE_1

Source	soc	Type III Sum of Squares	df	Mean Square	F	Sig.
soc	Linear	19.307	1	19.307	4.544	0.053
	Quadratic	111.637	1	111.637	2.508	0.137
soc * group	Linear	5.027	1	5.027	1.183	0.296
	Quadratic	66.264	1	66.264	1.489	0.244
Error(soc)	Linear	55.242	13	4.249		
	Quadratic	578.573	13	44.506		

Figure 21. Tests of Within-Subjects Contrasts of 50 Meters Stroke for Choice Times

Results of statistical tests of Between-Subjects Effects of 50 meters stroke of choice times are as follows (See Figure 22 for statistical details):

Measure: MEASURE_1
Transformed Variable: Average

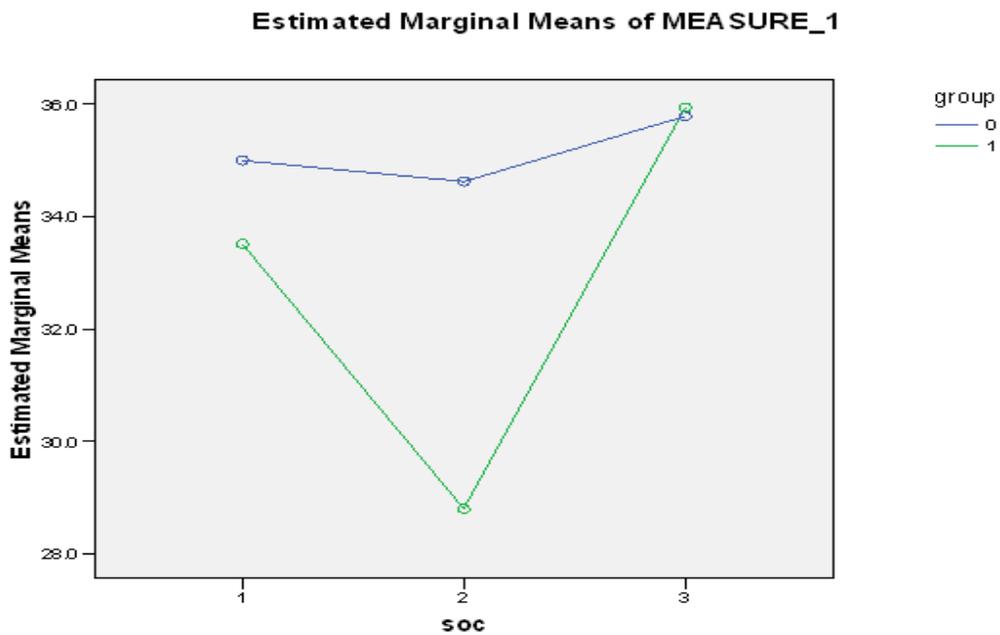
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	51621.202	1	51621.202	1150.846	0.000
group	63.714	1	63.714	1.420	0.255
Error	583.115	13	44.855		

Figure 22. Tests of Between-Subjects Effects for 50 Meters Stroke of Choice Times

Results of statistical tests of Estimated Marginal Means of 50 meters stroke of choice times are as follows (See Figure 23 for statistical details):

group	group			
	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
0	35.138	1.367	32.184	38.091
1	32.752	1.461	29.595	35.910

Figure 23. Estimated Marginal Means for 50 Meters Stroke of Choice Times



Graph 4. Estimated Marginal Means of 50 Stroke of Choice Times

The results of the mixed analysis of variances for 50 meter times as shown in Figure 23 and Graph 4 revealed no significant interaction effect ($F= 1.46, p = 0.25$). Participants 0-1, 0-3, 1-8 and 1-6, were four of the nine swimmers who showed significant improvement for their stroke of choice in the 50 meter timed trial.

CHAPTER 5: DISCUSSION AND SUGGESTIONS

There are many variables and questions raised by the results of this research. The cause of the difference in results between the two groups raises many possible reasons. First, the researcher will discuss possible causes why the first group showed no improvement in swim times, followed by a discussion of possible causes regarding why the second group did show improved times.

Discussion

In terms of the first groups' lack of improved times, most significantly perhaps, is that this study protocol was conducted in a manner different from the researcher's technique as a professional holistic counselor. As a professional holistic counselor, the researcher invests herself into the development of rapport with each of her clients. When sessions are face-to-face, the very first moment of eye contact in the waiting room are laying a foundation for the development of trust in the relationship. If initial contact is made by telephone, the researcher also focuses immediately and consistently on the development of trust with the client. A cornerstone of this trust development includes being devotedly attentive to the client. Being able to read clients makes this development much quicker. It does not always make it easier or safer for the client, if they have come in without readiness to go deep. The researcher therefore pays attention to reading not just the layers of what is affecting the client in a negative manner, but how much insight the client can actually handle about themselves at any given time.

In general, when working with college age students and with new clients, the researcher found that a reduction of insight created more comfort and willingness to

acknowledge the depth, and even breadth, of their issue. Giving a client information into their unconscious, meant that their conscious mind might get busy processing that information. Often that processing would include defending or denying or even rationalizing. At other times, especially if they had previous talk therapy or 12 step group experience, they might start with a deeply rehearsed story/litany. All of these are valid ways for a person to handle negative memories and emotions. However, they are not techniques for moving the emotion through the unconscious mind and out of the person's chemistry.

In the development of the protocol used for this research study, the researcher decided to test whether the elimination of most of what she did in her private practice protocol would render measurable beneficial results in the study subjects, both in increase of speed and reduction of anxiety as measured by the State Trait Anxiety Inventory (STAI). As indicated previously in Chapter 4, the intervention showed no significant improvement in either swim times or STAI scores with the first group who received the intervention. This brings us to the discussion of why the reduction of protocol aspects showed no significant measurable improvement in the subjects' swim times or STAI scores.

There are several possible reasons the minimized protocol showed no significant improvement in swim times with the first intervention group or STAI scores. First, the researcher will review protocol aspects that may have made a difference and second she will discuss possible causes based on the types of measurements used and not used in the study.

It is possible that the lack of personal rapport between the researcher and the subjects was a contributing factor of the lack of significant improvements in the first group

subjects' swim times and STAI scores. There were three reasons the researcher chose not to develop rapport with the research subjects. First, it would have been impossible to replicate that rapport, versus replicating the protocol. Second, some of the subjects would have been easier to develop rapport with than others and that would have created imbalance in the subjects' experiences of the intervention. Third, the researcher wanted to investigate whether the results being directed to hold acupressure points without a rapport-based relationship with the researcher would render a statistically significant difference in the subjects' swim times and STAI scores.

Another aspect of the minimized protocol used by the researcher for this study may have been the lack of privacy for the volunteers during the study. In private practice, the researcher works with clients in a setting of privacy. This lack of privacy for the first group's subjects receiving the intervention during this study may have affected their ability to benefit from the directed acupressure point holding. It may be that in a private setting, the letting down of conscious defenses, which may increase a person's access to their subconscious mind, is easier than in a public setting such as the conditions in which this research study was conducted.

In addition to the lack of privacy for the subjects during the intervention was the lack of verbal interaction by the subjects with the researcher. In composing the scripts read before all interventions, the researcher did not invite participants to ask questions. This was done on purpose, to prevent the groups from receiving different information or reduced times for the intervention. For example, if a subject had asked a question about how emotions are cleared, the researcher's answer might potentially have had an impact on those subjects, which the other group members would not have shared. Also, the time

spent answering the question would have changed the amount of allotted time for the intervention.

There is another component to the subjects' lack of verbal interaction during the research intervention. In the researcher's private practice, she often has her clients talk about a specific memory of feeling while they are holding a specific acupressure point. This verbalization may be a significant tool for clearing the path into some people's cognitive relationship pattern with the negative emotion(s) being addressed by the point holding process. The researcher has observed in her private practice that many of her clients need to talk in order to maximize their benefit from point holding, while a minority appears to benefit with a minimum of verbalization during the point holding process. Also, the entire cognitive process of verbalizing may have a very important aspect to the creation of a beneficial change of a negative emotional pattern.

The lack of privacy and verbalization during the first group's intervention may have had a variety of shortcomings in regards to the benefits received by the research subjects' swim times and STAI scores. During a session in her private practice, the researcher guides her clients with great specificity. This specificity includes their age at which an event or theme may have occurred. Other aspects of specificity include the emotion, which often changes as the person peels through the layers from anger to fear to grief. Another aspect is who might have been involved, such as a parent or swim coach. Sometimes the emotion being dealt with was, or includes, the individual's reaction to another person's emotion(s). Sometimes it would be a group pattern, such in family pattern or classroom pattern. Near the end of session with clients in private practice, the researcher has the client state what they experienced in a session. This is specifically done to involve the

client's cognitive mind in the process of clearing their unconscious mind. Without the privacy of setting and the one-to-one interaction with the researcher, the subjects had none of these aspects available during their interventions. It is very possible that the lack of the specific guidance in so many areas and the inability to verbally express and discuss the past and the present experience attributed to the lack of significant improvements in the subjects' swim times and STAI scores.

While the first day of intervention was focused on past negative experiences that the subjects were directed to remember from their years of competitive swimming, the second day of intervention was focused on positive outcomes of future swimming. Again, there was no privacy and no verbalization. The lack of verbalization in the imaging of their positive swimming outcomes may also have hindered the possibility of significant improvements in the first group of swimmers' times after the interventions. In her private practice, sometimes the researcher uses positive decree statements with her clients. For example, after processing a past experience with negative emotions which had read as preventing a desired outcome in the client's life, the researcher would offer a single or a developmental series of positive decrees for the client to repeat aloud holding different points. An example for a client concerned with an upcoming test might be, "I can feel safe taking the upcoming test." This may be followed by holding different points while verbalizing a series of developmental statements:

- I will feel safe taking the upcoming test.
- I am safe taking the upcoming test.
- I will be able to think clearly during the upcoming test.
- I can be safe no matter the outcome of the upcoming test.

- I will be safe no matter the outcome of the upcoming test.
- I am a good person no matter the outcome of the upcoming test.

The researcher did not use any of this verbalization aspect of her extensive protocol from her private practice. Perhaps the inclusion of some degree of positive decree verbalization during the research protocol might caused the outcomes to have shown a significant improvement in the swimmers' times.

Another element of the intervention that may have had a limiting effect on the lack of significant improvement in the first group of swimmers' times and STAI scores is the amount of time that they received the intervention. In the researcher's private practice, most clients enjoy some degree of noticeable improvement in the symptoms for which they sought help after the first session, however sometimes the relief only last one or two days and more sessions are required. Some clients have a session a week for three weeks and are satisfied. Other clients require two sessions for a couple of weeks before they are ready to reduce to once a week. The variables include the financial resources of the client, the severity of the issue(s) and the individual's propensity to get relief or to get resolution. The subjects in this study received only two group sessions. This limitation may have been a factor in the lack of significant improvement measured in the first group's swim times and STAI scores.

This study was originally planned on 20 participants, because during the planning stage, the New Mexico State University swim team had 20 team members. In the time between the original plan was made and the time of implementation, the team lost five swimmers for different reasons. The small number of study participants is therefore a limitation, with its lack of generalization over a broader population. Of course an increase

in the number of participants would have been preferable and may also have statistically changed the results of the measured swim times and STAI scores. On the other hand, this would have meant using other university swim teams, which would have presented several confounding variables, such as mixed gender, different coaches and their workouts, and different pool settings.

The fact that all of the participants of this study were females and all on the same team with the same coach, attending the same college, following the same workout and competition schedule was also a limiting factor. If another college swim team had been added to the study, the amount of variables would have been greatly altered and may have been more likely to show a significant change in the swim times and STAI scores of the participating volunteers. Also, it is interesting to note that the freestyle and stroke of choice 50 meter times were taken during practices and not during competition, which would have created an increase of focus on outcome.

In terms of the control group, who received the intervention protocol and showed improvements in their times, as indicated in Chapter 4, the improved times may have been due to the composition of the group, as the head coach grouped the volunteers according the workout convenience from the team perspective. Another reason for the improvement may have been due to the researcher's experience with the specific protocol designed specifically for this research. Additionally, the improvement of the second group's times may have happened as a natural outcome of the team's workout design.

The second group's improved swim times after the intervention may have shown a flaw in the design, as a diffusion of effects. The second group may have been expecting more because of exposure to the intervention by seeing the intervention occurring for the

first group; or the improvement may have been impacted because volunteers in the first group talked about it in a positive manner, causing the second group to have positive expectations of themselves as a result of receiving the intervention.

The measurements used in this study were only quantitative, using the times of swimming and STAI scores. Instead of using a single 50 meter time, perhaps a best of three times' average or a longer distance might have shown a significance difference after the intervention. Also in regards to measurements, there were no qualitative measures used. If the researcher had used qualitative measures as part of the research study, there may have been an improvement in some aspect of the subjects' lives, which were not measurable in the qualitative measures used pre and post intervention.

Overall, the researcher is pleased with the study. Changes in design and an increased group sizes may have produced a more consistent statistically significant improvement in results.

Suggestions for Future Research

Following the previous discussion of the perimeters of this study, it is easy to imagine changing one aspect of this study in several different ways. One change in the study could be having each of the participants receives individual, face-to-face private sessions with the researcher, in which the participant could discuss past memories of difficult experiences during her years of competitive swimming and also current issues in her life, whether about swimming or otherwise, would be natural idea for future research. Another possible change with the study would be a larger population, by finding another college swim team. Ideally there would be 40 participants for the intervention group and another 40 participants for the control group. Data would be gathered on both groups for

times and STAI scores and the intervention would be given to the only the intervention group and then data would be collected again with a comparison between the two groups' times and scores. This increase in participants might mean having males included in the study population, as well as different coaches, workout styles, weather, pool settings, etc.

Another possibility could be an increase of sessions for both clearing negative memories and for strengthening improved performance guided imagery, or a study could stick with the two interventions, but make them both focus on clearing negative emotions or make them both about positive guided imagery. Another variation is that the research study could be done with individual sessions for the negative memories, where rapport is created with the researcher but the positive imagery is done in a group setting. Or do the negative clearing in a group, but have the volunteers verbalize memories about negative swimming experience and guide the participants to hold points. That increase verbal and cognitive processing might increase available emotional access with the speaking and hearing.

It would also make an interesting change in the study design to have an increased number of private sessions, followed by group sessions to focus on guided imagery of positive athletic performance with the group directed to verbally repeat positive decree statements. Possible positive decree statements include:

- My shoulders feel very strong when I swim.
- My body efficiently processes oxygen when I swim.
- I feel confident when I swim competitively.
- I know I am good enough when I am swimming competitively.

These types of positive decree statements are designed to address different aspects of the swimmers' physical and psychological experiences during their competitive swimming experiences.

Another single change possibility with the same groups would be a strong development of guided imagery. It would require an additional person to read the guided imagery script so the researcher could guide the acupuncture point holding. The guided imagery, all written in first person point of view, might start with the positive and confident emotions waking up on the day of a major competition. This could be followed by the changing room at the swimming pool, waiting for the event, checking out the competition, interacting with the coach, standing on the starting blocks, diving in, stroking, breathing, kicking, flip turning and a strong finish.

Lastly, a qualitative measurement might be added to this research study. If the swimmers were given a combination of free-form writing and fill in the blank, it could have the following blank-space statement three times: "A major area of concern in my life is _____". After each of the three sentences would be a Likert scale regarding the subjects' degree of concern. The individual's three major areas of concern could then be checked again post intervention. This more personalized collection of data might reveal some interesting data.

The potential variations on the research study conducted are endless, however there are certainly a number of distinct areas in which those variations might occur in the area of sports.

In the area of sports, it would be very interesting to research the protocol within different athletic disciplines. This would in some cases create an all-male study, such as

with football, but would usually offer a mixed-gender population. Sticking with college athletes, increasing study populations with team sports would mean adding another college, which would mean adding with more variables. Although swimming is a team sport, it is a very individual and solitary sport. The type of athlete who participates successfully in swimming would tend toward a psychological discipline of repetitive motions without the benefit or distraction of eye contact with either team members or competitors.

It would be interesting to conduct this study with individual athletes such as golfers, or bowlers, or archers, whose athletic performance is based on a short period of focused hand-eye coordination versus the swimmers' stamina in combination with other psychological factors. Another group of athletes with a different type of performance focus from swimmers would be team sports such as baseball, football and basketball. These sports require another skill set in terms of the coordination with other team members and interaction with the opposing team.

In the potential of creating a similar study with athletes such as golfers, bowlers and archers, the performance measurement used pre and post intervention would not include speed but accuracy. A study with this type of athlete would therefore be measuring a skill that has less to do with stamina than swimming and more to do with the athletes' capacity to focus hand-eye coordination.

In terms of altering the protocol of the study, a possibility would of course be to use the straight protocol of another technique. These technique options include Neuro Emotional Technique (NET), Emotional Freedom Technique (EFT), and Inner Counselor. This would have the advantage of other research to compare with in terms of using the same established protocol.

In summary, this study contributes to the knowledge, insight, and understanding of using the alternative methods of muscle testing, acupressure point holding and guided imagery with college swimmers. It is the proverbial drop in the bucket in terms of potential research to be done with clearing negative athletic memories for college swimmers and other college athletes.

This study was conducted with students from a state college and therefore no mention of religion was included in the verbal and written materials used with the volunteers. Nevertheless, the researcher acknowledges the central and inevitable holistic and spiritual aspect of emotional clearing of any kind, with any population.

APPENDIX A PILOT STUDY CONSENT FORM

CONSENT FORM FOR PARTICIPANTS OF “MASTERS SWIMMERS ACUPRESSURE POINT HOLDING COMBINED WITH MENTAL IMAGERY” STUDY

Holos University supports the practice of protection for human subjects participating in research. The following information is provided to help you decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time without penalty.

The principle investigator, V. Pearl Hagen, LMHC, MA.Ed, is interested in studying the effects of acupressure point holding combined with mental imagery in USMS 50 meter freestyle times. Two sessions of 90 minutes each will be held for all five volunteers on Saturday November 1, 2008 and Sunday November 2, 2008. During the sessions, you may experience strong emotions. At all times during the sessions you will be in control of your choice to proceed or stop. You will be directed to touch specific acupressure points on your body and to consider/feel experiences, both past and future.

If you agree to participate in the study, you will experience two sessions. You will meet with the principal investigator twice. Each session will be 90 minutes, plus the time before and after. You will be asked to participate in timed trials of 50 meters freestyle and a stroke and distance of your choice twice: one the week prior to the sessions and one the week afterwards. Additionally, you will be asked to fill out two short questionnaires twice: one the week prior to the sessions and one the week afterwards.

You will mail the completed forms back to the principal investigator in stamped, pre-addressed envelopes that will be provided for you. Your participation in this study and any forms generated will be held in strict confidence. We assure you that your name will not be associated in any way with the research findings. The information will be identified only by a code number. Results of the study may be reported in scientific presentations or publications, but you will not be identified. There is no financial cost to you to participate in this study. Your participation is solicited, although strictly voluntary.

Your participation is greatly appreciated. If you would like additional information concerning this study, its procedures or its purpose, before or after it is complete, please feel free to contact V. Pearl Hagen by phone, mail or email.

If you have concerns or questions about your rights as a research participant, you may contact the Holos University Dean of Academic Affairs, Robert Nunley, PhD. at 4221 Nunley Lane , McLouth , Kansas , 66054 . (785) 863-2176

Sincerely,

V. Pearl Hagen , LMHC, MA.Ed, Th.D. Candidate

Principal Investigator:
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(785) 785-856-3070
olondon42@hotmail.com

Signature of Person Agreeing to Participate

Date

With my signature, I affirm that I agree to take full personal responsibility for my participation in the protocol described above. I am at least 18 years of age and have received a copy of this consent form to keep.

Print Your Name Here _____

APPENDIX B DAY ONE SCRIPT

Day One Script

Because this is my doctoral research project, I am going to read a script to maintain consistency between groups.

Thank you for agreeing to help in my doctoral research project. My name is Pearl Hagen. I hold a Masters in Education from NMSU and a second Masters in Mental Health Counseling. I am in private practice, as a holistic counselor in town, on the corner of Missouri and Solano Avenues.

I am available for individual support, free of charge, if today or tomorrow's sessions bring up feelings which you feel still need resolution. My contact information is on the consent for that you each have.

I will use a technique called muscle testing to "read" the emotional frequency. I will direct you to hold specific acupressure points on your wrists or body while holding your forehead -- which is the acupressure points for emotions.

You are in control during the sessions. You can stop at any time. We are here to neutralize negative emotional triggers that you may have to be memories which might impact your athletic performance.

If you are processing memories, they might move through your consciousness, like looking at different pages in a scrap book. If you can feel the increased heart rate or stomach ache type of reaction to a memory, good. If not, that's fine too. You can let memory images move like a theme...like the different pools, teams, changing rooms or meets from your swimming years so far.

We'll do this for the rest of the hour.

At the end:

Thank you all for your participation. Tomorrow will be similar, except that we'll be focusing on your upcoming races. If you will write down or tell me - email or phone - anything you want to share about your experiences today or tomorrow, I would be delighted to hear from you.

APPENDIX C DAY TWO SCRIPT

Day Two Script

Welcome back and thank you again for participating in my study.

Today is similar to yesterday in terms of holding acupuncture points on your wrists and body.

It is different in the focus of what you think and feel about.

Again, you are in control during the sessions. You can stop at any time. Today we are here to help your subconscious mind imagine your best athletic performance ever.

Instead of remembering past challenges, imagine forward into successful competition. You can be very specific, such as looking over on the starting blocks and feeling confident when you see a specific opponent or doing the easiest and fastest 50 meters of your life. You can imagine the actual event from the beginning to the end -- meaning you imagine every single detail from the dive, our breathing, your pull and recovery, your kick, your turn, etc. Feel the water, feel your lungs, feel your hands, elbows, shoulders, back, neck and legs.

We have plenty of time, so you can keep repeating the event, you can change strokes, change pools, change competitors, etc. You can pick particular aspects of your competition and feel yourself confident, while swimming your best time ever.

We'll do this for the rest of the hour.

At the end:

Thank you again for your participation. Again, if you need to contact me for any questions, concerns or follow-up, you have all my information on the consent forms.

Also, if you will write down or tell me -- email me -- anything you want to share about your experiences today or yesterday, I will be delighted to hear from you.

**APPENDIX D
PILOT STUDY QUESTIONNAIRE**

Pilot Study Questionnaire November 1 & 2, 2008		Al wa ys	Of te n	So me tim es	N ev er
1.	My body feels tight.		x		
2.	I'm confident of coming through under pressure.				x
3.	I enjoy the anxiety/arousal of swimming competitions.			x	
4.	I often feel fatigue after workouts.			x	
5.	My times would improve if I was more relaxed.	x			
6.	Memories of past competitive failures bother me.	x			
7.	I am motivated to use the best workout techniques that I know of.		x		
8.	I experience negative emotions that influence my swimming performance.		x		
9.	Memories of past competitive injuries worry me.	x			
10.	My performance expectations cause me negative anxiety.	x			
11.	I feel uncertain or threatened when I think about my next major swimming competition.	x			
12.	My times are a positive reflection of my training techniques.				x
13.	I am satisfied with how my training is reflected in my swimming performance.				x

APPENDIX E IRB FORM

PROTOCOL FOR EXPEDITED REVIEW OF RESEARCH - Revised

Title of Research: The Effects of Directed Acupressure Point Holding Combined with Mental Imagery on Female Collegiate Swimmers' Timed 50 Meter Freestyle Speeds

Background and Theoretical Framework

Sports psychology is a growing field, with a major emphasis on optimal athletic performance.¹¹⁷ Interest in the study of emotion-performance relationships is also increasing.¹¹⁸ Physical and emotional tension can accumulate, causing limitations to an athlete's performance. "Using energy work to enhance sports performance is a relatively new area."¹¹⁹ The possibility of reducing performance anxiety and the thought patterns therein could benefit many collegiate athletes in pursuit of competitive athletic excellence.

As the field of competitive swimming grows in popularity, so does the number of individual adult competitors. Techniques and interventions to improve swimmers' performances are appreciated by competitive swimmers at different levels of competition and at different ages.

The ancient Chinese healing technique of acupuncture is based on the human body's energetic flows through meridians and specific points.¹²⁰ These meridians have specific emotions connected with them.¹²¹ C. Norman Shealy writes about Ukrainian quantum physicists who "believe that each organ collectively projects its vector, or energy, along a specific pathway for that organ, the **acupuncture meridian** for that organ."¹²² The term acupressure points refer to the physical locations on the human body of this ancient healing art without the use of needles.¹²³ In addition to acupressure points on the body, pulse points on the wrists are also central to insight and treatment within the paradigm of Chinese medicine.¹²⁴ When there is tension, as in a repetitively-used muscle, that "tension tends to spread to points and muscles in the same segment. Gradually, other points along the related meridians also become blocked."¹²⁵ A pilot study using acupressure to reduce agitation in patients with dementia indicated significant reduction in agitation,¹²⁶

supporting the possibility of using acupressure points to reduce performance anxiety and thus enhance performance in athletes.

The use of imagery as an anxiety management technique and to rehearse and improve athletic performance has been used with athletes by sport psychologists.¹²⁷ There is a therapeutic precedence for using imagery “as projections and reworking of mental and emotional processes.”¹²⁸ Another way of perceiving the work of imagery is through recognizing thought forms, which are “created, built and maintained by their owners through habitual thoughts...[they] may or may not be conscious.”¹²⁹

Candace Pert suggests that “peptides and other informational substances are the biochemicals of emotion”¹³⁰ and “When stored or blocked emotions are released through touch or other physical methods, there is a clearing of our internal pathways, which we experience as energy.”¹³¹

The purpose of this study is to investigate whether a combination of holding acupressure points combined with specific imagery will assist the eighteen team members of New Mexico State University (NMSU) female collegiate swimmers to improve their 50 meter freestyle times.

Study Design

This study uses a pretest-posttest design with repeated measure of the dependent variables (50 meter freestyle time and Strait-Trait Anxiety Test). The statistical test is the two factor mixed design ANOVA. This design was chosen because it will measure differences between my intervention group and my control group as well as differences within each group.

Population: The eighteen female collegiate swimmers on New Mexico State University’s swim team

Inclusion Criteria

- Female members of NMSU swim team
- Ages 18 to 22
- No previous experience therapeutic with Principal Investigator (PI)
 - Participants will show willingness to participate by signing a voluntary informed consent form.

Exclusion Criteria

- Having previous therapeutic experience with the PI

- Under the age of 18
- Not members of NMSU swim team

List Potential Risks/Safety

Some participants may experience strong emotions during the intervention. The PI is a licensed mental health counselor and works with clients in a private practice setting. Participants are informed in the informed consent form that they may experience strong emotions during the intervention.

Discontinuation Criteria for Subjects

- 1) A participant may withdraw from the study at any time upon her request.
- 2) If the PI believes that continuing with the process would not be in the best interest of the participant, she will discontinue the process (as noted above).
- 3) If the participant withdraws or is discontinued from the study before its completion, the date of withdrawal and reason will be recorded and reported to the IRB.

Tests to be Used

1) The State-Trait Anxiety Inventory (STAI)

The State-Trait Anxiety Inventory (STAI) is a well-known measure of state and trait anxiety often used in psychological research. The populations on whom this inventory has been normed includes college students.

2) Anecdotal Reporting

Included with each set of forms will be a sheet of lined paper with an invitation for participants to write any experiences, insights or observations that they would like to share about experience with acupressure point holding and imagery.

Consent Form for Participants

The Informed Consent form is included at the end of this document in the Appendix.

Protocol Monitoring

Pre-Inclusion Screening:

The only pre-inclusion screening to be used for this research study is that participants are female collegiate swimmers on the NMSU swim team.

Testing:

Three sets of data will be gathered using the STAI. Volunteers in both groups will take STAI on April 10, 2009 and April 17, 2009. The second group will also take the STAI on April 24, 2009.

Research Intervention:

On Friday, April 10, 2009, at the NMSU Natatorium, Las Cruces, New Mexico the eighteen volunteers will swim timed trials of 50 meters freestyle and take the STAI. Then the first group will receive the intervention in two sessions of four and five volunteers each. The researcher will demonstrate on herself how to hold acupressure pulse points on their wrists or meridian access points on their bodies in conjunction with the forehead acupressure emotion points. She will then set a timer to measure the 90 minute session.

The intervention sessions will consist of the researcher starting at one end of the row of the seated volunteers. She will verbally direct the subjects to imagine their worst experience(s) as a swimmer. The researcher will use her own hands to muscle test each subject individually. She will direct each subject individually to hold a specific acupressure pulse point on their wrist or meridian access point on their body in conjunction with the forehead acupressure emotion points and to remember the experience(s) as vividly as possible. When the researcher muscle tests that a specific person, such as parent, friend, coach or competitor was involved in the emotion, the researcher will whisper to the volunteer to remember that person. In this fashion, she will move back and forth between the subjects.

On the next day, Saturday, April 11, 2009, the intervention will follow the same as the first day, with one alteration. The researcher will verbally direct the subjects to imagine themselves in their upcoming swim competition. During this intervention, when the researcher muscle tests that a specific part of the body, such as shoulders or aspect of the swimming event such as breathing is involved in the emotion, the researcher will whisper to the volunteer to imagine that body part or aspect of the competitive event.

On the next Friday, April 17, 2009, all eighteen subjects will again swim timed trials of 50 meters freestyle and take the STAI. The second group will receive the same intervention as the first group on April 17 and 18, 2009. On the following Friday, April 24, 2009, the second group will swim timed trials of 50 meters freestyle and take the STAI.

Post-tests

The quantitative post test will also be timed trials of 50 meters freestyle. The qualitative post-test will be STAI.

Monitoring Personnel for Research

Chair of Dissertation: Robert Nunley, PhD.

Primary Researcher and any assistants

Primary Researcher – V. Pearl Hagen, LMHC, MA.Ed,
Th.D. Candidate

Assistants – no assistants will be used for the intervention sessions.

Research Results

Analysis

The analysis will be done using the two factor mixed design ANOVA.

Confidentiality Statement

The following statement of confidentiality is included as part of the informed consent form:

“Your participation in this study and any forms generated will be held in strict confidence. We assure you that your name will not be associated in any way with the research findings. The information will be identified only by a code

number. Results of the study may be reported in scientific presentations or publications, but you will not be identified.”

Method of sharing results with research participants

Participants will be asked if they would like to receive a summary of the study results upon completion of the pilot study. Those who indicate that they would like to receive this will be mailed printed information including the purpose of the study, a brief background and theoretical information section, and the results of the study, with discussion. If enough interest is expressed, a presentation of the study results could be arranged.

You are required to submit reports quarterly to the Institutional Review Board (IRB) plus a final report, documenting your results.

Fee for submission of your Protocol to the IRB for an Expedited Review is \$200.00 U. S. currency. Please make check to Holos Institutes of Health.

January, 2006

**APPENDIX F
RESEARCH CONSENT FORM**

**CONSENT FORM FOR PARTICIPANTS OF
“COLLEGIATE SWIMERS’ ACUPRESSURE POINT HOLDING
COMBINED WITH MENTAL IMAGERY” STUDY**

Holos University supports the practice of protection for human subjects participating in research. The following information is provided to help you decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time without penalty.

The principle investigator, V. Pearl Hagen, LMHC, MA.Ed, is interested in studying the effects of acupressure point holding combined with mental imagery on 50 meter freestyle times. Two sessions of 60 minutes each will be held for all fifteen volunteers. The first group will receive their intervention on April 13 and 14, 2009. The second group will receive their intervention on April 21 and 22, 2009. During the sessions, you may experience strong emotions. At all times during the sessions you will be in control of your choice to proceed or stop. You will be directed to touch specific acupressure points on your wrists and torso and to consider/feel experiences, both past and future.

If you agree to participate in the study, you will experience two sessions. You will be randomly placed in one of two study groups. You will be asked to participate in timed trials of 50 meters freestyle (and another of another stroke). Additionally, you will be asked to fill out a short questionnaire twice in the first group and three times if you are in the second group. You will meet with the principal investigator twice. Each session will be 60 minutes, plus the time before and after. Any experiences that you wish to share about your intervention are of interest to the primary investigator. You are invited to share any insights, anecdotes or changes you experience. You may call, email or give her written descriptions.

You will return the completed forms back to the assistant coach, Heidi Voigt, upon completion. Your participation in this study and any forms generated will be held in strict confidence. We assure you that your

name will not be associated in any way with the research findings. The information will be identified only by a code number. Results of the study may be reported in scientific presentations or publications, but you will not be identified. There is no financial cost to you to participate in this study. Your participation is solicited, although strictly voluntary.

Your participation is greatly appreciated. If you would like additional information concerning this study, its procedures or its purpose, before or after it is complete, please feel free to contact V. Pearl Hagen by phone, mail or email.

If you have concerns or questions about your rights as a research participant, you may contact the Holos University Dean of Academic Affairs, Robert Nunley, PhD. at 4221 Nunley Lane, McLouth, Kansas, 66054. (785) 863-2176

Sincerely,

V. Pearl Hagen, LMHC, MA.Ed, Th.D. Candidate

**Principal Investigator:
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**Faculty Supervisor:
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bobn4847@earthlink.net**

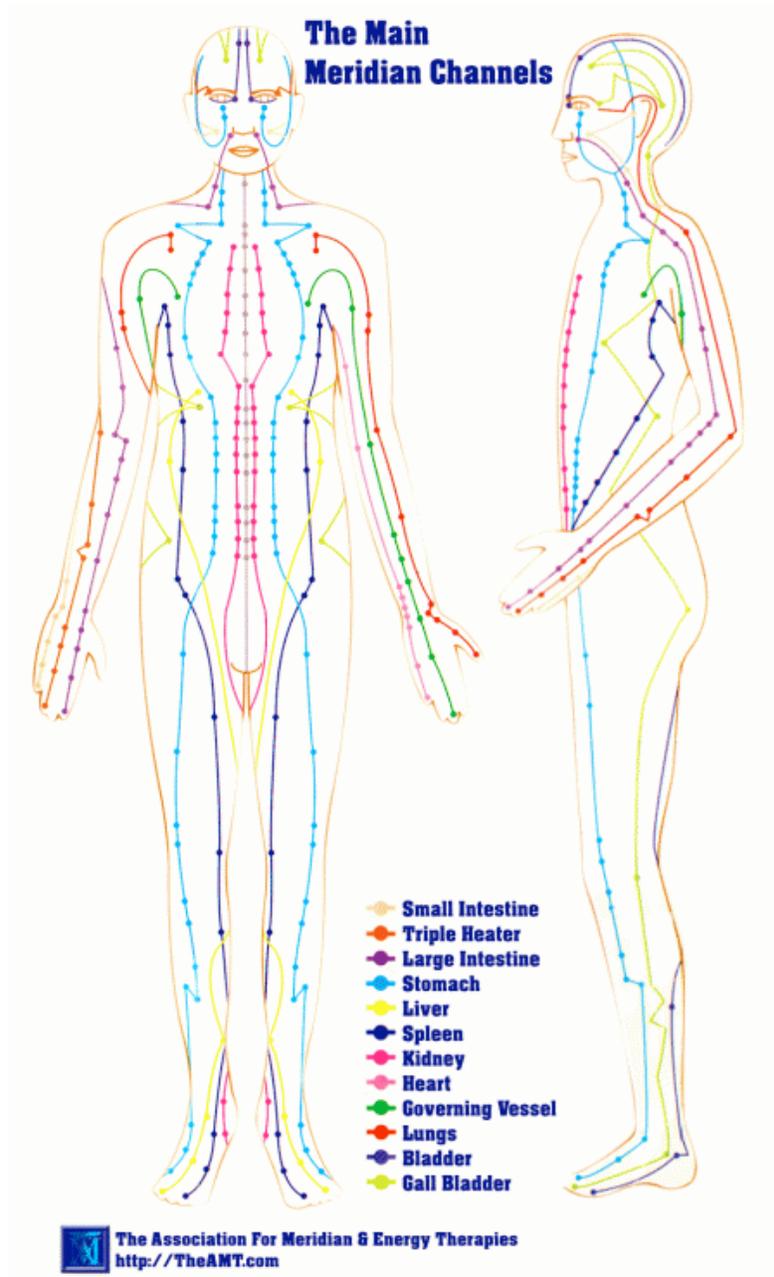
Signature of Person Agreeing to Participate

Date

With my signature, I affirm that I agree to take full personal responsibility for my participation in the protocol described above. I am at least 16 years of age and have received a copy of this consent form to keep.

Print Your Name Here

APPENDIX G MERIDIAN CHANNELS



APPENDIX H MERIDIAN PSYCHOLOGICAL EXAMPLES

Example of Psychological Associations/Imbalances of Meridians

Wood Meridian (Liver and Gall Bladder)

Anger
Frustration
Repression
Over control or feeling of being out of control

Earth Meridian (Spleen, Pancreas and Stomach)

Worry
Obsession
Anxiety

Water Meridian (Kidneys and Bladder)

Fear
Reckless
Phobias
Timidity

Metal Meridian (Lungs and Large Intestine)

Grief
Rigidity
Melancholy

Fire Meridian (Pituitary, Thyroid, Heart, Adrenal Glands, Small Intestine and Genitals)

Mental anxiety
Emotional Excitement
Overprotective
Vulnerable

Elaine Liechti. *The Complete Illustrated Guide to Shiatsu; the Japanese Healing Art of Touch for Health and Fitness*, 70-73.

APPENDIX I SAMPLE STAI QUESTIONS

Sample of State Trait Anxiety Inventory

For use by V Pearl Hagen only. Received from Mind Garden, Inc. on November 16, 2009

SELF-EVALUATION QUESTIONNAIRE STAI Form Y-1

Please provide the following information:

Name _____ Date _____ S _____
 Age _____ Gender (Circle) M F T _____

DIRECTIONS:

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

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

APPENDIX J
O-RING MUSCLE TESTING



**APPENDIX K
TIME RESULTS ONE**

ID	Age	Date of Pre-STAI	Pre-state	Pre-trait	Date of Post-STAI	Post-state	Post-trait
Group 1							
0-1	19	4/11/09	31	35	4/17/09	31	38
0-2	19	4/11/09	32	36	4/17/09	41	34
0-3	21	4/11/09	36	35			
0-4	18	4/10/09	40	43	4/17/09	35	38
0-5	19	4/10/09	48	40	4/17/09	48	46
0-6	21	4/12/09	35	34	4/17/09	40	36
0-7	21	4/10/09	45	40	4/17/09	37	44
Group 2							
1-1	20	4/10/09	51	49	4/17/09	43	47
1-2	20	4/11/09	59	38	4/20/09	53	41
1-3	19	4/13/09	33	32	4/17/09	41	39
1-4	19	4/11/09	45	31	4/17/09	30	38
1-5	20	4/10/09	44	43	4/17/09	35	40
1-6	18	4/11/09	61	40	4/17/09	31	33
1-7	21	4/10/09	34	26	4/17/09	37	28
1-8	19	4/13/09	39	44	4/18/09	50	52

APPENDIX L TIME RESULTS TWO

Group 1

ID	Age	Date of Pre	Pre-Free Time	Pre-Stroke of Choice	Pre-SofC Time	Date of Post	Post-Free Time	Post-SofC Time
0-1	19	4/10/09	30.5	Butterfly	32.6	4/17/09	30.4	31.9
0-2	19	4/10/09	29.9	Butterfly	34.0	4/17/09	29.9	35.3
0-3	21	4/10/09	30.6	Butterfly	34.7	4/17/09	30.0	31.5
0-4	18	4/10/09	29.7	Freestyle	34.7	4/17/09	30.2	30.2
0-5	19	4/10/09	30.3	Breast stroke	36.6	4/17/09	30.1	36.9
0-6	21	4/13/09	33.6	Butterfly	35.3	4/17/09	31.6	33.5
0-7	21	4/10/09	31.5	Butterfly	34.1	4/17/09	31.4	32.3

Group 2

ID	Age	Date of 1 st	1 st Free Time	Stroke of Choice	1 st SofC Time	Date of 2 nd (pre)	2 nd Free Time	2 nd - SofC Time	Date of 3 rd (post)	3 rd Free Time	3 rd SofC Time
1-1	20	4/10/09	31.3	Breast	35.5	4/17/09	31.5	36.8	4/24/09	30.6	35.7
1-2	20	4/10/09	31.1	Fly	32.4	4/17/09	31.2	32.5	4/24/09	32.8	40.1
1-3	19	4/13/09	29.1	Fly	33.0	4/17/09	28.2	31.3	4/24/09	28.3	30.8
1-4	19	4/10/09	29.6	Breast	37.3	4/17/09	29.1	36.5	4/24/09	29.3	38.3
1-5	20	4/10/09	29.8	Back	34.1	4/17/09	29.7	34.6	4/24/09	30.0	34.4
1-6	18	4/13/09	31.2	Fly	32.7	4/17/09	30.6	32.1	4/24/09	31.3	33.2
1-7	21	4/10/09	30.1	Free	31.5	4/17/09	29.4	29.7	4/24/09	30.1	31.8
1-8	19	4/10/09	33.9	Breast	43.5	4/17/09	32.9	43.5	4/24/09	32.5	42.1

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