The Proclivital Roots of Breast Cancer

Laura Gambill-Sucherman

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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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Laura Gambill-Sucherman

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ABSTRACT

This study examined three groups of women in order to discern the spiritual, psychological, and physical variables that are significant in the development and onset of breast cancer. The convenience sample consisted of women recently diagnosed with breast cancer (up to one year out), women survivors of breast cancer (from two years out), and women who are breast cancer free. The women ranged in age from thirty to eighty years. The total sample size (N) was 160 women: forty recently diagnosed fifty-nine survivors, and sixty-one women who were breast cancer free. As participants of this research, the women provided information on specific physical characteristics that are influential to the disease process of breast cancer. The physical variables of interest were hormone replacement therapy, oral contraceptive usage, and body mass index (BMI). Concurrently the three groups were assessed on the ZUNG inventory for depression, the Profile of Mood States (POMS), the Spiritual Well-Being Scale (SWBS), and the Personal Orientation Inventory (POI). Discriminant Function Analysis was utilized in the selection of the variables derived from the aforementioned instruments, and the Intake Form of physical attributes. The statistical significance of differences noted between groups was analyzed via discriminant function that assesses several dependent variables simultaneously. In order to accomplish this formulation, a linear combination of the variables was constructed, thereby deriving a single variable, i.e., a discriminant function. The variables selected for statistical analysis were depression, mood states, self-actualization, spiritual well-being, body mass index, oral contraceptive usage, and hormone replacement therapy. The variables predicted group membership 65.6% the time for the breast cancer free group, and 67.5% of the time for the recently diagnosed groups. The variables did not predict group membership for the survivors, 30.5%, less than chance. The variable of depression, assessed by the Zung, was significant at < .001, followed by the POMS at .008, and the POI at .024 as determined by the Tests of the Equality of Group Means.

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INTRODUCTION

Background of Problem

Breast cancer is a disease of epidemic proportions, affecting women worldwide. The statistics are not only formidable but the numbers of diagnosed cases are on the rise. Data suggest that one woman in eight in the United States will develop breast cancer at some point in her life. Horner states "Breast cancer is the most common cancer among American women and the second-leading cause of cancer deaths."[1] The incidence of the disease is highest among the industrialized nations of the world. The Netherlands has the highest rate of incidence at 91.6 per 100,000, followed by the United States with 91.4. The underdeveloped countries have much lower rates of incidence; Haiti ranks the lowest of these countries. In discussing the ramifications of the differences among the nations, Kaur found that "breast cancer is much less common in other parts of the world, indicating that dietary, environmental, and lifestyle factors play a large role in its occurrence. Countries with a low incidence include most of Africa, Haiti, Mongolia, Korea, China, India, Costa Rica, and Japan."[2] Breast cancer is a disease of opportunity; unwittingly, women open the door of opportunity through their lifestyle choices.

Statement of the Problem

Breast cancer is a protean disease with numerous influential factors and a complex array of interactions between these factors. Labeling a singular cause of breast cancer is inconceivable, just as the types of breast cancer are multiple. The myriad roots that predispose the disease are entangled within our layers of being through lifestyle

choices. According to Kaur in *The Complete Natural Medicine Guide to Breast Cancer*, "It would be convenient if we could say with certainty that an individual woman's breast cancer was caused by exposure to a particular chemical or to radiation, by an excess of dietary fat or increased estrogen levels, by an emotional turmoil or grief."[3] Many of the attributes that are conjectured as contributory in the disease process are difficult to trace; however, a set of variables drawn from these attributes advances the greatest potential for classifying aspects that are significant in the development of breast cancer. Variables that are essential to this study of breast cancer have been noted by Kaur: "Our spiritual selves need to be nourished just as our minds, emotions, and bodies do. No longer can we separate these parts of ourselves, feed one or two occasionally, and hope to stay healthy."[4]

Purpose of the Study

This research examines the multiple factors of influence that emanate from the interactions of the physical, psychological and spiritual layers of our being. What preys upon the body in the guise of physical disease has distinctive roots within the mind and spirit. The physical characteristics of interest are body mass as defined by the Body Mass Index and the influence of hormones as noted by oral contraceptive usage and hormone replacement therapy. The psychological characteristics of depression and mood states will be examined in order to determine their potential role in the development of breast cancer. The characteristics that define one's spiritual well being will be surveyed. It is through the harmful interrelationship of these aspects of being that disease can develop and thrive. Unlocking the negative expressions of interchange that play a significant role

in the development of breast cancer will empower women seeking healthful living choices.

Research Questions

Hypotheses

$H_{1:}$ The ZUNG test for depression will measure the level of depression and significantly discriminate between women diagnosed with breast cancer, survivors of breast cancer, and women who are breast cancer free.

$H_{2:}$ The six-factor scale of the POMS (Profile of Mood States) will survey the affective disposition of women diagnosed with breast cancer, and contrast the mood states of breast cancer survivors and women who are breast cancer free.

$H_{3:}$ The Spiritual Well-Being Scale will ascertain the relationship between spiritual issues and breast cancer, and distinguish among breast cancer patients, breast cancer survivors, and women who are breast cancer free.

$H_{4:}$ The POI (Personal Orientation Inventory) will identify and significantly distinguish the self-actualizing characteristics, i.e., the level of spiritual integration of women breast cancer patients, women survivors, and the women who are breast cancer free.

Importance of the Study

The disease of breast cancer has consequences of enormous proportion for women of every age and race. Shedding light upon the factors complicit in this disease process advances knowledge and awareness for all parties interested in arresting the current pandemic spread of breast cancer. Denoting the differences between a state of disease, survivorship of said disease, and a non-disease state is the focal point of this research. Identifying the attributes/variables that affect breast cancer, and subsequently classifying their innate interactions, will advance new treatment protocols, and infuse the existing paradigm with modalities of healing that complement and augment the healing process. Specifically, this study will disclose the aspects of healing and lifestyle choice that are influential to the status of women recently diagnosed with breast cancer, women survivors of breast cancer, and women who are breast cancer free.

Scope of the Study

It is the hope of this researcher that this work will be a wake-up call to others interested in the healing of breast cancer and encourage additional studies of the variables presented in this paper. The tasks involved in this undertaking are indeed complex; not so much in their specific nature, but in the complexity of the interaction of the aspects that are pertinent to understanding the disease of breast cancer. Ballentine states “Some of the beliefs and assumptions about our reality that sustain and promote our suffering are the deepest and most resistant to change.”[5] The scope of this study addresses the complement of the physical, psychological, and spiritual attributes deemed influential in breast cancer. It is essential to survey the manifestations within and between each layer that can imprint

a disease process. This perspective far exceeds the current treatment protocols for breast cancer, and has much wisdom to offer to all clinicians involved in the healing process. Caretakers, in fact, should be mindful of all the elements that advance the disease. Offering knowledge that speaks to prevention and knowing the path that one took towards wellness is advantageous, as this information can avert a recurrence of this devastating disease.

Definition of Terms

The following list of terms, variables and instruments is provided to help the reader understand their application within this study.

Terms:

Complementary and Alternative Medicine (CAM) is "healthcare practices that are not an integral part of conventional medicine. As diverse and abundant as the peoples of the world, these practices may be grouped within five major domains: alternative medical systems; mind-body intervention; biologically based treatments; manipulative and body-based methods; and energy therapies."[6]

Conventional/Allopathic Medicine is mainstream medical practice that employs diagnostics to discern and treat a specific disease process.

Energy Medicine is "based upon the belief that the changes in the "life force" of the body including the electric, magnetic, and electromagnetic fields, affect human health and can promote healing."[7]

Variables:

Physical Variables denote the physical aspects utilized as one of the tools of appraisal for the three groups of women in the study.

Psychological Variables are the unresolved issues of mind and emotion that promote the disease of breast cancer.

Spiritual Variables comprise the aspects of spirituality that are considered influential to the unfolding of breast cancer, and will be discussed in Chapter 2.

Instruments:

The **Personal Orientation Inventory (POI)** uses items "designed to reflect value orientations which are commonly held, and which are considered to be significant to a person's approach to living."[8]

The **Profile of Mood States (POMS)** assessment "provides a rapid, economical method of assessing transient, fluctuating active mood states."[9]

The **Spiritual Well-Being Scale (SWBS)** "was developed as a general indicator of the subjective state of well-being."[10]

The **Zung**, "SDS [Self-Rating Depression Scale] is comprised of a list of twenty items. Each relates to a specific characteristic of depression."[11]

The participants in the study were assessed on the aforementioned inventories, as well as the Intake Form of physical variables.

Chapter 1 Endnotes:

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[2]Sat Dharam Kaur, *The Complete Natural Medicine Guide to Breast Cancer* (Toronto, Canada: Robert Rose, Inc., 2003), 15.
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CHAPTER 2:
REVIEW OF LITERATURE

Throughout history, we have pondered the constituent elements of body, mind and spirit that create the basis of a disease process. Disease is defined as "a definite morbid process often with a characteristic train of symptoms."[1] This study examines the disease of breast cancer from the perspectives of Conventional Medicine and Energy Medicine. Benor submits the following: "The strengths of conventional allopathic practice are in making precise diagnoses and prescribing specific therapies. To arrive at a diagnosis, doctors rely on the history of symptoms, on physical examination, and on the results of laboratory tests that may be quite sophisticated."[2] This model has also been called the biomedical model. Werbach explains the guiding principles: "In essence the doctrine has two major postulates: first, that illness can be categorized into specific diseases. Second each disease has a unique primary cause."[3]

In opposition to the examination of individual organic systems, and other diagnostic evaluations, Energy Medicine posits a synthesis of the whole as influential in the determination of a given disease process. Polasky states that "Energy Medicine refers to therapies that use an energy field----electrical, magnetic, sonic, acoustic, microwave, infrared----- to screen for health and treat health conditions by detecting imbalances in the body's energy fields."[4] Some Energy Medicine practices are noted by Polasky including: "spiritual healing, long-distance healing, laying-on-of-hands, psychic healing, shamanic healing, and specific ethnomedical traditions such as Kahuna, Curanderismo, and Native American healing."[5] These modalities of healing have their origins in the school of thought referred to as "Vitalism." Vitalism is defined as "a doctrine that

maintains that life and the functions of a living organism depend on a nonmaterial force or principle separate from physical and chemical processes."[6]

Based on these definitions, it is apparent to this researcher why such classifications clearly distinguish the two dissimilar modes of medicine. Conventional/Allopathic Medicine depends on mechanistic procedures to establish a diagnosis and criteria for the treatment of disease. Energy Medicine looks at the whole of being in order to decipher which area of distress needs attention and then proffers many choices for the individual so afflicted.

Incidence

The prevalence of breast cancer is highest among the industrialized nations of the world. Kaur reveals "The Netherlands and the United states lead the world in the breast cancer epidemic, with Denmark, France, Australia, New Zealand, Belgium, Canada, and Sweden following close behind."[7] Individually and collectively, the current rates of occurrence ascribed to breast cancer are alarming. So noted by Kaur:

> The estimated number of new cases of breast cancer in Canada and the United States in 2003 was 21,200 and 212,600 respectively, while the estimated number of deaths from breast cancer in Canada and the United States in 2003 was 5,300 and 40,200. Breast cancer is a leading cause of death for women ages 35-50 living in these two countries.[8]

Christine Horner, in her book *Waking The Goddess Warrior,* explains the risk factors that are significant to women as they progress throughout their life span:

> The older a woman is, the higher her risk. At age twenty-five, her risk is 1 in 19,608. At age forty her risk climbs to 1 in 8. The American Cancer Society estimates that in 2004, more than 270,000 women will be diagnosed with breast cancer, and more than 40,000 will die because of it. At any given time in the United States, 2 to 3 million women have been diagnosed, treated, and cured of breast cancer or are currently living with it. From 1999-2003, the incidence of

breast cancer rose 21 percent.[9]

Christiane Northrup, author of *Women's Bodies, Women's Wisdom,* clarifies current statistical data with regard to age and occurrence of breast cancer.

> To put this into perspective, you need to know that only women age ninety and over have a one-in-eight risk of getting breast cancer. According to the National Cancer Institute, at age twenty, the risk is 1 in 2,500; at forty 1 in 63; and at age sixty, 1 in 28. Breast cancer is, nevertheless, the leading cause of cancer death among American women who are forty to forty-five years of age.[10]

In a study that looked at the epidemiology of breast cancer some interesting statistics were detailed regarding the rates of breast cancer between American women and women born in Japan. Japan had the lowest rate of occurrences. Further, it was noted that genetic susceptibility was not a determinant factor. Pike found that "All studies of Japanese migrants show that when the Japanese emigrate they slowly adopt the breast cancer rate of their adopted country."[11] Additional details of this study confirm the following:

> Under age 55, the incidence of breast cancer in Japanese women in Osaka is about one-fifth that of white women in Los Angeles, whereas Japanese women in Los Angeles have rates that are within 20% of the white rates. Over age 55, the Japanese-Osaka rates are one-eighth that of Los Angeles white rates, with Japanese-Los Angeles rates some fourfold higher than the Osaka rates, but still only half the Los Angeles white rates. This latter gap presumably will continue to decrease as more Japanese women born in the United States enter the older age group.[12]

Pike et al. do not speculate on the reasons for these noteworthy differences in the occurrence rates. However, they maintain that something one does changes this rate of incidence between the American and Japanese women, and significantly, so, once

Japanese immigrants are on American soil. The rate of incidence also seemingly increases with the birth of subsequent generations of Japanese-American women.

Allopathic Medicine

Allopathic Medicine is based on a mechanistic philosophy; one that perceives the human body with characteristics that are akin to a machine, thereby lending itself to physical manipulations based on data obtained from diagnostic appraisals. The mechanistic approach is defined as "a philosophy explaining human behavior or other natural processes in terms of physical causes and processes."[13] This perspective has been prevalent since the time of René Descartes who pronounced body and soul as separate entities, rendering to science the domain of the body, and the soul to the domain of the church. Norm Shealy, author of *Sacred Healing,* describes this point in history as the beginning of "modern scientific medicine" and contemporaneously, the decline of spirit within the context of modern medicine. This approach has also been labeled as reductionist in nature; seemingly reducing elements to manageable parts for examination, and further expanding to a larger whole of being. Pert restates these underpinnings:

> The Cartesian era, as Western philosophical thought since Descartes has been known, has been dominated by reductionist methodology, which attempts to understand life by examining the tiniest pieces of it, and then extrapolating from those pieces to overreaching surmises about the whole.[14]

Diagnosing Breast Cancer

The focus, then, regarding breast cancer is the pathology of the breasts; the diagnostics and physical examination confirming the presence of disease. The physician relies on these diagnostics to corroborate her/his observations. Based on the framework

of hard science, the observable and the definable are the realm of Allopathic Medicine. Accordingly, by separating the parts from the whole, an informed diagnosis can be substantiated from this perspective.

Discussing the shortcomings of the Western/Allopathic approach, Horner claims, "But surprisingly, Western medicine hasn't caught up with this scientific revolution. It still treats the body as if it were a machine of unrelated parts."[15] Horner's "scientific revolution" refers to a paradigm shift from Newtonian physics to Quantum physics. Regrettably, Western Medicine, for the most part, does not advocate prevention. Treatment is prescribed once the anomaly has been found. The dominant paradigm is firmly entrenched in the expression of physical symptoms. Horner comments on the misguided principles of this paradigm.

> It doesn't understand that imbalances caught and corrected early will prevent chronic disorders from manifesting. Worse, it has no technology or diagnostic technique to catch a disease "early." Rather, its tests can only detect diseases at late stages, once they have caused structural changes in the body."[16]

The limitations so noted most certainly affect the treatment of breast cancer. The mechanistic approach of Conventional Medicine reduces a disease process to the level of physical causality. Everything from this perspective depends on the correct diagnosis of the cancer, i.e., stage and type.

Allopathic Treatment Protocols

The mainstream medical treatment protocols for breast cancer are based in Allopathic Medicine. Successful medical outcomes have been attained when employing Conventional/Allopathic treatment; however, the protocols are restrictive and limiting by

their very nature. This approach perpetuates a reductionist philosophy that identifies an anomaly or a diseased system and then applies an appropriate protocol per the diagnosis. Medicines are utilized to offset physical symptoms or to serve as a catalytic agent not related to the symptoms. Benor explains, "Conventional treatments for cancer include surgery, chemotherapy, and radiotherapy as therapeutic and palliative interventions, with pain killers prescribed to treat the most common and most feared problem."[17] A comparison is drawn between conventional and alternative therapies by Lillie Shockney regarding the treatment of breast cancer:

> Conventional medical therapy is based on the "scientific model" of modern Western culture. It aims to treat a specific problem, a specific complaint, or a definable disease (such as breast cancer): to make an accurate diagnosis and cure the patient--- or at least to send the disease into remission. In breast cancer treatment, conventional medicine uses a combination of comprehensively tested and approved medications, surgical procedures, and radiation. Conventional medicine relies on agents from outside the body (medicines, radiation, etc.) to achieve healing.[18]

In addition to chemotherapy, surgery and/or radiation, a new series of drugs are being prescribed for women diagnosed with estrogen receptor positive breast cancer. These drugs are utilized as hormone therapy for women with breast cancer. Oestrogen is defined as: "A generic term for oestrus producing steroid compounds, the female sex hormones. Oestrogen is used in oral contraceptives and as a palliative in cancer of the breast after menopause."[19] Specific indicators are used to determine whether a woman can benefit from this class of drugs, i.e., perimenopausal or postmenopausal onset, type of cancer, size of mass, stage of breast cancer, grade of cancer cells, results of tests on cancer cells, and overall status of health. In the article *Which treatment for breast cancer*? the type of hormone therapy assigned to the patient is determined as follows:

> You may have hormone therapy if your cancer cells are progesterone receptor positive, even if they are oestrogen receptor negative. There are circumstances when doctors recommend both types of treatment. Younger women who are ER positive will probably have chemotherapy as well as hormone therapy. They will get benefit from both. The chemotherapy can stop the ovaries from working and so cut off the hormone supply to the cancer.[20]

The newest type of cancer treatment is biological in nature, and is referred to as Biological Therapy. The use of this treatment is described as follows: "Herceptin is a type of targeted treatment for breast cancer. It is a monoclonal antibody, which is a type of biological cancer treatment. A monoclonal antibody is an antibody that can be made in the laboratory in large quantities."[21] Research has shown that:

> Somewhere between 15 and 25 out of every 100 patients with breast cancer (15-25%) are likely to respond to treatment with Herceptin. Their cancer cells have a large amount of a protein called HER2Neu or erbB2. This protein is a growth factor receptor. It transmits signals, which make the cells grow. The Herceptin antibody attaches itself to this protein receptor and blocks it. So it can no longer tell the cancer cells to grow. Herceptin also increases the effect of chemotherapy drugs on breast cancer cells.[22]

These conventional treatment protocols are varied across the population of women who are diagnosed with breast cancer, as has been previously noted. The modality of treatment is dependent solely upon tests, which are diagnostic evaluations of the disease process. While these tests are comprehensive in their appraisal, by their very nature they are lacking in a full assessment of the women diagnosed. If, in fact, these modalities were rated overall as successful in the treatment of breast cancer, then it would be posited that the mechanistic approach serves womankind well. However, this is not the present state of affairs.

Limitations of Conventional Treatment Protocols

The collaborative relationship of Conventional Medicine and pharmaceutical companies is a powerful alliance in contemporary American medicine. They are the defining body of influence for the treatment protocols of breast cancer. Richard Nixon and Edward Kennedy declared the "War on Cancer" in 1971. Daniel Benor in his work, *Consciousness, Bioenergy and Healing,* summarizes the results of these efforts:

> The results achieved with about $520 billion of research, mostly on the physical treatment of cancer, are unimpressive. Fears and desperation on the part of people with cancer, rigid approaches on the part of conventional medicine, and profit motives of the industry are the active forces in the politics of cancer, just as they were at the start of this "war."[23]

The fear and desperation of cancer patients noted by Benor are fundamental in nature to the conventional treatment protocols. Fear is imbued with the words of diagnosis, since a cure for the disease has not been developed based on the body of science followed by Allopathic practitioners. Therefore, the emphasis of Allopathic treatment is to stem the probabilities of recurrence. Practitioners operate under the auspices of cause and effect, limiting their perspective of other treatment protocols not associated with this philosophy. Rudolph Ballentine in *Radical Healing* discusses his concerns about the contemporary treatments for cancer: "Cancer, however, along with a host of other degenerative diseases, has refused to yield to the germ/drug approach. Apparently we have not found the key to relieving human suffering." [24]

The war has not been won via the efforts of conventional treatment for breast cancer, and the pharmaceutical companies maintain the development of the chemical treatment protocols. Benor addresses the methods used for women who have been diagnosed with breast cancer:

> Their nearly universal complaint was that their breasts were well cared for, but the doctors and nurses and x-ray therapists seemed to forget that there was a woman attached to the breasts that they were probing and x-raying and needling and cutting and reconstructing, while prescribing toxic chemicals and radiotherapy to fight the disease that they perceived was attacking the body.[25]

What is lacking regarding the treatment of breast cancer from this approach? Operating from a position that is *solely* Allopathic reinforces blind spots in the practitioner's protocol, ignoring other levels of interaction that bring influence to bear upon the disease process. Curing a disease from this perspective (as opposed to appraising the whole person) utilizes agents outside of the body, i.e., chemotherapy, surgery, radiation, hormone and biological drug treatments.

The alliance of the medical profession and the drug companies could easily remedy the above concerns. Research conducted on the drugs that fuel the treatment protocols are formulated from chemicals, and these chemicals can have enduring toxic effects, which can result in the death of a recipient. The allopathic drive to create more drugs that would offer a cure is a wonderful thing. However, this drive seems to be articulated in one direction, a greater proliferation of drugs. Expanding research to include treatments that offer non-toxic side effects, and a wider range of treatment options, would render great progress in our fight against breast cancer. The merits of this effort cannot be overstated.

Energy Medicine

The Energy Medicine perspective views the whole of our being as constituent parts afflicted with and affected by a disease process. Energy Medicine posits that a disease process is contingent upon the balance of the energies that are contained throughout our being; these energies are in affiliation physically, spiritually, mentally, and emotionally.

"The purpose of energy therapies can be broadly defined as the healing of mental or physical disorders by rebalancing the energy fields in the human body or by drawing upon spiritual energies or forces for such healing." [26] Richard Gerber in *Vibrational Medicine For The 21st Century* has described Energy Medicine as the "vibrational-medicine model." Gerber states, " Vibrational medicine is based upon modern scientific insights into the energetic nature of the atoms and molecules making up our bodies, combined with ancient mystical observations of the body's unique life-energy systems that are critical but less well understood aspects of human functioning."[27] From this perspective, the integration of the whole (our physical anatomy and life force) influences and alters the path of disease.

CAM Treatment Modalities

The treatment modalities referred to as CAM differ fundamentally from Allopathic treatments. As Conventional Medicine looks for a cure regarding a disease process such as breast cancer, CAM modalities pursue healing that embraces the whole of our being. Benor states, "The CAM offers caregivers and healers ways in which to heal that have not been used in Western medicine."[28] The term Western medicine is used here to refer to Conventional/Allopathic Medicine.

Many Complimentary and Alternative modalities examine psychological/emotional patterns and spiritually held attitudes and beliefs. Some modalities of healing have gained more recognition as conventional science has researched their application for cancer patients. Numerous researchers are finding a current resurgence of CAM by individuals in search of treatments that exemplify a holistic approach to healing.

> Although educated middle-class white persons between the ages of 25 and 49 years were the most likely one to use alternative medicine, use was not confined to any particular segment of the population. These researchers estimated that Americans made 425 million visits to alternative health care providers in 1990, a figure that exceeded the number of visits to allopathic primary care physicians during the same period.[29]

A study conducted by Targ and Levine, *The efficacy of a mind-body-spirit group for women with breast cancer: a randomized controlled trial,* investigated a standard support group, and a Complementary and Alternative Medicine support group intervention. One hundred and eighty-one women were randomized to either of the groups. According to the researchers, an increasing number of women diagnosed with breast cancer are exploring options to the standard support group. The standard support group does not include noncognitive approaches such as body awareness, journaling about the cancer experience, or spiritual exploration, as did the CAM support group. This study concluded by emphasizing the importance of psychosocial interventions for both groups of women, and presenting unexpected findings of spiritual integration for the CAM group. In summary, the study found "Only the CAM group showed increases in measures of Spiritual Integration." Additionally, the data suggest that "the CAM approach is not superior in supporting standard outcomes, but rather that it supports growth in a healthful area that is not normally even measured in behavioral research."[30] Concluding statistical results of this population indicated "At the end of the intervention, the CAM group showed higher satisfaction (P=0.006) and fewer dropouts (P=0.006) compared to the standard group."[31]

Modalities that address mind, body, and spirit are representative of the Holistic perspective that is Energy Medicine. A proponent of mind, body, and spirit treatment

protocols for breast cancer is Dr. Christiane Northrup. In her book, *Women's Bodies, Women's Wisdom,* she submits the following: "I've worked with several women whose choice has involved dietary change and inner healing work only--- without any aid from conventional medicine besides the initial biopsy to make the diagnosis."[32] While Dr. Northrup acknowledges that she is not a specialist in treating breast cancer, she does counsel women on the availability of CAM. She has followed the treatment plans and recovery of several women that she sees in her medical practice. Most notable are the cases where individuals availed themselves of psychological and spiritual practices that transformed their lives and healed their breast cancer. In general, the women observed were individuals embracing CAM in order to seek relief of physical symptoms and build inner resources that promote self-healing, i.e., spiritual healing and transformation of emotionally held patterns that are psychological in nature.

Two modalities that specifically work with the psyche are counseling and psychotherapy. Counseling (formatted as support groups) is a primary focus of cancer treatment centers. Generally, these groups are oriented from a psycho-educational perspective. Traditionally, this type of group advances problem solving, personal sharing and support. This focus is cognitive in nature. While psychotherapy has many schools of thought, the one that has the most merit from the Energy Medicine perspective is known as Transpersonal Psychotherapy. Transpersonal Psychotherapy is "a branch of psychology that is concerned with the study of those states and processes in which people experience a deeper or wider sense of who they are, or a sense of greater connectedness with others, nature, or the "spiritual" dimension."[33] Transpersonal approaches of

psychotherapy address psychological and spiritual issues relevant to the needs of the individual.

The focus of spiritual healing is advanced through the CAM of guided imagery, visualization, meditation and intercessory prayer. Spiritual healing addresses the beliefs and attitudes that one holds; honoring personal desires, intuition, and direction. Kaur advocates "Find meaning in the attitude you take to suffering and illness. Ask of every situation that's given to you what you can learn from it to help you grow emotionally and spiritually."[34] This proactive persona is empowering and healing.

Using guided imagery with cancer patients was pioneered by O. Carl Simonton, a radiation oncologist, and Stephanie Matthews-Simonton, a psychotherapist. The Simonton method was designed to aid patients who were going through treatment for cancer. The Moores Cancer Center in San Diego, California uses a guided imagery technique "This method teaches cancer patients to picture their immune system cells "gobbling up" cancer cells like "Pac Man," and destroying them."[35] Research on guided imagery has been conducted since 1966 to the present. The American Cancer Society conducted a clinical trial involving women with early stage breast cancer and found "guided imagery was also useful for easing anxiety related to radiation therapy, including fears about the equipment, surgical pain, and recurrence of cancer."[36] Additional studies support these findings: "Proponents suggest that stimulating the brain through imagery can have a direct effect on both the endocrine and nervous systems, which lead to changes in immune system function."[37] Research on the interrelationships of the mind, endocrine, and immune systems validate these effects. Candace Pert identifies this interrelationship as a psychoimmunoendocrine network that utilizes a common language.

"It's got to be a network. It's sending information through peptides [chemical messengers] that are being released by cells all over and they are receiving information."[38] This "cellular consciousness" is the operative in guided imagery.

Visualization has also been found to be beneficial to those with a cancer diagnosis. As Benor describes, "Visualization techniques invite people to develop mental images of their immune system fighting the cancer (e.g. they may see white blood cells as white knights, sharks, or soldiers, attacking the cancer cells and destroying them)." [39] Dr. Leonard Laskow, an American gynecologist, sought to influence cancer cells [isolated in Petri dishes] via visualization. He chose two forms of extinction concerning the cells, sending them to light or the vastness of space. The results of the experiment are as follows:

> The different forms of intention were associated with drastically different effects. Most effective was asking the cultures to return to the natural order and harmony of the normal cell line (39 percent inhibition). Allowing God's will to manifest was about half as effective (21 percent inhibition). Unconditional love appeared neutral, neither stimulating nor inhibiting cell growth. The Taoist visualization technique, in which only three cells were visualized remaining in the dish, was associated with 18 percent inhibition.[40]

Women in-group format have used meditation as a means of centering (the self), and achieving discernment. In research conducted over the last thirty years, meditation has been assessed for the physical and psychological affects upon the meditator. Baine proposes "It is hypothesized that meditation creates a unique physiological state that maintains a high level of central nervous system functioning and alertness while simultaneously allowing for deep rest and relaxation."[41] Recent research has studied the effects of meditation upon the metabolism, the endocrine system, and the central and autonomic nervous systems for applications in medical therapy. The effect of

Mindfulness Meditation on these systems has been examined. Jon Kabat-Zinn introduced this mode of meditation to the medical community and his subsequent research studied the psychotherapeutic benefits derived from this mode of meditation. Baine states, "Meditators are taught to recognize the repetitive patterns of their stressful thoughts and emotions and to inquire into them."[42] Stress is implicated in the disease of cancer. It is theorized that stressful reactions inhibit the proper functioning of the immune system that protects one from foreign invaders and malignant cells. Breast cancer is a "dis-ease" of body, mind, and spirit. Meditation synchronizes these layers of our being encouraging insights vital to the healing of breast cancer.

Prayer as a modality of healing from diseases such as breast cancer has been researched extensively. Intercessory prayer is one form of prayer that has been studied in particular. Dr. Larry Dossey found "Intercessory prayer is often called distant prayer, because the individual being prayed for is often remote from the person who is praying."[43] This type of prayer does not require nor express any specific religious affiliation and is based on the concept of "non-locality." "According to this concept, consciousness cannot be completely localized or confined to specific points in space, such as brains or bodies, or to discrete points in time, such as the present moment."[44]

Prayer can also be cultivated in an individual practice, and is cogent for connecting with the self, and refining the nature of one's inner work so noted by Kaur:

> Your prayer may be a feeling state without words that you maintain for a period of time. It may be a formal practice that you recite one or more times until you feel finished. You might keep a little notebook in your prayer space and let your prayer come out as written thoughts or as a letter or drawings to God. Find what works for you.[45]

The above modalities are examples of spiritual healing, and notably these modalities have been used to facilitate the healing process in breast cancer. Everything that we are flows from our spiritual core and bears fruit in our physical, mental, and emotional being. The healing of spirit is the call to healing the whole of our being. Daniel Benor in *Consciousness Bioenergy and Healing* comments on spiritual healing: "Each therapy contributes another facet of understanding to the mystery of healing, and similarly, spiritual healing helps us to understand aspects of various complementary therapies."[46]

Constraints of CAM

Complementary and alternative modalities of healing (CAM) is primarily invested in treatments that promote healing of body, mind, and spirit. "In holistic and complementary medicine, each person is viewed as a unified whole, with both mind and spirit playing important roles in healing the body."[47] From this perspective, healing incorporates the wisdom of modalities that have been used for thousands of years. This philosophy of interconnectedness is not promoted in Conventional/Allopathic Medicine. Allopathic practitioners are concerned with the parts of the whole (a mechanistic perspective) that comprise a disease process. This segregation of mind and body is discussed by Gerber as one of the premises that accounts for the existing duality between the two camps of practitioners.

> In our culture, one of our biases is that newer information and techniques are always better than older belief systems and technologies. Doctors often dismiss older medical approaches as outdated and useless. For example, many physicians don't fully appreciate [that] the roots of modern pharmacology lie in the older approaches of herbal medicine and homeopathy.[48]

Much tension exists because of these ideological differences; subsequently this stalemate impedes the healing connection that could be forged by the two opposing perspectives. Allopathic treatment models presume the body as machine, and initiate a search for the mechanisms that will rid the body of disease. CAM diagnoses and treats primarily from an energetic perspective, as the wisdom and practices are undeniably about restoring and balancing energy systems that are malfunctioning. Richard Gerber in *Vibrational Medicine For The 21st Century* discusses a new model of medicine that would alter the focus of conventional medicine and give credence to ancient healing. He describes this model as "a synthesis of the best of ancient healing lore combined with the latest discoveries in science to produce an entirely new approach to diagnosing and treating illness."[49] This incorporation would offer superlative advantages for the total well-being of cancer patients, and both perspectives could be united in the treatment of breast cancer.

Reliance on synthetic drugs, surgery and radiation is the foundational basis for conventional medicine; these are the elemental components of conventional breast cancer treatment. Benor states, "The prevalent view in the West has been that conventional, allopathic medicine is the only reliable method of addressing illness."[50] Mainstream medicines as the delivery system to the patient, aligned with pharmaceutical companies, supply the drug treatments that are perceived to have efficacy. Benor notes, "Doctors are accustomed to prescribing physical and chemical measures for cancer therapy."[51] This monopoly is to the exclusion of most of CAM, as CAM does not treat disease processes such as breast cancer with drugs or surgery. The mainstay for CAM is natural remedies

such as homeopathy, acupuncture, herbal medicinals, transpersonal psychology, and spiritual approaches to healing.

Clinical research is the main criteria for evaluating treatment protocols for the population of breast cancer patients. This research is based on studies, which adhere to scientific methods that assess drug therapies for treatment. Christine Northrup in *Women's Bodies, Women's Wisdom* addresses the nature of the conventional medical system:

> Our culture and its addictive medical system believe that technology and testing will save us, that it is possible to control and quantify every variable, and that if we just had more data from more studies, we'd be able to improve our health, cure diseases, and live happily ever after.[52]

This mindset speaks to the principle that more is better, i.e., more studies, more tests, thereby giving the physician a sense of security within the diagnostic frame, whether it is a valid sense of security or not. The research standards advanced by the scientific method do not bode well for the CAM modes of healing. Dossey claims, "Many researchers and clinicians in alternative medicine realize that it may be impossible to subject some healing methods to the rational strategies favored in contemporary biomedical research such as double-blind methodology."[53] *The National Academy of Sciences Institute of Medicine* addresses the issue of study design for both perspectives:

> Although CAM and conventional medicine may differ in terms of the nature of the treatments provided and the presumed mechanisms by which treatments produce beneficial effects, there is no fundamental difference in the basic nature of either the cause-effect relationships being tested or the major domains of patient outcome being studied.[54]

Further, the committee conducting this investigation recommended that "the same principles and standards of evidence of treatment effectiveness apply to all treatments,

whether currently labeled as conventional medicine or CAM."[55] This implementation would require "common methods, measures, and standards" to be used and applied by all investigators.

Regarding the treatment of breast cancer, the dominant paradigm of Conventional Medicine is being questioned by those who choose to explore the potentialities of CAM. The shortcomings (a mechanistic approach, drug therapies defined by chemotherapy, hormone therapy, and double-blind research methodology) of these allopathic approaches have contributed to an increasing awareness of CAM healing.

Physical Factors of Influence in Breast Cancer

Several physical factors have meaning for the development of breast cancer. In this study, the physical variables of weight as measured by the Body Mass Index (BMI), hormone replacement therapy, and oral contraceptive usage were surveyed in the convenience sample of women who were willing to participate.

Body Mass Index

Body Mass Index is defined as "the number derived by using height and weight measurement that gives a general indication if weight falls within a healthy range."[56] Weight has always been considered significant for an individual's state of health, and breast cancer is not an exception. Horner writes, "Obesity is thought to be responsible for 20 to 30 percent of all breast cancers diagnosed after menopause."[57] In a study by Fritz De Ward in 1981 that looked at the relationship of body size risk of breast cancer, and estrogen receptors the following was concluded:

> We analyzed the effect of weight and height on breast cancer risk, distinguishing between estrogen-receptor-positive (ER^+) and estrogen-receptor-negative (ER^-) cases. It was found that risk of ER^+ breast cancer rose with increasing weight (W), not with height (H), and therefore also with overweight as defined by Quetelet index (W/H^2).[58]

Weight that is carried in the abdominal region is characterized by decreased amounts of circulating estrogen. When the estrogen is not circulating and being extinguished via the colon, it seeks a place to park. Parking here refers to estrogen receptor sites in breast tissue, where cells start dividing, and this action increases the risk of cancer. There are good estrogens and bad estrogens with regard to the disease of breast cancer. Horner explains, "The good estrogen causes no damage and drives immediately to the colon or to the bladder where it leaves the body. The bad estrogen backfires, gets stuck in reverse, and speeds back to the breast where it wreaks havoc."[59] There are opposing views as to the significance of weight before menopause, and weight gained post menopause. It is believed that weight gained post menopause feeds on existing tumors that have not expressed as cancer until fed by the increased amounts of bad estrogen that is present in the adipose tissue (fat tissue), of overweight women. Sahelian states:

> Menopause tends to be associated with an increased risk of obesity and a shift to an abdominal fat distribution with associated increase in health risks. Changes in body composition at menopause may be caused by the decrease in circulating estrogen, and, for fat distribution shifts, the relative increase in the androgen-estrogen ratio is likely to be important. Clinicians need to be aware of the likelihood of weight gain during the perimenopausal and postmenopausal years because behavioral strategies or weight loss can be effectively used in this population.[60]

Hormone Replacement Therapy

Hormone replacement therapy is a controversial therapy that is intended to offset symptoms associated with perimenopause and menopause. Some of the controversy associated with hormone replacement therapy (HRT) is based on studies that have conflicting results, and inconsistent outcomes. Kelsey discusses this controversy:

> Thus, the published evidence to date at most suggests a modest elevation in risk for breast cancer among women who use high-dose estrogen replacement compounds for long periods of time or who started using them many years ago. However, other studies do not show this trend and further investigation is needed.[61]

There is considerable concern about HRT usage as the synthetic hormones are not natural to a woman's body. The estrogens formulated for HRT usage are a combination of equine estrogens. Northrup states, "Premarin is an acronym derived from the phrase "pregnant mares' urine." If you doubt this, just put a drop of water on a tablet of Premarin and smell it."[62] Dr. Northrup's concern is twofold: she thinks the dosage is too high, based on hormone tests of her women patients; and a one-pill-fits-all-women approach is unrealistic. Because of her experience and beliefs, Dr. Northrup advocates individualized assessment for HRT, and estrogens that are natural to women's bodies.

> In view of the concerns regarding breast cancer associated with estrogen replacement therapy (ERT), the use of synthetic sex compounds with which the human body is not designed to cope would appear to be the equivalent of conducting a vast experiment on the female population.[63]

Many studies abroad and in the United States echo a strong resound for the lurking dangers of HRT use. There is a large practice of usage by women in the United States, (several million). Unfortunately, the research on HRT is not made available to women who are presented with this treatment option. Horner addresses these negligible effects:

"With this extensive use, you'd think that this pharmaceutical product would have been thoroughly studied, both before it was put on the market and afterward. But a well designed study wasn't conducted on HRT until forty years after it was put on the market."[64] Dr. Horner cites additional study findings: "*The Lancet* in 2003 found the risk was considerable. One-quarter of all the women between the ages of fifty and sixty-four in Britain -1 million women- were followed from 1996 until 2002. Those women who took HRT had a 66 percent higher risk of breast cancer and a 22 percent greater risk of dying from it."[65] Additionally she states:

> For instance, the Nurses' Health Study, a large epidemiological study, followed 58,520 women who took HRT from age fifty to sixty. When these women reached the age of seventy, they were found to have a 23 percent higher risk of breast cancer. However, the women who took estrogen plus progestin had a much higher risk of breast cancer---67 percent."[66]

The risk factors associated with HRT are alarming. The information reported in these contemporary studies enables women to make informed decisions, regarding lifestyle choices.

Oral Contraceptive Usage

Oral contraceptive (OC) usage also has ramifications for the disease of breast cancer. Kaur writes, "Birth control pills have variable effects on breast cancer. When used before the age of 20 or if used for more than 5 years before the age of 35, they can triple the likelihood of developing breast cancer."[67] Oral contraceptives are prescribed on a wide scale in the United States. Initially, the "pill" was perceived to be a panacea for unwanted pregnancies. Since its conception, the pill has gone through modifications as to the dosage of contained estrogen and progesterone. Today, smaller amounts are incorporated in the pill.

One of the most significant perceived risk factors with oral contraceptive usage is the length of use. Kelsey found that "the elevation in risk was noted only in the one subgroup of women who had used OC for more than 6 years; otherwise, there was no trend towards increasing risk with greater length of use."[68] This study categorizes women into specific subgroups for comparisons. The subgroups include long-term usage of OC, and women with a "history of biopsy-confirmed benign breast disease". In additional studies, it was noted that women with biopsy-confirmed benign breast disease had increased risk of developing breast cancer in conjunction with oral contraceptive use. It was noted that the numbers of this study were small and results inconclusive when compared to other studies with small groupings and that the increase risk was "quite small."

Additional research pertains to the amount of estrogen that accumulates in a woman's body as being problematic in the development of breast cancer. Tagliaferri confirms the following with regard to estrogen: "Because 70% of tumors in the breast have proved to be estrogen-dependent, it becomes even clearer that controlling estrogen activity can dramatically reduce the risks and recurrence of breast cancer."[69] Controlling estrogen activity refers not just to oral contraceptives, but also to phytoestrogens, which are found in our diet, and xenoestrogens that are ubiquitous in our environment. Smith found:

> Critics have proclaimed that these chemicals [xenoestrogens] are for the most part "weak". The body's hormones are at levels of parts per trillion. However, many of the chemicals that affect the hormone systems are routinely found in the serum after sauna at parts per billion. In other words, these chemicals that affect the hormone systems of the human body occur at 100 to 1000 times greater concentration than that of the normal human hormones. One researcher demonstrated that two "weak" estrogens may act synergistically to give a strong estrogen response. Some of these xenoestrogens like DDE (a metabolite of DDT) may persist in the body fat for

decades.[70]

Xenoestrogens are particularly problematic for women as these chemical estrogens increase the amount of estrogen held in tissue. Horner states, "Some can disrupt your endocrine system, which is made up of the glands that produce hormones, such as estrogen. Some endocrine disrupters mimic the estrogen molecule. Not surprisingly, they have been directly linked to causing and accelerating the growth of breast cancer."[71] The research on this class of estrogens began in the nineties, and so far, it is being reported that the "total estrogen exposure" increases the risk of breast cancer. These environmental estrogens (xenoestrogens) are found in chemical pesticides, household cleaning products, and many skin care products, such as body lotions and gels.

Psychological Aspects as Contributory Factors of Breast Cancer

The role that emotions play in the development of a disease process (such as breast cancer) is still considered controversial by Conventional Medicine. Acknowledging that emotions can enact a significant role in the unfolding of a disease process flies in the face of the germ/drug theory dominant in today's Allopathic medical community. However, many researchers have examined the role of emotions and health. Wilhelm Reich, Claus Bahnson, and Lydia Temoshok studied the role that unexpressed emotions played in the unfoldment of cancer. Emotions are significant to the course of healing the whole person. Shealy indicates "Emotions are physical sensations or feelings resulting from perceptions of safety or threat."[72] He goes on to explain, "Your goal is to resolve all your unfinished business (anger, guilt, anxiety, depression) by working to feel

the best solution."[73] Taking responsibility for the flow of negative debilitating emotion is the first step on the road to recovering the self.

Candace B. Pert in her book *Molecules of Emotion* discusses the role of emotions in our health. Pert found "It is the emotions I have come to see, that link mind and body."[74] Further, she states:

> In my talks, I show that the molecules of emotions run every system in our body, and how this communication system is in effect a demonstration of the bodymind's intelligence, an intelligence wise enough to seek wellness, and one that can potentially keep us healthy and disease-free without the modern high-tech medical interventions we now rely on.[75]

Research pursued by Dr. Pert and others has prompted additional studies of these "molecules of emotion" and their potential effect on cancer cells. This initiation led to a paradigm shift of an unexpected nature. Pert asked, "Did the brain communicate with the immune system? And did this have implications for cancer-growth spread or for antitumor immune responses?"[76] The biomolecular mechanism featured in this research is called a peptide. A peptide is an information molecule contained within our biological systems. Pert pursues an innovation in terminology: "I prefer a broad term coined originally by the late Francis Schmitt of MIT---*informational substances*--- because it points to their common function, that of messenger molecules distributing information throughout the organism."[77]

It has been posited that specific emotions, negatively bent, alter the natural course of the immune system to fend off diseases such as breast cancer. If emotions are repressed, does this signal the lymphocytes to ignore an immune response, significantly altering the flow of these cells that can eliminate malignant cells? According to the research of Candace Pert, Michael Ruff, and Robert Ader, to name a few, the answer is,

yes. Pert states, "Since emotional expression is always tied to a specific flow of peptides in the body, the chronic suppression of emotions results in a massive disturbance of the psychosomatic network."[78] The bombardment, over time, to a given individual's immune system (of these negatively charged and non-resolute emotions) leaves the individual defenseless to disease and foreign invaders. This interruption of the optimum functioning of the immune system opens the door to the proliferation of cancer cells. Pert discusses the course of the natural killer cells in our immune system. She states that:

> In most of us, most of the time, these cells do their jobs well---a job coordinated by various brain and body peptides and their receptors----and these tiny tumors never grow large enough to cause us to become ill. But what happens if the flow of peptides is disrupted? Is it possible we could learn to consciously intervene to make sure our natural killer cells keep doing their job? Could being in touch with our emotions facilitate the flow of the peptides that direct these killer cells at any given moment?[79]

When an individual tunes into their state of depression, anxiety and stress, they are making a conscious effort that supports immune function.

Caroline Myss is a medical intuitive. She reads the "subtle energy of our system" in order to diagnose imbalances in the energy system that are indicators of disease processes. She has confirmed the role of emotions and our health. Myss summarizes:

> Her diagnoses repeatedly document the effects of emotional energy, past and present, on physical health; she senses deep and traumatic experiences, beliefs, and attitudes that alter the frequencies of cells and the integrity of our energy system. She reads our spirits, which are ultimately our true power.[80]

Myss expands on the role of emotions in breast cancer. She notes, "For instance, the major emotion behind breast lumps and breast cancer is hurt, sorrow, and unfinished emotional business generally related to nurturance."[81] Nurturance in this context refers to the bonds that bind us with ourselves and other significant relationships. Feelings of love

and self-esteem emanate from our being when we are nurtured by those we choose to love, including our self.

Sat Dharam Kaur, author of *The Complete Natural Medicine Guide to Breast Cancer*, notes that the following affective expressions and emotional states highly impact the development of breast cancer: "Deny, bury, or hold on to anger; ignore one's own needs; please others; feel alienation; loss of a loved one (grief); stress and the inability to relax; and living a life following someone else's script rather than one's own."[82] These emotions and disharmonious states of being are psychological risk factors for the development of breast cancer. They also correlate to research conducted by both Bahnson and Temoshok on Coping Style C. The emotions are powerful tools that can enable us to discern what motivates us toward health or illness. Balancing our emotional state promotes the flow of our immune system, which checks the growth of aberrant cancer cells. The clinical insights of these researchers have informed this body of research.

The Role of Spiritual Aspects in the Unfoldment of Breast Cancer

Spirit can be characterized as the life principle, the energy that fosters and motivates human endeavors. Our connection with the spirit that resides within and around us is the master of all the energetic layers of our being, and is potentially the helmsman of our material body. While the conscious and unconscious states of the mind contain multi-faceted layers of being that interact with our potential for health, spirit is the core of our essence, and the defining aspect of healthful well-being. Shealy states, "Practically all of the ancient texts describe the art of healing as a divine process in which

healing the body first requires healing the spirit."[83] Accordingly, the deficits caused by our separation from spirit must be recognized and repaired for the preservation of health.

As spirit is essential to the maintenance of our health, variables negating spirit have been ascribed to a state of 'dis-ease.' Characteristics of hopelessness and despair, a chosen path or occupation that is deemed unfulfilling, dim the life force. Without authentic living, one merely exists, and existence invalidates the qualities that advance a healthful state of being. Benson, in reviewing the literature on spiritual experience relative to health, claims the following: "Given everything we know about remembered wellness and about the impact of stress and turmoil on health, the happiness and contentment engendered by faith proves an extraordinary contributor to health."[84] Denial of the self and the associated needs that are essential for personal fulfillment impair the ability of navigating one's path. Such digressions have dire consequences for the given individual. Ballentine comments:

> If you ignore that innermost impulse, no matter how superficially ideal your life may look, your body is not properly vitalized by the use it requires (your body is designed for your path), and where the energy doesn't flow, deterioration begins. It may take years or even decades to reach the point where it is recognized as disease.[85]

Negating the spiritual features held in our core are violations to our essence; thereby promoting a physical imbalance of stupendous stature that advances disease processes such as breast cancer. The state of imbalance occurring when spirit is negated or ignored attributed to breast cancer is elaborated by Kaur: "We can drop the mental script of what we should be doing, and instead, carve a niche in life that reflects our unique identity. Otherwise, the killing of spirit can contribute to cancer development, as the life force is suppressed"[86]

David Boadella in his book *Wilhelm Reich: The Evolution Of His Work* details negative aspects that impact cancer patients. He states, "Loss of a loved one or job from six months to eight years before the diagnosis of cancer is made is as frequent as sixty per cent in some surveys."[87] This citation is drawn from the work of Chris Coulson, Wilhelm Reich's *Investigations into the cancer process*. The tests used to gather this data were largely "Rorschach ink blot and interviews." The data were used as a forecasting analysis with the patient, "so any effect of the knowledge that a patient has a cancer is ruled out." Most assuredly, these individuals did not substantially grieve their loss or find a suitable job replacement in order to reestablish their spiritual integrity. Spiritual well-being can be described as the choices an individual makes, and further, *how* these choices are expressed as one engages life.

Clinical research that examines the role of spirit with regard to breast cancer gleans illuminating conclusions. Targ and Levine examined the efficacy of a mind-body-spirit group for women with breast cancer. They compared a group of subjects who participated in a standard support group (12 weeks) of unstructured psycho-educational support, and a group designated as the CAM program (12 weeks) that participated in intensive lifestyle changes as well as a group support program with an emphasis on psychospiritual issues and inner process. The discussion of the study relates these conclusions:

> The CAM group contained multiple modalities and recommended multiple lifestyle changes. In evaluating, what about the program may have resulted in changes we note that the CAM program participants showed significant increases in their use of yoga, meditation, prayer, and other alternative modalities—while the standard support group participants did not make such changes. Contrary to expectation, increased use of yoga, meditation, and prayer were not associated with increased quality of life, but were associated *with increases in spiritual integration* (PLS), the Principles of Life Survey.[88]

Quality of life was measured in this study by the *FACIT*, this instrument is a self-report measure designed for cancer patients. While Quality of Life measures can assess objective and subjective characteristics of well-being, this measure was a subjective approach. The domains evaluated were: "Physical Well-Being, Social Well-Being, Emotional Well-Being, Functional Well-Being, swollen/tender arms, and worry about stress effects."[89] The Complementary and Alternative Medicine (CAM) program and the standard support group program both had substantial gains in quality of life. However, it was noted that the CAM group supported growth that benefits health. Further, it was noted that the dimension of spirituality is not *normally* even measured in behavioral research.

Additional clinical research posits an affiliation between spiritual experiences and health. Kass et al. state, "identification of a relationship between intrinsic religious variables and life purpose and satisfaction would suggest a relationship through which spirituality might affect health."[90] In this study a research instrument was designed entitled, INSPIRIT. The study evaluated "Core Spiritual Experience" with 83 adult outpatients, some with a diagnosis of cancer. Kass et al. conclude, "the correlation between the INSPIRIT and decreases in the average frequency of symptoms suggest that core spiritual experiences may also contribute to a reduction of medical symptoms and to improved quality of life."[91] The data suggest that spirituality plays a significant role as a mediator of health.

Discernment of the spiritual aspects affiliated with breast cancer offers women the greatest potential for conquering the disease. Myss advocates "Healing requires internal

as well as external change. It requires asking ourselves questions such as 'Am I fulfilled by the life I am leading?"[92] Overcoming futility is life affirming, reconnecting spirit to purposeful living. Harnessing the self is an essential factor in healing. Releasing the negativity of the past allows one to move toward wholeness. Myss declares that "refusing to let go of past events, whether positive or negative, means throwing away some part of your daily energy budget."[93] The loss of energy is related to physical vulnerability that makes one susceptible to a disease process like breast cancer. Fulfillment of our life's work and contentment with our chosen path are core characteristics of spiritual well-being.

This study examined the physical, spiritual and psychological aspects of breast cancer and their influence on the development of the disease. This researcher's objective was to discern the given variables (physical, spiritual, and psychological in nature) that discriminate between the identified groups (cancer patients, survivors, and women never diagnosed with breast cancer), and further predict group inclusion. Additionally, the variables could then be utilized as predictors of breast cancer, thereby opening the door to prevention. The realization of these predictive variables will enable the healing of body, mind and spirit thus returning homeostasis of being.

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CHAPTER 3:
RESEARCH METHODS

Study Design

Overview

The ID# that was assigned to this study is 430 and the approval to conduct the research was given by the IRB on January 11, 2006. The objective of this study is to examine and explore attributes that affect the onset of the breast cancer disease process, the recovery from said process, and the attributes that are pertinent to maintaining and sustaining health. In order to determine these respective attributes the research will assess the spiritual, psychological and physical aspects that are germane to each group. The purpose for assessing these groups is to identify group separation and predict group inclusion.

Participants

A sample of convenience was used in this study. Participants included women ranging in age from thirty-eighty years. The total sample was comprised of 160 women divided into three groups; 61 in the Breast Cancer Free group, 59 Survivors of breast cancer, and 40 in the Recently Diagnosed group. Participation in the study spanned 23 states, Canada and the Caribbean Islands. Inclusion Criteria for the participants were as follows:

- Participants recently diagnosed with breast cancer; i.e., up to one year of original diagnosis.
- Participants designated as breast cancer Survivors from two years out.
- Participants established as Breast Cancer Free.

Researcher's Role

Recruitment of the participants was initiated by the principal investigator at the *Jewish Community Center* in Albuquerque, New Mexico. Michelle Schieffer, the director of the Jewish Community Center, was presented with the study protocol, and subsequently gave her permission for this researcher to address the group exercise classes. A succinct summary of the study was presented to the classes and a Sign- Up Sheet; (Appendix A) was made available to interested participants. Additionally, the Jewish Community Center agreed to have Fliers (Appendix B) with the specifics of the study in the foyer of the facility for those individuals not attending group exercise classes. This researcher followed-up with an email contact, or a phone contact number obtained from the sign-up sheet supplied by the potential participant. Participation in the study was discussed in detail once contact was made. Potential participants were screened by age and assigned to groups according to the aforementioned criteria.

Participants were given packets of information that included the following:

- Cover Letter and Time Commitment for the Study (Appendix C).
- Informed Consent Form (Appendix D).
- Information and Instructions to Participants (Appendix E).
- Demographics and Physical Variables Intake Form (Appendix F).
- Research Information for the Participants, DO YOU KNOW (Appendix G).
- Inventories with Instructions (Appendices H, I, J, K,).

Additional recruiting was pursued through various physicians in practice for the treatment of breast cancer, (oncologists, breast surgeons, and cancer researchers), cancer facilities and women's clinics in the Albuquerque and Santa Fe, New Mexico areas, as well as practitioners in Dallas, Texas. Two physicians at Baylor Hospital in Dallas, Texas sent three participants of the total 160. The physicians were given a participant packet for their approval prior to recruiting through their specific practice. The packet consisted of the aforementioned forms that are so provided in the Appendices of this study. Finally, advertisements were placed in the magazine *Natural Awakenings* seeking volunteers for the study. The advertisements detailed the specific groups, the age range for the participants and proffered contact information for this researcher. The audience for this magazine resides primarily in Northern New Mexico and Colorado.

The most important phase of the recruiting process involved contacting each potential participant and discussing the research and their subsequent participation should they agree to the terms of the study. Although, time consuming, this effort yielded additional contacts for the study as many of the women either knew other interested women, or were willing to pass along this researcher's contact information. In some instances, these encounters were highly charged with emotion, as time after time the women would tell their story and the plight of their involvement with the disease of breast cancer. The beauty of the grace that befell this researcher because of their efforts on my behalf and on behalf of the research was inspirational.

Once an individual woman agreed to participate, she was sent a participant packet of materials. If the participant resided in the Albuquerque and Santa Fe area, the packet was hand delivered. Within the contents of the packet was a stamped self-addressed

return envelope for her convenience. The packet contained a cover letter (Appendix C), the aforementioned materials noted in the appendices, a finger thermometer for gauging baseline body temperature, and four inventories (These inventories will be discussed in full in the Data Sources section.). The women were advised to return the completed materials in a timely manner. The two pages of research that this researcher had gleaned for this study were theirs to keep, and references of this research was supplied upon request. Upon return receipt of the participant packet, responses from the physical intake sheet and the scored inventories were recorded in a participant database. Each participant was assigned a number in the database affixed to her individual record.

Data Sources

Each participant was given two inventories examining psychological aspects and two inventories examining spiritual characteristics. These aspects/ characteristics were evaluated to ascertain: potential influences predisposing a woman to breast cancer; aspects of personality and spirit that serve survivorship; and parameters of a healthy lifestyle that protect women from breast cancer.

All participants completed an Intake Form that focused on the physical aspects significant to the study of breast cancer. By discerning and examining the physical, spiritual and psychological variables influential to the disease of breast cancer, a complete picture was created, promoting awareness, prevention, and healing of the whole person.

Measurements

The *Zung* (Appendix J) is a measurement of depression, and for the purposes of this study, was used to rate a participant's level of depression. This scale is a self-rating instrument that surveys four areas comprised of coexisting signs and symptoms. The four areas indicative of pathological disturbances or change are as follows: "somatic, psychological, psychomotor, and mood."[1]

The instrument consists of twenty items, and typically, the items take one to two minutes to complete in the experience of this researcher, and consultation of C. Norman Shealy, MD. The respondent may select from four potential responses, "none or a little of the time; some of the time; good part of the time; and most or all of the time."[2] Individual scores on the *Zung* detail a specific symptom that an individual exhibits. Successive cumulative scores establish areas of difficulty for the individual.

The completed scale is converted to the *SDS* index (i.e., Index= Raw Score Total over maximum Score of 80 x 100). A distribution of the scores reflects the following intensity of depression: "below fifty, within normal range, no psychopathology; fifty-fifty-nine, presence of minimal to mild depression; sixty-sixty-nine, moderate to marked depression; and seventy or over, severe to most extreme depression."[3] Each inventory was hand-scored, and the raw score was converted to the SDS index as previously stated.

The Profile of Mood States, (*POMS*) (Appendix I) is a measure of affective mood states. "Since 1971, The *POMS* has been used in a myriad of applied and research settings, such as drug development, mood relations to physical illness and quality of life."[4] The POMS was employed by this researcher to appraise the affective states of the

participants with the intent of distinguishing the mood states of the three groups of women thereby demonstrating group differentiation.

The POMS consists of sixty-five items, and according to its guidelines, normally takes three - five minutes per item to complete. The *POMS QUIK SCORE* offers three periods in which the respondent can focus on the instrument. The respondents of this study answered questions regarding their feeling states from the perspective of the past week and the here and now.

The scale is divided into six *POMS* factors. The factors are "tension-anxiety; depression-dejection; anger-hostility; vigor-activity; fatigue-inertia; and confusion-bewilderment."[5] These factors, reflective of mood, are totaled in order to derive a Total Mood Disturbance Score, (TMD). (Vigor is subtracted from the total factor score because it is negatively related to the other POMS factors.) Five potential responses are noted: "zero = not at all; one = a little; two = moderately; three = quite a bit; and four = extremely."[6] The *POMS* is a self-contained instrument with an inventory, scoring sheet, and profiling sheet. A comprehensive calculation of affective states is obtained from the *POMS*.

The *Spiritual Well-Being Scale*, (SWBS) (Appendix K) was applied to the participants of this study to assess spiritual wellness and the concept of personal spirituality as is pertinent to health and the disease of breast cancer. The applications of this scale are so noted in the literature "the measure would be useful for assessing patient well-being following surgery or disease, in the face of terminal illness, or while making progress in a rehabilitation program."[7] This scale emanated from studies that have evaluated 'Quality of Life'. This context refers to measurable events within the frame of

objective life experience. The *Spiritual Well-Being Scale* measures subjective quality of life from the experiential perspective of the individual.

The SWBS is a twenty-item inventory, self-administered, and takes approximately ten –fifteen minutes to complete. The scale is divided into two areas of assessment: Religious Well-Being, and Existential Well-Being. The responses are detailed on a Likert scale, which ranges from "Strongly Agree" to "Strongly Disagree." Specific increments of agreement or disagreement are arranged between the two extremes. They are, "moderately agree, agree, disagree, and moderately disagree."

The scale provides an overall measure of spiritual quality of life, and subscale scores pertain to religious and existential well-being. The respondent must select from one of the six choices in the range with a higher number representing greater well-being. The summation of the twenty items reflects the overall SWB score for a given individual. The Religious Well-Being subscale offers a self-assessment of one's relationship with God, while the Existential Well-Being subscale provides a self-assessment of one's sense of life purpose and life satisfaction.

The *Personal Orientation Inventory*, (POI) (Appendix H) is a measure of self-actualization. Abraham Maslow formulated the concept of self-actualization: "It refers to man's desire for fulfillment, namely to the tendency for him to become actually in what he is potentially: to become everything that one is capable of becoming."[8] This definition shaped the creation of the POI, which assesses values, and behaviors of significance that advance self-actualization. The participants of this study were evaluated to discern their degree of self-actualization, and the influence of this variable to the disease of breast cancer.

The POI consists of one-hundred-fifty paired items that appraise behavior and value judgments. The respondent chooses (a) or (b) in accordance with their belief system. The average time of completion is any where from twenty-thirty minutes. The POI is comprised of two basic scales: personal orientation and inner-directed support. Additionally, the POI contains ten subscales. They are: self-actualizing value: existentiality; feeling reactivity; spontaneity; self-regard; self-acceptance; nature of man; synergy; acceptance of aggression; and capacity for intimate contact."[9]

The individual scores of each participant were plotted on a profile sheet. This profile gives an accurate picture of the affiliated areas relative to a self-actualizing individual. Extreme scores are indicative of areas that reveal characteristics not identified with a self-actualized individual. Research that studies the role of spirituality and health find that an individual who is unfulfilled with their life purpose is more prone to becoming ill. These spiritual deficiencies of spiritual connection weaken the immune system, thereby compromising proper function, leaving one vulnerable to the disease of breast cancer.

Data Collection

To review the process of data collection, potential participants were contacted by phone and/or email, and if they were in agreement with the terms of their respective participation, they were sent a participant packet. Upon return of the materials, all of the instruments were scored, and along with the intake form entered into the participant database (Appendix L). The participant database includes demographic information for each participant, medical history (including allergies, special diet, exercise, prescription

medications, oral contraceptives, hormone replacement therapy, supplements, significant health challenges, breast cancer patient/survivor information, and input scores for BMI, *Zung, Personal Orientation Inventory, Profile of Mood States,* and the *Spiritual Well-Being Scale*. Data was entered for 160 women; 61-breast cancer free, 59 breast cancer survivors, and 40 recently diagnosed with breast cancer.

The data selected for statistical analysis were the predictive variables of Body Mass Index (BMI), oral contraceptive and hormone replacement usage as physical elements of the study, and the psychological/affective aspects, *Zung* and *Profile of Mood States* respectively, and spiritual aspects, the *Spiritual Well Being Scale,* and the *Personal Orientation Inventory.* These variables were selected to examine their influence upon the domains of body, mind, and spirit, and to advance understanding regarding applicability to this sample of convenience of women and the disease of breast cancer. Other physical variables of relevance were exercise modes, diet and nutrition, supplementation, allergic reactions, and any other chronic conditions or disease processes so endured by the participant, and a baseline body temperature that serves to assess optimum thyroid function. These measures were of interest to this researcher as these physical aspects figure into the whole of health, and this study seeks to address the complement of all aspects pertinent to understanding a state of health and disease. While these variables were not configured into the statistical analysis, they portend significant consequences for all women, and will be discussed in the results and conclusions of the study (Chapter 5).

Data Analysis

Discriminant Function analysis was selected as the tool of statistical analysis for the convenience sample of this study. Discriminant Function describes the characteristics and differences among the specified groups.

Implementing Discriminant Function Analysis (DFA) requires the construction of a linear equation of the selected variables. Once selected, a single composite variable is formed, namely a *Discriminant Function.* The formula for DFA is $D= A+W_1 V_1 +W_p V_p$. D= scores on the discriminant function, A= the discriminant constant, W_1-W_p = discriminant function weighting coefficients for each p-predictive variables, and V_1-V_p= scores on the original p variables. The Discriminant Function constant (A) and the weighting coefficients (W_1-W_p) used in forming the discriminant function are selected to create a Discriminant Function that provides the *greatest possible discriminating power*. In other words, no other constant or weights would provide as much separation of group means on the Discriminant Function, while still maintaining as little within group variability on the Discriminant function.

In this study where three groups were compared, additional orthogonal discriminant functions (i.e., uncorrelated to preceding discriminant functions) are possible and potentially useful. The first Discriminant Function will give the best overall separation, but it may fail to provide appreciable separation of some groups. For example, the first most powerful (overall) discriminant function, may provide good separation of Group1 from Groups 2 and 3 in a three-group problem, but may give little discrimination of the latter two groups. A second Discriminant Function orthogonal (uncorrelated) to the first, and thus measuring something completely different than is measured by the first

discriminant function will necessarily provide less overall separation of the groups (since the first discriminant function was designed specifically to maximize overall separation), but it may discriminate between those groups that were not separated well by the first Discriminant Function.

The variables entered into the analysis were depression, mood states, self-actualization, spiritual well-being, oral contraceptive usage, hormone replacement therapy, and Body Mass Index, (BMI). This research proposes to explore the relationship between spirit, mind, and body to identify a preexisting pattern of the aforementioned variables that influence the disposition of breast cancer. The research question that was posited was: Are there spiritual, psychological, and physical attributes that distinguish and discriminate between women who were breast cancer-free, recently diagnosed breast cancer patients, and survivors of breast cancer? Through discernment of the variables reported among and between these three groups of women, the process of onset, recovery, and a disease free status were analyzed to establish the significant variables that brought the most influence to bear on the disease of breast cancer.

Chapter 3 Endnotes:

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CHAPTER 4:
RESEARCH FINDINGS

As previously stated, Discriminant Function Analysis was employed to analyze the data obtained from the three groups of participants entered into the Participant Database form found in (Appendix L). **Table 1** details the Mean age of the participants. The first group has been changed to "Breast Cancer Free" throughout this document, rather than identified as the "Control Group". This is consistent with statistical classifications, as a true control group is reflective of a study where some type of intervention was part of the protocol.

Table 1. Mean Age of Participants.

P		N	
9		9	

(Spiritual Well-Being Scale that measures self-actualization), **BMI** (Body Mass Index), and **ZUNG,** for depression, is not abbreviated.

Table 2. Average Data – All Variables.

PARTICIPANTS 1-36

	P_Class	OC	OC_MNTHS	HR	HR_Mnths	ZUNG	POI	POMS	SWBS	BMI
1	BCF	1	60	0	0	30	58	38	104	26
2	Recent	0	0	0	0	53	54	56	67	27
3	BCF	0	0	0	0	33	43	43	111	19
4	BCF	0	0	0	0	35	50	40	81	22
5	BCF	0	0	1	168	39	48	43	98	25
6	BCF	1	1	0	0	41	42	45	93	22
7	Survivor	0	0	0	0	33	59	45	103	22
8	BCF	0	0	0	0	44	52	54	107	23
9	Recent	1	60	0	0	39	57	45	104	33
10	Survivor	0	0	0	0	43	44	44	108	24
11	BCF	0	0	1	108	60	37	60	85	24
12	Recent	0	0	1	180	56	54	63	52	27
13	Survivor	0	0	0	0	38	50	45	120	27
14	BCF	0	0	1	12	33	50	40	118	30
15	BCF	0	0	0	0	38	49	47	116	30
16	Survivor	1	240	0	0	31	54	40	113	21
17	BCF	0	0	0	0	35	53	43	118	26
18	BCF	0	0	0	0	26	61	41	117	24
19	BCF	1	24	0	0	31	55	48	101	30
20	Recent	0	0	0	0	48	57	61	89	33
21	Survivor	0	0	0	0	35	55	43	91	28
22	Survivor	1	120	0	0	46	50	54	69	21
23	BCF	1	36	0	0	35	44	42	118	20
24	BCF	0	0	0	0	35	55	52	117	28
25	BCF	0	0	0	0	43	54	51	84	24
26	BCF	0	0	0	0	38	55	45	105	27
27	Survivor	1	108	0	0	34	59	44	75	23
28	Survivor	0	0	0	0	38	52	45	112	24
29	BCF	0	0	0	0	35	47	55	98	0
30	Survivor	0	0	1	6	41	49	44	81	27
31	Survivor	1	72	0	0	26	45	40	115	24
32	BCF	1	36	1	24	28	59	39	112	38
33	Survivor	1	84	0	0	50	54	53	87	30
34	Survivor	0	0	1	0	50	46	66	82	20
35	Recent	0	0	0	0	46	54	46	77	45
36	Recent	1	120	0	0	64	44	67	103	32

PARTICIPANTS 37-72

	P_Class	OC	OC_MNTHS	HR	HR_Mnths	ZUNG	POI	POMS	SWBS	BMI
37	Survivor	0	0	1	0	49	44	52	80	35
38	Survivor	0	0	0	0	53	35	66	98	24
39	Recent	1	180	0	0	35	57	45	47	21
40	BCF	1	276	0	0	39	59	41	82	41
41	Survivor	1	96	0	0	36	58	51	77	21
42	Survivor	0	0	1	144	28	51	39	118	23
43	Recent	1	60	1	60	39	49	56	101	31
44	BCF	1	204	0	0	43	47	45	78	19
45	Survivor	1	120	0	0	31	61	44	116	19
46	BCF	0	0	0	0	40	53	52	80	23
47	Survivor	1	84	1	36	69	42	80	54	23
48	Recent	1	132	0	0	54	45	57	103	20
49	Recent	1	30	0	0	45	58	50	100	20
50	Recent	0	0	0	0	40	51	51	64	28
51	BCF	0	0	0	0	41	59	48	109	20
52	BCF	1	2	0	0	41	43	46	94	21
53	BCF	1	120	0	0	34	49	40	84	27
54	Recent	0	0	0	0	61	47	47	107	22
55	BCF	0	0	0	0	43	48	54	106	21
56	Survivor	0	0	0	0	34	37	56	111	23
57	Recent	1	6	1	20	44	47	44	115	36
58	Recent	1	132	0	0	51	48	53	60	36
59	Recent	1	168	0	0	46	46	58	116	26
60	Survivor	1	42	0	0	61	46	56	105	36
61	BCF	1	150	0	0	38	53	51	64	22
62	BCF	0	0	0	0	51	47	50	109	22
63	Survivor	0	0	1	2	44	47	45	113	29
64	Survivor	0	0	0	0	33	53	39	111	20
65	Survivor	0	0	0	0	44	52	50	100	20
66	Survivor	0	0	1	18	43	56	43	89	26
67	Survivor	0	0	0	0	34	56	40	107	20
68	Survivor	1	18	0	0	50	55	48	66	34
69	Survivor	0	0	1	204	40	51	51	68	25
70	Survivor	0	0	0	0	35	58	38	102	23
71	Survivor	0	0	0	0	48	53	48	79	30
72	BCF	0	0	0	0	38	51	49	47	21

PARTICIPANTS 73-108

	P_Class	OC	OC_MNTHS	HR	HR_Mnths	ZUNG	POI	POMS	SWBS	BMI
73	BCF	1	144	0	0	33	53	42	102	22
74	BCF	1	144	0	0	45	49	57	59	29
75	BCF	0	0	0	0	43	40	53	115	24
76	BCF	1	36	1	3	30	51	41	117	26
77	BCF	0	0	0	0	33	58	45	70	22
78	BCF	0	0	0	0	31	47	43	112	21
79	Survivor	1	0	0	0	55	52	63	112	27
80	Survivor	0	0	0	0	36	52	54	114	26
81	BCF	0	0	0	0	36	39	46	72	23
82	BCF	1	0	0	0	48	53	49	111	22
83	BCF	1	12	0	0	41	54	43	67	24
84	Recent	0	0	1	15	31	47	45	100	31
85	Recent	0	0	1	84	49	48	44	82	26
86	Recent	1	60	0	0	39	38	46	103	31
87	Survivor	1	168	1	48	39	53	48	117	30
88	Survivor	0	0	1	228	50	48	49	93	23
89	BCF	0	0	0	0	39	50	36	113	32
90	BCF	1	12	1	12	43	56	47	93	27
91	Survivor	0	0	1	180	33	58	38	89	28
92	BCF	1	48	1	12	34	58	45	93	21
93	BCF	0	0	0	0	49	42	56	67	19
94	BCF	0	0	1	240	33	53	40	88	23
95	BCF	0	0	0	0	41	56	53	104	33
96	BCF	1	96	1	84	41	58	41	118	26
97	Survivor	0	0	0	0	30	49	41	111	44
98	BCF	0	0	0	0	29	60	50	74	34
99	BCF	0	0	0	0	41	52	41	118	25
100	Survivor	0	0	0	0	43	43	45	80	37
101	Survivor	1	6	0	0	44	50	47	119	24
102	Survivor	1	12	1	24	41	44	50	109	30
103	Recent	0	0	1	60	44	44	44	110	27
104	Recent	1	360	0	0	48	52	45	98	23
105	Recent	1	72	0	0	53	46	56	116	23
106	Recent	1	144	0	0	44	49	54	53	25
107	Survivor	1	120	0	0	46	43	52	117	30
108	Recent	0	0	0	0	49	43	47	88	30

PARTICIPANTS 109-144

	P_Class	OC	OC_MNTHS	HR	HR_Mnths	ZUNG	POI	POMS	SWBS	BMI
109	Recent	1	24	0	0	43	38	43	71	24
110	Recent	0	0	0	0	54	45	55	85	26
111	BCF	0	0	0	0	38	53	44	100	29
112	Survivor	1	72	0	0	39	51	45	88	23
113	Recent	0	0	1	12	59	44	52	94	29
114	Survivor	0	0	0	0	35	42	42	120	23
115	Survivor	0	0	0	0	71	36	61	66	31
116	Survivor	0	0	0	0	30	48	41	120	34
117	Survivor	0	0	0	0	35	55	39	88	26
118	Survivor	0	0	0	0	30	52	41	118	0
119	Survivor	0	0	1	120	35	50	42	109	27
120	Recent	0	0	0	0	35	46	45	96	30
121	Survivor	0	0	0	0	31	45	46	105	23
122	Survivor	1	288	0	0	34	58	41	70	21
123	Survivor	1	6	0	0	50	48	43	49	19
124	BCF	0	0	1	108	39	58	43	113	27
125	BCF	0	0	1	192	34	54	42	72	20
126	BCF	0	0	0	0	34	49	43	89	26
127	BCF	0	0	0	0	34	44	46	63	0
128	BCF	0	0	1	12	34	53	40	91	21
129	Survivor	1	24	0	0	43	53	50	111	25
130	Recent	0	0	0	0	36	54	46	102	27
131	BCF	0	0	0	0	59	43	56	69	45
132	Survivor	1	216	0	72	44	44	54	105	26
133	BCF	0	0	0	0	38	57	43	77	28
134	Recent	1	24	1	36	61	46	63	88	22
135	Recent	0	0	1	120	35	43	45	87	21
136	BCF	0	0	0	0	41	48	63	112	22
137	BCF	0	0	1	240	40	57	46	73	21
138	Survivor	1	252	1	96	56	56	60	103	21
139	Survivor	0	0	1	180	68	33	80	47	22
140	BCF	1	156	0	0	30	57	50	97	20
141	Recent	0	0	0	0	48	49	52	94	33
142	Recent	0	0	0	0	48	37	50	107	22
143	Recent	1	24	1	8	30	50	47	56	22
144	Recent	0	0	1	192	44	58	49	115	44

PARTICIPANTS 145-160

	P_Class	OC	OC_MNTHS	HR	HR_Mnths	ZUNG	POI	POMS	SWBS	BMI
145	Recent	0	0	1	48	48	40	49	113	24
146	Recent	0	0	1	132	56	40	59	97	22
147	Recent	0	0	0	0	44	47	52	98	22
148	Recent	1	150	0	0	46	50	42	61	24
149	BCF	0	0	0	0	33	54	48	70	25
150	Survivor	0	0	0	0	25	51	38	120	0
151	Survivor	0	0	0	0	58	44	61	96	24
152	BCF	0	0	0	0	36	49	46	95	21
153	BCF	1	36	0	0	52	48	47	95	35
154	BCF	1	36	0	0	35	46	48	74	22
155	Survivor	0	0	0	0	40	55	51	86	24
156	Survivor	1	192	1	24	35	49	48	116	22
157	Survivor	0	0	0	0	41	50	51	105	37
158	Recent	0	0	0	0	58	48	63	93	23
159	Recent	1	60	1	24	43	44	57	82	22
160	Survivor	1	324	1	12	36	53	43	87	19

Table 2 is the representation of the average data that builds the Discriminant Function, i.e., the variables for the selected groups of this study that were entered into the first Discriminant Function.

First Discriminant Function-Forced Entry Method

The first analysis conducted used the ***Forced Entry Method*** where all of the variables displayed were subject to examination. All of the variables were selected to assess their predictive and discriminatory status among the participants in the sample of convenience. An additional aim of Discriminant Analysis is to distinguish group inclusion and separation on the selected variables.

The following **Table 3** contains the group statistics for the three groups of participants on all the variables originally selected for analysis.

Table 3. Descriptive Statistics.

Group Statistics

Group		Mean	Std. Deviation	Valid N (listwise)	
				Unweighted	Weighted
Breast Cancer Free	Oral Contraceptive Usage	26.70	57.658	61	61.000
	HRT	19.92	55.921	61	61.000
	ZUNG	38.26	6.738	61	61.000
	POI	51.15	5.706	61	61.000
	POMS	46.48	5.706	61	61.000
	SWBS	93.75	18.745	61	61.000
	BMI	24.43	6.992	61	
Recent Diagnosis	Oral Contraceptive Usage	45.15	75.687	40	40.000
	HRT	24.78	49.562	40	40.000
	ZUNG	46.65	8.359	40	40.000
	POI	47.85	5.600	40	40.000
	POMS	51.23	6.639	40	40.000
	SWBS	89.85	19.608	40	40.000
	BMI	27.25	5.999	40	40.000
Survivor	Oral Contraceptive Usage	45.15	82.203	59	59.000
	HRT	23.63	55.749	59	59.000
	ZUNG	41.53	10.414	59	59.000
	POI	49.78	6.209	59	59.000
	POMS	48.69	9.231	59	59.000
	SWBS	96.95	19.518	59	59.000
	BMI	24.88	7.015	59	59.000
Total	Oral Contraceptive Usage	38.12	72.148	160	160.000
	HRT	22.50	54.043	160	160.000
	ZUNG	41.56	9.194	160	160.000
	POI	49.82	5.975	160	160.000
	POMS	48.48	7.592	160	160.000
	SWBS	93.96	19.325	160	160.000
	BMI	25.30	6.822	160	160.000

The Mean is a measure of central tendency. In this, table the standard deviations are larger than the Means for the variables of HRT and OC usage rendering them ineffective to interpretation with this population. The large standard deviations relate to no usage of HRT and OC. The high standard deviations are a result of having used a derived Mean from the data that was not in a normal distribution; it is a bimodal distribution.

The differences between the Means of the groups on ZUNG (representing depression), the POMS (representing mood states), and the POI (representing self-actualization) were significant as demonstrated by the Tests of Equality of Group Means. The ZUNG demonstrated significance at < .001, the POMS at .008, and the POI at .024 the Means for all three groups were high for the SWBS, with the survivors showing the highest Mean score on this variable. The remaining variables were not significant as displayed in Table 4, although BMI shows a trend toward significance.

Table 4. Tests of Equality of Group Means.

		F			
O			2		
R	9		2		
X			2		
P			2		
M			2		
V			2		
M			2		

The ZUNG as calculated by the Wilks' Lambda reveals the most significant score on the Tests of Equality of Group Means. The Wilks' Lambda is the first step of

significance testing where between-group separations are evaluated. The score on the Wilks' Lambda is inversely related to the overall separation of the groups. The smaller the score is, reflected by the Wilks' Lambda, the more important the role of that variable is to the Discriminant Function.

The classification results for the first Discriminant Function are shown in **Table 5.**

Table 5. Forced Entry Classification Results.

a

Original	Count		80	8	31	119
			67	7	26	100
			24	1	18	43
	%		67.2	6.7	26.1	
			67.0	7.0	26.0	
			55.8	2.3	41.9	

a. 59

<.01. Therefore, this variable was entered into the stepwise analysis of the Discriminant Function in order to predict the occurrence of group membership.

Stepwise Analysis by Cases

The following figure (**Figure 1**) is the result of the casewise statistics for these groups. The classification process of the Discriminant Function is separate from discriminant analysis. The classification function applies to the *predictive* categorization of the original cases submitted for analysis. A classification score is computed for each case, and then a case is placed in the group that has the highest classification score.

The reader will note the following arrangement of the numbers in **Figure 1**: Case Number, Actual Group and Predicted Group. 0 represents the Breast Cancer Free (BCF) group, 1 represents Recently Diagnosed (RD), and 2 represents Survivors. The double asterisk marks represent *misclassified* cases. The distribution of cases (160) in Figure 1 details the predictive classification for each member in their respective group, i.e., how they presented (actual) according to group criteria of this researcher's protocol, and how they (predicted) on the DF. The BCF group (0), with a total of 61 members, had 23 misclassified cases with 17 classified as Survivors, and 6 classified as RD. The RD group (1), with a total of 40 members, had 17 misclassified cases with 8 classified as Survivors and 9 classified as BCF. The Survivors group (2), with a total of 59 members, had 46 misclassified cases with 28 classified as BCF, and 18 classified as RD. The misclassification of cases results in illuminating findings. These will be discussed in full in Chapter 5.

Figure 1. Casewise Statistics.

Casewise Statistics
Highest Group

	Case Number	Actual Group	Predicted Group	
Original	1	0	0	
	2	1	1	
	3	0	0	
	4	0	0	
	5	0	0	
	6	0	2	**
	7	2	0	**
	8	0	2	**
	9	1	0	**
	10	2	2	
	11	0	1	**
	12	1	1	
	13	2	0	**
	14	0	0	
	15	0	0	
	16	2	0	**
	17	0	0	
	18	0	0	
	19	0	0	
	20	1	1	
	21	2	0	**
	22	2	1	**
	23	0	0	
	24	0	0	
	25	0	2	**
	26	0	0	
	27	2	0	**
	28	2	0	**
	29	0	0	
	30	2	2	
	31	2	0	**
	32	0	0	
	33	2	1	**
	34	2	1	**
	35	1	1	
	36	1	1	
	37	2	1	**
	38	2	1	**
	39	1	0	**
	40	0	0	
	41	2	0	**
	42	2	0	**
	43	1	0	**
	44	0	2	**
	45	2	0	**
	46	0	2	**
	47	2	1	**
	48	1	1	

FIGURE 1.

Casewise Statistics
Highest Group

Case Number	Actual Group	Predicted Group
49	1	1
50	1	2 **
51	0	2 **
52	0	2 **
53	0	0
54	1	1
55	0	2 **
56	2	0 **
57	1	2 **
58	1	1
59	1	1
60	2	1 **
61	0	0
62	0	1 **
63	2	2
64	2	0 **
65	2	2
66	2	2
67	2	0 **
68	2	1 **
69	2	2
70	2	0 **
71	2	1 **
72	0	0
73	0	0
74	0	1 **
75	0	2 **
76	0	0
77	0	0
78	0	0
79	2	1 **
80	2	0 **
81	0	0
82	0	1 **
83	0	2 **
84	1	0 **
85	1	1
86	1	0 **
87	2	0 **
88	2	1 **
89	0	0
90	0	2 **
91	2	0 **
92	0	0
93	0	1 **
94	0	0
95	0	2 **
96	0	2 **
97	2	0 **
98	0	0

FIGURE 1.

Casewise Statistics
Highest Group

Case Number	Actual Group	Predicted Group	
99	0	2	**
100	2	2	
101	2	2	
102	2	2	
103	1	2	**
104	1	1	
105	1	1	
106	1	2	**
107	2	1	**
108	1	1	
109	1	2	**
110	1	1	
111	0	0	
112	2	0	**
113	1	1	
114	2	0	**
115	2	1	**
116	2	0	**
117	2	0	**
118	2	0	**
119	2	0	**
120	1	0	**
121	2	0	**
122	2	0	**
123	2	1	**
124	0	0	
125	0	0	
126	0	0	
127	0	0	
128	0	0	
129	2	2	
130	1	0	**
131	0	1	**
132	2	2	
133	0	0	
134	1	1	
135	1	0	**
136	0	2	**
137	0	2	**
138	2	1	**
139	2	1	**
140	0	0	
141	1	1	
142	1	1	
143	1	0	**
144	1	2	**
145	1	1	
146	1	1	
147	1	2	**
148	1	1	

FIGURE 1.

Casewise Statistics
Highest Group

Case Number	Actual Group	Predicted Group
149	0	0
150	2	0 **
151	2	1 **
152	0	0
153	0	1 **
154	0	0
155	2	2
156	2	0 **
157	2	2
158	1	1
159	1	2 **
160	2	0 **

** Misclassified case

The ***Stepwise Method*** details the final classification results for all the groups. Here, once again, the propinquity of prediction applies to the BCF group and the RD group. The Survivors have an even lower percentage of correct predicted group membership on this analysis as compared to the ***Forced Entry Method***. In the first analysis, the percentage of correct prediction was 30.5% versus the ***Stepwise Method*** at 22%. The following **Table 6** displays the final predicted group membership classifications. Again, the Survivors were more often predicted to be in the Breast Cancer Free group.

Table 6. Classification Results Stepwise Method.

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O	C		8	7	6	1
			9	2	8	0
			2	1	1	9
	%					0

a

CHAPTER 5:
DISCUSSION

Overview

This body of research has examined the physical, spiritual and psychological aspects that influence the disease of breast cancer. The initial assumption hypothesized by this researcher was that elaborating on these aspects, as derived from the assessment of depression, mood states, and self-actualizing qualities, attributes of spiritual well-being and physical characteristics, would reveal a relationship to the disease process of breast cancer.

The results of this research have reinforced conclusions drawn from other studies that have also established a relationship in the aforementioned aspects/variables of interest. The most remarkable variable in this study was the variable of depression, which demonstrated the strongest statistical significance for distinguishing among the three groups in this population sample of convenience. Mood states as measured by the POMS comprise "six mood factors" including "tension-anxiety, depression-dejection, anger-hostility, vigor-activity, fatigue-inertia, and confusion-bewilderment." The aggregate POMS score, which reflects the summary of these mood factors, was the second most significant variable for this sample. Self-actualization as measured by the POI was the third statistically significant variable. The remaining four variables were not statistically significant for distinguishing between the groups in this sample of convenience. The other four variables BMI, OC usage, HRT and SWB assessing physical characteristics did not show statistically significant differences between the groups, although BMI showed a trend toward significance. These physical characteristics embody aspects that

are woven into the tapestry of health and will be included in the discussion of this chapter.

Depression

One might expect to find depression relevant to the disease process of breast cancer. The diagnosis of breast cancer often conjures ill-fated images of treatments that are known throughout our world, yet not necessarily known for their supportive healing properties. While depression is a state of mind, does it affect the state of the body and overall health? Werbach evinces a historical reference for this question. "Theories relating cancer to the mind go all the way back to Galen (200 AD) who stated that melancholic women developed breast cancer more often than did sanguine women."[1] A more contemporary finding established by Claus Bahnson in 1968 confirms Galen's opinion:

> Checking the psychological backgrounds of some 80-cancer patients, Bahnson found that they all had a "poor, ungratifying, mechanical relationship to their parents." Since the parents were unable or unwilling to respond emotionally, he said, their children developed a tendency to repress rather than express their own emotions. Later in life this self-imposed lack of emotional outlets made them more vulnerable to tragedy and, therefore, more cancer-prone than the average person."[2]

The Zung measurement, used to assess depression, classifies a score below 50 as normal, a score in the range of 50-59 as distinctive of depression, scores from 60-69 as moderate to marked depression, and 70 or above as severe depression. The data of this study, displayed in **Table 2,** suggest that depression has played a role in the development of breast cancer. Depression is an important issue because it was the only variable distinguishable between the three groups. Looking at the distribution of the scores of the Breast Cancer Free group, 54 scored below 50 and 7 scored above 50. The Mean for the

BCF group was 38.26 far away from 50. The Survivors group had 46 that scored below 50, and 12 that scored above 50. The Mean for the Survivors was 41.53 closer to 50 than the BCF group. The Recently Diagnosed group had 28 scores below 50 and 12 scores above 50. The Mean for the RD group was 46.65 the closest to 50. Averages are one way of looking at measures on the ZUNG (per group), but how individual scores are dispersed about the Mean is important in the discussion of depression. The Mean of each group should be examined in relation to how each individual score is distributed around the Mean. The spread of the scores has more relevance when looking at the variable of depression. In the RD group and the Survivors group, higher scores on the Zung raised the averages of these two groups. If depression affects all of us at different times in our life, then what consequences exist regarding the disease of breast cancer? Researchers that have studied psychological aspects influencing the development of breast cancer are currently exploring coping styles, and are drawing conclusions that strongly suggest the influence of depression on health and diseases, such as breast cancer. Cancer prognosis and psychiatric morbidity was studied in a group of breast cancer patients. Hall at al found that:

> The majority of women with early breast cancer experienced anxiety and/or depression within 3 months of their initial surgery. In addition, they identified anxiety disorders in 49.6% of women with breast cancer and depressive illness in 37.2% during the first 3 months after their initial surgery.[3]

Lydia Temoshok has studied the role of emotional suppression in breast cancer patients. Her findings implicate the following:

> We suggest that disclosure of the diagnosis is a point of overwhelming stress and a critical time to intervene with treatment. In particular, patients who suppress emotion need to be encouraged to express their needs and their feelings so that they do not develop patterns of depression and hopelessness/helplessness, which

> have been found to be associated with poorer prognosis or cancer death in longitudinal studies.[4]

The treatment that Lydia Temoshok is referring to is psychological intervention that supports cancer patients in the expression of suppressed emotions. If they presented with overwhelming stress then can one conclude that the stress/emotional suppression was preexisting? Her research has confirmed that patients that suppress their emotions are prone to increasingly higher levels of psychological distress. This stress is related to anxiety. Patients with higher levels of anxiety may exhibit a trait anxiety as part of a personality repertoire that in turn correlates with psychological adjustment to cancer. Temoshok states:

> The patients who suppressed negative emotion and were chronically anxious had double factors leading them to feel anxious and depressed in the process of the treatment. Although they are sensitive to the stressful situation, they may believe that suppressing negative emotion is the best way to cope with cancer. However, as a result of not expressing negative emotion, psychological distress may be maintained over time, and they can come to feel helplessness/hopelessness in the course of treatment.[5]

Temoshok's work led her to hypothesize about a style of coping that was exhibited by the patients in her studies. This coping style is referred to as Type C. Solano et al. found that Type C coping is "indicating emotional inexpressiveness and decreased recognition of needs and feelings."[6] Temoshok further proposed that "the type C pattern of coping often appears outwardly to be effective. Because persons with a type C pattern of coping are friendly and helpful to others, they are often considered to be socially desirable persons."[7]

This brings up the following questions. Could the non-expressiveness of negative emotions be a factor in the group of participants classified as recently diagnosed? How can awareness of depression affect their state of health? Is it better to suppress negative emotions for desired social acceptance, or is this a style of coping reflective of unmet needs and untended insecurities? In all instances, pertinent knowledge and understanding of the elements that influence quality of health is considered proactive, and this perspective speaks to prevention, which is the most advantageous position.

Mood States

Mood States were assessed by the POMS, evaluating six factors of moods in order to derive a Total Mood Disturbance score (TMD), which is then converted to a T-score. According to the POMS Manual, "Given a normal distribution, approximately 67% of T-scores fall between 40 and 60; about 7% exceed 65, and about 7% are below 35." A score above 65 or below 35 is considered clinically significant and merits "special attention." Upon verbal clarification of these normative values, a representative of Multi-Health Systems stated, "a score of 40 is average, 55-65 is above average, and 65 and above is, as previously stated, clinically significant." In the Breast Cancer Free group, 55 participants scored in the normal range and 6 scored above average. In the Recently Diagnosed group, 26 participants scored in the normal range and 14 scored above average. In the Survivors group, 49 participants scored in the normal range, 7 scored above average, and 3 were classified as clinically significant. On the tests of the equality of group means the POMS was significant at .008.

Our mood is reflective of our state of well-being. Many investigators have studied the effect of mood as related to disease and breast cancer. In a study that compared 21 patients diagnosed with breast cancer and 72 with benign tumors, the POMS was utilized to evaluate pre and post diagnosis of breast cancer patients classified as "high anxiety and low anxiety." There were four subgroups of patients within each diagnostic group resulting in "high anxiety-expression, low anxiety-expression, high anxiety-suppression, and low anxiety-suppression." The outcome of the study by Iwamitsu et al found:

> For the breast cancer patients, strong main effects were observed for both anxiety ($F= 13.25$, $df=1, 17$, $p< 0.01$, effect size= 0.66) and emotional suppression ($F=16.47$, $df=1, 17$, $p< 0.01$, effect size =0.70). That is, the POMS total mood disturbance scores in the high anxiety group were higher than those in the low anxiety group, and the POMS total mood disturbance scores in the suppression group were higher than those in the expression group. Further, a significant interaction between emotional suppression and clinic visit was observed.[8]

Levels of anxiety and suppression of emotions were elevated in those diagnosed with breast cancer. Further, the patients diagnosed with breast cancer (prior to their knowledge) were exhibiting anxiety at their first visit to the clinic as defined by the POMS, the Courtauld Emotional Control Scale, and the Manifest Anxiety Scale. How does this psychological distress play into treatment outcomes for breast cancer? The mind and body are carrying an additional burden as well as dealing with the disease and treatment process for breast cancer. It is well reported that breast cancer, in many cases, is hormone driven and that anxiety and emotional stress influence levels of cortisol, one of the corticosteroid hormones, which alters immune cell function. The immune activity of individuals that exhibit high levels of anxiety and repressive affect are functioning with faulty immune response, leaving them prey to opportunistic disease processes.

Cortisol, an element of the stress response, has been studied to ascertain its effect upon breast cancer patients. It is theorized that abnormal cortisol rhythms may develop in response to chronic stress. Davis et al submit:

> We found evidence supporting our hypothesis that personality or coping styles were associated with differences in diurnal cortisol rhythms in women with metastatic breast cancer. In particular, repressors had significantly flatter cortisol rhythms than self-assured (truly low-anxious) and nonextreme groups. This flattening in repressors was similar to the high-anxious group, and a pooled repressor/high-anxious group also had significantly flatter rhythms than self-assured and nonextreme groups.[9]

Examination has demonstrated that the levels of cortisol are highest upon awakening, and decrease with the flow of the day. This is the normal rhythm for healthy adults. With chronically high levels of anxiety, this is not the exhibited response pattern. As the following research suggests, these abnormal rhythms, have dire consequences for patients of breast cancer. Davis et al. state "Although it is yet unclear whether aberrant rhythms are associated with health consequences in normal individuals, our laboratory has demonstrated that aberrant rhythms predicted early mortality among breast cancer patients."[10] Anxiety and stress levels respond to psychological intervention and spiritual healing that can lead to a return of normal cortisol levels. Candace Pert refers to this state of imbalance as "unhealed feelings." She elaborates:

> When emotions are repressed, denied, not allowed to be whatever they may be, our network pathways get blocked, stopping the flow of the vital feel-good unifying chemicals that run both our biology and our behavior. This, I believe, is the state of unhealed feelings we want so desperately to escape from.[11]

POI

SELF-ACTUALIZATION

The Personal Orientation Inventory (POI) was used to discern self-actualizing attributes in this population. The POI was significant at .024 as determined by the Tests of Equality of Group Means. The POI assesses values and behavior important to mature adult functioning. Theoretically, how one orients one's self regarding personal values and behaviors predicts a given level of self-actualization. The self-actualized adult is an ideal to be achieved by the individual as set forth by this assessment. This ideal goes to the very core of being, i.e., our spiritual well-being. Research looking at emotional characteristics has revealed that the inability to express emotions (repression) can lead to learned "helplessness/hopelessness," characteristics that are spiritually unfulfilling and depleting. Pert et al. describe the repressor. They found:

> He or she also may lack contact with primary psychospiritual sources of creative energy and relatedness to others. Viewed from an existential perspective, the repressive coper is missing essential components for an ***authentic selfhood,*** having unconsciously sacrificed access to emotions that form the foundation of a mature identity. The sacrifice was usually made in childhood to maintain the self-integrity, but in later adulthood, this sacrifice becomes an unconscious impediment to ***self-actualization.***[12]

There is clinical evidence that energy depletions caused by blocking of spirit leave one vulnerable to a host of degenerative disease processes and abnormal growth of tissue that can be benign or malignant. Pert et al state "This line of reasoning leads inevitably to the hypothesis that emotional expression, disinhibition, and self-actualization would strengthen the healing system."[13] The healing system, here, refers to "bidirectional communication between neuropeptides [substrates of emotion] and the immune system holds a key to the influence of mind on healing processes."[14]

The Mean scores for the three groups on the POI were: BCF – 51; RD – 48; and Survivors – 50. According to the POI Manual, "if most scores are below this mean [50], it may be that the individual is experiencing difficulty in personal effectiveness and that changes in value orientations would be beneficial in facilitating further personal development toward an actualizing individual."[15] Of the 61 members of the Breast Cancer Free group, 25 were below 50 and 36 were above 50. The Recently Diagnosed group, with 40 members, had 27 members below 50 and 13 at 50. The Survivors group, of which there were 59 members, had 24 members below 50 and 35 members above 50.

The level of maturation experienced by a given individual is expressed in every facet of their being and living. Immature emotional states are felt and experienced in Spirit, the custodian of the soul. What dispirits an individual is first experienced in the mind and felt with emotion. However, *ALL* is held in spirit, and correspondingly, it is spiritual restoration that reverberates throughout all layers of our being to promote healing.

The POI assesses Time Competence as a significant characteristic of a self-actualizing individual. It is further reported that living in the past, and not in the present, impedes maturation and self-actualization. A Time Competent individual is described accordingly:

> … the healthy individual is one who lives primarily in the present. The reason for this is that living fully in the moment, or the present, does not require concern for support or sustenance. Being in the moment, being an active process, may be said to be an end in itself. It is self-validating and self-justifying. Being has its own reward-a feeling of self-support.[16]

It is evident to this researcher that recognition of the self, by the self, engenders living that is focused on fulfillment of personal needs and goals that directly influence the state

of one's health. Once this tack is taken, every moment teems with higher levels of awareness and discovery, thereby reclaiming a path indicative of joy and success, which nourishes contentment and satisfaction, permeating every layer of our being. Is the journey with breast cancer a message from our dispirited self, reminding us to embrace life and to live fully in the moment? Living fully in the moment is the actualization and realization of all that is holy and blessed about the gift of life. The above referenced research is a testament to the implications of unfulfilled human choices on disease processes such as breast cancer.

The remaining variables in this study include spiritual well-being, hormone replacement therapy, oral contraceptive usage, and body mass index. Although they were not statistically significant in distinguishing between groups in this population, they will be discussed because of their health implications.

Spiritual Well-Being

Scores for the SWBS were consistently high for all three groups**.** The sources of subject selection in this sample of convenience could be expected to contribute to this population having high Spiritual Well-Being. Although physician referrals provided some subjects, participants were recruited through a Jewish Community Center, especially in exercise classes, and through the magazine *Natural Awakenings.* Interestingly, the Survivors had the highest Mean score (97) for this scale, followed by the BCF (94), and the RD (90). "A score in the range of 41-99 is designated moderate spiritual well-being."[17] What determinations can be drawn from the Mean score of the Survivors? Has their faith in a higher power combined with a driving life purpose sustained them even in

the face of breast cancer? Have they overcome spiritual deficits that the other two groups are still struggling with? Was the experience of breast cancer spiritually transformational in and of itself? In the words of a breast cancer survivor of twelve years, an inner transformation took place:

> "Breast cancer was an awakening. It was like running into a wall. I realized, 'Hey, I'm very important.' And one of the things that doesn't let me forget is that I had a mastectomy. And I didn't have reconstruction. So every day I wake up, it's a reminder. I can never really forget."[18]

She further states:

> "Before I had breast cancer, I was a very busy woman. I was a working mother. I didn't take time to take care of myself. Oh, I went to the doctor; I had a physical every year; I got my eyes checked; I had a pap smear. But I really wasn't taking the time to relax and smell the roses."[19]

This woman's story is indicative of many women diagnosed with breast cancer. Life becomes a whirlwind event, and stress with all of its manifestations provokes the untimely faltering of the immune system leaving one vulnerable to a disease such as breast cancer. The awakening she makes reference to is, more precisely, an awakening of spirit; offering one the opportunity to authentically create spiritual health and rebound with hope, joy and peace. The recognition that caring for the self is essential to quality of life, lessening the effects of a disease process, is basic to spirit. It hearkens to our basic drive of survival. A study by Rademacher of recently diagnosed breast cancer patients examined the relationship of Quality of Life and Spiritual Well-Being to explore nodal points in the treatment process of the disease. The first interval of assessment was soon after the initial oncology visit and the second was one month post chemotherapy treatment. Rademacher notes:

> Results indicated that spiritual WB at Time 2 was related to physical WB at Time 2. At both time points, spiritual WB was related to emotional WB. Unlike

> emotional WB, spiritual WB did not significantly change over time. Change in physical WB was related to change in emotional WB. Spiritual WB at Time 1 was also related to change in emotional WB. This relationship remained even when change in physical WB was controlled.[20]

This study demonstrates the interconnectedness of our body-mind-spirit, as well as the influence of each on the other. Noticeable is the constant of spiritual WB; it did not change significantly over time. Our spiritual well-being harbors the impetus for life.

Demonstrably, all three groups in this dissertation study scored in the moderate range of spiritual well-being, and yet the survivors out shined the rest. Suffice it to say, their spiritual health empowered their healing process and also, perhaps, overcoming cancer and the accompanying empowerment enhances SWB!

Hormone Replacement Therapy

Much controversy exists regarding hormone replacement therapy (HRT) and according to Barrett et al. HRT "provides a postmenopausal woman with the absent hormones, although not in the amounts once provided by the ovaries[21]. Determining the extent of influence of HRT in this population was whether HRT had been taken, and for how long a period the synthetic hormone was used by a respective participant.

The average data contained in **Table 2** displays the variable of HRT and period of usage. A "0" represents no usage, a "1" represents usage, and the period of usage was entered in months. Of the 160 participants, 45 reported a period of HRT usage, 13 of 61 BCF, 14 of 40 RD, and 18 of 59 Survivors. With the majority in all three groups not having any use of HRT, the Mean scores shown in Table 3, computed on total duration of use, are meaningless, shown by their standard deviations being more than twice the Mean. This results from having most of the values at zero months, with a few subjects in

each group with many months of use. The values of this variable have a bimodal distribution, rather than a normal distribution, so the Mean scores are not useful. We can, however, look at comparisons of HRT use between the groups. The BCF group appropriately has the lowest incidence of use, 13 of 61, only 21%. About a third of the two groups who have experienced breast cancer have used HRT. The Recently Diagnosed had 14 of 40—35%. The Survivors had 18 of 59—31%.

In 2002 The Women's Health Initiative discontinued part of the following study assessing the benefits and risks of HRT. Barrett et al state "About 10 million women have been taking HRT, making these drugs among the most prescribed in the United States. However, new data call for a major reevaluation of this situation."[22] This reevaluation was focused on the effects of the combination of estrogen and progesterone and its influence on the development of breast cancer. Barrett et al suggest that:

> Given these results, clinicians should stop prescribing this combination (1 daily tablet containing 0.625 mg conjugated equine estrogen plus 2.5 mg of medroxyprogesterone acetate) for long term use. Other regimens may have different results, but the 3 studies [3-5] reported to date in the United States with other regimens have all found an increased risk of breast cancer.[23]

It was stated that the intention of prescribing the therapy was to preserve women's health and to prevent disease. However, the derived evidence strongly affirms an increased risk in the development of breast cancer. Mills, in her article, *Causes of Breast Cancer-the Estrogen Controversy,* states:

> There are definitive studies that bolster the connection between HRT and high doses of progestins and a [*reoccurrence*] of breast cancer. One trial, the HABITS (Hormonal Replacement Therapy—Is It Safe?), was stopped at the median follow-up because the risk of reoccurrence was 3.3 times higher than in women receiving no treatment or HRT with low-dose progestin.[24]

Her recommendations to women who are postmenopausal and considering using HRT to treat the various symptoms exhibited by decreases in hormones are:

> One thing we know is that nature did not intend for women to maintain high levels of progesterone after menopause. Artificially doing so may pose additional health risks depending on your health history. Consequently, we don't recommend using progesterone of any kind for more than 12 months if you're postmenopausal.[25]

Another fact worth noting is the effect of HRT usage over time, and this fact seems to be the present consensus of researchers in the field:

> As a woman ages, the fat cells of her breast tend to produce greater and greater amounts of aromatase, which in turn increases the amount of local estrogen. This seems to play a role in triggering breast cancer in postmenopausal women. Once established, the tumor further increases estrogen levels, which helps it to grow, [therefore] women taking HRT for a long time (more than five years) have an increased breast cancer risk of around 30%.[26]

The 30 women in this study who used HRT and developed breast cancer had an average usage of 6.83 years. This figure lends credence to the expectation that the longer one uses HRT the risk of developing breast cancer is more probable.

Oral Contraceptive Usage

Synthetic hormone therapies such as Oral Contraceptives and the previously discussed HRT have come under heavy scrutiny in the scientific community for their assumed role in female cancers. **Table 2** contains the average data for OC input, the same reference system was used; "0" represents no usage, a "1" represents usage, and the period of usage was represented in months.

As was noted with HRT, there is also widespread use of oral contraceptives by women prior to the birth of their first child, and subsequent use following the first birth.

Once again, controversy arises around the numerous studies and their respective populations, and, as shall be conveyed here, mixed results have been reported. A study in BMC *Womens Health* looking at oral contraceptive use (before first birth) and the risk of breast cancer found:

> A thorough meta-analysis based on epidemiological studies up to the mid-1990's concluded that women who have used combined OCs in the past 10 years are at a slightly increased risk of having breast cancer, although the excess cancers diagnosed tended to be localized [1,2]. Some of the later studies concluded that OC use is a risk factor for breast cancer [3-10], or is for some subgroups [11, 12], while other studies have not [13-16]. Young women having used the pill for a long time before their first pregnancy have been identified as a potential risk group [6, 14, 17, 18], but currently there are not enough studies to prove or disprove the increased risk of breast cancer.[27]

Notice that the combined used of OC was cited in this study, and so were similar conclusions drawn in aforementioned studies of HRT. As to the question of increased risk prior to first birth, long-term use was noted as a risk factor for future breast cancer. Coincidentally, these results on OC usage, like the data presented on HRT, concludes that use of HRT longer than five years is also an increased risk factor.

Another study that addresses the combination of OC finds evidence supporting the drawback of this formulation, and further advances the idea that OC does not in and of itself increase breast cancer risk but that it advances already existing abnormal cells. Buehring submits:

> Various studies supported the theory that OCs may augment multiplication of already altered cells. Further, mammographic studies of breast dysplasia revealed that OC users have 18 times the risk of developing breast cancer than nonusers. Additionally, in breast tissue culture studies, combination OCs containing norethynodrel-mestranol and norgestrelethinyl estradiol triggered cancerous cells to multiply faster than normal cells. Research must continue so as to know how to alter OCs to reduce any tumor promotion capabilities without foregoing contraceptive efficiency.[28]

In the three groups of participants in this study, a total of 61 women recorded the use of OC. The BCF group showed the least use with 20 of 61---33%. The Recently Diagnosed had 18 of 40---45% and the Survivors had 23 of 59---39%. Among those women who developed breast cancer, the average period of use was 8.42 years. This figure is based on the women who reported the period of usage; one only recorded using OC, but not the period of usage. Once again, the factors deemed to have the most influence are the period of usage, and the combinations of OC. Amidst all of this uncertainty regarding the role of OC and the development of breast cancer, are the women utilizing this form of contraception. Like HRT, duration of OC use in this population shows a bimodal distribution, with most of the population having no use, and all the duration provided by only part of each group. The large standard deviation shown in **Table 3,** when the Mean duration was computed, shows that the Mean statistic provides no meaning.

Body Mass Index

BMI is a measurement used to evaluate healthy body weight by comparing an individual's height and weight. When the height and weight are entered into the Body Mass Calculator (which can be found by searching the internet), the result is translated as follows: "BMI below 18.5 is underweight, 18.5-24.9 is normal weight, 25-29.9 is overweight, and 30 and higher is obese."[29] The participants of this study submitted their body weight and height for calculation. This figure was entered into the participant database, which in turn became part of the raw data entered into **Table 2**.

A study from the Fred Hutchinson Cancer Research Center in Seattle links obesity to breast cancer deaths. Daling et al. followed 1,177 women under the age of 45 years from 1983-1992 that were diagnosed with breast cancer. Here are their results:

> They found that those in the highest quartile of the BMI (body mass index is a measure of excess weight taking height and build into account) were two and one-half times as likely to die of their disease within five years of diagnosis compared to women in the lowest quartile of BMI. Simply put, heavier women succumb to cancer more than thinner women.[30]

Researchers have also considered the relationship of estrogen and weight as influential to a predictive association of breast cancer risk. This association has been previously discussed in Chapter 2 in reference to the work of Christine Horner, author of *Waking The Warrior Goddess.* Additionally, she explains:

> One big reason why obesity is associated with an increased risk of breast cancer is that fat cells produce estrogen, If you look at the estrogen pathway you'll see that estrogen isn't created just by the ovaries. It's also made by fat cells. After menopause, fat becomes the primary site where estrogen is manufactured in your body. So, the more fat you have, the more estrogen your body will produce.[31]

A further link between breast cancer and obesity has been studied in postmenopausal women in order to determine if a correlation exists between serum sex hormone [estradiol] and BMI. Key et al. found that "Breast cancer risk increased with increasing BMI (P (trend) =.002), and this increase in RR [relative risk] was substantially reduced by adjustment for serum estrogen concentrations."[32] This concurs with the findings aforementioned by Christine Horner. These facts provide preventative information to all women regarding the disease of breast cancer and weight.

Another study by Berclaz et al. assessed the prognostic quality of BMI and "operable" breast cancer and "systemic treatment."

> Patients with normal BMI had significantly longer overall survival (OS) and disease-free survival (DFS) than patients with intermediate or obese BMI in pairwise comparisons adjusted for other factors. Subset analyses showed the same effect in pre- and perimenopausal patients and those receiving chemotherapy alone. When assessed globally and adjusted for other factors, BMI significantly influenced OS (P=0.03) but not DFS (P=0.12).[33]

The BMI cutoff point for normal weight is 24.9. The average BMI for the total group in this study was 25.9. The average BMI for those with a cancer diagnosis in the RD group was 27.25 and the average BMI for Survivors was 24.88. The Recently Diagnosed group was the heaviest according to this index followed by the Survivors and the BMI for the Breast Cancer Free group was 24.43. Maintaining normal body weight protects women from an over production of estrogen and in turn protects against breast cancer.

Thus far, this discussion has focused on the average data contained in **Table 2.** There are, of course, many statistical methods that describe data and **Table 8** contains correlations among all the variables for each group.

Table 7. Correlations.

Correlations

Red correlations are significant at p< .00500

BCF

	OC	HR	ZUNG	POI	POMS	SWBS	BMI
OC	1.00						
HR		1.00					
ZUNG			1.00				
POI			-0.44	1.00			
POMS		-0.26	0.56	-0.33	1.00		
SWBS						1.00	
BMI				0.27			1.00

Recent

	OC	HR	ZUNG	POI	POMS	SWBS	BMI
OC	1.00						
HR		1.00					
ZUNG			1.00				
POI				1.00			
POMS			0.63		1.00		
SWBS						1.00	
BMI							1.00

Survivor

	OC	HR	ZUNG	POI	POMS	SWBS	BMI
OC	1.00						
HR		1.00					
ZUNG			1.00				
POI			-0.49	1.00			
POMS			0.82	-0.55	1.00		
SWBS			-0.54		-0.41	1.00	
BMI							1.00

Some interesting relationships can be seen in this table. All correlations in red are significant at 99.5%.

All three groups show a strong correlation between the ZUNG measure of depression and scores on the Profile Of Mood States. These two assessments evaluate similar emotional aspects, so the appropriate correlation shows that the evaluations are consistent across the groups. For the Recently Diagnosed group, this correlation between the depression scale and the mood states assessment is the only significant correlation among the variables.

In both the Breast Cancer Free group and the Survivors group, the Personal Orientation Inventory (POI) shows negative correlations with the ZUNG and the POMS. This negative correlation can be expected in a robust, healthy population. While the depression scale and mood state assessment show distress, the POI is in part a measure of emotional strength.

The further significant correlations area also negative. In the Survivors group, the ZUNG and POMS show negative correlations with the SWBS. Similar to the POI, the assessment of Spiritual Well Being is a measure of personal strength, so a similar negative relation with the ZUNG and POMS measures of distress may be a sign of personal triumph in the Survivors group.

The contrast between the Survivors and the Breast Cancer Free groups on these three variables is interesting. While the Survivors average SWBS is the highest of all three groups, their ZUNG and POMS scores are also higher than the Breast Cancer Free group, and the Breast Cancer Free group does not show this negative correlation.

The Recently Diagnosed group has the highest average scores on the ZUNG and POMS and the lowest score on the SWBS, but again this group showed only one

significant correlation among the variables: the strong correlation between the depression scale and the profile of mood states.

Actual and Predicted Group Classifications

In this study, DFA was utilized to examine the characteristics of the aforementioned variables among and between three groups of women: BCF, RD, and Survivors. The first mode of classification (DFA) is the Forced Entry Method, where all of the variables are evaluated for their discrimination between the groups. The second analysis, the Stepwise Method utilizes only the variable/variables shown as the most significant from the Forced Entry Method, to formulate the predictive ability of those variable/variables with the groups. In **Table 7,** the final classification results are listed. BCF were correctly classified 62.3% of the time. RD were correctly classified 57.5% of the time. And, Survivors were correctly classified 22% of the time. Similar to the Forced Entry Method, the Stepwise Method again assigned Survivors to the Breast Cancer Free group more often at 49.2% of the cases.

Breast Cancer Free and Classification

The classification results of this study are thought provoking. The misclassification of an individual case to another group other than the original group assignment will be examined to discern the implications for the misclassifications. In the Breast Cancer Free group, of the 61 cases, 23 were misclassified (16 were classified as Survivors and 7 were classified as Recently Diagnosed).

What could account for the misclassification of the Breast Cancer Free group to the Survivors (16) and the Recently Diagnosed (7) Since the variable of depression played the only role in predicting group classification in the Stepwise Method, did this variable account for classifying the BCF group to Survivors and RD? The sixteen cases (BCF) that predicted membership in the Survivors group had a Mean on the Zung of 41.68, and the group Mean for the Survivors on the Zung was 41.53, hence they predicted to the Survivors group. The seven cases (BCF) that predicted to the Recently Diagnosed group had a Mean on the Zung of 52, the group Mean for the RD on the Zung is 46.65, and therefore this association explains the rationale for the prediction to the Recently Diagnosed group.

Recently Diagnosed and Classification

The Recently Diagnosed group had the highest Mean scores of the three groups on the ZUNG and the POMS, and the lowest Mean scores on the POI and the SWBS. The nine cases of the Recently Diagnosed group that predicted to the Breast Cancer Free group had a Mean on the ZUNG of 35.4, even lower than the group Mean for the BCF on the ZUNG at 38.26. The eight cases in the Recently Diagnosed group that predicted to the Survivors group had a Mean of 43.25 on the ZUNG. The group Mean on the ZUNG for the Survivors was 41.53. Depression and anxiety affect spiritual well-being. And, they affect how one orients to life if confronted with breast cancer. Additionally, the Recently Diagnosed group of this study exhibited the most depression. Higher levels of affective disturbance and lower scores of self-actualization and spiritual well-being can create instabilities.

Survivors and Classification

The Survivors revealed the most variance with regard to misclassified cases. Of the 59 cases, 46 were misclassified according to the predictive function of Discriminant Function Analysis: 29 members predicted to Breast Cancer Free and 17 members predicted to Recently Diagnosed. The twenty-nine cases that predicted to Breast Cancer Free had a Mean on the ZUNG of 33.4. Once again, misclassified case Means were lower than the group Mean for the Breast Cancer Free group at 38.26 on the ZUNG. The Survivors that predicted to the Recently Diagnosed group had a Mean of 54.7 on the ZUNG, higher than the group Mean of the Recently Diagnosed group, which was 46.65.

The Survivors manifested the greatest spiritual well-being and the second highest score for self-actualization. These variables are indicative of a fuller life based on an intrinsic locus of control. Individualization confirms one's self-orienting values, connecting one's self to the core of well-being available to all who choose to access it. Could this be the reason why most of the misclassified cases predicted to be Breast Cancer Free? Their state of health and well-being was interpreted as disease free by the predictive classification of Discriminant Function Analysis.

Transformation and Meaning

There is much written about the concepts of transformation and meaning in disease processes. It is the opinion of this researcher that the Survivors of this study have transformed their life experiences and are conquering the disease of breast cancer. Those who have worked in the area of transformation posit that one must transform spirit and

mind in order to effect changes in the body and in the disease process, such as breast cancer. In an editorial by Kim Jobst, *Diseases of Meaning, Manifestations of Health, and Metaphor,* the relationship of disease and health is discussed:

> … disease may be thought of as a manifestation of health. It is the healthy response of an organism striving to maintain physical, psychologic, and spiritual equilibrium. Disease is not necessarily to be avoided, blocked, or suppressed. Rather it should be understood to be a process of transformation.[34]

The problems that initiate a downward spiral in health, which may produce breast cancer, do indeed have meaning. Meaning is the current that flows through the river of life offering enlightenment, gratitude, appreciation, and joy. Healing from breast cancer kindles an awakening of these attributes and imparts introspection that stimulates restoration of these qualities in one's life. Dr. Candace Pert, a researcher in the field of psychoneuroimmunology, examines the role of disease and meaning, categorizing illness as a "signifier" in the "language of mind-body distress." She further discusses the complex interactions of the multiple layers of being. She proposes:

> Although disease is no indicator of insufficiency of character, many one-time patients insist that it can be a wake-up call. From this perspective, illness is a signifier that imbalance--- psychosocial, emotional, nutritional, physiological--- reigns in the bodymind system, and that efforts made to restore balance will yield benefits in both psychospiritual and physical realms, even when "cure" is not a likely or possible outcome.[35]

Dr. William Bushnell, a medical anthropologist, has researched spiritually transformative practices and disease processes:

> His research focuses on leading edge medical and neurobiological discoveries of innate bioprotective and regenerative capacities of the body, and how these capacities can be profoundly amplified by meditative and yoga or yoga-like practices - the very same practices used to accomplish spiritually transformative goals throughout the world's religious traditions. The health enhancing effects of

> these practices appear to be considerably more powerful than previously recognized in Western cultures.[36]

He contends that the brain may be regenerated by "resident stem cells." It is his hope that this revitalization process would prevent degenerative diseases such as cancer, diabetes, stroke and Alzheimer's.

One of the emissaries in the mind-body treatment of cancer is Dr. Lawrence LeShan. His research and practice have advanced a treatment modality for a cancer patient that is therapeutic to mind, uplifting to spirit and potentially curative to physical health. He states "To put it in other words, there are certain psychological steps people with cancer can take to increase their self-healing and self-repair abilities and bring these more strongly to the aid of the medical program."[37] As he began to develop a psychotherapeutic approach to use with cancer patients, he encountered some circumstances that were presented by the patients themselves. LeShan explains:

> Often they [cancer patients] had been searching for a long time for ways to deal with their cancer and learned to work on all three levels of human life: physical, the psychological, and the spiritual. I began to realize that those patients who had gone beyond me, who were consciously working on all three levels, tended to do better than those who were not.[38]

LeShan calls his approach to treating cancer "holistic." "The psychotherapeutic process was clearly oriented toward searching together for her [the patient's] zest and enthusiasm, not causes of her problems."[39] He further states:

> Nevertheless, if therapists want to enable their cancer patient clients to bring the best of their self-healing and self-repair abilities to the aid of the medical treatment (in the currently accepted terms, "to help mobilize their immune systems"), this is precisely what they have to do.[40]

This holistic approach of Dr. LeShan's combines psychological and spiritual elements of healing that have the ability to communicate with a faulty immune system. In this holistic concept of healing, the individual is presented with the challenges of this process and, if they choose, provided the opportunity to answer open-ended questions that have haunted their lives. The Survivors of this study surpass the other two groups in making the connection between meaning and transformation. It is truly through the domain of spirit that the mind and body are made whole.

Suggestions For Future Research

This body of research answers some valid questions regarding breast cancer. Yet, many other questions need to be asked and answered regarding this disease. How imperative is the call to prevent disease? Energy Medicine provides modalities of healing that augment conventional cancer treatment and enable the healing of the whole person. This is vital not only for the health of individuals, but also for the health of the world. With this in mind, future research should include a longitudinal study that examines the variables presented in this study. Research incorporating a larger population of women should utilize the instruments used in this study, as well as new measures of assessment, providing greater insight into the questions posed herein. Lastly, a combination of qualitative and quantitative data should be gathered to provide deeper understanding into the various facets of the disease process. Qualitative research encompassing the stories of breast cancer patients might provide clues leading to both prevention and treatment.

Concluding Thoughts

This body of research has presented this researcher with incomparable feelings of joy and empathy for those who so graciously consented to participate. The lessons that I have learned have advanced my own healing and well-being. The interactive nature of this project has heightened my awareness of the necessity to rejoice in the healing process and to be a light to others on this path.

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APPENDIX A
Study Sign-Up Sheet

SIGN UP SHEET Breast Cancer Study-January 2006

NAME (printed)	ADDRESS	PHONE NUMBER	EMAIL

APPENDIX B
Flier for Study

BREAST CANCER STUDY

I am a doctoral student who is conducting research on breast cancer. I am studying three groups of women: women recently diagnosed with breast cancer, (within one year), women survivors of breast cancer, (two through ten years out), and a control group of women who have never been diagnosed with breast cancer. The women must range in age from thirty to seventy years.

My primary goal with this research is *empowering* women regarding the opportunistic disease of breast cancer. Knowledge and awareness are powerful weapons in fighting any disease process. As a *survivor,* I am so cognizant of just what it took me, to defeat this disease and maintain quality of life through informed health choices.

If you are interested in participating in this important research Please contact me at lgsuch@gmail.com or 505-771-2525. I will be glad to speak with you to discuss participation and any questions or concerns that you may have regarding this study. Time commitment for this study is approximately forty minutes to one hour. Thank you for your time.

Laura Gambill-Sucherman, M.S., ABD

APPENDIX C
Cover Letter to Participants

Laura Gambill-Sucherman
13 Dustin Court
Placitas, New Mexico 87043

I want to take this opportunity to share with you my background and the reasons that I am conducting this research. I am a doctoral student at Holos University; I have completed my studies with the exception of my dissertation. The title of my research is THE PROCLIVITAL ROOTS OF BREAST CANCER. Proclivital means a natural propensity or inclination: predisposition. This study will survey all the facets that predispose breast cancer, as well as the facets relevant to survivors and healthful living that engenders a disease free status.

As a nine-year survivor of breast cancer, I took many steps in my healing process. This journey that I embraced involved conventional medical treatment and the integration of psychological and spiritual tools that served to promote and advance healing. The transformation that took place because of these protocols sparked my curiosity, and this led me to my current explorations in learning. It is my sincere desire that each participant experience insight and knowledge that addresses where they are in relation to the disease of breast cancer.

Each participant will provide the information required for each form. The forms are as follows: Informed Consent Form, Participant Instructions and Information, and the Intake Form. DO YOU KNOW!!!! is an information sheet that I have provided so that each of you will know what current research reveals; thereby promoting an awareness of health issues that are related to the disease of breast cancer.

Read and fill out the INFORMED CONSENT FORM, be sure to sign both places calling for participant's signature. After reading PARTICIPANT INSTRUCTIONS AND INFORMATION, fill out the INTAKE FORM.

There are four INVENTORIES that you will take as part of this study. Each inventory has accompanying instructions, please read the instructions carefully. It is important that you use a NUMBER 2 pencil when taking the POMS and the POI. You may contact me with any questions that occur to you regarding the inventories or any other form in the participant package. The total time investment for the four inventories is approximately forty-five minutes. The INTAKE FORM could take anywhere from ten to twenty minutes.

Once you have concluded the inventories please return the completed inventories, the POI booklet, and the detached researcher's copy of INFORMED CONSENT. You will retain the top portion for your records. If you reside out of state, I will provide a self-addressed stamped envelope for your convenience. If you reside in the Albuquerque area, I will be glad to pick up the materials. Thank you very much for your attention and participation in this important study.

Laura Gambill- Sucherman, M.S., ABD
Residence-505-771-2525
January, 2006
lgsuch@gmail.com

APPENDIX D
Participant Informed Consent Form

RESEARCH TITLE: THE PROCLIVITAL ROOTS OF BREAST CANCER

PRINCIPAL RESEARCHER: Laura Gambill-Sucherman, BS, MS. ABD

CONTACT: Laura Sucherman, 505-771-2525, lgsuch@gmail.com

Purpose of Research

The objective of this research is to identify and examine the psychological, spiritual and physical variables that are indicative of breast cancer in order to significantly distinguish between three groups of women, i.e., breast cancer patients, survivors of breast cancer, and a control group who are disease free. As a participant of this research, you will be asked to provide personal demographic information and answer questions from the accompanying inventories according to the instructions so provided by each inventory.

Rights of Participants

1. Your participation in this study is on a voluntary basis, and you have the right to withdraw from this study at any time that you so desire.
2. All information obtained from the participants will be treated with confidentiality. A participant's identity will not be disclosed in any accounting of this research.
3. As a participant of this study, you have the right to read any reports of the research that you have participated in. Research reports will be available from the principal researcher.
4. **PLEASE RETAIN THE UPPER PORTION OF THIS FORM FOR YOUR RECORDS.**

PARTICIPANT'S STATEMENT

I have read the above information regarding the purpose of this study and the rights of participants. I freely sign this form without coercion.
ALL OF YOUR RESPONSES WILL BE TREATED CONFIDENTIALLY. INDIVIDUAL IDENTITIES WILL NOT BE DISCLOSED IN ANY REPORTS OF THIS RESEARCH.

_____ _____ _____ _____
Participant's Signature Date Researcher's Signature Date

_____*Detach Here*_____

RESEARCH TITLE: THE PROCLIVITAL ROOTS OF BREAST CANCER

I have read the above information regarding the purpose of this study and the rights of participants. I freely sign this form without coercion.

_____ _____ _____ _____
Participant's Signature Date Researcher's Signature Date

APPENDIX E
Information and Instructions to Participants

The information provided herein will assist you in filling out the Intake Form. This information is an essential part of the facts that I, as a researcher will utilize in this study. I will personally answer any questions that occur to you regarding the Intake Form, and whether you reside in state or out of state, I am available by email:lgsuch@gmail.com or telephone: 505-771-2525. It is important that the information that you as a participant provide be as accurate as possible. One of the primary goals of this researcher is to improve individual perception about breast cancer; as to preventative measures, health maintenance as a survivor to prevent recurrence, and healthful living that qualifies as offering the potential to avoid the onset of breast cancer in the future.

VITALS:

Under this heading, you are asked to provide your baseline *body temperature*. You will be supplied with a disposable finger thermometer that will allow you to input your temperature. Position the thermometer on the index finger; you may tape the thermometer to the finger but do not cover the lower red bulb. Leave the thermometer in place for five minutes, read and record. Following the input of your temperature, there is a line that states, Eligible for Iodine, (this information is for research purposes), however, by providing your temperature, and if it is below 98.6, you can decide if you want to pursue an assessment of your thyroid function. Dr. C. Norman Shealy has found a correlation between a low body temperature and optimal functioning of the Thyroid. Additionally, Dr. Jonathan V. Wright a nutritionist "believes that much higher dosages of iodine might not only prevent breast cancer but also restore thyroid function."

BODY MASS INDEX:

BMI is calculated from the ratio of your height and weight. This researcher will calculate your specific Body Mass Index. That information is available to you if you so desire it from this researcher. The relationship of weight plays a significant role in the production of estrogen; estrogen balance has relevance for the disease of breast cancer.

ALLERGIES*:* An answer to this question reflects your knowledge of any existing allergies, e.g., have you had an allergic reaction to any medication, (if so what medication)?

DIET*:* Answer this question as to a specific diet or simply stating that you are not on a diet.

EXERCISE*:* Answer as to type and frequency.

CURRENT MEDICATIONS*:* Any and all prescribed drugs or over the counter drugs, and if you are currently doing a protocol of chemotherapy or experimental drugs with regard to a diagnosis of breast cancer.

NUTRITIONAL SUPPLEMENTS & DOSAGES*:* any vitamins or minerals you are currently taking.

SIGNIFICANT HEALTH CHALLENGES*:* The diseases I have listed and any other disease or current health challenge.

SURGERY: Circle appropriate response and any comments you so desire to make regarding a specific surgical procedure.

ALL OF YOUR RESPONSES WILL BE TREATED CONFIDENTIALLY. INDIVIDUAL IDENTITIES WILL NOT BE DISCLOSED IN ANY REPORTS OF THIS RESEARCH.

I want to thank you very much for your participation in this study. Individually and collectively, you are making a difference as you pursue knowledge and wisdom that embraces health and quality of health.

Sincerely,
Laura Gambill-Sucherman, B.S., M.S. ABD

January 2006

APPENDIX F
Physical Variables Intake Form

PARTICIPANT INTAKE FORM

NAME_____ DATE_____

ADDRESS_____
DATE OF BIRTH_____ AGE_____
HOME TELEPHONE_____
WORK PHONE_____ E-MAIL_____
RACE: (circle the appropriate race/races) Caucasian Native American Black Asian Hispanic Indian Oriental Other

---

VITALS:
Temp._____ Eligible for Iodine: _____ (For Researcher Only)
Height: _____ Weight: _____lbs. Body Mass Index _____ (Researcher Will Calculate).
Allergies_____
Diet (current, i.e., low carb. Atkins) etc._____
Exercise: _____
Current Medications: _____
_____
_____
Oral contraceptives (type and how long) _____
Hormone Replacement Therapy (type and how long) _____
Nutritional Supplements & Dosages: _____
_____
_____
_____

Significant Health Challenges :(Diabetes; High/ Low Blood Pressure; Coronary Disease) etc._____
_____
_____
_____

BREAST CANCER PATIENTS/SURVIVORS: Date of Diagnosis_____
Date and Name of Surgical Procedure, if Applicable: _____
Dates of Chemotherapy, Radiation, or both_____

FOR RESEARCHER ONLY: ZUNG_____ POI_____ POMS_____
SWBS_____ BMI_____.

January, 2006

APPENDIX G
Research Information for the Participants

DO YOU KNOW!!!!!!!!!

- Breast cancer is twice as common in women taking thyroid supplements.
- Dr. Jonathan V. Wright (NUTRITION & HEALING NEWSLETTER) believes that much higher dosages of iodine might not only prevent breast cancer but also restore thyroid function.
- There is convincing evidence that Iodine deficiency predisposed to fibrocystic disease of the breast (FDB) and breast cancer.
- Dr. Hans Eysenck demonstrated years ago that 75% of those who die of cancer have life-long depression.
- Some studies of women with breast cancer have shown significantly higher rates of this disease among those women who experienced traumatic life events and losses within several years before their diagnosis.
- There is a link between the level of stress in our lives and cancer.
- Most illness, including breast cancer, has an emotional as well as physical cause.
- When a woman feels an underlying hopelessness and despair much of the time, this is filtered through the hypothalamus to affect the immune system and causes her to be more susceptible to cancer.
- Spiritual risk factors associated with the development of breast cancer are: lack of joy: lack of sense of purpose: loss of faith; foiled creative fire; lack of support, and ignored intuition.
- Active lymphatic circulation protects our breasts. If there were cancer cells, chemical toxins, or infectious organisms present, a healthy lymphatic system would work hard to remove them.
- Tight bras restrict movement and collapse the lymphatic vessels; it is recommended that women not wear a bra more than twelve hours a day.
- Tapping the upper part of your sternum stimulates the thymus gland, and in turn activates the lymphatic system.
- An imbalance of estrogen is a precipitating cause of cancer.
- Xenoestrogens (environmental estrogens) can stimulate breast cells to produce new blood vessels for tumor growth and spread. Unlike the plant estrogens,

environmental estrogens tend to accumulate to high levels in our bodies because they resist breakdown by our detoxification pathways.

- Women who exercise at least four hours per week, and are active in their work are less likely to develop breast cancer. (37- 60% reduction in risk).
- Long term exercise decreases estradiol and progesterone secretion, lowers the blood levels of glucose, insulin, and IGF-1; all of which promote breast cancer growth when they are high.
- Breast cancer is more prevalent in countries with a diet high in saturated fat, such as Canada and the United States where most people derive 40% of their total calories from fat.
- Women whose diets are high in fiber have 30% less risk of breast cancer than women who have very little fiber in their diets.
- Gamma-linolenic acid (GLA), which is found in evening primrose oil, suppresses a gene that causes 30 percent of all breast cancers. GLA also increases the effects of cancer-fighting medications, and selectively targets cancerous cells.

References and resources for the above information can be obtained by contacting this researcher (Laura Gambill-Sucherman) at 505-771-2525 or lgsuch@gmail.com

January, 2006

APPENDIX H
POI

POI

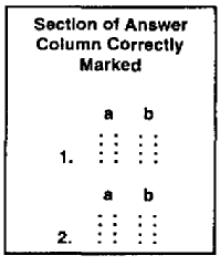
PERSONAL ORIENTATION INVENTORY

by Everett L. Shostrom, Ph.D.

DIRECTIONS

This inventory consists of pairs of numbered statements. Read each statement and decide which of the two paired statements most consistently applies to you.

You are to mark your answers on the answer sheet you have. Look at the example of the answer sheet shown at the right. If the first statement of the pair is TRUE or MOSTLY TRUE as applied to you, blacken between the lines in the column headed "a." (See Example Item 1 at right.) If the second statement of the pair is TRUE or MOSTLY TRUE as applied to you, blacken between the lines in the column headed "b." (See Example Item 2 at right.) If neither statement applies to you, or if they refer to something you don't know about, make no answer on the answer sheet. Remember to give YOUR OWN opinion of yourself and do not leave any blank spaces if you can avoid it.



In marking your answers on the answer sheet, be sure that the number of the statement agrees with the number on the answer sheet. Make your marks heavy and black. Erase completely any answer you wish to change. Do not make any marks in this booklet.

Remember, try to make some answer to every statement.

Before you begin the inventory, be sure you put your name, your sex, your age, and the other information called for in the space provided on the answer sheet.

NOW OPEN THE BOOKLET AND START WITH QUESTION 1.

Published by EdITS, San Diego, CA 92167

1. a. I am bound by the principle of fairness.
   b. I am not absolutely bound by the principle of fairness.

2. a. When a friend does me a favor, I feel that I must return it.
   b. When a friend does me a favor, I do not feel that I must return it.

3. a. I feel I must always tell the truth.
   b. I do not always tell the truth.

4. a. No matter how hard I try, my feelings are often hurt.
   b. If I manage the situation right, I can avoid being hurt.

5. a. I feel that I must strive for perfection in everything that I undertake.
   b. I do not feel that I must strive for perfection in everything that I undertake.

6. a. I often make my decisions spontaneously.
   b. I seldom make my decisions spontaneously.

7. a. I am afraid to be myself.
   b. I am not afraid to be myself.

8. a. I feel obligated when a stranger does me a favor.
   b. I do not feel obligated when a stranger does me a favor.

9. a. I feel that I have a right to expect others to do what I want of them.
   b. I do not feel that I have a right to expect others to do what I want of them.

10. a. I live by values which are in agreement with others.
    b. I live by values which are primarily based on my own feelings.

11. a. I am concerned with self-improvement at all times.
    b. I am not concerned with self-improvement at all times.

12. a. I feel guilty when I am selfish.
    b. I don't feel guilty when I am selfish.

13. a. I have no objection to getting angry.
    b. Anger is something I try to avoid.

14. a. For me, anything is possible if I believe in myself.
    b. I have a lot of natural limitations even though I believe in myself.

15. a. I put others' interests before my own.
    b. I do not put others' interests before my own.

16. a. I sometimes feel embarrassed by compliments.
    b. I am not embarrassed by compliments.

17. a. I believe it is important to accept others as they are.
    b. I believe it is important to understand why others are as they are.

18. a. I can put off until tomorrow what I ought to do today.
    b. I don't put off until tomorrow what I ought to do today.

19. a. I can give without requiring the other person to appreciate what I give.
    b. I have a right to expect the other person to appreciate what I give.

20. a. My moral values are dictated by society.
    b. My moral values are self-determined.

21. a. I do what others expect of me.
    b. I feel free to not do what others expect of me.

22. a. I accept my weaknesses.
    b. I don't accept my weaknesses.

GO ON TO THE NEXT PAGE

23. a. In order to grow emotionally, it is necessary to know why I act as I do.
    b. In order to grow emotionally, it is not necessary to know why I act as I do.

24. a. Sometimes I am cross when I am not feeling well.
    b. I am hardly ever cross.

25. a. It is necessary that others approve of what I do.
    b. It is not always necessary that others approve of what I do.

26. a. I am afraid of making mistakes.
    b. I am not afraid of making mistakes.

27. a. I trust the decisions I make spontaneously.
    b. I do not trust the decisions I make spontaneously.

28. a. My feelings of self-worth depend on how much I accomplish.
    b. My feelings of self-worth do not depend on how much I accomplish.

29. a. I fear failure.
    b. I don't fear failure.

30. a. My moral values are determined, for the most part, by the thoughts, feelings and decisions of others.
    b. My moral values are not determined, for the most part, by the thoughts, feelings and decisions of others.

31. a. It is possible to live life in terms of what I want to do.
    b. It is not possible to live life in terms of what I want to do.

32. a. I can cope with the ups and downs of life.
    b. I cannot cope with the ups and downs of life.

33. a. I believe in saying what I feel in dealing with others.
    b. I do not believe in saying what I feel in dealing with others.

34. a. Children should realize that they do not have the same rights and privileges as adults.
    b. It is not important to make an issue of rights and privileges.

35. a. I can "stick my neck out" in my relations with others.
    b. I avoid "sticking my neck out" in my relations with others.

36. a. I believe the pursuit of self-interest is opposed to interest in others.
    b. I believe the pursuit of self-interest is not opposed to interest in others.

37. a. I find that I have rejected many of the moral values I was taught.
    b. I have not rejected any of the moral values I was taught.

38. a. I live in terms of my wants, likes, dislikes and values.
    b. I do not live in terms of my wants, likes, dislikes and values.

39. a. I trust my ability to size up a situation.
    b. I do not trust my ability to size up a situation.

40. a. I believe I have an innate capacity to cope with life.
    b. I do not believe I have an innate capacity to cope with life.

41. a. I must justify my actions in the pursuit of my own interests.
    b. I need not justify my actions in the pursuit of my own interests.

42. a. I am bothered by fears of being inadequate.
    b. I am not bothered by fears of being inadequate.

43. a. I believe that humans are essentially good and can be trusted.
    b. I believe that humans are essentially evil and cannot be trusted.

GO ON TO THE NEXT PAGE

44. a. I live by the rules and standards of society.
    b. I do not always need to live by the rules and standards of society.

45. a. I am bound by my duties and obligations to others.
    b. I am not bound by my duties and obligations to others.

46. a. Reasons are needed to justify my feelings.
    b. Reasons are not needed to justify my feelings.

47. a. There are times when just being silent is the best way I can express my feelings.
    b. I find it difficult to express my feelings by just being silent.

48. a. I often feel it necessary to defend my past actions.
    b. I do not feel it necessary to defend my past actions.

49. a. I like everyone I know.
    b. I do not like everyone I know.

50. a. Criticism threatens my self-esteem.
    b. Criticism does not threaten my self-esteem.

51. a. I believe that knowledge of what is right makes people act right.
    b. I do not believe that knowledge of what is right necessarily makes people act right.

52. a. I am afraid to be angry at those I love.
    b. I feel free to be angry at those I love.

53. a. My basic responsibility is to be aware of my own needs.
    b. My basic responsibility is to be aware of others' needs.

54. a. Impressing others is most important.
    b. Expressing myself is most important.

55. a. To feel right, I need always to please others.
    b. I can feel right without always having to please others.

56. a. I will risk a friendship in order to say or do what I believe is right.
    b. I will not risk a friendship just to say or do what is right.

57. a. I feel bound to keep the promises I make.
    b. I do not always feel bound to keep the promises I make.

58. a. I must avoid sorrow at all costs.
    b. It is not necessary for me to avoid sorrow.

59. a. I strive always to predict what will happen in the future.
    b. I do not feel it necessary always to predict what will happen in the future.

60. a. It is important that others accept my point of view.
    b. It is not necessary for others to accept my point of view.

61. a. I only feel free to express warm feelings to my friends.
    b. I feel free to express both warm and hostile feelings to my friends.

62. a. There are many times when it is more important to express feelings than to carefully evaluate the situation.
    b. There are very few times when it is more important to express feelings than to carefully evaluate the situation.

63. a. I welcome criticism as an opportunity for growth.
    b. I do not welcome criticism as an opportunity for growth.

64. a. Appearances are all-important.
    b. Appearances are not terribly important.

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65. a. I hardly ever gossip.
    b. I gossip a little at times.

66. a. I feel free to reveal my weaknesses among friends.
    b. I do not feel free to reveal my weaknesses among friends.

67. a. I should always assume responsibility for other people's feelings.
    b. I need not always assume responsibility for other people's feelings.

68. a. I feel free to be myself and bear the consequences.
    b. I do not feel free to be myself and bear the consequences.

69. a. I already know all I need to know about my feelings.
    b. As life goes on, I continue to know more and more about my feelings.

70. a. I hesitate to show my weaknesses among strangers.
    b. I do not hesitate to show my weaknesses among strangers.

71. a. I will continue to grow only by setting my sights on a high-level, socially approved goal.
    b. I will continue to grow best by being myself.

72. a. I accept inconsistencies within myself.
    b. I cannot accept inconsistencies within myself.

73. a. Humans are naturally cooperative.
    b. Humans are naturally antagonistic.

74. a. I don't mind laughing at a dirty joke.
    b. I hardly ever laugh at a dirty joke.

75. a. Happiness is a by-product in human relationships.
    b. Happiness is an end in human relationships.

76. a. I only feel free to show friendly feelings to strangers.
    b. I feel free to show both friendly and unfriendly feelings to strangers.

77. a. I try to be sincere but I sometimes fail.
    b. I try to be sincere and I am sincere.

78. a. Self-interest is natural.
    b. Self-interest is unnatural.

79. a. A neutral party can measure a happy relationship by observation.
    b. A neutral party cannot measure a happy relationship by observation.

80. a. For me, work and play are the same.
    b. For me, work and play are opposites.

81. a. Two people will get along best if each concentrates on pleasing the other.
    b. Two people can get along best if each person feels free to express themself.

82. a. I have feelings of resentment about things that are past.
    b. I do not have feelings of resentment about things that are past.

83. a. I like only masculine men and feminine women.
    b. I like men and women who show masculinity as well as femininity.

84. a. I actively attempt to avoid embarrassment whenever I can.
    b. I do not actively attempt to avoid embarrassment.

85. a. I blame my parents for a lot of my troubles.
    b. I do not blame my parents for my troubles.

86. a. I feel that a person should be silly only at the right time and place.
    b. I can be silly when I feel like it.

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87. a. People should always repent their wrong-doings.
    b. People need not always repent their wrong-doings.

88. a. I worry about the future.
    b. I do not worry about the future.

89. a. Kindness and ruthlessness must be opposites.
    b. Kindness and ruthlessness need not be opposites.

90. a. I prefer to save good things for future use.
    b. I prefer to use good things now.

91. a. People should always control their anger.
    b. People should express honestly-felt anger.

92. a. The truly spiritual person is sometimes sensual.
    b. The truly spiritual person is never sensual.

93. a. I am able to express my feelings even when they sometimes result in undesirable consequences.
    b. I am unable to express my feelings if they are likely to result in undesirable consequences.

94. a. I am often ashamed of some of the emotions that I feel bubbling up within me.
    b. I do not feel ashamed of my emotions.

95. a. I have had mysterious or ecstatic experiences.
    b. I have never had mysterious or ecstatic experiences.

96. a. I am orthodoxly religious.
    b. I am not orthodoxly religious.

97. a. I am completely free of guilt.
    b. I am not free of guilt.

98. a. I have a problem in fusing sex and love.
    b. I have no problem in fusing sex and love.

99. a. I enjoy detachment and privacy.
    b. I do not enjoy detachment and privacy.

100. a. I feel dedicated to my work.
    b. I do not feel dedicated to my work.

101. a. I can express affection regardless of whether it is returned.
    b. I cannot express affection unless I am sure it will be returned.

102. a. Living for the future is as important as living for the moment.
    b. Only living for the moment is important.

103. a. It is better to be yourself.
    b. It is better to be popular.

104. a. Wishing and imagining can be bad.
    b. Wishing and imagining are always good.

105. a. I spend more time preparing to live.
    b. I spend more time actually living.

106. a. I am loved because I give love.
    b. I am loved because I am lovable.

107. a. When I really love myself, everybody will love me.
    b. When I really love myself, there will still be those who won't love me.

108. a. I can let other people control me.
    b. I can let other people control me if I am sure they will not continue to control me.

109. a. As they are, people sometimes annoy me.
    b. As they are, people do not annoy me.

110. a. Living for the future gives my life its primary meaning.
    b. Only when living for the future ties into living for the present does my life have meaning.

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111. a. I follow diligently the motto, "Don't waste your time."
    b. I do not feel bound by the motto, "Don't waste your time."

112. a. What I have been in the past dictates the kind of person I will be.
    b. What I have been in the past does not necessarily dictate the kind of person I will be.

113. a. It is important to me how I live in the here and now.
    b. It is of little importance to me how I live in the here and now.

114. a. I have had an experience where life seemed just perfect.
    b. I have never had an experience where life seemed just perfect.

115. a. Evil is the result of frustration in trying to be good.
    b. Evil is an intrinsic part of human nature which fights good.

116. a. A person can completely change their own essential nature.
    b. A person can never change their own essential nature.

117. a. I am afraid to be tender.
    b. I am not afraid to be tender.

118. a. I am assertive and affirming.
    b. I am not assertive and affirming.

119. a. Women should be trusting and yielding.
    b. Women should not be trusting and yielding.

120. a. I see myself as others see me.
    b. I do not see myself as others see me.

121. a. It is a good idea to think about your greatest potential.
    b. A person who thinks about their greatest potential gets conceited.

122. a. Men should be assertive and affirming.
    b. Men should not be assertive and affirming.

123. a. I am able to risk being myself.
    b. I am not able to risk being myself.

124. a. I feel the need to be doing something significant all of the time.
    b. I do not feel the need to be doing something significant all of the time.

125. a. I suffer from memories.
    b. I do not suffer from memories.

126. a. Men and women must be both yielding and assertive.
    b. Men and women must not be both yielding and assertive.

127. a. I like to participate actively in intense discussions.
    b. I do not like to participate actively in intense discussions.

128. a. I am self-sufficient.
    b. I am not self-sufficient.

129. a. I like to withdraw from others for extended periods of time.
    b. I do not like to withdraw from others for extended periods of time.

130. a. I always play fair.
    b. Sometimes I cheat a little.

131. a. Sometimes I feel so angry I want to destroy or hurt others.
    b. I never feel so angry that I want to destroy or hurt others.

132. a. I feel certain and secure in my relationships with others.
    b. I feel uncertain and insecure in my relationships with others.

133. a. I like to withdraw temporarily from others.
    b. I do not like to withdraw temporarily from others.

134. a. I can accept my mistakes.
    b. I cannot accept my mistakes.

135. a. I find some people who are stupid and uninteresting.
    b. I never find any people who are stupid and uninteresting

136. a. I regret my past.
    b. I do not regret my past.

137. a. Being myself is helpful to others.
    b. Just being myself in not helpful to others.

138. a. I have had moments of intense happiness when I felt like I was experiencing a kind of ecstasy or bliss.
    b. I have not had moments of intense happiness when I felt like I was experiencing a kind of bliss.

139. a. People have an instinct for evil
    b. People do not have an instinct for evil.

140. a. For me, the future usually seems hopeful.
    b. For me, the future often seems hopeless.

141. a. People are both good and evil.
    b. People are not both good and evil.

142. a. My past is a stepping stone for the future.
    b. My past is a handicap to my future.

143. a. "Killing time" is a problem for me.
    b. "Killing time" is not a problem for me.

144. a. For me, past, present and future is in meaningful continuity.
    b. For me, the present is an island, unrelated to the past and future.

145. a. My hope for the future depends on having friends.
    b. My hope for the future does not depend on having friends.

146. a. I can like people without having to approve of them.
    b. I cannot like people unless I also approve of them.

147. a. People are basically good.
    b. People are not basically good.

148. a. Honesty is always the best policy.
    b. There are times when honesty is not the best policy.

149. a. I can feel comfortable with less than a perfect performance.
    b. I feel uncomfortable with anything less than a perfect performance.

150. a. I can overcome any obstacles as long as I believe in myself.
    b. I cannot overcome every obstacle even if I believe in myself.

APPENDIX I
POMS

POM180

POMS™ Standard Form

BY DOUGLAS M. McNAIR, Ph.D., MAURICE LORR, Ph.D., JAN P. DROPPLEMAN, Ph.D., & LEO F. DROPPLEMAN, Ph.D.

Client ID:_____ **Age:**_____ **Gender:** Male Female (Circle one)

Birth Date:____/____/____ (Month / Day / Year) **Today's Date:**____/____/____ (Month / Day / Year)

To the Administrator:

Place a checkmark ✔ in one box to specify the time period of interest.

To the Respondent:

Below is a list of words that describe feelings that people have. Please read each word carefully. Then circle the number that best describes

- ☐ how you have been feeling during the PAST WEEK, INCLUDING TODAY.
- ☐ how you feel RIGHT NOW.
- ☐ other: _____

If no box is marked, please follow the instructions for the first box.

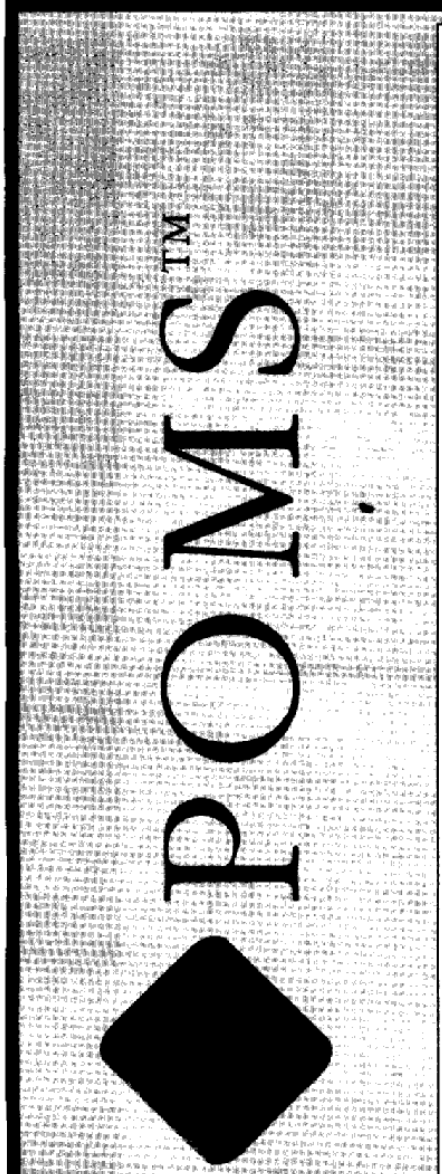
POMS™

		Not at all	A little	Moderately	Quite a bit	Extremely
1.	Friendly	0	1	2	3	4
2.	Tense	0	1	2	3	4
3.	Angry	0	1	2	3	4
4.	Worn out	0	1	2	3	4
5.	Unhappy	0	1	2	3	4
6.	Clear-headed	0	1	2	3	4
7.	Lively	0	1	2	3	4
8.	Confused	0	1	2	3	4
9.	Sorry for things done	0	1	2	3	4
10.	Shaky	0	1	2	3	4
11.	Listless	0	1	2	3	4
12.	Peeved	0	1	2	3	4
13.	Considerate	0	1	2	3	4
14.	Sad	0	1	2	3	4
15.	Active	0	1	2	3	4
16.	On edge	0	1	2	3	4
17.	Grouchy	0	1	2	3	4
18.	Blue	0	1	2	3	4
19.	Energetic	0	1	2	3	4
20.	Panicky	0	1	2	3	4
21.	Hopeless	0	1	2	3	4
22.	Relaxed	0	1	2	3	4
23.	Unworthy	0	1	2	3	4
24.	Spiteful	0	1	2	3	4
25.	Sympathetic	0	1	2	3	4
26.	Uneasy	0	1	2	3	4
27.	Restless	0	1	2	3	4
28.	Unable to concentrate	0	1	2	3	4
29.	Fatigued	0	1	2	3	4
30.	Helpful	0	1	2	3	4

Please flip over.
Items continue on the back page...

POMS™ Standard Form

BY DOUGLAS M. McNAIR, Ph.D., MAURICE LORR, Ph.D., JW P. HEUCHERT, Ph.D., & LEO F. DROPPLEMAN, Ph.D.



		Not at all	A little	Moderately	Quite a bit	Extremely
31.	Annoyed	0	1	2	3	4
32.	Discouraged	0	1	2	3	4
33.	Resentful	0	1	2	3	4
34.	Nervous	0	1	2	3	4
35.	Lonely	0	1	2	3	4
36.	Miserable	0	1	2	3	4
37.	Muddled	0	1	2	3	4
38.	Cheerful	0	1	2	3	4
39.	Bitter	0	1	2	3	4
40.	Exhausted	0	1	2	3	4
41.	Anxious	0	1	2	3	4
42.	Ready to fight	0	1	2	3	4
43.	Good natured	0	1	2	3	4
44.	Gloomy	0	1	2	3	4
45.	Desperate	0	1	2	3	4
46.	Sluggish	0	1	2	3	4
47.	Rebellious	0	1	2	3	4
48.	Helpless	0	1	2	3	4
49.	Weary	0	1	2	3	4
50.	Bewildered	0	1	2	3	4
51.	Alert	0	1	2	3	4
52.	Deceived	0	1	2	3	4
53.	Furious	0	1	2	3	4
54.	Efficient	0	1	2	3	4
55.	Trusting	0	1	2	3	4
56.	Full of pep	0	1	2	3	4
57.	Bad-tempered	0	1	2	3	4
58.	Worthless	0	1	2	3	4
59.	Forgetful	0	1	2	3	4
60.	Carefree	0	1	2	3	4
61.	Terrified	0	1	2	3	4
62.	Guilty	0	1	2	3	4
63.	Vigorous	0	1	2	3	4
64.	Uncertain about things	0	1	2	3	4
65.	Bushed	0	1	2	3	4

Please ensure you have answered every item.
Thank you for completing this questionnaire.

APPENDIX J
ZUNG

ZUNG Test for Depression

Please answer the following questions by placing checkmark in the appropriate column.

Name _____

Age _____ Sex _____ Date _____

	None OR a Little of the Time	Some of the Time	Good Part of the Time	Most OR All of the Time	
1. I FEEL DOWN-HEARTED, BLUE AND SAD					
2. MORNING IS WHEN I FEEL THE BEST					
3. I HAVE CRYING SPELLS OR FEEL LIKE IT					
4. I HAVE TROUBLE SLEEPING THROUGH THE NIGHT					
5. I EAT AS MUCH AS I USED TO					
6. I ENJOY LOOKING AT, TALKING TO AND BEING WITH ATTRACTIVE WOMEN/MEN					
7. I NOTICE THAT I AM LOSING WEIGHT					
8. I HAVE TROUBLE WITH CONSTIPATION					
9. MY HEART BEATS FASTER THAN USUAL					
10. I GET TIRED FOR NO REASON					
11. MY MIND IS AS CLEAR AS IT USED TO BE					
12. I FIND IT EASY TO DO THE THINGS I USED TO					
13. I AM RESTLESS AND CAN'T KEEP STILL					
14. I FEEL HOPEFUL ABOUT THE FUTURE					
15. I AM MORE IRRITABLE THAN USUAL					
16. I FIND IT EASY TO MAKE DECISIONS					
17. I FEEL THAT I AM USEFUL AND NEEDED					
18. MY LIFE IS PRETTY FULL					
19. I FEEL THAT OTHERS WOULD BE BETTER OFF IF I WERE DEAD					
20. I STILL ENJOY THE THINGS I USED TO DO					
				SDS RAW SCORE	
				SDS INDEX	

APPENDIX K
SWB

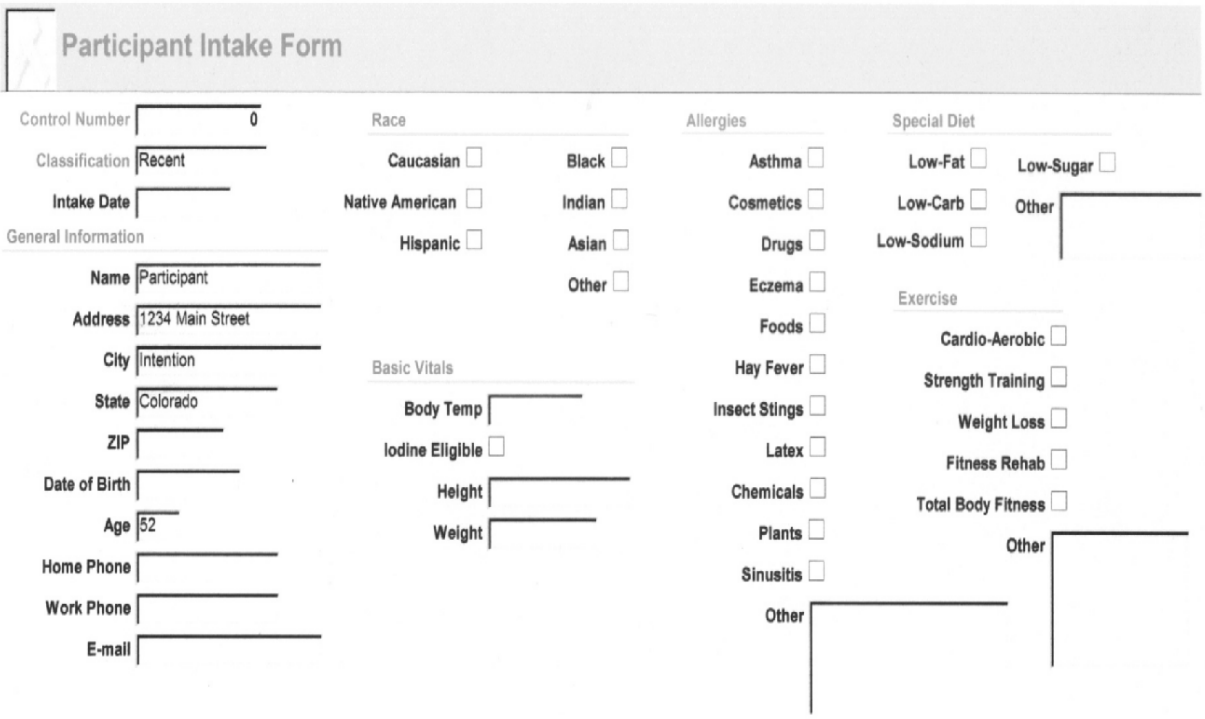
SWB Scale

For each of the following statements circle the choice that best indicates the extent of your agreement or disagreement as it describes your personal experience:

SA = Strongly Agree
MA = Moderately Agree
A = Agree
D = Disagree
MD = Moderately Disagree
SD = Strongly Disagree

1.	I don't find much satisfaction in private prayer with God.	SA MA A D MD SD
2.	I don't know who I am, where I came from, or where I am going.	SA MA A D MD SD
3.	I believe that God loves me and cares about me.	SA MA A D MD SD
4.	I feel that life is a positive experience.	SA MA A D MD SD
5.	I believe that God is impersonal and not interested in my daily situations.	SA MA A D MD SD
6.	I feel unsettled about my future.	SA MA A D MD SD
7.	I have a personally meaningful relationship with God.	SA MA A D MD SD
8.	I feel very fulfilled and satisfied with life.	SA MA A D MD SD
9.	I don't get much personal strength and support from my God.	SA MA A D MD SD
10.	I feel a sense of well-being about the direction my life is headed in.	SA MA A D MD SD
11.	I believe that God is concerned about my problems.	SA MA A D MD SD
12.	I don't enjoy much about life.	SA MA A D MD SD
13.	I don't have a personally satisfying relationship with God.	SA MA A D MD SD
14.	I feel good about my future.	SA MA A D MD SD
15.	My relationship with God helps me not to feel lonely.	SA MA A D MD SD
16.	I feel that life is full of conflict and unhappiness.	SA MA A D MD SD
17.	I feel most fulfilled when I'm in close communion with God.	SA MA A D MD SD
18.	Life doesn't have much meaning.	SA MA A D MD SD
19.	My relation with God contributes to my sense of well-being.	SA MA A D MD SD
20.	I believe there is some real purpose for my life.	SA MA A D MD SD

APPENDIX L
Participant Database



Participant Intake Form

Control Number: 0
Classification: Recent
Intake Date:

General Information
Name: Participant
Address: 1234 Main Street
City: Intention
State: Colorado
ZIP:
Date of Birth:
Age: 52
Home Phone:
Work Phone:
E-mail:

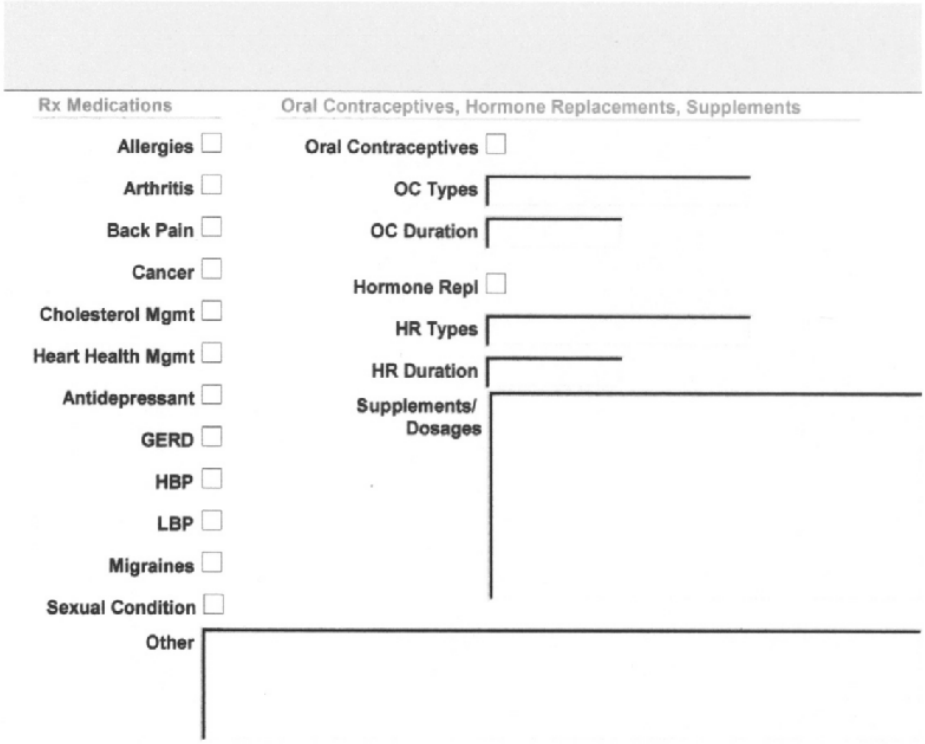
Race
Caucasian ☐ Black ☐
Native American ☐ Indian ☐
Hispanic ☐ Asian ☐
Other ☐

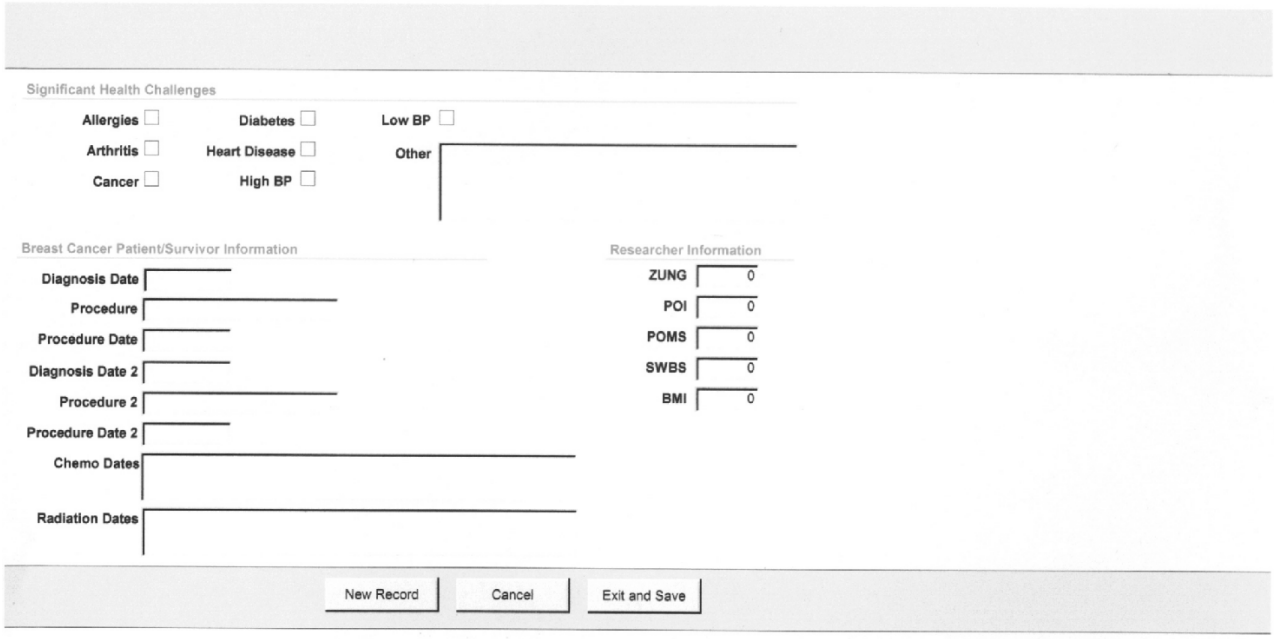
Basic Vitals
Body Temp:
Iodine Eligible ☐
Height:
Weight:

Allergies
Asthma ☐
Cosmetics ☐
Drugs ☐
Eczema ☐
Foods ☐
Hay Fever ☐
Insect Stings ☐
Latex ☐
Chemicals ☐
Plants ☐
Sinusitis ☐
Other:

Special Diet
Low-Fat ☐ Low-Sugar ☐
Low-Carb ☐ Other:
Low-Sodium ☐

Exercise
Cardio-Aerobic ☐
Strength Training ☐
Weight Loss ☐
Fitness Rehab ☐
Total Body Fitness ☐
Other:


Rx Medications
Allergies
Arthritis
Back Pain
Cancer
Cholesterol Mgmt
Heart Health Mgmt
Antidepressant
GERD
HBP
LBP
Migraines
Sexual Condition
Other
Oral Contraceptives, Hormone Replacements, Supplements
Oral Contraceptives
OC Types
OC Duration
Hormone Repl
HR Types
HR Duration
Supplements/ Dosages


Significant Health Challenges
Allergies
Diabetes
Low BP
Arthritis
Heart Disease
Other
Cancer
High BP
Breast Cancer Patient/Survivor Information
Researcher Information
Diagnosis Date
ZUNG
0
Procedure
POI
0
Procedure Date
POMS
0
Diagnosis Date 2
SWBS
0
Procedure 2
BMI
0
Procedure Date 2
Chemo Dates
Radiation Dates
New Record
Cancel
Exit and Save