THE HEART FIELD EFFECT: SYNCHRONIZATION OF HEALER-SUBJECT HEART RATES IN ENERGY THERAPY

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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.

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Christine Caldwell Bair

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Dissertations are a synthesis of multiple kinds of effort, requiring intense focus over a lengthy season. All of life is impacted, and sacrifice, assistance and patience are needed many times and in many ways. Although the name of a single author appears on the cover, the final product is the genuine result of a sustained group effort.

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ABSTRACT

Recent health research has focused on subtle energy and vibrational frequency as key components of health and healing. Intentional direction of bioenergy is receiving increasing scientific attention. The objective of this study is to investigate the effect of the healer's heart field upon subjects during energy healing, as measured by synchronization of heart rates and scores on a Subjective Units of Distress (SUD) scale and Profile of Mood States (POMS) inventory. A nonequivalent pretest posttest design was used based on heart rate comparison of healer and subject, and correlated with pre- and post-test SUDs and Profiles of Mood States scores. The subjects included two populations: N = 50 who sat within the 3-4 foot "strong" range of the healer's heart field, the independent variable, while using self application of the WHEE energy healing technique, and N = 41 who completed the same process beyond the 15-18 foot range of the healer's heart field. The dependent measures were heart rate, Subjective Units of Distress, and Profile of Mood States inventory. All subjects completed these measures within one hour. Statistically significant heart rate synchronization was found in the intervention population. Subjective Units of Distress and Profile of Mood States scores demonstrated more improvement than the control population, indicating additional benefit beyond the WHEE effect alone. Additional interesting findings are presented. Implications and future research recommendations are included.

Key Words: Heart, energy healing, healer effect, heart field, synchronization, entrainment, spiritual healing, bio-fields, coherence, energy exchange between people.

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CHAPTER 1:
INTRODUCTION

The creative act, by connecting previously unrelated dimensions of experience, enables [humans] to attain to a higher level of mental evolution. It is an act of liberation—the defeat of habit by originality.

A. Koestler

Background of the Problem

Good science is marked by the search for truth and minds open to new possibilities. Postmodern science seems to be leading to *fields of possibility* rather than the *probability* that was the hallmark of modern science. In psychology—the science of the *psyche* or soul—despite Freud's emphasis on the importance of the unconscious, the focus remained almost entirely on behavior and conscious thought during the 20th century. In the 21st century emerging emphasis on energy as the primary unit of life (and in particular consciousness as life energy) encourages a fresh perspective on what constitutes mind, including the thoughts and feelings that are precursors of behavior. New discoveries mandate a complete reevaluation of what constitutes healing and what methods best lead there. Energy as the action that organizes offers a cohesive and culturally neutral framework in which to examine the interactions of body mind and spirit.

Psychology may be uniquely poised to address mind as the intermediary between body and spirit. Perceptions, attitudes and expectations originating in subconscious beliefs impact far more than previously recognized. The power of intention and intentional direction of bioenergy is receiving increasing scientific attention. Integrative

understanding of medicine, psychology and spiritual concepts may yield a higher understanding than available from each as a discrete discipline.

Particular attention to connections and interactions between the physical and nonphysical realms seems prudent. The cogent question for our day may be how consciousness interconnects with the physical and mental aspects of our human being. Recent health research has focused on subtle energies and vibrational frequencies as key components of health and healing. Since Elmer Green's early work with biofeedback, later expanded by C. Norman Shealy's autogenic training and others, awareness of the health effects obtained by persons directing their own bioenergy have gained increasing public interest. Beneficial cross-cultural exchange between ancient Eastern healing concepts and Western science portend a holistic integration of the best of both. Partly because self-healing is largely unknown in the West, facilitation of energy balancing by a healer provides the experience of energy healing modalities. Mechanisms of healing may be gleaned from concepts understood in other contexts.

The essence of healing is multidimensional and includes information exchange and perhaps regulation between dimensions. It includes physical function and effects but is not limited to them. Efforts to describe the nature of healing typically focus on one or another specific dimension and are presented in language used by a particular discipline. A reductionist approach, even when accurate for the specific dimension being presented, eliminates the possibility of recognizing and describing the whole. Key relationships between systems and dimensions are left out of the equation.

This reductionism has been standard medically when describing the heart. Cardiologist Dr. Bruce Cortis states the conventional view. “Traditionally, cardiologists

are trained to consider the heart as a muscle whose primary purpose is to pump blood."[1] He goes on to state that he has learned through the stories of heart transplant patients that there is a cellular intelligence in the heart. He has come to define this cardiac intelligence as "the voice that speaks for the soul -- the center of intuitive intelligence and of infinite emotional knowledge."[2] The question naturally arises, what if this heart intelligence is capable of interacting energetically with others as well as ourselves?

Beyond the physical organ of the heart is the heart field. It is a measurable electromagnetic toroidal field that has long been used diagnostically in conventional medicine. Its presence thus routinely acknowledged, consideration of the effects of this field seem to have been ignored. Inherent in the holonomic perspective is the realization that in each part resides the blueprint for the whole. "Because electromagnetic torus fields are holographic, it is probable that the sum total of our universe might be present within the frequency spectrum of any single torus."[3] The beat of the human heart is detectable within four weeks of conception, and continues until our death. Is it not the most likely candidate for the vibrational organizing field of our human being?

Statement of the Problem

Fascinating heart based research is ongoing related to the benefits of intrapersonal coherence and its health benefits, at places like the HeartMath Institute,[4] where they have demonstrated stress reduction and self-regulation skills using heart rate variability measurements to increase psychophysiological coherence. Specific studies are presented in the Literature Review. However, little attention has been directed to vibrational or

field interactions between persons when they are within the heart field of another person; in particular what, if any, effect this may have on healing.

We know from such things as x-rays or magnetic resonance imaging that light, sound, and electromagnetic waves pass easily through our physical body. Mae Wan Ho has established clearly the liquid crystalline nature of our physical bodies and multiple levels of coordination and communication.[5] James Oschman, in *Energy Medicine and Therapeutic and Human Performance*, establishes the “living matrix" ability to use electromagnetic fields and vibrations as signals for coordinating physical activity.[6] He also emphasizes the importance of this structure of the living body in our therapeutic efforts. "Our images shape our therapeutic successes because they can give rise to specific intentions. Intentions are not trivial, because they give rise to specific patterns of electrical and magnetic activity in the nervous system of the therapist that can spread through their body and into the body of a patient."[7]

Purpose of the Study and Research Questions

The purpose of this study is to identify the role of the healer’s heart field as an active energetic mechanism of healing during energy therapy. Using Oschman’s concept above of therapist intention creating specific electromagnetic activity in the healer, not confined to their body, it is considered that the healer’s EM heart field becomes a vehicle of energy exchange during the healing process. The key variable of heart rate synchronicity, as demonstrated in the objective measurement of heart rates of healer and

subject, points toward a multidimensional role in bioenergetic information conveyance in the healing process. It is the purpose of this study to evaluate this occurrence

The electromagnetic field generated by the heart is known to be the strongest of the human body, some 40-60 times the amplitude of brainwaves, with a field that is detectable 12-15 feet beyond the body itself.[8] It is hypothesized that the heart may literally be the source of energy coherence in the body and that a coherent bioresonance generated by a "centered" healer holding an intention for highest good may override the incoherent energy fields of a dis-stressed other, and in entraining their heartbeat provide for the re-establishment of psychophysiological coherence during the practice of healing. It is further hypothesized that this energetic entrainment of coherence may be a specific underlying active therapeutic mechanism of multiple energy therapies, in addition to the particular technique itself. From Oschman's perspective of system disorganization as the origin of disease and malfunction, re-establishment of coherent resonance allows for the body to then heal itself.

This project seeks to demonstrate this interaction and provide measurable evidence of the hypothesized interaction by comparing the heart rates of healer and subject before and after a WHEE healing process. WHEE is a holistic healing technique developed by Dr. Daniel J. Benor, and is a hybrid of Eye Movement Desensitization and Retraining (EMDR) and Emotional Freedom Technique (EFT). It has been shown to be very effective over a wide range of physical and emotional issues, and incorporates aspects of both meridian-based and subtle energy modalities.[9] WHEE was particularly useful for the purposes of this project due to its ease of learning, immediate effectiveness,

and subjects' ability to self administer the technique. The WHEE process is found in Appendix G.

Pre-and post-Subjective Units of Distress and POMS-brief instruments provide corollary data with subjective report and pencil and paper instruments. It is expected that pre treatment heart rates will be unrelated, and SUDs and POMS elevated in both control and intervention populations. The WHEE technique alone is expected to produce significant reduction in post SUDs and POMS in both control and intervention populations. In the intervention population, in addition to the WHEE effect, post treatment heart rates are expected to be synchronized with the healer's, and more improvement in SUDs and mood indicator scores are expected, implying a heart field connection and transference of coherence from healer to subject.

Scope of the Study

This study is designed for a sample size of 100 adults, randomly chosen by response to communitywide appeal, who do not meet any of the exclusion criteria. Assignment to control or intervention populations is also carried out randomly and all subjects are blinded to the purpose of the study. A goal of 50 participants in each population is set. The information given to volunteers is that they are research participants in a doctoral dissertation project, and that they will be taught an easy to learn and highly effective energy self-healing technique. They are also informed that their vital signs will be measured and they will be providing feedback via the testing instruments. [See the exact protocol in Appendix C; the informed consent form in Appendix D] A single healer, the researcher, teaches the WHEE process and instructs participants in

filling out the measurement instruments. The researcher has been approved by Dr. Benor to teach the WHEE process, and is an RN and Licensed Professional Counselor. Additionally she is trained in a number of energy healing modalities.

Definition of Terms

The research hypothesis in this study is that heart field connection occurs during energy therapy and is observable in heart rate synchronization of healer and subject. The independent variable is the healer's heart field. Operational definitions redefine the original concept in terms of something measurable. The operational definition for this project is that heart rate synchronization is a measure on which heart field connection can be reasonably presumed since the field itself cannot be directly measured in any practical way in the therapeutic setting. The comparison of healer's heart rate and participant heart rates, by looking at correlations, can provide strong indirect evidence of the heart rate synchronization the hypothesis suggests. Synchronous in this setting refers to healer and subject heart beats happening at the same rate or number of beats per minute. The heart rate monitors worn by the healer and subjects both have technical error ranges of plus or minus one beat per minute, and so this is the range accepted as synchronized for the purposes of this project. As heart rates are constantly fluctuating, healer-subject heart rates that are within plus or minus two beats per minute will be considered strongly correlated. Because this interaction has not been previously evaluated there are no

guidelines for what range of beat variations would be considered “synchronized,” and so this definition has been arbitrarily chosen for the previously mentioned reasons.

The dependent variables are participant heart rates, Subjective Units of Distress measurements, and Profile of Mood States inventories. Pre-and post measurement of all three variables allows for multiple correlation evaluations, enhancing a comprehensive view.

Limitations

As always in *in vivo* experiments, confounds are unavoidable. The primary confound in this project was the necessity for the control population to meet as a group, while intervention subjects were seen individually. Because the electromagnetic field of the heart is extremely strong in the 3-5 foot range, and detectable up to 18 feet away, it was necessary for the healer to maintain this distance from control subjects, and be within this range of intervention subjects. A long distance is a practical impossibility in the normal therapeutic setting, and so a group setting for controls provided the closest possible alternative to keep other factors equal. Because participants in both populations were being taught the WHEE process and doing the technique on themselves, this did not present as substantial an experiential difference as might have been the case with other techniques, and allowed participants to remain blinded to the actual purpose of the study.

None the less, the confound of a possible “group affect” was extensively considered, and prevented as much as possible in placing control participants >4 feet apart. This was intentionally outside of the strongest range of other participants’ heart

fields, and as later research confirmed outside the radiation range previously identified in an earlier study looking at energy exchange between people and during which ECG monitoring was utilized without evidence of any energy transmission.[10] Post-project data supports the effectiveness of this precaution in showing a minimal change in heart rate within the control population.

An interesting paradox occurs in considering the potential for a "group" affect. While controls are in the same room, albeit with the >4ft. proximity protected, they are effectively "alone" in their focus on their particular issue and in carrying out the WHEE process. There was no direct interaction between participants or between healer and participants while the healing technique was being done. The intervention population, on the other hand, met with the researcher/healer individually, but carried out their WHEE process within the 3-5 foot range of the healer and, by definition, the strongest range of her heart field. As the resulting synchronization demonstrates, this energetic dyad could be considered a "small group."

Although the issue of gender is not known be a significant factor in this project, it should be noted that random self-selection resulted in an unrepresentative sample in both populations. The control population was made up of five males and 36 females. In the intervention population there were 14 males and 36 females. Likewise, the age ranges were slightly different between populations, with the control population having a range of 31 to 77 while the intervention population ranged from 26 to 72.

Chapter 1 Endnotes

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CHAPTER 2:
REVIEW OF LITERATURE

To be animated by a sense of the sacred is to live in a world that is charged with the power and grandeur of God but forever escapes our understanding and control.
Sam Keen

Introduction

For the purposes of this review I adopt a "powers of ten" framework. We begin with a general overview of the current world status, move in closer to the human level, progress to two human activities of discovery and organization in more detail – science and spirituality—then focus down still farther to their relationship to health and healing. Historically they have been separated during the past several hundred years in the West, and so physical health is addressed separately from mental and emotional health. Strengths and limitations are identified. Long-standing alternative and complementary practices are summarized. Emerging subtle energy and vibrational concepts are introduced. Consciousness, and specifically the subconscious, is examined for its role in recognizing the integration of body, mind, and spirit. Finally, the case for an expanded scientific inquiry and multimodal integration of practices of healing is made in light of new discoveries of interacting levels of communication and regulation emerging in what seems a veritable *zeitgeist* of current research.

The Current State: Global Level

We live in a very exciting moment in the history of human life on the planet Earth! According to a plethora of writers in a variety of professions, we find ourselves

participant observers in a dramatic and rapid shift in the experience and reality of what it means to be a human being:

- We are on the verge of a major paradigm shift that extends across the sciences, from physics to medicine and biology. This shift involves a transition from the mechanistic Newtonian model to the acceptance of the Einsteinian paradigm of a complex, yet interconnected, energetic-field-like universe.[1] Richard Gerber

- We are privileged and condemned to live on the cusp between epochs…Old values, vision, worldviews, and ways of organizing social, economic and political life are transmuting.[2] Sam Keen

- We are living right in the midst of …a transformation of humanity's Soul…and everything about how humanity thinks and acts, as well as every institution in mainstream human cultures, will be thoroughly and dramatically changed.[3] L. Robert Keck

- Now it is time for a dialogue between scientists and theologians because we know that objective reality does not exclude the transcendent reality of spiritual experiences….Current research on the laws of physics, to the macroscopic order of the material universe – cosmology, implies an abstract interpretation of creation rather than a material one.[4] Valerie Hunt

- The goal of modern scientists echoes that of the ancient alchemists.[5] Fred Alan Wolf

Signs of upheaval in every sphere of life – world political and economic instability, cultural chaos and dysfunction, personal turmoil and confusion – make it apparent that the "old" no longer works but the "new" is not yet clear. These are classic hallmarks of a transition in progress. Such transitions, which can be tumultuous, are also evolutionary, and can lead to a higher level of organization and function. Gregg Braden states, "There is a process of unprecedented change unfolding upon the Earth, now, within our lifetime… [It] marks the completion of a paradigm that has perpetuated the illusion of separation between ourselves and the creative forces of our world, and the birth of a new paradigm allowing the recognition of the oneness of all life."[6] This

transition is as much a cause for excitement and anticipation as the more common reaction of fear and impossible desire to return to the familiar. The very fact that many are tired of hearing the phrase "paradigm shift" implies an expanding recognition of its presence. Inherent in the holistic view is the interconnection of all things and the reminder that any shift affects human beings as well as the earth.

The Current State: Human Level

Shifting the focus to the human level, we acknowledge that, as human beings, we have a primary interest in our own well being, growth, and development. Health and healing are related inherent aspects of function. It is commonly observed that humans are composed of body, mind, and spirit. In particular, *consciousness* is often purported to be the defining characteristic of human life. In *Changes of Mind,* Jenny Wade states:

> Since consciousness is the ground for all the specific forms of mentation addressed in developmental theory, information about the structuring of consciousness is already implicit in accepted theory and extant research. All that is required is a diligent way of mapping underlying patterns in familiar and established venues without getting lost in the topography. The result should be a synthesis of noetic progression that is both grounded in, and congruent with conventional theories.[7]

A number of very interesting theories and associated research are emerging which attempt to do the mapping that Wade notes is required. Before moving forward to that it is useful to recall the recent past and current position of much of conventional thinking. The concept of persons as whole beings inter-related and inter-connected with the rest of life has largely been lost to the Western mind with its focus on individuality. The result is that the body has long since become the purview of medicine; spirit, and soul of religion; and (most recently) thoughts, feelings, and behavior of psychology.

A major goal of this project is to demonstrate spiritual healing as the functional re-integration of body, mind, and spirit. It proceeds from the hypothesis that we are all already whole beings and that spiritual healing is bringing that integration into conscious awareness so that we are able to live consciously in this reality as "healed" persons. "The Kingdom of Heaven is at hand."[8]

Recent evidence identifies the body as location of the subconscious and the transition zone where the physical, emotional, and spiritual interact, and where profound healing can take place.[9] If correct, healing modalities that are able to access the subconscious and assist the individual in transforming dysfunctional beliefs (which form energy disruptions), thereby restore balanced energy flow and offer a substantial improvement over current practice.

The heart has historically been considered the center of the body, the seat of emotions and the door through which spirit "speaks" to us. As the central organ providing physical nourishment, waste removal, and regulating agents to each cell, this study indicates it may have an even more profound role in emotional and spiritual health than we have previously realized.

Science

Things found to be unaccountable under rigorous scientific scrutiny ought at least to suggest that science's ability to account for everything may be imperfect.

Elmer & Alyce Green

Emerging out of a historical context of reductionism, science has been the Western method of studying our physical surroundings, ourselves, and of ordering information. Huston Smith defines science as, "the body of facts about the natural world that controlled experiments require us to believe, together with logical extrapolations from those facts, and the added things that scientific instruments enable us to see with our own eyes."[10] He goes on to note that science can only register what is inferior to us and is unable to deal with intrinsic values, existential meaning, final causes, the invisible, the qualitative, and our superiors.[11]

Of particular interest to us are those sciences most directly relating to ourselves. Of them, Ken Wilber states, if you want to know meaning, "Here empirical science is largely worthless, because we are entering interior domains and symbolic depths, which cannot be accessed by exterior empiricism but only by introspection and interpretation."[12] Without denying science's limitations many of the findings of classical science have benefited us greatly. Who would want to be without antibiotics when an infection takes hold or without modern surgical techniques following a trauma? Yet, "The exhilarating scientific enterprise of dissecting living systems into increasingly smaller pieces has led to spectacular advances, but in the process the essence of life and health has nearly slipped through our fingers."[13] New discoveries point toward a needed expansion of scientific methodologies to assess and describe adequately the most current findings and experiences.

> The concept that human beings are dynamic energy systems which reflect evolutionary patterns of soul growth is the main tenet underlying vibrational medicine. The ideas…are actually quite old. They only seem new because it has taken people this long to validate what the ancient priesthoods had already understood for millennia….the eventual physician/healer/priests will combine the

highest knowledge of both the ancient mystery religions and modern science to promote healing at all possible levels.[14]

Spirituality

To omit the spiritual element from our medical worldview is not only narrow and arbitrary; it appears increasingly to be bad science as well. Larry Dossey

Spirituality, the province of the soul and its care, has long been left to religion where the current state of unrest is also observable. In contrast to Paulo Coelho's claim in *The Alchemist*, "what alchemy does is to bring spiritual perfection into contact with the material plane,"[15] today's institutional religion has largely displaced the vitality and focus of the spiritual as central in life, relegating it to peripheral status as an individual choice and private matter. Jorge Ferrer, in his book, *Revisioning Transpersonal Theory*, states that in the modern West, spirituality is largely understood in terms of inner experience without any form of valid knowledge.[16] Polls concur, indicating increasing numbers of persons in the United States who regard themselves as "spiritual" but not "religious."

Religious ritual provides an emotional link to the transcendent for many, but too often without the cognitive understanding of that which the symbol points toward. It has served the function of connecting the past to the present, and perhaps may still bridge the visible and invisible worlds if centuries of human interpretation can be put aside and the experience itself can be restored.

Healthcare: Physical/Medical

Formerly, when religion was strong and science was weak, men mistook magic for medicine; now, when science is strong and religion weak, men mistake medicine for magic. Thomas Szasz

Turning our focus down still further to the arena of human health, we find that "healthcare," the particular discipline which addresses the normal and abnormal functioning of human beings, is yet another prototypical example of the current chaos and fragmentation. Facing exponential growth of knowledge, it has fractured into a multitude of specialties and subspecialties. The human being has been divided into "parts" the care of which are allotted to different health disciplines. Medicine, the specialty which works primarily with the physical body, is fractured even within itself into a myriad of subspecialties, each of which regards one particular part or system of the individual person. In examining a "piece" of the person in isolation they often miss the bigger picture of the whole person. "Our most debilitating, painful and costly medical problems are breakdowns at the level of whole systems, which then lead to observable problems with the parts and not the other way around."[17]

A second and equally unfortunate turn in the path occurred in 1910 with the Flexner Report. Medical education, which until then had included a variety of modalities, was suddenly circumscribed to surgical and drug-oriented therapies.[18] Although a number of brave pioneers continued their investigations of other means of healing, they were at best ignored and at worst ridiculed and rejected by their peers.

The current healthcare climate reflects the social costs of earlier restrictions. As the physical health of our nation deteriorates, largely as a result of poor lifestyle choices among its members, chronic disease abounds. "Experts agree that *at least* 85% of all diseases are the result of lifestyle."[19] Conventional medical care which revolves almost entirely around surgery, technology, and pharmaceuticals is poorly equipped to respond.

Healthcare: Mental and Emotional/Psychological

We begin by understanding the theoretical development and practical applications of conventional psychotherapy. Often referred to as "talk therapy" psychoanalysis is traced back to the work of Sigmund Freud. Still regarded as "the father of psychology," Freud's great contribution was in recognizing the unconscious with its tremendous influence on human behavior. "Our scientific work in psychology will consist in translating unconscious processes into conscious ones, and thus filling in the gaps in conscious perceptions."[20] The importance of recognizing multiple levels of consciousness was unfortunately overshadowed by Freud's identification of sexual energy as the primary motivational force. It was left to his disciples –most prominently Carl Jung – to refocus the discussion again to those aspects of consciousness we are not normally aware of. Jung asserted, "Just as conscious contents can vanish into the unconscious, new contents, which have never yet been conscious, can *arise* from it….The discovery that the unconscious is no mere depository of the past, but is also full of germs of the future psychic situations and ideas, led me to my own new approach to psychology."[21]

Still controversial, Jung's prescient work integrated alchemy and other less accepted disciplines in his efforts to understand and define the personal and collective unconscious. "The collective unconscious is common to all; it is the foundation of what the ancients call the 'sympathy of all things'."[22] In particular, the identification of archetypes as collective influences on the individual enjoys a large following today, within and without the professional community. As Jung put it, "Just as the human body represents a whole museum of organs, each with a long evolutionary history behind it, so we should expect to find that the mind is organized in a similar way."[23] Charles Tart compares levels of the unconscious according to Zen, Jung, and the scientific studies of Houston and Masters and finds many similarities in their descriptions.[24] In spite of these and other findings, contemporary psychology mainly follows a medical model focusing on observable behavior, conscious thinking, and affective feelings.

In conventional practice we find that psychology increasingly pathologizes behavior based upon objective criteria lists and focuses primarily on behavior. Emotions and feelings are regarded only as cognitive signals affecting perception and choice. Regardless of the psychotherapeutic style used, certain commonalities are characteristic of the current standard counseling session. Clients have a limited time (usually 50 minutes) in which they talk about whatever is of concern to them. Active listening on the part of the therapist is often the most healing aspect of the session. In addition the therapist will reflect what the client is saying to indicate understanding, clarify, and allow for reframing (thinking of something in a new way). Evaluation of feelings is often limited to emotions as indicators of the intensity and personal meaning of what is being discussed. Positive regard is frequently lost in the analysis of what's "wrong" with the

client. A process of assessment and treatment that begins appropriately with the oft-maligned question, “How do you feel?” quickly segues to, “What do you think?” and “How do you act?” addressing primarily cognitive and behavioral functions. Therapeutic effort is directed at reframing conscious thought with a hope that it will trickle down to changed emotion, more an afterthought than primary focus. Defenses are uncovered when helpful in moving forward in understanding or function. Multiple options and possible outcomes are explored. The majority, if not all, of the work is done on the cognitive, conscious level. This translates into long and costly therapeutic alliances in which there is too often little measurable improvement, a strong signal that the source remains unaddressed.

Increasing cultural levels of confusion, anxiety, depression, and dissociation mark the “walking wounded” and are behaviorally demonstrated in socially escalating violence and unrest. Twin errors of working only with conscious thought and adopting a largely medical model (which regards cognition as a function of the brain rather than mind), have made psychology more a poor stepchild of medicine than an effective provider of mental and emotional healing. Rather than recognizing and including the spiritual as the “context” in which we live and the level in which our values originate, psychotherapy attempts a valueless process, further eroding its efficacy. Today’s psychotherapy is largely an exercise of symptom control in which current epidemic attitudes of victimization and dis-ease are reinforced. Together with costly social errors (like false memory syndrome) the reputation of psychology has been tarnished. Conversely, it is the one discipline perhaps uniquely well positioned to be a primary vehicle for a new healthcare that recognizes and honors the place and function of *mind* and *spirit* in health

and healing. There is a need for a transformation of psychology into the science of the soul that its name implies.

Increasingly therapists are aware of the import of other levels of consciousness and a variety of modalities have developed in attempts to access deeper levels and inter-connections. Hypnosis, EMDR, Emotional Freedom Technique, re-parenting, and past life regressions are evidence of efforts to get beyond conscious thinking. They appear to demonstrate improved ability to access trauma and have anecdotal evidence of effectiveness but lack much research effort. Additionally, they are largely carried out within the same external provision environment, meeting the requirements of third party payers but often creating a dissonance felt by both client and therapist.

Complementary and Alternative (CAM) Therapies

Complementary and alternative therapies make up what we might call the other end of the continuum. They include massage of many types, homeopathy, acupuncture, naturopathy, yoga, tai chi, qigong, and spiritual healing. Many of these therapies have come to us from other cultures and have a long history of success not accounted for in Western science. As Dan Benor points out, "when practiced in the fullness of their traditions, [they] address the person who has the disease as a unity, a whole organism—not focusing merely on the presenting symptoms."[25]

Massage and homeopathy are illustrative of several aspects of healing beyond the usual expectations. Massage therapy is intended primarily for muscular relaxation, improved interstitial and circulatory fluid flow, and pain relief. Massage therapists are

trained in the musculo-skeletal system and techniques of stretching and compressing muscles with the hands in various ways to accomplish these results. New therapists and clients are often surprised when the massage triggers an emotional as well as muscular release. More experienced therapists come to recognize it as a normal, if not universal, response. This release coupled with compassionate regard on the part of the therapist often offers profoundly deep healing in unexpected ways.

Both ancient writings of tai chi classics and new theories being developed by cell biologists suggest potential mechanisms of action underlying this response. For instance, in *T'ai Chi Classics*, Master Waysun Liao explains the process of generating the original life energy, *chi*, into the high frequency vibrational power of *jing*, or spiritual energy by doing meditative breathing in which breath is condensed and contracted around the bones on inhalation and relaxing on exhalation. He cautions that the entire body and mind must be treated as a unit. The mind is used to "squeeze" the chi into the bone marrow which causes feelings like an electrical shock. "As chi flows along the path…it feels as if an electric current is flowing as a wave…eventually becoming so strong that it yields a tremendous amount of vibration…that only the mind is capable of generating. This creates the awesome power known as *jing*."[26] This disciplined internal movement of chi is likely mimicked in a milder movement of energy during the external mechanical movement of muscles and body fluids during massage. Likewise, newer theorists like Candace Pert offer an explanation on tissue compression and stretching as it relates to release of emotions.[27] We will examine more of her theory in the section on the subconscious where she pioneered efforts leading to a dramatic shift of focus for healing.

Spiritual and psychological sources address the importance of touch. From the extreme of "failure to thrive" babies who died from lack of interaction, to more recent research validating the positive impact of a smile or slight touch of hands in feeling connected and cared for, decades of research unanimously verify the powerful impact of recognized human connection and the great costs of its absence. The Judeo-Christian concept of "laying on of hands" has its contemporary expression in the Healing Touch and Therapeutic Touch movements begun by Janet Mentgen and Delores Krieger, respectively. They are among the most researched healing modalities and have been shown in quantitative and qualitative studies to help in treatment of many types of pain, mobility, depression, immune function, and enhanced quality of life.[28]

Homeopathy reveals another dimension of healing practiced throughout history. While massage demonstrates the storage of memories as body-based, and touch reveals our interconnection, homeopathy illustrates the vibrational nature of healing, now the recipient of fresh inquiry. Based upon delivery of minute amounts or essences of natural substances that are known to have similar properties to the patient's symptoms, homeopathic remedies may not contain a single molecule of the original substance, yet produce significant effects. Although not yet proven, it is thought that the vibrational signature remains and by providing the needed vibration, effects healing. A number of studies have reviewed homeopathy. One of the best is the Taylor-Reilly study of homeopathy used in hay fever.[29]

Practitioners of these modalities deserve our respect and admiration for maintaining the continuity of each of these particular knowledge bases during the last century in Western civilization when, as we observed earlier, they were at best ignored

and at worst treated with open hostility and trivialization. According to Karl Maret, M.D., "Normal science is predicated on the assumption that the scientific community knows what the world is like. Scientists take great pains to defend that assumption and to this end often suppress fundamental novelties because they may be seen as subversive to the existing set of beliefs."[30] It is only with recent technology, now able to measure effects that were previously invisible to us, that Western science is beginning to acknowledge the power and pervasive presence of invisible energies that are fundamental to our life and health.

While clarity is still evolving, it seems apparent that in CAM modalities the combination of intent, compassion, and touch, are at least as important as the particular delivery model. In comparing conventional psychotherapy and CAM modalities it is interesting to note that the persons trained to address emotional and mental issues end up working primarily with physical behavior and conscious thought. Various CAM therapists, trained to work with the physical body, are often the recipients of emotional release apparently resulting from physical touch; an interesting paradox.

In summary, as the inherently costly negatives of reductionism and fragmentation of the past six hundred years (the modern era) have become increasingly apparent, we refer to the current period as post-modern. Although appreciative of the many human advances that took place during the modern stage of human development, we are exquisitely aware of the need to move forward in a more holistic fashion. Fascinating new theories and associations between formerly discrete disciplines intrigue us. A shift of research from biochemical to bioelectromagnetic and vibrational frequencies is

gathering momentum. Focus on the functions and interactions of energy within the body are developing. Integration of multidisciplinary knowledge is elevating our perspective.

Of the many exciting avenues being taken in contemporary health research none is more compelling than the work being done relating to consciousness. In looking at one example of the integration of new scientific discoveries with ancient understandings of healing, this study hopes to demonstrate the value of integration in a concrete way; experienced healing. Much as we infer the presence of the wind by watching the trees blow, reported effects of energetic and affective change by recipients offer affirmation of effective healing and encouragement in the continued search for increasingly clear understanding of the nature and workings of consciousness. With the background of our current situation summarized we move forward to an examination of the exciting possibilities that await us.

Emerging subtle energy and vibrational concepts

The cell is a machine driven by energy. It can thus be approached by studying matter, or by studying energy. In every culture and in every medical tradition before ours, healing was accomplished by moving energy.

Albert Szent-Gyorgyi

More than 50 years ago, the distinguished Yale Professor Harold Saxton Burr recognized the direct link between all body functions and the energy fields produced within and around the body. He referred to the phenomenon as the *electro-dynamic field*. Based on a series of studies conducted between 1932 and 1956, Burr asserted that all disturbances, physical or emotional, show up in the field long before any symptoms or pathological structure can be detected by ordinary diagnostic methods. Moreover,

> correcting or normalizing the energy field reverses the degenerative process.[31]

Ahead of his time, Burr succinctly stated a number of aspects of what is today rapidly becoming a tidal wave of expansion of scientific thinking—mostly from sciences other than medicine--regarding the human organism and how it functions. It is indicative of the myopia of academic medicine that such a clear definition of energetic healing was made fifty years ago, yet remains unknown to most even today. It is virtually unused in conventional treatment although many diagnostic technologies now are energetic in nature. Emerging energy modalities, in observing from both larger and smaller perspectives, are able to offer a much more integrated perspective of healing. Recognizing the inter-connection of all life and its holographic nature, our inherent ability for self-healing begins to emerge.

Currently a number of researchers are evaluating ancient remedies in light of vibrations and their impact on healing. Although clearly still "with a foot in each camp," Richard Gerber is an M.D. who has authored several books examining the emerging implications for medical care. He identifies a paradigm shift to an interconnected, energetic field universe in which consciousness is understood as a form of energy, and human beings are mind-body-spirit complexes which exist in a continuous dynamic equilibrium with higher energy dimensions of reality.[32]

Another physician working to integrate mind and body with the wisdom traditions of India, China, and indigenous peoples is Richard Ballentine, M.D. In like manner to the better known Deepak Chopra and Andrew Weil, he has integrated the principles of many systems into a more holistic model of accelerated and deep healing.[33]

In *The Creation of Health: The Emotional, Psychological, and Spiritual Responses That Promote Health and Healing,* C. Norman Shealy, M.D., and Carolyn Myss describe the nature of energy in creating health, as well as the impact of our acts and attitudes combined with the power of stress in creating disease. A number of case studies and particular diseases are addressed to demonstrate their main point: "Those who are able to understand that they are in charge of their realities considerably increase their capacity to heal any illness because they can no longer be victimized by the idea that the illness occurred randomly, without just cause."[34]

James Oschman goes further and purports the necessity of a holistic viewpoint to understand chronic disease at all. He suggests that, "We begin to see that …life itself depends on the integrated activities of all of the components….Living structures and consciousness are seen as emergent properties of the whole [living] matrix, properties that are not observable or understandable from studying the parts."[35] "More often than not, serious problems result from an accumulation of disorder rather than a single isolatable cause."[36] His book is a brilliant synthesis of cutting edge sciences integration to birth a picture of the structure and function of quantum biologic coherence. The principles elucidated in his book are integral to the particular project of this dissertation which will be spelled out in detail in later sections.

In *Limitless Mind: A guide to remote viewing and transformation of consciousness,* Russell Targ devotes two chapters to intuitive medical diagnosis and distant healing.[37] In them he presents excellent summaries of the work of Edgar Cayce, Judith Orloff, Mona Lisa Schultz, Caroline Myss, and Norm Shealy and several others. Referencing Jesus' words recorded in John 14:12, "…*the works that I do, shall you do*

also; and greater works than these shall you do," Targ describes how we can direct our energy in the form of healing intentions to relieve pain and suffering of others at any distance.[38] Holding a healing intention is the starting place for each of the CAM modalities, and is likewise integral to this project exploring underlying mechanisms of spiritual healing.

Perhaps more extensively than any other, Dan Benor, M.D., has researched and catalogued in four volumes definitions, descriptions, case studies, and research data of all things related to consciousness, bioenergy, and healing.[39] In a very accessible format, he organizes and presents available scientific data on every imaginable form of healing. With an enjoyable writing style which includes his own theories relating to an integration of healing, he brings clarity and coherence to previously scattered information. As a reference source on Spiritual Healing it is without peer. "The *Healing Research* series considers the healing powers of our body, mind, emotions, relationships (with each other and with our environment), and spirit as an inextricably interwoven and unified system."[40]

Inherent in the unified system mentioned above is the place of consciousness, and it is to it we turn next as we focus down yet another level in our examination of healing.

Consciousness

It is only with the heart that one can see rightly; what is essential is invisible to the eye. Antoine de Saint-Exupery

In both conventional psychotherapy and in the emerging healing modalities most would agree that consciousness plays an important role in healing. What that role is and how it works remains a matter of controversy. In fact, there is not even a single agreed upon definition of what consciousness actually is. *Webster's Ninth New Collegiate Dictionary* defines it thus: "**1a**: the quality of being aware especially of something within oneself; **b**: the state or fact of being conscious of an external object, state or fact, **c**: awareness. **2**: the state of being characterized by sensation, emotion, volition, and thought: MIND. **3**: the totality of conscious states of an individual. **4**: the normal state of conscious life. **5**: the upper level of mental life of which the person is aware as contrasted with unconscious processes."

The conventional psychotherapeutic view has most often portrayed consciousness as brain-based and regarded it as primarily a receptive attribute of awareness. Quite a few contemporary scientists now take issue with that limited concept. It is fruitful to our purpose to examine the theories of several.

As early as the mid-1970's, Charles Tart defined a state of consciousness as a dynamic process, the pattern of which maintains its integrity in a changing world.

> The structures operative within a discrete state of consciousness make up a *system* where the operation of the parts, the psychological structures,…stabilize each other's functioning by means of feedback control, so that the *system* maintains its overall pattern of functioning in spite of changes in the environment.[41]

Although he was describing states of consciousness rather than consciousness itself, Tart was ahead of his time in recognizing a systems orientation of life processes rather than individual part function characteristic of the scientific thinking of the time.

In the mid-90's, Candace Pert, a former cell biologist at the National Institutes of Health, shared a personal experience in *Molecules of Emotion* that demonstrates "just how powerful consciousness can be in intervening at the level of our molecules and making significant changes in our physiology."[42] One of the early pioneers in this research she was able to document the intentional release of endorphins by focusing consciousness on her pituitary gland and intending endorphin release. Going further, she advances the metaphor of *information* as a more helpful replacement for the terms matter or energy to understand phenomena. She describes it as a superior common denominator for understanding biological and environmental life processes, since it exists outside of time and space and includes the observer's consciousness as having an impact. "Information theory seems to be converging with Eastern philosophy to suggest that the mind, the consciousness, consisting of information, exists first, prior to the physical realm, which is secondary, merely an out-picturing of consciousness."[43] Along with Bruce Lipton, she joins in describing cellular interaction with its environment as "the smallest unit of consciousness"[44] documenting an information exchange explanation of the mechanism of action at the cellular level in accord with current quantum non-local properties of wave action. At the center of the discussion still remains the nature and function of consciousness.

With Pert's concepts of consciousness as a primary influence in life processes and Tart's proposal of a systems approach to looking at them, we begin to see the emergence of new ways of thinking about human beings as living systems interacting with their internal and external environments, rather than isolated individuals made up of

independently functioning parts. In this paradigm consciousness is clearly integral to health and must be considered in our ways of healing.

Physicist William A. Tiller, in *Science and Human Transformation*, expands our thinking about consciousness to include *intention* as a key element in our development and transformation and introduces the inclusion of spirit. He states, "Although most of us don't really know what consciousness is, we tend to think that it relates to the ability of natural systems to exchange information. I tend to think that consciousness is a correlate of spirit entering dense matter."[45] In what he calls a Level One model, he describes in intricate detail a process path through which spirit produces physical action, and in which human beings are essentially "consciousness vehicles."[46] He intends this model to serve as a bridge to yet higher thinking. In addressing self-healing, he theorizes that, "Whatever healing or major change is going on at the etheric level of the body, it is coming from the mental level by directed intention. It is directed from the higher levels of mind that cause the changes in the etheric and consequently in the physical."[47] For those interested, his book offers detailed explanations of mechanisms and healing practices far more intricate than space here allows. Analogizing our current social conditioning to flawed computer software, he presents (on page 294) the key steps for correcting the software, leading to personal and human transformation.

Ervin Lazlo adds *meaningfulness* as an important dimension of scientific inquiry, though acknowledging that it is an oft-neglected and still disputed one.[48] In chapter 8 of *Science and the Akashic Field*, he focuses on consciousness as an evolutionary and multidimensional component of life not limited to humans.[49] In reviewing multiple indigenous and contemporary theories of consciousness evolution, he finds in them a

common thrust from the ego-bound to the transpersonal form.[50] Of particular delight to me, in his personal notes about his lifelong quest Lazlo recounts his "conviction that there is meaning to be discovered in the world at large, and that the best way of discovering it is to query the theories put forward by leading scientists in all the relevant fields, not just those that belong to one's area of specialization."[51]

Karl Maret notes quantum physicist Amit Goswami's proposal that consciousness is fundamental to our being and that our previous "material realism' must now give way to a "monistic idealism."[52] In the same issue of *Bridges*, Jim Oschman separates consciousness from a nervous system,[53] then goes on to locate it in the primordial "living matrix" of cellular and extracellular matrices,[54] a concept with immense implications for understanding healing.

Consciousness is also central to practices of health and healing when the human person is recognized as holonomic. Jenny Wade makes the case for multiple dimensions of consciousness, similar to a conscious Great Nest, in an evolutionary/maturational view of consciousness development. Her speculative model offers an explanation for reincarnation and allows for (without explicitly stating) multiple simultaneous identities as well as multidimensional being. Perhaps more than any other author she carefully delineates consciousness from before birth to its continuation after death and maps its unfolding in the explicate order.[55]

The brilliant integrationist James Oschman likewise validates a multi-dimensional viewpoint and contributes several significant concepts.

> One is the simple fact that virtually all schools of hands-on and energetic bodywork recognize the profound connection among human structure, consciousness, and emotional states; whereas few in the scientific community have any inkling that such a

> profound connection might exist. Second, there are the brilliant insights from physiology and biophysics articulated by Mae-Wan Ho and the earlier researchers she acknowledges in her various articles.…[which] eloquently describe the basis for a single energetic phenomenon simultaneously underlying living organization and conscious experience.[56]

In making the case for the reciprocal relationship of structure and consciousness Oschman presents the living matrix as the basis for a unitary theory that includes structure, function and conscious experience. Based in quantum coherence, this theory paves the way for a new biomedicine with staggering implications. How consciousness interacts and communicates within our bodies is largely undefined at present, but this study looks at the heart, and in particular the vibrational field emitted by it, as a potential and likely agent of resonance regulation, both for the individual and others within its power range.

The Subconscious

He who looks outwardly, dreams. But he who looks within awakes.

C.G. Jung

In yet another downturn of our viewing lens, we look at that part of consciousness referred to as the subconscious. A somewhat amorphous term, it has traditionally been used to describe that part of consciousness that lies between our conscious awareness and that which is unconscious, or beyond our waking awareness, a kind of no-man's land commonly regarded as the repository for all events, memories, and beliefs of our lifetime. Like consciousness, it too has been considered brain-based. New work is challenging

that assumption, offering intriguing possibilities for healing both physically and psychologically at much deeper levels.

Following up on Candace Pert's work, Bruce Lipton (also a cell biologist) replicates Pert's contention that the body is the subconscious mind. He describes the mechanics of a new biology in which we are "in truth a cooperative community of approximately 50 trillion single-celled citizens."[57] Lipton presents a strong case for environmental influence as determinative in activating cellular function and finds that "single cells are capable of learning through environmental experiences and are able to create cellular memories, which they pass on to their offspring."[58] This leads to his contention that the subconscious is the location of the perceptual "tapes" formed in early childhood and responsible for interpretation of our feelings, thoughts and behaviors during the 85% of the time we are not consciously overriding them, emphasizing the importance of the subconscious as a primary focus of healing efforts.[59] The essential aspects of intent and belief become crucial in the healing process.

Many other scientists currently offer tantalizing bits that, taken together, provide a whole new frame of reference for evaluating and enacting means of healing. Alan Wallace points out the false distinction between the objective physical world and subjective experience,[60] and encourages a shift to a more "holistic view of mental and physical phenomena as dependently related events."[61] Jorge Ferrer concurs and explicates revisioning work in which subjective experience is acknowledged as universal inter-connection, a participatory vision that rejects individual inner experience.[62] Jenny Wade speculates on the role of volitional change.[63]

So much exciting work is currently going on it is tempting to turn the viewing knob down yet one notch further and examine the studies being done with DNA, water, and multiple nervous systems with different rates and strengths of communication conduction. For the purposes of this study, the information provided is sufficient impetus and justification for therapeutic encounters that can effect an integrative healing and holistic transformation perceptible in the subject's conscious awareness and physical sensation. Enticing as those other questions are they will have to wait for another day.

The Heart

All of the fascinating recent works reviewed portend a genuine new day in our thinking about healthcare and the meaning of healing. While much remains to be elucidated, the central function of the subconscious in healing seems clear. Conventional psychotherapy has proved less than optimally effective in being able to access subconscious memories and trauma. Massage and similar bodywork seem to release feelings, but many practitioners lack training in how to maximize that information therapeutically. The task for the present moment would appear to include evaluation of additional dimensions of the therapeutic process able to access the subconscious mind and facilitate a self-healing of energetic and informational reorganization: an inherent capacity in all, too unfamiliar to many. One additional dimension that appears to warrant further investigation is the functional role of the heart in health and healing. Of particular interest in this study is electromagnetic field of the heart.

The Institute of HeartMath (IHM) has been commendably doing detailed research on a wide range of heart related issues and the central role of heart rhythm for over a

decade. The majority of their current studies and teachings focus on Heart Rate Variability (HRV) and train individuals to produce internal coherence with positive emotions. "It is the rhythm of the heart that sets the beat for the entire system. The heart's rhythmic beat influences brain processes that control the ANS (Autonomic Nervous System), cognitive function, and emotions, thus leading us to propose that it is the primary conductor in the system."[64] Significant stress reduction, self-regulation, and psychophysiological coherence in specific conditions have been reported from the use of their Quick Coherence Technique, in which persons are trained to use personal images to engender positive emotion, thereby altering their physiological functions.

Published in 1999, *The HeartMath Solution* spells out the research, methodology and application potential behind this approach.[65] Multiple studies have shown improvement in a number of specific settings and conditions with HeartMath techniques. Workplace stress,[66] cognitive performance,[67] psychosocial function in middle school children,[68] elderly patients with congestive heart failure,[69] HIV,[70] and cardiac coherence[71] have all been addressed, and are indicative of the broad range of useful applicability of such an approach.

Whether deliberate or inadvertent, HRV has become the dominant focus of IHM research. Much less of their attention has been directed to the powerful implications and therapeutic potential of the interpersonal effects of the bioelectromagnetic heart field itself. Lost in the plethora of IHM publications about HRV, and discovered by this researcher in post project research was the fascinating finding that leading IHM researchers in conjunction with W.A. Tiller had actually suggested a cardiac energy exchange between people almost a decade ago. In conference presentations in 1998 and

1999[72] [73], the concept of an energy exchange between people, and specifically that the field generated by the heart may significantly contribute to this exchange, was put forth as a central tenet of many healing modalities deserving of investigation. Although the primary focus related to showing how the recent advent of the concept of nonlinear stochastic resonance (such as the heart's EM field) could provide an explanatory mechanism for biological amplification and resulting significant influence, many of the same questions and observations raised in this study were also put forth. Of particular note for this study was the finding that the energy transferred was electromagnetic in nature and that some component of it is radiated. Identifying their work as "one of the first successful attempts to directly measure an energy exchange between people," the authors stated intent was to provide a testable theory to explain the observed effects of many healing modalities. Specifically stated was that their work was not a study to be evaluated, but a small sampling of results gathered over several years and intended to stimulate research.[74]

Ideally, and perhaps eventually, all people will learn to self regulate using inherent abilities not yet recognized by the majority. Until then, healer facilitation is an essential component for most. In the current healthcare climate important contributions may stem from investigation of interpersonal energetic exchange and its contribution to healing.

This study examines the healer's heart field as a primary mode of conveyance between physical structures, the subconscious and emotional states, and the energetic connection of healer and subject as an under explored path of healing. Independently arrived at prior to discovery of the earlier presentations, it replicates their conclusions and

adds significant evidence of heart rate synchronization, confirming an energy connection and associated psychophysiological healing effect.

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CHAPTER 3:
RESEARCH METHODS QUALITATIVE METHODS

Research Hypothesis

The electromagnetic field generated by the heart is known to be the strongest of the human body (some 40-60 times the amplitude of brainwaves with a field that is detectable 12-15 feet beyond the body itself). It is hypothesized that energetically/vibrationally, the heart is literally the source of energy coherence in the body. During energy therapies, the coherent bioresonance generated by a healer's heart field and impacted by intention (as noted by Oschman previously) may override the incoherence of the dis-stressed subject and entrain their heartbeat, providing for the re-establishment of energy coherence during the practice of energy healing. This energetic entrainment of bioresonance may be an underlying functional effect of multiple energy therapies in addition to the particular technique itself. The positive intent patterned into the healer's bioelectromagnetic heart field providing an actual active therapeutic agent. From a perspective of system disorganization as the origin of disease and malfunction, re-establishment of coherent resonance allows for the body to then heal itself.

Study Design

Non-equivalent Pretest-Posttest Control Group Design

Participants

Adults between ages 18-80 self-selected in response to a community wide generation request extended through a variety of means, providing a sample of convenience. Subjects were told they were volunteering for a one-time, approximately one hour, graduate level research experience during which they would be taught a self-relaxation and healing technique applied to a current, self-selected physical or mental/emotional issue. Learned during the session, it is expected they will easily be able to use it on their own thereafter. Participants were blind to the actual purpose of the study.

One hundred participants total were solicited for this study. The first 50 volunteers available on the date set for the control group event became the control population. The remaining 50 volunteers signing up at the same time comprised the intervention population. Difficult weather conditions impacted the control event participation, leading to a total population size of 41. Fifty intervention population volunteers participated, for a total sample size of 91.

Inclusion Criteria

The first 100 adults between the ages of 18 to 80, who self selected and did not have any of the exclusion criteria.

Exclusion Criteria

1. No persons with any type of cardiac assist device—pacemakers or implanted defibrillation devices—were accepted.

2. Severe physical or mental pathology.

Discontinuation Criteria for Subjects

This study was single session. Participants were free to change their mind about participation at any time after signing up, but before the session, as well as any time during the session for no other reason than their own choice. No participant opted to make that choice.

Tests Used

All tests were done pre and post WHEE energy technique.

Heart rate Measurement:

A Pulsar heart monitor was worn unobtrusively by the healer. Participants' heart rates were counted and recorded by experienced RNs in the control population, and a HeartMath heart rate ear sensor was applied to intervention population participants with the casual explanation that it would monitor their vital signs. This was readily accepted

by participants and kept them blinded to the study focus. Technical data on both monitoring systems is located in Appendix A.

Subjective Units of Distress

Subjective Units of Distress, referred to as SUDs, are a commonly used Likert scale of subjective stress intensity. This measure was used for participants to indicate their perceived level of distress. Participants were instructed to relate this score specifically to the concern they would be using the WHEE technique on, and to rate it for its intensity in the present moment only.

Profile of Mood States

This instrument is a paper and pencil self report of six current mood indicators: tension-anxiety, depression-dejection, anger-hostility, vigor-activity, fatigue-inertia, and confusion-bewilderment. It was chosen because of its long use and acceptance in psychotherapeutic practice, established validity, and scales that are particularly useful for monitoring patient responses in short-term therapeutic interventions. Although it was normed on a psychiatric outpatient population, the scales also differentiate effects of intervention manipulation of mood in normal subjects. The POMS brief form was used for its time advantage and sensitivity to immediate affective response. It has been in use since 1989, and is a 30-item instrument with 0.95 validity on all scales to the long form. It offers the additional option of a total mood disturbance score, useful when a single global estimate of affective state intercorrelated among the six primary factors is needed.[1]

Together, the SUD and POMS offer a comprehensive reflection of distress levels of subjects before and after energy therapy. Both instruments have wide use over a long term with proven validity, professional recognition and acceptance, and are subject-friendly in terms of time and ease of use. Comparison with heart rate change allows interpretive correlations. Comparison of quantity of change on these two measures between the control population and intervention population provides a mechanism of demonstrating change beyond that accounted for by the WHEE process alone.

Methodology

Research participants self-selected in response to requests for research volunteers from several community locations, including some with a health or spiritual focus. A goal of 100 participants total was intended. Half were assigned to the control population arbitrarily by their self-determined availability on the set date of the control event; the other half were assigned to the intervention population. All participants in both populations attended a single one hour session. In the control population, all 41 participants attended the same session. Participants in the intervention population attended a single 1:1 session with the researcher. Immediately prior to each session every participant had his or her pulse and respirations checked and recorded by an RN. They completed the participant information sheet, read and signed the informed consent, and identified the physical, mental, or emotional health issue they would be addressing with the WHEE procedure. Participants completed a Profiles of Mood States-brief form questionnaire. The controls met in a classroom type setting. Each participant was

individually seated at least 4 feet away from any other participant; a distance previously found to provide no evidence of energy transfer between persons.[2] Room temperature and lighting were maintained at a comfortable level. The researcher stood behind a podium at least 18 feet from the nearest participants (beyond the detectable range of the heart field). Following introductory remarks, the researcher presented a brief explanation of the WHEE process, its ease of use, and its usefulness in a broad range of physical and emotional health issues. The researcher did no centering or specific intention setting prior to teaching the control population this process.

The WHEE process itself was then taught and demonstrated to the group. Following a question and answer period for clarification, each participant carried out the WHEE process on themselves. Participants were instructed to raise their hands when they experienced self satisfactory diminution or elimination of their presenting concern. One of five experienced RNs in attendance immediately checked and recorded participants' pulse and respirations as they indicated the conclusion of their WHEE practice. Participants were then given a bottle of filtered water. The researcher did not interact individually with any of the control population participants. In addition to their pulse and respirations all participants completed post-test documentation of SUDs, and Profile of Mood States-brief form. They received an information sheet to take home that included the researcher's name and contact information, and internet Web address for the Wholistic Healing Research site. [Appendix G] Participants remained blind to the focus of the research project.

In the intervention protocol population, each of the participants met with the researcher individually for a single session at the researcher's office. Prior to the session,

the researcher attached a Polar F6 pulse monitor. The same introductory remarks and explanation of the WHEE process were given, and pre-testing of pulse, respirations, Subjective Units of Distress, and Profile of Mood States were completed. The informed consent was read and signed. In each session the researcher centered and intended the highest good for the participant while they were completing the pre-tests.

Participants sat in a comfortable chair with the researcher sitting in a chair directly in front of them. The researcher was within 3-4 feet of the participant, the strongest range of the electromagnetic heart field. Following the researcher's verbal instructions, participants enacted the WHEE process on themselves in identical fashion to the control population participants. As the participant went through the repetitions of the process, the researcher unobtrusively focused on heart connection of compassion and highest good, a commonality of both meridian based and subtle energy therapies.

At the conclusion of the process the participant’s heart rate was documented. The researcher then immediately documented her own pulse rate as recorded by pulse monitor. Filtered water was provided to the participant, and then post-testing of respirations, SUDs and POMS was completed. An information sheet to take home that included the researcher's name, contact information and Web address for the Wholistic Healing Research site was provided. Participants remain blinded to the research focus.

Chapter 3 Endnotes:

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CHAPTER 4:
RESEARCH FINDINGS

General

This study suggests a therapeutic impact of the healer's bioelectromagnetic heart field on a subject during energy therapy. The healer effect is made visible in both the synchronization of healer/subject heart rates in the intervention subjects which do not occur within the control subjects, and in a higher magnitude of change in the individual subjects' SUD and POMS improvement beyond that of control subjects. While not a definitive demonstration, heart rate synchronization implies an energetic connection with the possibility of transfer of information or regulation between healer and subject, and is corroborated by the increased improvement of both SUDs and POMS in the intervention subjects as compared to the controls. Data tables for subjects are found in Appendix B.

Project data is examined from several perspectives:

- heart rate comparisons of within subject change before and after self-administration of the WHEE technique in both control and intervention subjects;
- heart rate comparisons between subjects and healer, both before and after doing WHEE in both populations;
- change in Subjective Units of Distress in both control and individual populations;
- change in Total Mood Disturbance in both populations as measured by the Profile of Mood States.

Additional POMS subcategory comparisons provide interesting observations of areas in which the specific affective improvement was perceived in the two populations. Repeated pre-and post-test measures allow for comprehensive comparison of baselines to posttest in control and intervention subjects. Degrees of change in the SUD and POMS measures are compared between control and intervention populations. Correlations with Subjective Units of Distress, and Profiles of Mood States scores strengthen data implications and provide evidence of additional subjective improvement beyond the impact of the WHEE process itself in the intervention subjects.

Heart rate findings

Control population subjects

The control population consisted of 41 self-selected adults between the ages of 18 and 80, who did not meet any of the exclusion criteria. Beginning heart rates were taken on all controls by an RN, and ranged from 54 to 116, with a mean of 76.15.

The healer's heart rate was taken by each of the RNs for a total of five times in the 45 minutes preceding the control event, both to check the RN counts with the Polar monitor worn by the researcher and to provide multiple heart rate checks on the researcher while all the control subjects were having their "before" heart rates counted. The healer's heart rate remained between 100-110 during this time for a mean of 105.

Following initial testing, the WHEE process was taught by the researcher explaining and demonstrating it to the entire group at the same time. The researcher remained at least 18 feet from all participants, and each of them was seated at least 4 feet away from all other participants. This distance is outside the 3-5 foot toroidal "strong"

range of the healer's heart field, and a proximity that was previously shown in a 1998 study to demonstrate no indication of energy transfer between persons wearing electrodes for ECG measurements when seated 4 feet apart.[1]

Following self treatment with the WHEE process on a self-chosen concern, heart rates of control participants ranged from 60 to 110, with a mean of 74.78. The overall change in control population heart rates pre- to post-treatment ranged from -18 to +24 for a mean change of 1.37.

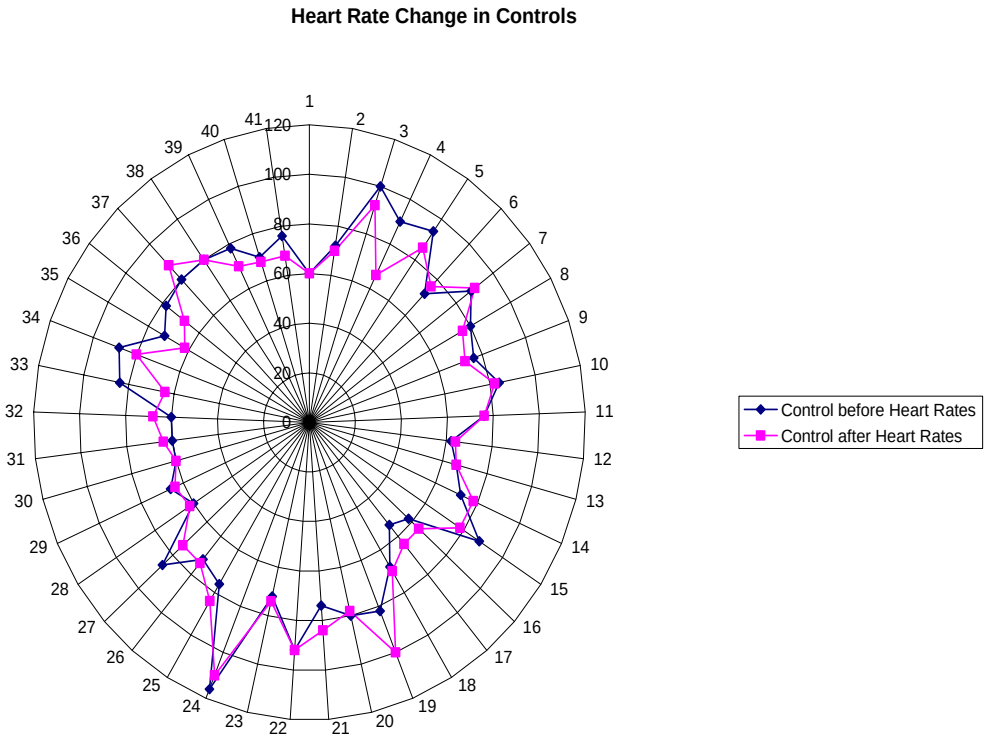

Figure 1. Heart Rate Change in Control Population.

Figure 1 demonstrates minimal heart rate change within the control population of 41 participants before and after doing the WHEE process, verifying a lack of group effect upon each other. As noted in Chapter 1, paradoxically their effects were individual in nature and their heart rates remained largely the same.

Following the teaching and demonstration of WHEE, the researcher remained >18 feet away from the control subjects and held no intention while control subjects self-administered the WHEE process. The researcher recorded her monitored heart rate every minute until all controls had completed the process and left the room. A researcher heart rate range of 88 – 94 was recorded during this time for a mean of 91.90. Comparison of researcher/controls heart rates demonstrates 0:41 researcher-controls before WHEE heart rates and 1:41 after WHEE heart rates were within + or – 2 beats per minute. Figures 2 and 3 demonstrate the complete lack of correlation between researcher and controls heart rates both before and after the WHEE process.

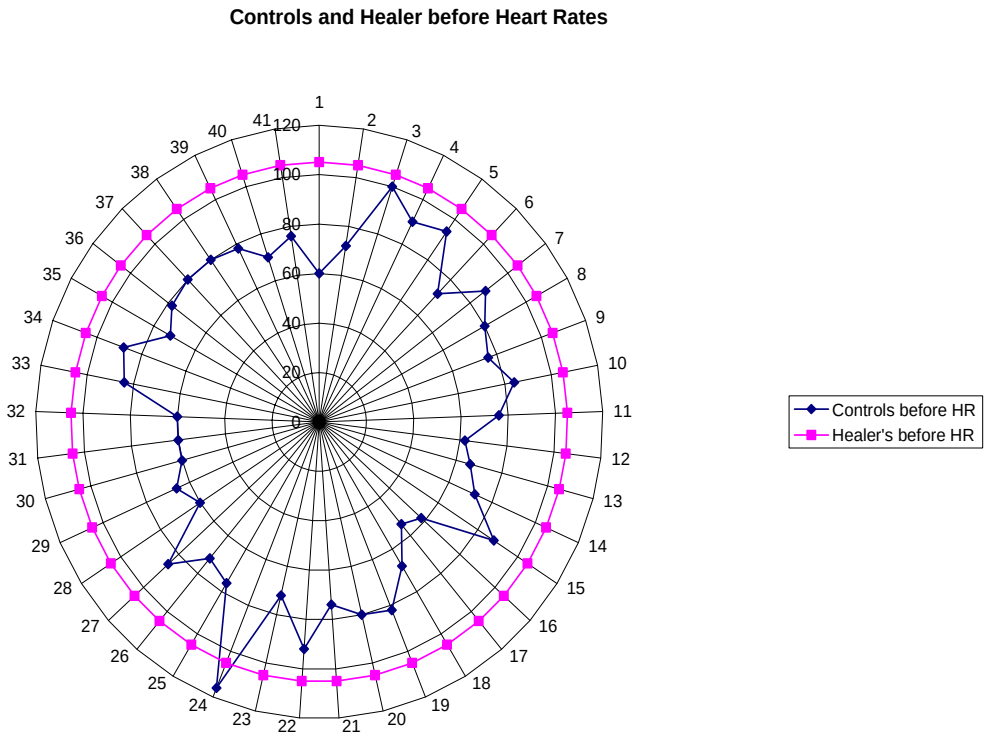

Figure 2. Heart Rates of 41 Controls and Healer before WHEE Process.

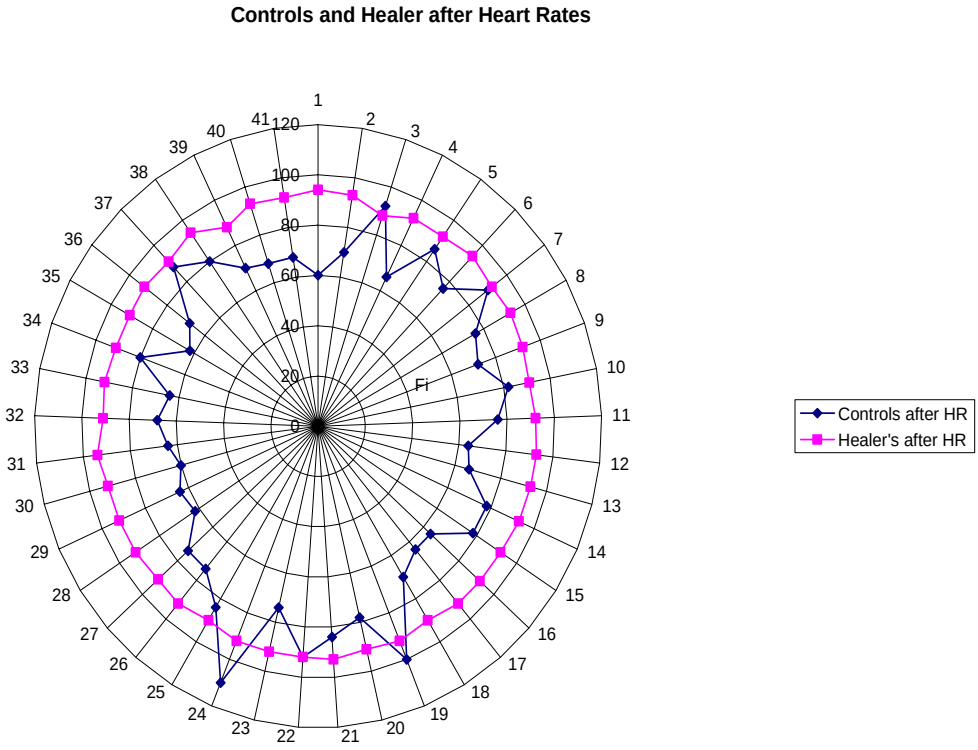

Figure 3. Heart Rates of 41 Controls and Healer after WHEE Process.

Statistical analysis confirms the lack of correlation between the researcher and controls heart rates. Pearson's *r* correlation for after WHEE heart rates of controls and researcher is -.204, or a .200 level of significance, indicating no relationship whatsoever.

Intervention population:

The intervention population consisted of 50 self-selected adults between the ages of 18 and 80, who did not meet any of the exclusion criteria. Beginning heart rates in the intervention population ranged from 52 to 103 for a mean of 72.38. Following self-treatment with the WHEE process, intervention participants heart rates ranged from 58 to 90 with a mean of 73.50. The overall change in intervention population heart rates pre-to post treatment ranged from -15 to 32 with a mean of -1.12.

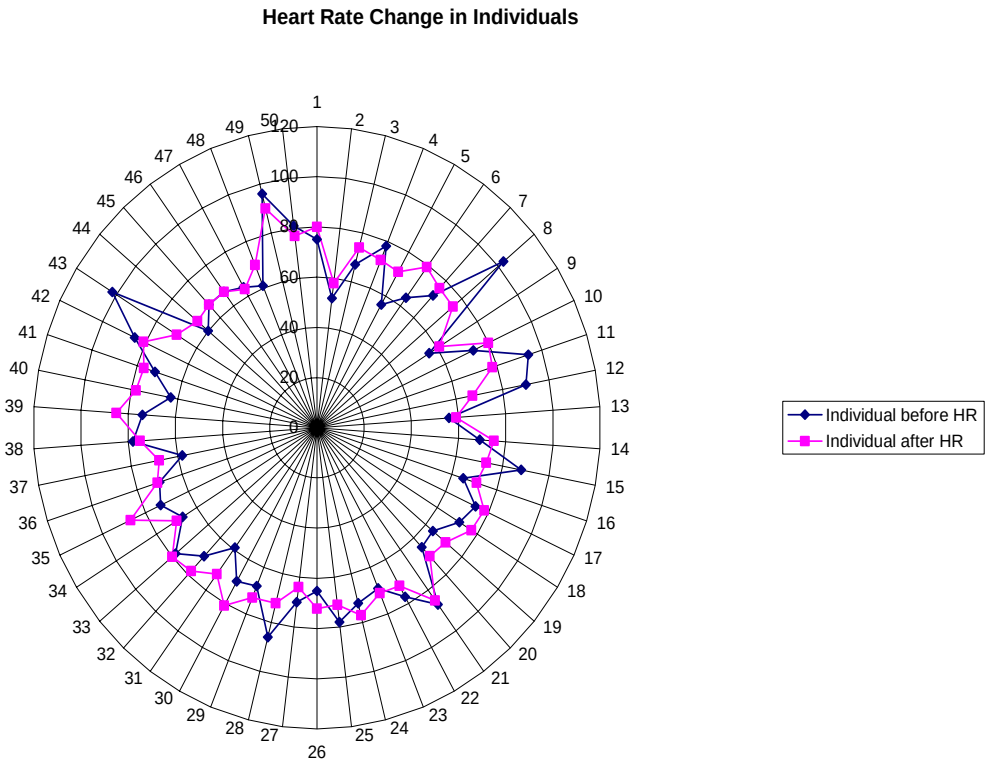

Figure 4. Heart Rate Change within Intervention Population.

Figure 4.indicates a much larger change in intervention participant's heart rates, suggesting the additional influence of the healer's heart field upon the subjects.

The healer's before heart rates ranged from 64 to 96 for a mean of 79.16. After treatment the healer's heart rates range was 61 to 86 for a mean of 76.02. Figure 5. below demonstrates no significant correlation in the before heart rates of healer and intervention participants. Stated specifically, there were 0:50 instances of healer-subject heart rates within + or – 2 beats per minute before intervention.

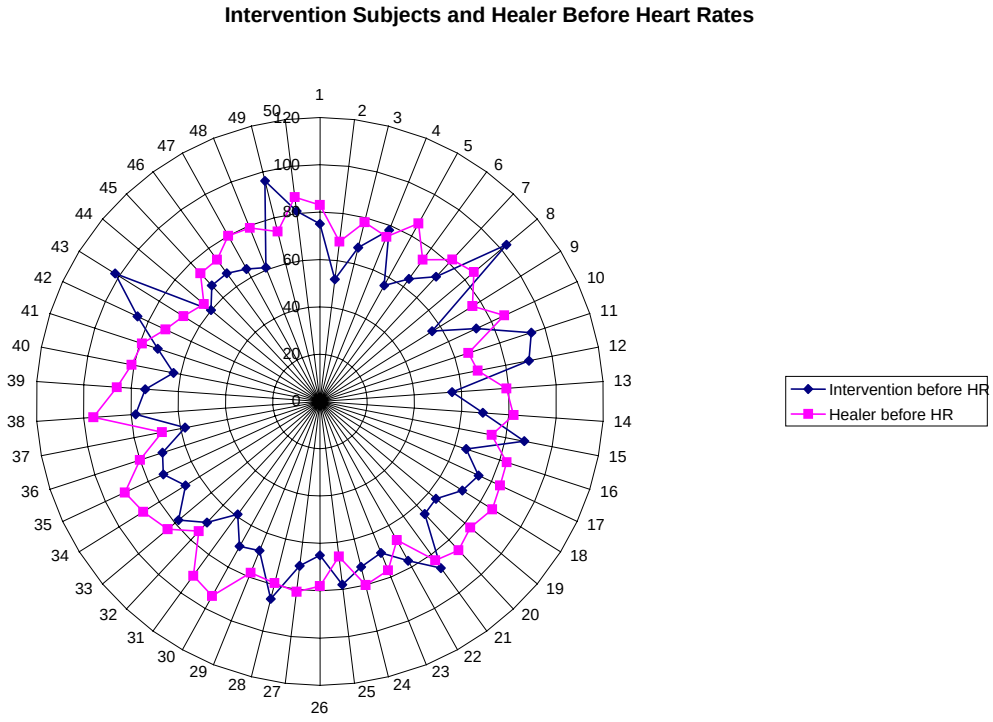

Figure 5. 50 Intervention and Healer heart rates before WHEE Process.

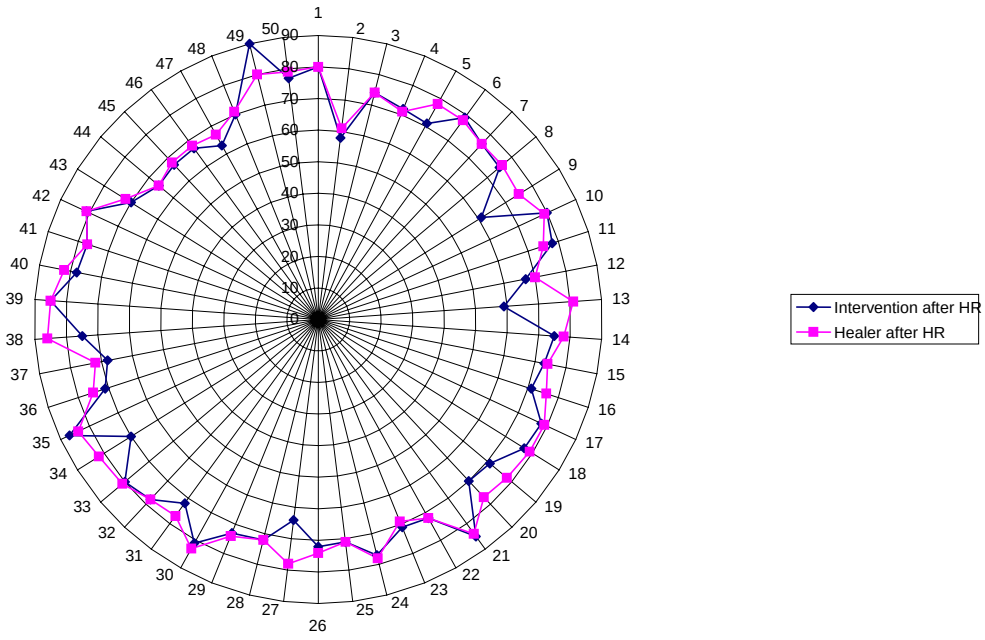

Figure 6. Intervention and Healer heart rates after WHEE Process.

Figure 6.demonstrates significant correlation between healer and subjects after intervention heart rates, with 11:50 intervention subjects having identical heart rates to the healer, and an additional 13:50 intervention subjects heart rates within + or – 1 bpm of the healer's, for a total of 24:50, or 48%. It is this 48% which meets the study definition of synchronization.

Increased to + or - 2 bpm, 30:50, or 60% of the intervention subjects are included in the strongly correlated category. In 39:50, or 78% of the time, healer-subject heart rates moved toward each other during the intervention process. While not able to prove synchronization conclusively, these results provide strong indication of a heart field effect occurring between healer and subject during energy therapy.

Further statistical analysis reveals Pearson's *r* correlation of after WHEE heart rates between healer and subject of .671, with p= <.001, indicating a very strong correlation. A coefficient of determination obtained by squaring the Pearson *r* of each population reveals the amount of variance in common between the two populations when compared with the healer's heart rate. In the control population the coefficient of determination was .04 or 4% overlap of control-healer heart rates. In the intervention population it was .45, or 45% overlap of intervention-healer heart rates. Thus the key finding of a high degree of heart rate correlation in the intervention population suggests support for the hypothesis: heart rate synchronization, while the minimal overlap in the control population confirms the lack of group interaction.

T-test analysis of mean heart rate comparisons between the two populations likewise reflects healer influence. Controls show a standard deviation of 1.32, indicating little variation around the mean. Intervention subjects, however, had much more variability with a standard deviation of 5.31, indicating likely healer influence. *T*-testing on post heart rate difference between healer and subjects in each population is also remarkable. In the control population the mean difference was 17.12, while in the intervention population it was 2.52, for a *T*-value of >.94 or p = < .001; demonstrating a strong overall significance in scores in the healer-intervention.

Subjective Units of Distress

Control population:

As seen in figure 7, subjects in the control population experienced a significant decrease in subjective units of distress as a result of the WHEE process itself. Each control participant selected a rating between 0 and 10 on the Subjective Units of Distress scale, to indicate the intensity of the concern they would be using the WHEE process on. Scores ranged from 4 to 10 with a mean of 6.93. After completing the WHEE process, scores ranged from 0.5 to 6 indicating a mean of 2.34. The mean of overall change was 4.76.

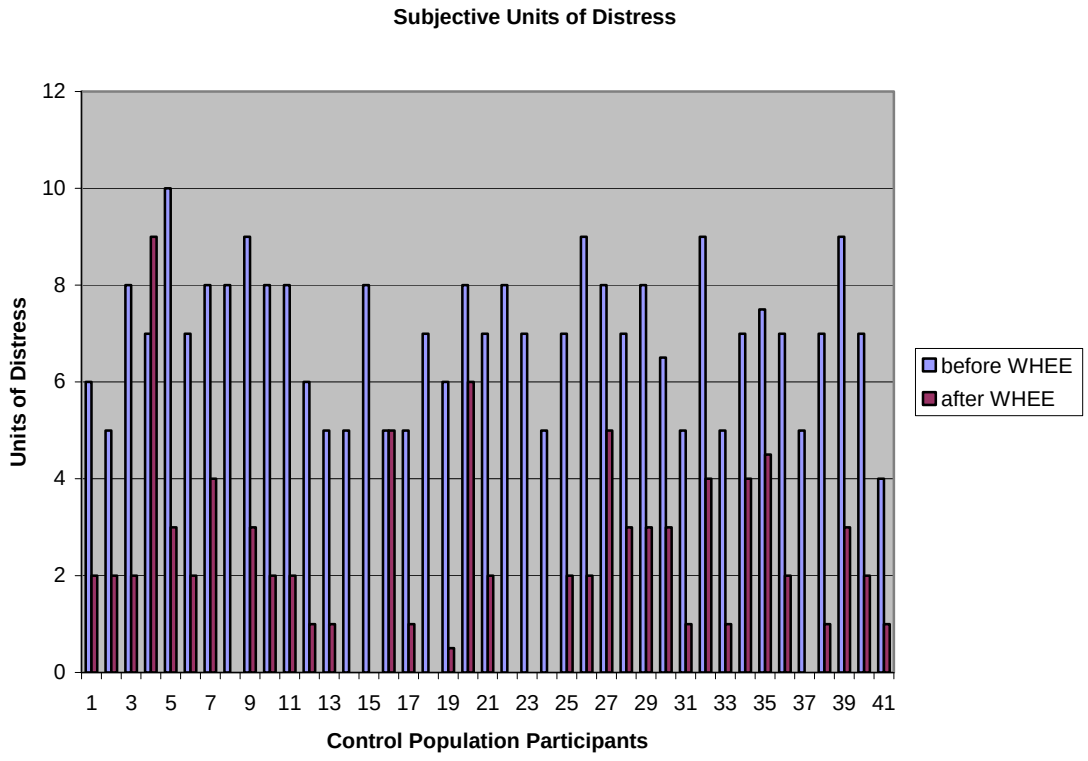

Figure 7. SUD change within the control group. Mean change of scores = 4.76.

Three participants neglected to record a post WHEE score, resulting in a mean based on only 38 scores. Additionally 5 controls scored 0 on their post WHEE SUD scores, accounting for a total 8 blank after WHEE bar indicators in Figure 7.

Intervention Population:

Intervention group subjects selected a rating between 0 and 10 on the Subjective Units of Distress scale, indicating the intensity of the concern they had chosen to use the WHEE process on. Scores ranged from 3 to 10 with a mean of 7.13. After completing the WHEE process scores ranged from 0.5 to 6 with a mean of 1.24. The mean overall change was 5.89.

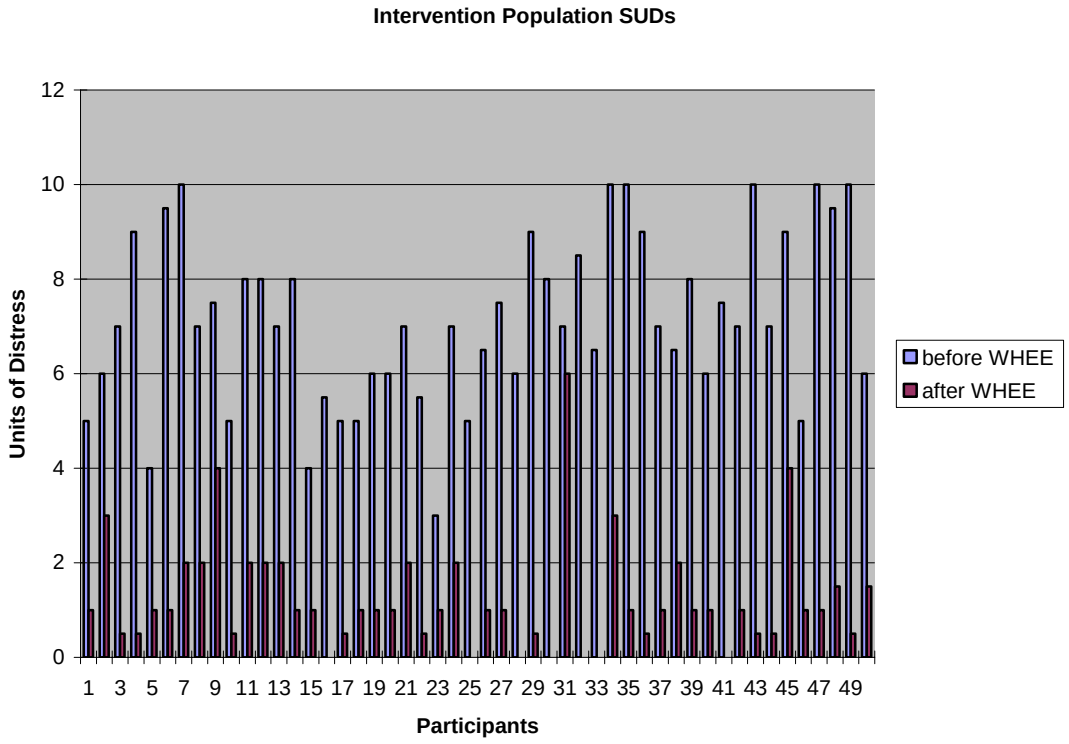

Figure 8. SUD change within the Intervention population. Mean change =5.89.

The difference in mean change between the intervention population and the control population was 1.13, with the intervention population enjoying the greater change. With a total SUD scale range of 10, each 1 point difference approximates 10%, indicating a substantially higher intervention population improvement.

ANOVA reveals a difference of 9.02 between the control and intervention post SUD scores, with the level of significance at p = .003. Figure 9 demonstrates the divergent post SUD scores.

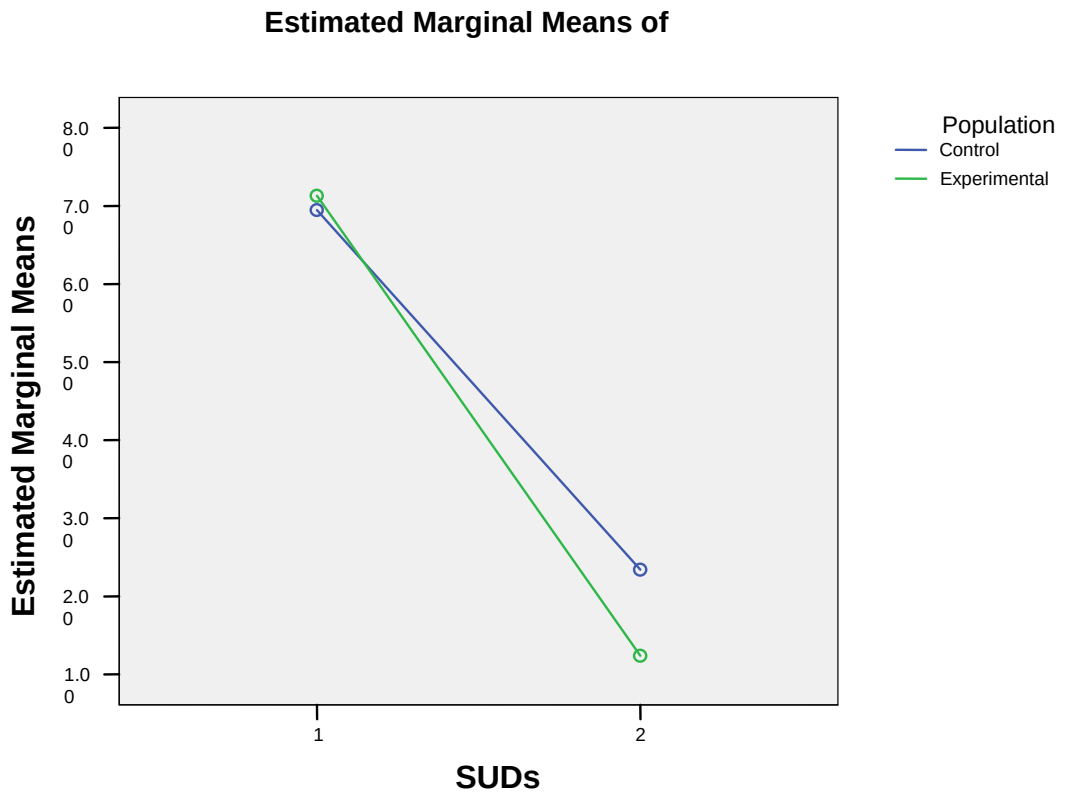

Figure 9. SUD change between control and intervention populations.

T-test comparison of SUD scores confirms no significant pre-test difference, with controls at .225 and intervention subjects at .255. *T*-test on posttest SUDs reveals

significant difference, with controls at .306 and intervention subjects at .164. This difference again demonstrates the greater magnitude of change in the intervention population's affective state when compared to the control population.

Profile of Mood States

Control Population:

All participants completed the POMS brief form, pre-and post WHEE process. Participants were instructed to use the RIGHT NOW timeframe in both instances, so that affective change during the WHEE process could be measured. The POMS provides a Total Mood Disturbance score when a global score of affect is desired, and so was most useful for this project. The Total Mood Disturbance before scores in the control population ranged from -9 to 38, with a mean of 9.61. The Total Mood Disturbance after scores ranged from -14 to 31, with a mean of 1.44. The mean improvement in control population POMS scores is 8.17. Figure 10 shows POMS Total Mood Disturbance score comparisons in the control population.

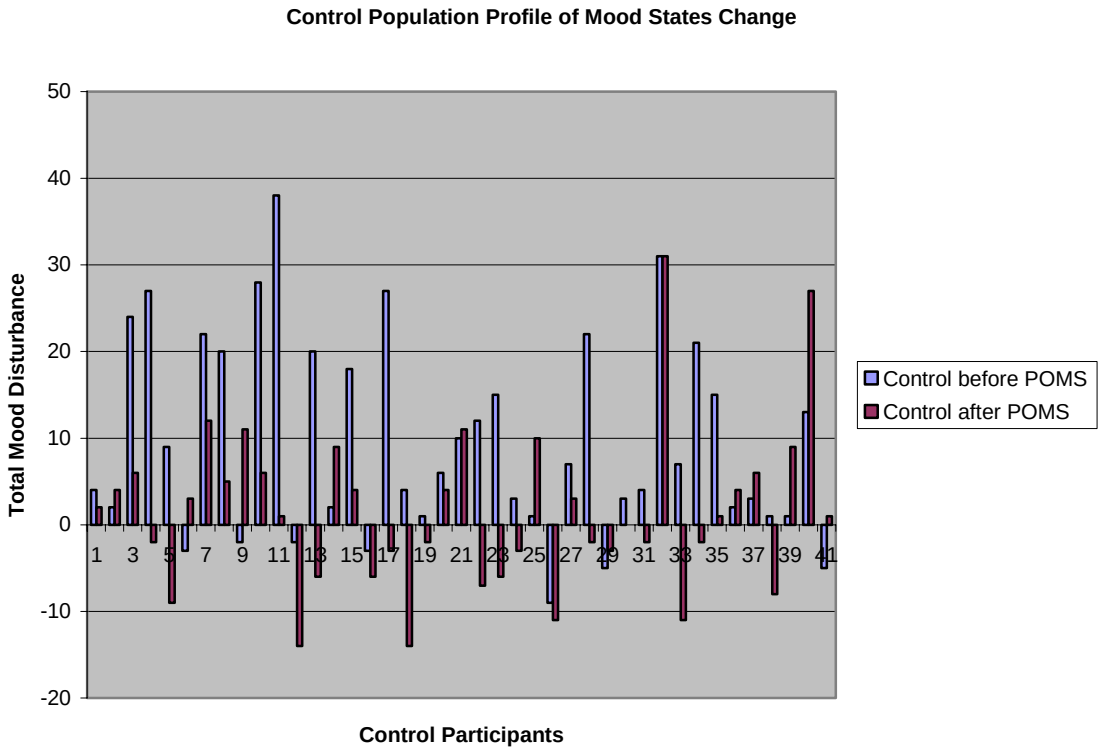

Figure 10. Change in Control Population POMS total mood disturbance scores.

Intervention population:

Intervention subjects also completed pre-and post WHEE process POMS brief inventories. They were also instructed to use the RIGHT NOW timeframe. The Total Mood Disturbance before scores ranged from -5 to 76, with a mean of 31.86. The Total Mood Disturbance after scores ranged from -20 to 24, with a mean of -0.15. The mean improvement in intervention population POMS scores is 32.01. Figure 11 shows these scores, with a substantial difference of 23.84 in mean score change for this population. It is noteworthy that intervention subjects scored much higher in total mood disturbance on the pre-POMS inventory. Reasons for the large difference are not known, although subscale data reflect a fairly even distribution of the difference and are noted at the end of this section.

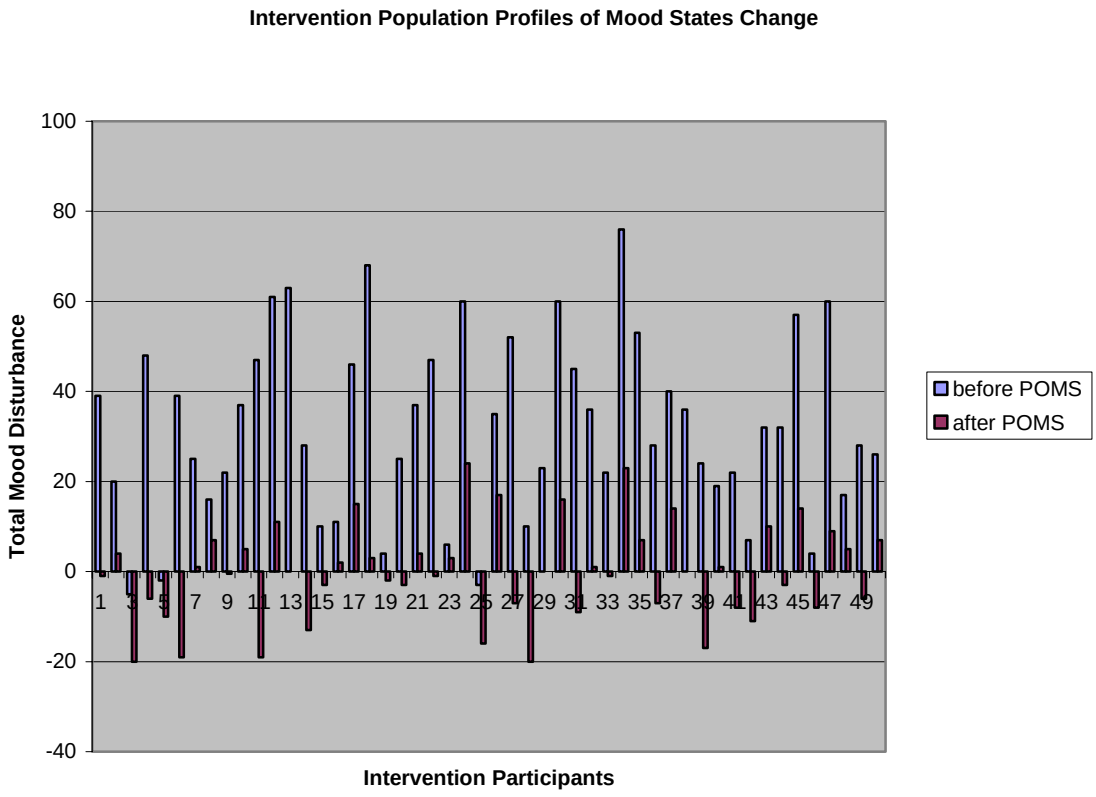

Figure 11. Change in Intervention POMS total mood disturbance scores.

Pre POMS statistical analyses confirm this perspective. *T*-tests on a control population mean of 9.61 and intervention population mean of 31.86 reveal standard deviations of 11.51 and 20.01 respectively. This yields a standard error of means of 1.80 for the control population and 2.83 for the intervention population, a huge difference in the measure that marks the standard distance, or error, a sample mean is from the population mean. Post POMS *t*-test reveals a much closer standard error of means, 1.45 in the control population, and 1.52 in the intervention population. A variance ratio of 55.25 on a test of within-subjects effects provides an estimate of sample to population value and, unlike *t*, reflects the systemic differences between the conditions. In this case there was a very large pre POMS difference between control and intervention populations, and while the control population did have positive change, the intervention population dropped dramatically. This is easily seen in figure 12 below.

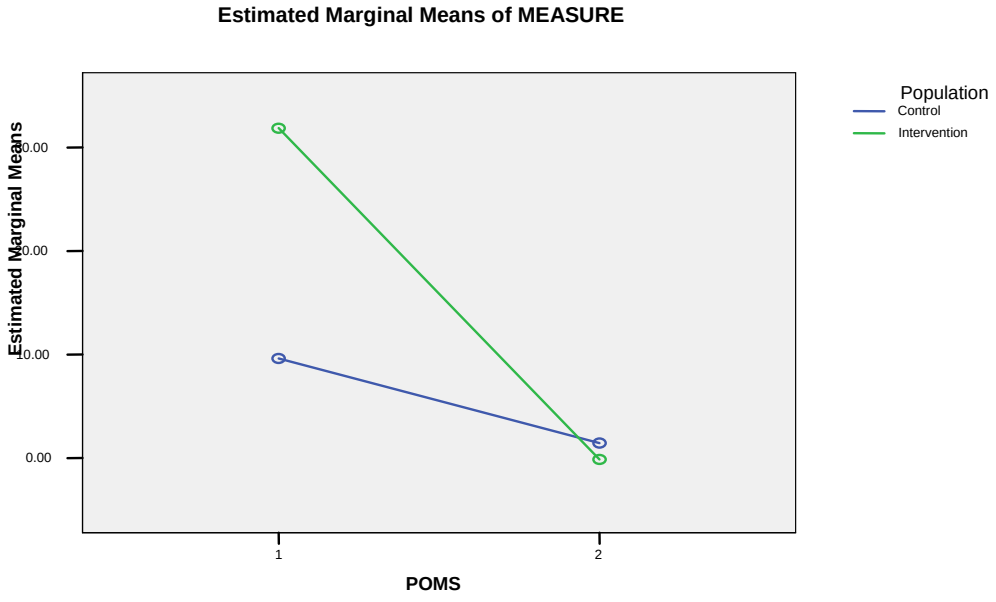

Figure 12. Between populations change in POMS total mood disturbance scores.

Six subscales in the POMS inventory measure change of specific affective attributes. They are tension, depression, anger, vigor, fatigue, and confusion. Although in-depth differentiation does not contribute substantially to the purpose of this project, it is interesting to note patterns of change in these more particular measures as well.

POMS Subscales T-Scores						
Mean T-scores	Controls before	Controls after	Controls change	Subjects before	Subjects after	Subjects change
Tension	28.39	34.95	-17.44	46.25	34.03	-12.22
Depression	37.17	33.90	-3.24	44.72	34.56	-10.16
Anger	39.22	37.27	-1.95	46.64	37.24	-9.40
Vigor	50.44	50.17	-0.27	49.10	53.87	+4.77
Fatigue	37.22	20.29	-16.93	53.12	39.09	-14.03
Confusion	40.95	39.39	-1.56	50.18	39.18	-11.00

Table 1. POMS Subscales T-Scores.

The reader will note that tension and fatigue factors improved more in the control population; with depression, anger, confusion, and vigor factors improved significantly more in the intervention population. While tension and fatigue scores indicate a decrease in somatic tension and inertia in the control population, interestingly the intervention subjects' substantially greater improvement in the cognitive scale of confusion, and affective scales of depression and anger, inversely correlate with a larger improvement in

vigor. This suggests a deeper healing effect, including higher ebullience and energy in the intervention population.[2]

Chapter 4 Endnotes:

[1] McCraty, R., M. Atkinson, D. Tomasino, W. A. Tiller. (1998). "The electricity of touch: detection and measurement of cardiac energy exchange between people" In: *Brain and Values: is a biological science of values possible.* K.H. Pribram (ed.) Proceedings of the fifth Appalachian Conference on Behavioral Neuro dynamics. Mahwah, NJ: Lawrence Eribaum. 359-379

[2] Douglas M McNair, JW P. Heuchert. *Profiles of Mood States Technical Update.* (Multi-Health Systems, Inc., 2003,2005) pp.6-7

CHAPTER 5:
DISCUSSION, CONCLUSIONS, AND SUGGESTIONS

Discussion

Discovery consists of seeing what everybody has seen and thinking what nobody has thought.

Albert Szent-Gyorgyi

Good science like good medicine is as much art as science. Data, while essential, has no value of its own and serves only to demonstrate relationship. The gift of science is in seeing new relationships, creating a setting in which they may be demonstrated, measuring the variables, and presenting the data in support of the hypothesis. Creativity is the hallmark of science as well as art; it is only the medium of presentation that is different.

On a larger level, all that we value in life is about relationship, and it is as we see new relationships that we are able to grow. Seeing a new relationship also helps us make sense of that which we already know in our experience, by making visible previously unseen connections or patterns and permitting a place for anomalies found within the current way of thinking.

Given that, it is strange to note that when a new relationship is observed and brought forth -- precisely because it is a different way of seeing what we understand in a different context -- the initial response is most commonly rejection as it conflicts with interpretations already held. We observe that with increasing frequency in today's shifting scientific perspective. Nowhere is this more apparent than in the health sciences.

Different frames of reference have been a primary impediment in the integration of Western and Eastern perspectives on health and healing. It is difficult to integrate apples and oranges, even though they are both fruit. It is only when we step to the next level -- in this case of looking at healing from the perspective of energy organization and transmission -- that things unexplainable in the earlier perspective fall into place and make sense.

Energy modalities have largely been ignored or dismissed by the medical and psychological sciences because they seem irrelevant in the current empirical framework of detailed examination of parts and the focus on biochemical reactions. Energy practitioners know in their experience that what they do works; yet not understanding how, they too often look to the partial or details for explanation. Many don't concern themselves with the "how" aspect at all, considering it sufficient that a particular technique is effective. Yet it is necessary to have a framework of understanding to convey to others in comprehensible terms what is occurring, and on a larger scale to fit this knowledge into the frame of knowledge as a whole.

The importance of compassion in human connection has long been recognized in all of health care, although some would argue recently made difficult in the current model of medical practice. It is at the essence of every faith as well. For too long science has neglected to examine this essential attribute, understanding it as peripheral rather than a central feature involved in our effective function as human beings; while in our own experience, each of us knows at some level that it is all that matters. In many, if not most, of the complementary and alternative modalities, the healer preparation includes an energetic "centering" protocol that brings a balance to the therapeutic encounter. A

compassionate intent to serve the highest good is a part of this preparation, and as noted by Oschman, "gives rise to specific patterns of electrical and magnetic activity in the nervous system of the therapist that can spread through their body and into the body of the patient."[1]

Although the heart has been studied extensively, little attention has been directed to the effect of the bioelectromagnetic heart field outside of the individual. In the 3-5 foot area around us—what would commonly be regarded as our "personal space"—this field, obeying scientific laws we already understand, would necessarily impact others within this range. In general it is probably a common occurrence to receive energetic information about the state of someone so close. This study has considered specifically the therapeutic potential of the heart field, conditioned by positive regard, to convey a vibrational linkage that may allow for organizational exchange on an energy level below the threshold of our conscious awareness. Unable to demonstrate this directly, the indicator of heart rate synchronization has been used to point toward a definitive role of a healer's heart field in the healing encounter.

We have all experienced the power of hearts connecting. Volumes light and more serious are written describing its impact on human behavior. Yet the common understanding is that this is a metaphorical connection. It is the contention of this author that this connection is actual, providing an energetic link capable of organizing biological information and thereby influencing regulation of physical mental and emotional processes. As the central organ of life, the heart may provide much more than the pump to keep blood flowing throughout our bodies, miraculous as that function is. As we examine vibrational frequency as the primary mechanism of functional integration and

regulation -- a constantly readjusting energy blueprint complementing the more fixed DNA -- it behooves us to consider what this powerful connection looks like and how it works so that we may more fully realize its beneficial contributions to our health and well-being. The rapidly emerging disciplines of energy or vibrational medicine and psychology provide a vehicle -- in its newness not yet value laden with emotional triggers -- through which to examine and redefine the interactions and mechanisms that make up healing and contribute to health.

Conclusions

Just as the heart is central in our bodies, and to our lives, it may be time also to give it a central place in the scientific examination of what constitutes health and healing. This research suggests just such a possibility. By demonstrating synchronization of heart rates between healer and subject, a connection is established that warrants much more attention than it has received until now.

The purposes of this project are twofold. The first is to provide evidence of an actual vibrational connection of the healer's heart field to the recipient of energy therapy. This connection is strongly suggested by the synchronization of healer-subject heart rates during the treatment session. Both proximity and focused compassionate intention are possible influences effecting this result. This study does not attempt to delineate the two, although it is a fascinating question for future exploration. The second purpose is to demonstrate a difference in experienced healing beyond that attributable to a particular energy technique itself. Evidence of this is found in the difference in after POMS and

SUD scores, and the magnitude of change between the control and intervention populations. This additional improvement implies that more than just "connection" is occurring.

In the control population, all of the improvement in the post-test measures may be assumed to come from the WHEE process itself. In the intervention population, a major part of the after POMS and SUD score improvement is also attributable to the WHEE process. Beyond that, however, the additional benefit shown suggests an interaction of some sort beyond just synchronization itself. Without exaggerating what the data can tell us, it does provide rationale and hopefully impetus for additional study. In identifying a previously unexplored connection, it is hoped this project will stimulate more detailed and sophisticated examination.

Suggestions for future research

While this initial effort was intentionally designed to focus on a single issue, heart rate synchronization during healing encounters, it raises as many questions as it answers. Hopefully, it will serve the important function I was taught long ago by a college philosophy professor of helping us to ask better questions. It is important to state that while this study provides strong implications of the hypothesized heart field connection and accompanying benefit, there is no claim of "proving" either. Research limitations including sample size and unavoidable confounds limit the claims that can be made.

Considering the multidimensional aspects of healing generally acknowledged, several interesting questions immediately come to mind as fertile areas of investigation.

For instance, this study placed the healer within a 3-5 foot range of the intervention subject. This was done for two reasons. It is the fairly standard proximity of practitioners in multiple healing settings. It is also within the range of the heart's strongest electromagnetic field. Fascinating work on electromagnetic effects is moving forward on a number of diverse fronts, but has received scant attention by the healthcare industry.

Field theory is no less applicable when the producer of the electromagnetic field is a human being rather than a technological device. We are in the infancy of scientific understanding relating to how information and regulation of psychophysiological processes may be impacted. Because such a large share of scientific research attention relating to health and healing has been directed to only two arenas -- technology and biochemistry -- much else has been neglected. There are hopeful signs that this may be changing. It is hoped that studies such as this will encourage more extensive research on these ubiquitous, naturally-occurring phenomena, and their potential contribution to the healing process.

A second fascinating component of healing is the place of intention. The first step in a broad range of healing practices is the healer's care in centering and extending compassion for highest good for the person with whom they are working. William Tiller and others have been extensively researching this aspect for quite some time with some amazing results. In this study, while additional benefit was demonstrated beyond the control population that just did the WHEE process alone, it is not possible to differentiate the healer's electromagnetic field effects from the effects of her intention. Certainly

nonlocal healing implies heavy weight must be given to intention. It would be most interesting to do studies that might differentiate between the effects of the two.

Yet a third area of interest relates to the receptivity of the subject. It can be reasonably assumed that persons volunteering to learn an energy healing technique are open to such practices, and therefore receptive to them. Although a number of subjects in this study were skeptical, insufficient inquiry of all subjects does not allow making any accurate evaluation of potential differences in effect. Highly publicized prayer studies raise this same question: are awareness and belief relevant factors?

Folding back to our original point -- that healing is as much an art as it is a science -- it does seem clear that art and science have been out of balance in the recent past. It may be time for the creative aspect of the art to lead us to new dimensions, not to unbalance in the other direction, but allowing us to shift our focus to higher levels and seeking the higher unity in the balance of the two. The heart seems like a good place to start.

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APPENDIX A Heart Rate Monitoring Technical Data

HEART RATE MONITORING
Technical Data

Research Healer Heart Rate Monitor:

During all control population and intervention session events, a **Polar F6™** heart rate monitor was worn by the research healer. Technical specifications of this device as listed in the user manual include reliability and accuracy equal to an EKG. Additional items:

Wrist unit-

- Battery type: CR2032
- Operating Temperature: 14 to 122 degrees F./-10 to +50 degrees C.
- Wrist strap material: Polyurethane
- Back cover and wrist strap buckle: Stainless steel
- Watch accuracy: better than + or - 0.5 seconds/day at 77 degrees
- Accuracy of heart rate measurement: + or- 1% or + or- 1hpm, whichever larger

Transmitter-

- Battery: Built in lithium cell
- Operating Temperature: 14 to 122 degrees F./-10 to +50 degrees C.
- Transmitter material: Polyurethane
- Waterproof

Elastic Strap-

- Buckle material: Polyurethane
- Fabric material: Nylon, polyester, and natural rubber

Limit values-

- Heart Rate limits: 30 – 199 hpm (heart beats per minute)

Manufactured by: Polar Electro Oy
Professorintie 5
FIN-90440 KEMPELE
Tel +358 8 5202 100

Polar Electro, Inc.
800-227-1314
www.polarusa.com
Model #190028780

Participant Heart Rate Monitoring:

A. Control Population-

Due to the technological impracticalities of keeping subjects blinded and simultaneously monitoring 50 persons, heart rates of control population participants were monitored manually by five highly experienced critical care RNs. Each RN is employed in a hospital setting where their manual counts are routinely trusted and used to base treatment decisions upon without further verification. Immediately prior to participants' arrival, each RN calibrated their watch with the research healer and manually counted the researcher's pulse. Their count was verified with the Polar F6 unit worn by the researcher. All five RNs counts were within 1hpm of the Polar F6 wrist unit reading.

Each control population participant had their pre-session pulse and respirations counted and recorded by an RN upon their arrival. Although respirations are not being evaluated in this study, their inclusion was intended to correlate with familiar experience and mask any particular attention being given to heart rate.

Following the group WHEE teaching, each participant individually practiced the procedure on a concern of their choice and (as previously instructed) raised their hand when they felt their Subjective Units of Distress had reached their lowest point. An RN immediately came to them and counted their pulse and respirations, recording time, heart rate and respirations on each person's form.

During this individual practice time following the teaching segment, the researcher sat >18 feet away from participants, with no particular intention directed at participants. Researcher heart rate was observed with the Polar F6 monitor and recorded each minute until all control population participants had completed the process, post-tests and left.

B Intervention Population-

During 1:1 sessions with intervention cohort participants, each person had HeartMath Institute's Freeze Framer 2.0 earlobe heart rate sensor applied. This followed introductory remarks and filling out of informed consent and confidential demographic information sheets. "This is just to monitor your vital signs as stated on the instructions." was casually mentioned as the sensor was applied. The sensor was attached to a lap top computer placed 6 feet away from the participant, and 3-4 feet from the researcher with the screen facing out of site range of both. This distance also moved any electromagnetic interference from the computer as far as practically possible.

The Freeze Framer program was started while the participant was filling out the initial POMS form, allowing for time for calibration and stabilization. Additionally, once the program was started the researcher was able to disregard it as well; allowing for complete focus on interaction with the participant.

Once the researcher taught the participant the WHEE process, they carried out its implementation for themselves; identical to the controls. When the participant reached the lowest point of Subjective Units of Distress, the researcher checked and recorded her own heart rate on the Polar F6 wrist unit then checked and recorded the participant's heart rate on the continuously recording Freeze Framer.

Each day prior to participants' arrival, the Freeze Framer ear lobe sensor was calibrated with the Polar F6 monitor. Typically there was a several second delay on the Freeze Framer, which updates the numerical pulse rate every five seconds. Allowing for that time interval there was never more than a one or two beat difference. To compensate for the five second delay, the researcher first checked and recorded her own heart rate, then checked and recorded the intervention participant's.

Technical specifications of the Freeze Framer sensor are not listed in the user manual. HeartMath Institute was contacted with a request for this information.

APPENDIX B Raw Data

Control Population Raw Data

Number	Age	Gender	a-SUD	p-SUD	a-POMS TMD	p-POMS	a-HR	p-HR	p-HHR
1C	45	F	6	2	4	2	60	60	94
2C	61	F	5	2	2	4	72	70	93
3C	58	F	8	2	24	6	100	92	88
4C	53	F	7	9	27	-2	90	66	92
5C	59	M	10	3	9	-9	94	86	92
6C	51	M	7	2	-3	3	72	76	94
7C	57	F	8	4	22	12	88	90	92
8C	68	F	8	*	20	5	80	76	93
9C	52	M	9	3	-2	11	76	72	92
10C	59	F	8	2	28	6	84	82	91
11C	31	F	8	2	38	1	76	76	92
12C	31	F	6	1	-2	-14	62	64	93
13C	61	F	5	1	20	-6	66	66	93
14C	58	F	5	*	2	9	72	78	93
15C	49	F	8	0	18	4	88	78	92
16C	49	M	5	5	-3	-6	58	64	92
17C	51	F	5	1	27	-3	54	64	92
18C	58	F	7	0	4	-14	68	70	90
19C	47	F	6	0.5	1	-2	82	100	92
20C	67	F	8	6	6	4	80	78	91
21C	48	M	7	2	10	11	74	84	93
22C	47	F	8	0	12	-7	92	92	92
23C	53	F	7	*	15	-6	72	74	92
24C	77	F	5	0	3	-3	116	110	92
25C	55	F	7	2	1	10	76	84	90
26C	55	F	9	2	-9	-11	72	74	92
27C	56	F	8	5	7	3	86	74	91
28C	54	F	7	3	22	-2	60	62	92
29C	49	F	8	3	-5	-3	66	64	92
30C	41	F	6.5	3	3	0	60	60	92
31C	65	F	5	1	4	-2	60	64	94
32C	51	F	9	4	31	31	60	68	91
33C	51	F	5	1	7	-11	84	64	92
34C	57	F	7	4	21	-2	88	80	91
35C	47	F	7.5	4.5	15	1	72	62	91
36C	52	F	7	2	2	4	78	68	92
37C	62	F	5	0	3	6	80	88	91
38C	31	F	7	1	1	-8	80	80	94
39C	54	F	9	3	1	9	78	70	88
40C	51	F	7	2	13	27	70	68	93
41C	42	F	4	1	-5	1	76	68	92

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Control Population POMS Subscales T-Scores

Number	a-Ten	a-Dep	a-Ang	a-Vig	a-Fat	a-Con	p-Ten	p-Dep	p-Ang	p-Vig	p-Fat	p-Con
1C	35	32	36	36	32	33	<30	32	36	36	34	33
2C	32	32	36	43	<30	42	<30	32	36	36	39	33
3C	39	38	36	39	57	44	33	32	36	41	37	40
4C	41	51	38	41	43	46	<30	36	36	52	<30	40
5C	35	40	36	56	48	40	<30	32	36	60	<30	33
6C	37	32	38	65	37	37	<30	34	38	47	39	37
7C	37	40	42	43	55	40	32	40	38	45	46	40
8C	41	42	38	54	41	56	<30	36	36	56	41	48
9C	41	32	38	69	<30	46	39	45	40	56	34	42
10C	45	43	56	73	60	50	37	36	38	67	46	46
11C	43	49	48	47	64	46	32	34	42	58	41	35
12C	32	32	36	60	43	37	<30	32	36	69	<30	35
13C	33	40	36	39	53	44	<30	32	36	54	<30	37
14C	32	32	36	47	37	40	<30	32	36	36	39	44
15C	33	42	46	39	43	35	<30	32	36	36	<30	42
16C	33	40	36	69	39	37	33	36	36	69	32	42
17C	35	36	42	36	62	44	<30	32	36	52	32	40
18C	33	36	36	49	39	37	<30	32	36	69	<30	35
19C	<30	34	36	41	32	35	<30	32	36	49	<30	42
20C	32	32	36	41	34	44	<30	32	36	36	<30	42
21C	37	36	38	47	41	40	35	36	38	47	41	44
22C	39	42	36	54	39	46	<30	32	36	56	<30	37
23C	35	42	40	45	39	44	<30	34	36	58	34	35
24C	<30	32	38	45	41	35	<30	32	36	47	34	33
25C	33	32	36	47	34	37	33	32	36	36	32	48
26C	<30	32	36	60	<30	37	<30	32	36	69	<30	42
27C	37	32	36	47	37	44	<30	34	36	43	34	40
28C	35	50	42	47	53	40	<30	32	36	49	37	35
29C	<30	32	36	52	32	35	32	32	36	47	<30	35
30C	35	32	38	52	37	40	32	32	36	49	34	40
31C	<30	32	36	41	37	40	<30	32	36	47	<30	40
32C	43	47	48	56	57	48	41	47	44	54	60	50
33C	<30	34	38	62	32	37	<30	34	36	65	<30	35
34C	43	45	52	62	43	44	<30	32	36	42	<30	40
35C	33	47	42	41	<30	42	<30	34	36	45	<30	42
36C	<30	32	36	45	32	44	<30	32	36	39	32	42
37C	32	36	36	52	41	37	35	32	48	45	<30	35
38C	33	36	46	62	37	35	<30	32	36	52	<30	33
39C	<30	32	36	54	43	40	<30	32	36	60	<30	37
40C	46	34	44	52	32	44	41	43	50	36	34	46
41C	35	32	36	58	<30	37	35	32	36	47	<30	40

Intervention Population Raw Scores

Number	Age	Gender	a-SUD	p-SUD	a-POMS	p-POMS	a-HR	p-HR	a-HHR	p-HHR
1	26	F	5	1	39	-1	75	80	83	80
2	41	F	6	3	20	4	52	58	68	61
3	69	F	7	0.5	-5	-20	67	74	78	74
4	40	F	9	0.5	48	-6	78	72	75	71
5	49	M	4	1	-2	-10	56	71	86	78
6	64	M	9.5	1	39	-19	64	79	74	78
7	48	F	10	2	25	1	72	76	82	76
8	44	F	7	2	16	7	103	75	85	76
9	47	F	7.5	4	22	-0.5	56	61	76	75
10	38	F	5	0.5	37	5	73	80	86	79
11	31	M	8	2	47	-19	94	78	66	75
12	36	F	8	2	61	11	90	67	68	70
13	46	F	7	2	63	0	56	59	79	81
14	59	M	8	1	28	-13	69	75	82	78
15	29	F	4	1	10	-3	88	73	74	74
16	70	F	5.5	0	11	2	65	71	83	76
17	39	M	5	0.5	46	15	74	78	84	79
18	36	F	5	1	68	3	71	77	86	79
19	64	F	6	1	4	-2	64	71	83	78
20	66	M	6	1	25	-3	65	70	86	77
21	60	M	7	2	37	4	87	85	83	84
22	34	F	5.5	0.5	47	-1	77	72	67	72
23	43	M	3	1	6	3	69	71	77	69
24	39	M	7	2	60	24	72	77	80	78
25	72	F	5	0	-3	-16	78	71	66	71
26	35	F	6.5	1	35	17	65	72	78	74
27	59	F	7.5	1	52	-7	70	64	81	78
28	51	F	6	0	10	-20	86	72	79	72
29	27	M	9	0.5	23	0	68	73	78	74
30	53	F	8	0	60	16	70	81	94	83
31	50	M	7	6	45	-9	59	72	91	77
32	65	F	8.5	0	36	1	70	78	75	78
33	38	F	6.5	0	22	-1	78	80	84	81
34	63	F	10	3	76	23	67	70	88	82
35	55	F	10	1	53	7	73	87	91	84
36	51	F	9	0.5	28	-7	70	71	80	75
37	42	M	7	1	40	14	58	68	68	72
38	66	F	6.5	2	36	0	78	75	96	86
39	56	F	8	1	24	-17	74	85	86	85
40	45	F	6	1	19	1	63	78	81	82
41	40	M	7.5	0	22	-8	72	77	79	77
42	59	F	7	1	7	-11	85	81	72	81
43	50	F	10	0.5	32	10	102	70	68	72
44	37	F	7	0.5	32	-3	60	66	64	66
45	60	F	9	4	57	14	67	67	74	68
46	62	F	5	1	4	-8	67	67	74	68
47	55	F	10	1	60	9	64	63	80	67
48	37	F	9.5	1.5	17	5	61	70	79	71
49	38	M	10	0.5	28	-6	96	90	74	80
50	50	F	6	1.5	26	7	81	77	87	79

Intervention Population POMS Subscale T-Scores

Number	a-Ten	a-Dep	a-Ang	a-Vig	a-Fat	a-Con	p-Ten	p-Dep	p-Ang	p-Vig	p-Fat	p-Con
1	59	40	44	36	50	46	35	32	36	58	39	37
2	39	36	46	56	53	69	32	32	36	52	43	42
3	43	32	36	78	32	46	<30	32	36	80+	<30	33
4	45	43	56	36	60	56	<30	32	36	58	<30	42
5	33	34	36	62	37	42	32	34	36	67	<30	37
6	41	38	56	47	76	44	<30	32	36	78	<30	33
7	46	42	38	41	46	44	33	34	36	49	34	37
8	41	36	42	47	41	44	33	34	36	41	<30	46
9	<30	47	36	36	48	46	<30	42	36	39	<30	33
10	56	49	40	52	55	50	37	32	36	45	32	42
11	56	57	64	71	60	54	32	32	36	80+	<30	33
12	56	60	60	36	55	52	39	40	36	36	<30	35
13	52	56	68	47	67	56	32	34	36	54	37	40
14	37	42	46	36	48	46	<30	32	36	67	<30	35
15	33	36	36	47	43	44	<30	34	36	54	32	40
16	<30	36	36	43	41	48	<30	32	36	45	34	42
17	52	49	50	52	62	56	33	40	36	49	48	48
18	56	62	54	41	71	60	32	32	36	52	37	46
19	32	32	36	45	37	42	32	34	36	47	32	33
20	39	40	50	54	50	50	37	34	36	65	34	40
21	50	42	52	49	50	54	35	32	36	49	39	40
22	54	49	54	47	55	54	<30	34	38	56	34	42
23	33	32	36	54	46	42	<30	32	36	43	37	40
24	46	62	56	45	64	62	39	47	46	58	53	50
25	41	43	44	78	<30	33	32	32	36	76	<30	35
26	46	40	40	43	50	62	39	34	38	43	48	46
27	59	47	58	58	60	62	32	32	42	62	<30	35
28	35	38	40	60	46	46	<30	32	36	80+	<30	33
29	35	36	40	45	50	56	32	32	36	49	34	40
30	48	56	60	47	69	60	32	36	46	49	43	50
31	43	47	52	39	62	52	<30	32	36	60	<30	37
32	52	45	38	36	53	46	<30	32	36	45	37	37
33	43	49	50	54	43	35	<30	34	36	54	39	37
34	58	51	72	39	76	62	35	38	50	39	37	50
35	58	66	46	58	62	56	32	36	36	47	41	42
36	54	40	36	45	37	58	<30	34	36	60	<30	40
37	50	53	56	65	60	50	39	40	48	62	43	44
38	48	47	48	56	50	58	<30	34	36	52	39	37
39	41	47	62	60	55	50	<30	32	36	73	<30	33
40	54	36	38	39	60	42	35	32	36	49	37	35
41	46	36	40	36	41	42	<30	32	36	60	<30	40
42	37	38	36	56	41	42	<30	32	36	69	37	35
43	43	53	38	47	57	54	33	40	36	58	50	44
44	46	43	40	45	53	52	<30	32	36	43	<30	33
45	52	62	50	52	67	60	35	45	38	58	46	46
46	41	32	38	52	34	37	32	32	36	58	<30	35
47	59	47	60	39	67	52	35	38	38	39	32	37
48	48	45	38	71	64	52	32	36	36	54	48	37
49	41	36	48	36	46	48	33	32	38	62	34	35
50	43	51	36	41	53	35	<30	42	36	49	41	40

APPENDIX C Statistician Analysis of Data

Correlations

Descriptive Statistics: Control Population

	Mean	Std. Deviation	N
pre SUD	6.9268	1.44292	41
post SUD	2.3421	1.88918	38
pre POMS	9.6098	11.50625	41
post POMS	1.4390	9.29798	41
Post HR	74.7805	11.39191	41
Post Healer HR	91.9024	1.31918	41

Correlations

		pre SUD	post SUD	pre POMS	post POMS	Post HR	Post Healer HR
pre SUD	Pearson Correlation	1	.334(*)	.235	.231	.136	-.365(*)
	Sig. (2-tailed)		.041	.140	.147	.397	.019
	N	41	38	41	41	41	41
post SUD	Pearson Correlation	.334(*)	1	.223	.211	-.283	-.164
	Sig. (2-tailed)	.041		.179	.203	.085	.325
	N	38	38	38	38	38	38
pre POMS	Pearson Correlation	.235	.223	1	.268	.036	-.174
	Sig. (2-tailed)	.140	.179		.090	.823	.277
	N	41	38	41	41	41	41
post POMS	Pearson Correlation	.231	.211	.268	1	.064	-.141
	Sig. (2-tailed)	.147	.203	.090		.692	.379
	N	41	38	41	41	41	41
Post HR	Pearson Correlation	.136	-.283	.036	.064	1	-.204
	Sig. (2-tailed)	.397	.085	.823	.692		.200
	N	41	38	41	41	41	41
Post Healer HR	Pearson Correlation	-.365(*)	-.164	-.174	-.141	-.204	1
	Sig. (2-tailed)	.019	.325	.277	.379	.200	
	N	41	38	41	41	41	41

* Correlation is significant at the 0.05 level (2-tailed).

Correlations

Descriptive Statistics: Intervention Population

	Mean	Std. Deviation	N
pre SUD	7.1300	1.80082	50
post SUD	1.2400	1.16163	50
pre POMS	31.8600	20.01225	50
post POMS	-.1500	10.77802	50
Post HR	73.5000	6.77706	50
Post Healer HR	76.0200	5.30879	50

Correlations

		pre SUD	post SUD	pre POMS	post POMS	Post HR	Post Healer HR
pre SUD	Pearson Correlation	1	.136	.409(**)	.112	.095	.053
	Sig. (2-tailed)		.346	.003	.440	.512	.714
	N	50	50	50	50	50	50
post SUD	Pearson Correlation	.136	1	.283(*)	.192	-.310(*)	-.067
	Sig. (2-tailed)	.346		.047	.182	.029	.644
	N	50	50	50	50	50	50
pre POMS	Pearson Correlation	.409(**)	.283(*)	1	.528(**)	-.016	.179
	Sig. (2-tailed)	.003	.047		.000	.910	.212
	N	50	50	50	50	50	50
post POMS	Pearson Correlation	.112	.192	.528(**)	1	-.112	-.005
	Sig. (2-tailed)	.440	.182	.000		.437	.974
	N	50	50	50	50	50	50
Post HR	Pearson Correlation	.095	-.310(*)	-.016	-.112	1	.671(**)
	Sig. (2-tailed)	.512	.029	.910	.437		.000
	N	50	50	50	50	50	50
Post Healer HR	Pearson Correlation	.053	-.067	.179	-.005	.671(**)	1
	Sig. (2-tailed)	.714	.644	.212	.974	.000	
	N	50	50	50	50	50	50

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

T-Test

Group Statistics

	population	N	Mean	Std. Deviation	Std. Error Mean
age	Control	41	52.7561	9.39356	1.46703
	Intervention	50	48.6800	12.30304	1.73991
pre SUD	Control	41	6.9268	1.44292	.22535
	Intervention	50	7.1300	1.80082	.25467
post SUD	Control	38	2.3421	1.88918	.30646
	Intervention	50	1.2400	1.16163	.16428
pre POMS	Control	41	9.6098	11.50625	1.79698
	Intervention	50	31.8600	20.01225	2.83016
post POMS	Control	41	1.4390	9.29798	1.45210
	Intervention	50	-.1500	10.77802	1.52424
Pre HR	Control	41	76.1463	12.65220	1.97594
	Intervention	50	72.3800	11.71235	1.65638
Post HR	Control	41	74.7805	11.39191	1.77912
	Intervention	50	73.5000	6.77706	.95842
Pre Healer HR	Control	0(a)	.	.	.
	Intervention	50	79.1600	7.53593	1.06574
Post Healer HR	Control	41	91.9024	1.31918	.20602
	Intervention	50	76.0200	5.30879	.75078

a t cannot be computed because at least one of the populations is empty.

T-Test

Group Statistics

	population	N	Mean	Std. Deviation	Std. Error Mean
HR End Diff Subj/Healer	Control	41	17.1220	11.73285	1.83236
	Intervention	50	2.5200	5.08395	.71898

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
HR End Diff Subj/Healer	Equal variances assumed	22.774	.000	7.945	89	.000	14.60195	1.83796	10.94997	18.25393
	Equal variances not assumed			7.418	52.254	.000	14.60195	1.96837	10.65258	18.55132

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
age	Equal variances assumed	7.417	.008	1.744	89	.085	4.07610	2.33660	-.56669	8.71888
	Equal variances not assumed			1.791	88.588	.077	4.07610	2.27584	-.44625	8.59844
pre SUD	Equal variances assumed	2.252	.137	-.585	89	.560	-.20317	.34755	-.89375	.48741
	Equal variances not assumed			-.597	88.962	.552	-.20317	.34006	-.87886	.47252
post SUD	Equal variances assumed	7.195	.009	3.374	86	.001	1.10211	.32669	.45267	1.75155
	Equal variances not assumed			3.170	57.720	.002	1.10211	.34772	.40600	1.79821
pre POMS	Equal variances assumed	11.612	.001	-6.311	89	.000	-22.25024	3.52550	-29.25534	-15.24515
	Equal variances not assumed			-6.637	80.454	.000	-22.25024	3.35245	-28.92125	-15.57923
post POMS	Equal variances assumed	1.123	.292	.744	89	.459	1.58902	2.13631	-2.65578	5.83383
	Equal variances not assumed			.755	88.751	.452	1.58902	2.10521	-2.59415	5.77219
Pre HR	Equal variances assumed	.200	.656	1.472	89	.145	3.76634	2.55857	-1.31748	8.85016
	Equal variances not assumed			1.461	82.651	.148	3.76634	2.57836	-1.36223	8.89491
Post HR	Equal variances assumed	9.888	.002	.665	89	.508	1.28049	1.92655	-2.54752	5.10850
	Equal variances not assumed			.634	62.302	.529	1.28049	2.02085	-2.75874	5.31972
Post Healer HR	Equal variances assumed	42.388	.000	18.672	89	.000	15.88244	.85059	14.19233	17.57255
	Equal variances not assumed			20.401	56.267	.000	15.88244	.77853	14.32302	17.44186

General Linear Model

Within-Subjects Factors

Measure: MEASURE_1

sud	Dependent Variable
1	aSUD
2	pSUD

Between-Subjects Factors

		Value Label	N
population	.00	Control	38
	1.00	Intervention	50

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
sud	Sphericity Assumed	1189.125	1	1189.125	602.046	.000
	Greenhouse-Geisser	1189.125	1.000	1189.125	602.046	.000
	Huynh-Feldt	1189.125	1.000	1189.125	602.046	.000
	Lower-bound	1189.125	1.000	1189.125	602.046	.000
sud * population	Sphericity Assumed	17.818	1	17.818	9.021	.003
	Greenhouse-Geisser	17.818	1.000	17.818	9.021	.003
	Huynh-Feldt	17.818	1.000	17.818	9.021	.003
	Lower-bound	17.818	1.000	17.818	9.021	.003
Error(sud)	Sphericity Assumed	169.862	86	1.975		
	Greenhouse-Geisser	169.862	86.000	1.975		
	Huynh-Feldt	169.862	86.000	1.975		
	Lower-bound	169.862	86.000	1.975		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	sud	Type III Sum of Squares	df	Mean Square	F	Sig.
sud	Linear	1189.125	1	1189.125	602.046	.000
sud * population	Linear	17.818	1	17.818	9.021	.003
Error(sud)	Linear	169.862	86	1.975		

Tests of Between-Subjects Effects

Measure: MEASURE_1
Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	3366.638	1	3366.638	1090.059	.000
group	9.127	1	9.127	2.955	.089
Error	265.610	86	3.088		

APPENDIX D Research Protocol

Title of Research:
The Healer Effect: Synchronization of Healer-Subject Heart Rates in Energy Healing

Background and Theoretical Framework:

Purpose of the Study: To identify the role of the healer's heart field as an active energetic mechanism of healing during energy therapies. The key dependent variable of heart rate synchronicity, as demonstrated in the objective measurement of heart rates of healer and subject, indicates a primary role in bioenergetic information conveyance in the healing process.

Research Hypothesis: The electromagnetic field generated by the heart is known to be the strongest of the human body (some 40-60 times the amplitude of brainwaves with a field that extends 12-15 feet beyond the body itself). It is hypothesized that energetically/vibrationally, the heart is literally the source of energy coherence in the body. During energy therapies, the coherent bioresonance generated by a healer's heart field may override the incoherence of the dis-stressed patient and entrain their heartbeat, providing for the re-establishment of energy coherence during the practice of energy healing. This energetic entrainment of bioresonance may be an underlying functional effect of multiple energy therapies. The particular technique may be providing a distraction, focus or socially acceptable means for placing the healer within the energy field while their "centered" coherence and positive intent provide the actual active therapeutic agents. From a perspective of system disorganization as the origin of disease and malfunction, re-establishment of coherent resonance allows for the body to then heal itself.

Study Design: Non Equivalent Pretest-Posttest Control Group Design

Methodology:
The research participants self-select in response to requests for research volunteers from several community groups including some with a health or spiritual focus. A goal of 100 participants total is intended. Half will be randomly assigned to the control population. Half will be the intervention cohort. All participants in both populations will attend a single one hour session. In the control population all 50 participants will attend a single session together. Participants in the intervention

cohort will attend a single 1:1 session with the researcher. Immediately prior to all sessions each participant will have their pulse and respirations checked by an RN. They will complete the participant information sheet, read and sign the informed consent and identify the physical, mental or emotional health issue they will be addressing with the WHEE procedure. They will complete a Profiles of Mood States-brief form questionnaire. The control population will meet in a classroom type setting. The researcher will stand behind a podium or desk at least 15 feet from the nearest participants (beyond the strongest range of the heart field). Following introductory remarks, the researcher will present a brief explanation of the WHEE process, its ease of use, and its usefulness in a broad range of physical and emotional health issues. The researcher will do no centering or specific intention setting prior to teaching the control population this process.

The WHEE process itself will then be taught. Each participant will carry out the process on themselves. Participants will be instructed to raise their hands when they have experienced self satisfactory diminution or elimination of their presenting concern.

There will be five or six experienced RNs in attendance, who will immediately check and record participants pulse and respirations as they indicate the conclusion of their WHEE practice. They will be given a bottle of filtered water. The researcher will not interact individually with any of the control population participants. In addition to their pulse and respirations all participants will complete post-test documentation of SUDs, and Profile of Mood States-brief form. They will receive an information sheet to take home that includes the researcher’s name and contact information and internet Web address for the Wholistic Healing Research site. Participants will remain blinded to the focus of the research project.

In the intervention protocol cohort, each of the participants will meet with the researcher individually for a single session at the office. Prior to the session, the researcher will attach and unobtrusively wear a Polar F6 pulse monitor. The same introductory remarks and explanation of the WHEE process will be given and pre-testing of pulse, respirations, Subjective Units of Distress and Profile of Mood States-brief form will be completed. The informed consent will be read and signed. In each of these sessions the researcher will center and intend the highest good for the participant while they are completing the pre-tests.

Participants will sit in a comfortable chair with the researcher sitting in a chair directly in front of them. The researcher will be within 3-4 feet of the participant; the strongest range of the electromagnetic heart field. Following the researcher's verbal instruction, participants will do the WHEE process. As the participant is going through the repetitions of the process, the researcher will unobtrusively focus on heart connection, and highest good; a commonality of meridian based and subtle energy therapies.

At the conclusion of the process the participant’s pulse will be taken and documented. The researcher will then immediately document her own pulse rate as recorded by pulse monitor. Filtered water will be provided to the participant, and post-testing of respirations, SUDs and POMS will be completed. An information sheet to take home that includes the researcher's name, contact information and Web address for the

Wholistic Healing Research site will be provided. Participants will remain blinded to the research focus.

Population: ***Participants-*** Adults between ages 18-80 will self-select in response to a community wide generation request extended through a variety of means, providing random selection. Subjects will be told they are volunteering for a one-time, approximately one hour, graduate level research experience during which they will be taught a self-relaxation and healing technique applied to a current, self-selected physical or mental/emotional issue. Learned during the session, it is expected they will easily be able to use it on their own thereafter.
One hundred participants total will be solicited for this study.

Inclusion Criteria:
The first 100 adults between the ages of 18 to 80, who self select and do not have any of the exclusion criteria.

Exclusion Criteria:
1. No persons with any type of cardiac assist device—pacemakers or implanted defibrillation devices—would be accepted.
2. Severe physical or mental pathology.

List Potential Risks/Safety: Subjects may feel uncomfortable in filling out questionnaires or participating in the process. Subjects do not have to participate in this research study.

Discontinuation Criteria for Subjects: This study is single session.
Participants can freely change their mind about participation at any time; after signing up, but before the session, as well as any time during the session for no other reason than their own choice.

Tests to be Used: All tests will be done pre and post intervention.
Heart rate: A pulse monitor will be worn (unobtrusively) by the healer. Participants' heart rates will be counted and recorded by experienced RNs in the control population and a HeartMath heart rate ear sensor will be applied to intervention participants with the explanation that "it is to monitor your vital signs."
SUDs; Subjective units of distress—a 0-10 Likert scale of subjective stress intensity.
POMS-brief form; Profile of Moods State-brief form: Paper and pencil self report of six current mood indicators—tension-anxiety, depression-dejection, anger-hostility, vigor-activity, fatigue-inertia, and confusion-bewilderment.
Taken together, the SUD and POMS reflect the mood state of the subject before and after energy therapy.

Objective measurement: Pulse monitoring technology will be worn by the researcher. Pulse and respirations of all participants will be taken and recorded by experienced RNs.

Subjective measurement Instruments- 1.Profiles of Mood States—brief form (validity 0.95 on all scales to long form). 2. Subjective Units of Distress—Likert scale of felt sensation and affective tone. Both instruments have wide use over a long term with proven validity, professional recognition and acceptance, and are subject friendly in terms of time and ease of use.

Protocol Monitoring:

Pre-Inclusion Screening: conducted during scheduling interview by primary researcher

Testing: monitored by primary researcher

Research Intervention: conducted by primary researcher

Post- tests: monitored by primary researcher

Monitoring Personnel for Research:

Chair of Dissertation: Bernard O. Williams, Ph.D.

Primary Researcher and any assistants: Christine Caldwell Bair. Experienced RNs will participate in taking control population vital signs only.

Research Results:

Analysis of results will not be shared with participants; however, they are free to contact the researcher after the project is complete to receive outcome information if they desire it.

APPENDIX E Consent to Act as a Research Participant

You are being asked to take part in a research study conducted by Christine Caldwell Bair, as a dissertation project in partial fulfillment of the requirements for completing her ThD. at Holos University Graduate Seminary. Because you have expressed an interest in participating as a control subject or research subject in a holistic healing study you're being asked to participate in this study.

A. What Is the Purpose of the Study?
The purpose of doing this study is to evaluate the effect of the healer on the subject's physiology during the practice of a meridian/energy based therapy.

B. What happens to you and other study participants?
The following procedures will be performed:
Before this session: You will be asked to fill out an information sheet of demographic information that will be kept confidential. The ID number on that sheet along with age and gender are the only information that will appear on the questionnaires.

Both before and after the Session :
1. Your vital signs will be checked and recorded.
2. You'll be asked to rate on a scale of 1: 10 the subjective units of distress regarding the issue you have chosen to apply this process to.
3. You'll be asked to complete a Profiles of Mood States questionnaire which evaluates your current mood.

After the session: you will be given
1. A glass of filtered water to drink.
2. A contact and information sheet about the WHEE process you have learned.

General information:
1. Participation in this study will take about 60 minutes.
2. About 100 participants will take part in the study.

C. What are the risks of this study?
The WHEE process or questionnaires may make you uncomfortable, but you're free to stop the process at any time.
Confidentiality will be safeguarded, but there may be a risk of loss of confidentiality. Your records will be kept confidential according to standard psychotherapy practice. Any information that is obtained in connection with the study that can identify you will remain confidential and will be disclosed only with your permission or as required by law. No individual identities will be used in any reports for publications resulting from the study. Study information will be coded and kept in confidential files at all times. Only study personnel and the researcher’s graduate committee will have access to the files.

D. Statement of Voluntary Participation
Your participation in this study is voluntary. You are free to take part in or withdraw from the study at any time after volunteering.

E. Cost to the Subject:
There will be no cost to you for participating in this study.

F. Investigators Name and Number:
This information was discussed with you by Christine Caldwell Bair. She will answer any further questions you may have concerning the study or the procedures. You can reach her at (717) 238-5683.

Subject's Statement:
My signature below means that I have read the above information about the study and have had a chance to ask questions. I voluntarily consent to participate in this research study.

_____
Printed name of participant

_____ _____
Participant's Signature Date

_____ _____
Signature a Person Obtaining Consent Date

APPENDIX F Research Control Population Summary

The research control population event was held the evening of May 18, 2006, from 6:45 p.m. to 8:45 p.m. Self-selected participants were registered in response to a community wide written invitation which identified the research project and stated that they would be taught a simple to use, highly active energy self-healing technique useful for physical and emotional issues and general stress reduction. 58 volunteers were contacted and confirmed for the May 18 event; 41 attended.

In addition to the primary researcher, three general assistants and four highly skilled RNs were on hand to facilitate the process. The primary researcher wore a concealed Polar pulse monitor, consisting of a chest strap with electrodes and a wrist watch display unit. Technical data provided with the monitor note its accuracy at plus or minus 1%, or one beat per minute. Prior to participants' arrival, all RNs coordinated their watches to the same time. Each RN conducted a pulse count of the primary researcher which was then compared with a pulse monitor worn by the primary researcher. All four RNs pulse counts were within two beats of the monitored pulse rate.

The group was held in a large well lit room with a comfortable temperature of 70°F. No sound system or other electronic equipment was permitted. All participants were asked

to turn off cell phones and any other electronic devices upon entry. Assistants seated all participants in comfortable seating at least an arms length distance from other

participants and instructed them in the importance of following directions precisely. After being seated, an RN went to each participant and counted and recorded their initial pulse and respiration. Each participant was given a numbered 9 x 12 manila envelope containing five documents: a consent form to act as a research participant, a confidential research participant information sheet, a POMS-brief pretest, a WHEE Process sheet, and a POMS brief posttest. A number two pencil was also in each envelope. Samples of the five documents are found in appendix A. Verbal confirmation was obtained that no one present had either a pacemaker or internal defibrillator.

The primary researcher stood at the front of the room behind a podium at least 15 feet from the closest participants. Following introductory remarks, participants were instructed to remove all documents from the envelope and place them to the side. Each subject read and signed the informed consent form and filled out the confidential research participant information sheet. Next, each subject read the instructions and completed the POMS brief pretest.

When all participants completed the pretest, the primary researcher presented a brief history and description of the WHEE process. This was followed by a demonstration. A question-and-answer period allowed for participant clarification. Next participants were asked to identify an issue or concern upon which they would use the WHEE process on themselves. They were instructed to enter their particular issue on the WHEE process sheet in the marked area. Subjective units of distress (hereafter

referred to as SUDs) were identified as a measure of intensity, and subjects were asked to rate their issue on a scale of 0: 10, and to enter that number on the scale on the WHEE process sheet also. Subjects were instructed to mark the second SUD scale on the sheet following completion of their self WHEE process. Subjects were instructed that once they began to do the WHEE process on themselves the primary researcher would no longer be able to interact with them. A final opportunity for questions was provided. Participants were asked to remain quiet during the experiential portion, and advised to raise their hand for an assistant should they need one. Assistants and RNs remained quietly at the back of the room observing.

Once participants began their self WHEE process, the primary researcher was seated 18 feet from the nearest participant and recorded her monitored pulse every 30 seconds until all subjects were finished. As instructed, when each subject completed their own process they raised their hand and an RN immediately came to take their pulse. The RNs counted each pulse for full 30 seconds and recorded it. They then reminded the subject to record their SUDs and complete the POMS brief posttest. When completed, participants had been instructed they were free to leave. At the exit assistants collected each participant's manila envelope with all documents inside and sealed. Each participant was given a bottle of spring water and a WHEE review sheet with contact information for both Dr. Benor's web site and the primary researcher's e-mail and phone number. All participants completed this process in a half-hour time frame.

APPENDIX G WHEE Process

Wholistic Hybrid of EMDR and Emotional Freedom Technique

WHEE (Wholistic Hybrid of EMDR and Emotional Freedom Technique) is the creation of Dr. Daniel Benor. Dr. Benor is a psychiatrist and author of the four volume *Healing Research* series; an extensive compilation and critical analysis of modern consciousness research. This process combines elements of both meridian based and subtle energy therapies for both physical and mental/emotional issues and stress reduction. Its speed, simplicity and effectiveness make it an ideal process to learn for self healing. Further information about Dr. Benor, healing research and this process may be found at his web site: www.wholistichealingresearch.com .

WHEE

1. Be comfortable
2. Focus on something that is uncomfortable; a phobia, old hurt or negative feeling
3. Feel the feelings attached to this issue
4. Rate the intensity or strength of these feelings on a scale of 0:10, with 0 being completely absent, and 10 being very strong
5. Identify body sensations associated with these feelings
6. Do a "Butterfly Hug" or alternate patting while repeating the following affirmation:

   Even though I feel _____, I love and accept myself completely.
   God (Spirit of the Universe, the Universe, or Source) loves and accepts me unconditionally.

7. Take a deep cleansing breath.
8. Pause and recheck the intensity of the feelings on the 0:10 scale [If the number doesn't go down, go to the collarbone at the mid-point on either right or left and rub vigorously for several seconds] Tapping can also be done on either side of the bridge of the nose (another acupressure release point) instead of the "hug"
9. Repeat the affirmation through several repetitions until the feeling level gets significantly lower; most often 0-2
10. Remember to breathe and check the 0:10 intensity following each round
11. Once the feeling has been reduced to 0, it's important to state the positive of the original negative to replace it.
12. Ask how strongly you feel this, 0:10; then repeat the positive statement, breathe and recheck, working to increase the strength of the positive toward a 10
13. Do the process as long as it feels comfortable; then stop

In most cases this process offers permanent relief. If it recurs, it is usually much less intense and the process can simply be repeated until it is gone. For some things a number of repetitions may be required. The negative will creep back if the positive replacement is not installed. It can be used on anything. For follow-up information or questions please contact Christine Caldwell Bair @ 238-5683 or cbair9@comcast.net.