EFFECTS OF THE ORGONE ACCUMULATOR BLANKET ON FREE RADICALS AND DEHYDROEPIANDROSTERONE LEVELS

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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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ABSTRACT

The purpose of this study was to show that the orgone accumulator blanket device could have a measurable effect on physical and psychological parameters, with a resulting positive change in the organism. The dependent variables studied were urinary excretion of free radicals, as measured by the Oxidata™ colorimetric test, and dehydroepiandrosterone (DHEA) levels, as measured in saliva. Both these tests can be seen as general markers of good health. DHEA levels reach their highest levels in humans during the twenties and decrease generally every decade afterward. Free radicals are a marker of incomplete oxidation and have been associated with stress and aging. The psychological test was a Profile of Mood States (POMS), which was a self-scoring test that was given at the beginning and the end of the study with the instructions to complete with how you feel right now. In addition, vital signs of blood pressure, pulse, and oral temperature were taken at the beginning and end of each session.

Sixty-three subjects began the study and were randomized into either the experimental or control group. Twenty-nine controls and thirty active participants completed the study.

The ages ranged from twenty-one to eighty-four years. The mean was 48.8 years in the control group and 48.9 years in the experimental group. The study consisted of sixteen males and forty-three females.

The study was double-blinded. Orgone accumulator blanket devices and sham blankets of identical design were made by Orgonics, Inc. of California. Participants spent three half hour sessions under the blankets, on alternating days.

Results showed a trend of increase in DHEA levels in the active group but not in the control group. Although promising, the results were not statistically significant. The active group showed a greater reduction in free radicals than the control group, but again this result did not reach the level of statistical significance. The POMS results were also suggestive of improvement. Many factors influenced results and will be discussed further. These include minimal exposure times to the orgone accumulator blanket device, rainy weather, mature age of group tested, and possible electronic interference.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER 1:
INTRODUCTION

"The question 'What is life?' prompted each new acquisition of knowledge."

Wilhelm Reich

The fields of Energy Medicine and Spiritual Healing are difficult to separate and can actually be seen as two aspects of the same entity. From this perspective, energy medicine has been part of the human experience for tens of thousands of years. Based on artifacts found, it appears that shamanic cultures existed long before written history. Central to these cultures is the belief that: "all things are permeated by Spirit. Every earthly form is animated by its own life force. The well-being of any particular life-form is dependent on its spiritual harmony with all other forms. Imbalances or displacement in the spiritual essence of a living being can cause debilitation and disease."[1]

The shamanic traditions have continued throughout many cultures to the present day. Native Americans continue to use the healing ceremonies of their ancestors. The culture least influenced by the changes brought about by farming and the invention of stone instruments is that of the Australian aborigines. Their religion is closest to that of the earth's original inhabitants.[2] The Aborigines speak of a parallel world, called "the dreaming," in which the participants live in a mythic realm and merge with archetypal energies. For example, the hunter enters the mold of the First Hunter during the hunt. He becomes this energy during the hunt, and from our western point of view, can be said to have merged with the Divine.

Other aspects of primal thought include disregard for linear time and for such divisions as between man and animal and between living and nonliving materials. These cultures share a type of symbolic sight, in which the world is understood to be other than what we see.[3] These characteristics are also common to the world view presented by energy medicine.

In the seventeenth century Rene Descartes declared that the body and mind were separate and that the spirit was the territory of the church and had nothing to do with science. That split has continued and has been regarded as one of the cornerstones of scientific thought. This view of nature as a machine that could be understood if broken into smaller parts, or the reductionist view, became the metaphor for what we call the Scientific Revolution. Others such as Galileo, Bacon, and Newton contributed to this dead view of the world.[4]

As science developed the ability to describe smaller and smaller building blocks of life the spirit of the whole was lost in the process. From the invention of the microscope to the elucidation of the genetic code, and most recently, the mapping of the genome, biology has made great strides in describing smaller bits of life.

The reductionist view dominated science until the twentieth century. With the development of quantum theory in physics that view began to change. In the search for smaller and smaller building blocks of matter the atom is reduced to its parts; a nucleus, made up of protons and neutrons, and electrons that spin around the nucleus like a miniature solar system. It is at this point that the mechanical model breaks down. When we look at the subatomic particles we find that they behave as both particle and wave at the same time and that rather than the parts determining the whole, the whole determines

the parts. When we try to observe a subatomic particle, the observation changes the process. We can know either the position or momentum of an electron, but not both. And what we see is dependent on what we are looking for and the entire picture of an objective reality breaks down at this point.[5]

In the last half of the twentieth century, and especially in the last thirty years, a new paradigm, or way of looking at the world has developed. This movement has been named Holistic, and seeks to resolve the separation into parts which has occurred in science, in religion, in health care, in education, and in personal relationships. One aspect of the holistic movement is the resonance with other realms, known variously as the mythic realm, archetypal realm, or transpersonal realm. Mystical writings since the early days of civilization have proclaimed the unity of life.

In the voices of the original human culture, we are given a vision of reverence for nature, that we are guardians of the natural world. There is an image of the Mother that has been forgotten in our materialistic hierarchical culture.[6]

When a true genius appears in the world,
you may know him by this sign, that the dunces
are all in a confederacy against him.

Jonathan Swift

"Thoughts on Various Subjects,
Moral and Diverting"

Background of Problem

It has been fifty years since Dr. Wilhelm Reich died in federal prison in Lewisberg, Pennsylvania. He was an innovative psychiatrist, psychoanalyst, and natural scientist who studied the world around him with a fresh open perspective. His interests and inquiries led him to study the natural world, the society in which he lived, the origin

of life, weather, and the cosmos. He was never bounded by the beliefs which went before but relied upon his own observations. Studying the world from the point of view of the smallest particles in the lab up to the cosmic secrets, he saw the world in a holistic framework.

Although the entire body-centered movement of therapy rests on Reich's shoulders, he has not been given the credit for his discoveries. There has been an attempt to portray him as insane and to discount the knowledge he left to the world.

Throughout his career Wilhelm Reich was ahead of his time. Like many other geniuses who made discoveries that upset the beliefs of the time, Reich has been vilified, both by his contemporaries and by those who succeeded them. Although all copies of his books were ordered burned by the FDA at the time of his imprisonment, they have been republished and discovered by a new audience. Many of Reich's controversial experiments have been repeated and verified and have been further refined, using the newer technology available today. Perhaps now, fifty years after his death we can look at his life from a fresh perspective and begin to appreciate the contribution he made to science.

History is full of examples of innovators who were punished for the heresy of speaking and writing of their discoveries which upset the accepted dogma of the day. Society, as well as professional and scientific institutions, tends to protect the status quo. As a species, we tend to believe what we have been told is truth, in spite of sometimes overwhelming evidence to the contrary.

When Kepler explained the action of the moon as responsible for the tides on earth, it was dismissed as fanciful by Galileo. When Galileo invited other scientists to

look through his telescope and observe the moons of Jupiter, they refused on principle, since it was impossible. Newton was ridiculed for introducing the idea of gravity. Leeuwenhoek, the first scientist to make careful observations with the microscope, was ridiculed by his peers. Kekule's discovery of the structure of the organic molecule, described as one of the most brilliant predictions in organic chemistry, was dismissed by the chemists of his day. Pasteur's work on fermentation was derided as ridiculous. Harvey's discovery of circulation of the blood was dismissed as impossible and many published books claiming to refute his ideas.[7] These examples are only a few in which brilliant discoveries are dismissed as impossible, imaginary, or products of insanity. These attacks are not just the products of a less enlightened day. They continue in the present time. There are many well-documented attacks on established scientists who present innovative ideas. In *The Body Electric: Electromagnetism and the Foundation of Life*, Robert O. Becker and Gary Selden describe the political machinations of Dr. Becker's colleagues, in which he ultimately lost his funding for research and his post at the VA due to his innovative studies regenerating limbs on frogs and showing that cellular differentiation and DNA processes were under the control of a more primary bioelectrical control, thus questioning the supremacy of DNA as the ultimate control center. A similar attack was undertaken on the French immunologist, Jacques Benveniste, who successfully verified the principles of homeopathic dilution. He was ridiculed and lost his post at the French equivalent to the U.S. National Institute of Health. There are many more examples of scientists who dare to question the orthodoxy of the day, from the cosmological Big Bang, to the dangers of low-level radiation and microwaves, to the sacrosanct theory of relativity.[8]

Some of the most striking examples of this are in the business of medicine. Many physicians have been censured and put in jail because of the use of unconventional therapies. If they are ever allowed to practice again, it is after a lengthy and expensive battle through the courts.[9] There are many documented examples of the control of the scientific establishment by the pharmaceutical industry and other corporations with a financial interest in preserving the status quo.[10] Physicians who use such therapies as intravenous chelation and hydrogen peroxide have been persecuted by the medical societies and the courts. Just as in the case of Dr. Reich, the patients and families have been satisfied with the treatment but regulatory organizations have sought to restrict the access to modalities other than pharmaceutical and surgical cures heavily promoted by those with financial interests in these treatments.

At the same time that governmental agencies seek to regulate and outlaw natural medicine, the dangers inherent in allopathic medicine are ignored. U.S. health care reached $1.6 trillion in 2003, or 14% of the gross national product. In U.S. hospitals alone, there are approximately 2.2 million adverse drug reactions a year. This does not include adverse drug reactions which occur in the outpatient setting. Approximately 7.5 million unnecessary medical and surgical procedures are performed annually in the U.S., and approximately 8.9 million Americans are hospitalized unnecessarily.[11] These numbers represent only the tip of the iceberg. There is no organized system for the reporting of medical errors and probably between 5% and 20% of the errors which occur are reported. The figures that Null estimated from an exhaustive review of the literature are equivalent to six jumbo jets falling out of the sky each day.[12]

Few people realize that most medical research is funded by the pharmaceutical and medical device industries. Journals are financed through pharmaceutical advertising and doctors receive most of their information from representatives of the drug industry. In addition, Congress is heavily lobbied to support legislation supportive of the drug industry. The drug companies have now gone directly to the consumer, advertising on television and on web sites, imploring consumers to "ask your doctor if this medicine is right for you." The implications of the advertising are that a pill can change your life and make you happy and care-free. A 1996 rule change allowed pharmaceutical companies to advertise directly to consumers. The direct to consumer advertising has increased 260% since that time. This direct advertising still makes up only about 14% of the nearly 30 billion drug companies spend yearly to advertise their drugs.[13]

In the present system the institutions are creating the rules about what constitutes good practice in medicine. The term "evidence-based health sciences" has been created to define which practices are acceptable and beneficial to patients. Evidence-based practices have become codified in the Cochrane database, a form ostensibly created to improve access to research by clinicians. The research deemed acceptable to this database must be based on the randomized clinical trial model, thus effectively eliminating 98% of the research as unacceptable. This system allows only one paradigm, the mechanistic Newtonian world view and forms a type of fascism in which free speech and innovative thought is squashed.[14] As this paradigm is the most accepted one, the present research has attempted to study the orgone accumulator blanket device within this framework. This is done with the full knowledge that each human and other energetic system is unique and reacts with an infinite number of known and unknown factors.

The orgone accumulator was a discovery of Reich's that was reported to increase the life energy of a body by bringing energy from the atmosphere and increasing it by creating a force field between the person sitting inside the accumulator and the energy surrounding it.

The original design of the orgone accumulator began with a Faraday cage. "Faraday cages," first built by Michael Faraday, were made of metal conductors designed to electrically shield the object of study from extraneous signals. The original design included a mesh covering formed by passing copper wire across the metal cage in all directions. A layer of paper and tinfoil bands was then used to cover the enclosure and the entire cage formed an excellent conductor of electricity. Faraday then entered the cage with instruments designed to detect an electromagnetic charge. The cube was charged to the extent that sparks were flying off the corners and he could not detect a charge from outside the cage. The design was shown to act as a shield from incoming radiation. It has become a standard instrument in scientific research as well as the recording and radio industries where it is important to filter out electromagnetic noise.[15]

Reich changed the metal to a ferromagnetic one and wrapped the box in a layer of insulating material. By adding layers of conducting and insulating materials the effects can be increased. This was the original design of the orgone accumulator.

The first experimental subjects treated in an orgone accumulator were cancerous mice. The experimental mice were placed in the accumulator for one-half hour daily. Within a very short time the mice appeared more vigorous. The fur became shiny and the eyes brightened. In many cases the tumors either ceased to grow or receded. The life expectancy of the mice increased also.[16] These experiments showed that orgone was a

real force and capable of effecting changes in the organism. To relate these observations to other cultures and systems, we might observe that the mice showed an increase in *chi* or *prana.*

During the research conducted by Reich, participants often remarked upon a feeling of well-being which was engendered by the use of the orgone accumulator device. Reich noted that lively people felt the effect more than people who were sluggish. In the case of sluggish individuals repeated exposures were necessary before the effects could be felt.

Reich provided orgone accumulator devices to a number of cancer patients who had been pronounced terminal by their own physicians. In these cases, it was felt that there was nothing to lose. Just as in the mice, the tumors sometimes regressed, but in all cases the individuals felt an increase in well-being and a decrease in pain was often evident.[17] Similar results have been replicated in the present day at the Wilhelm Reich Institute in Berlin.[18] There are a number of physicians in Europe who use an accumulator in their practices.

It seems that Reich's inquiries were always into the nature of life. He sought to understand what he saw rather than to accept what he was taught. At the time that Reich was conducting his studies, energy medicine was not yet a concept in the western world. Beginning around 1925 such processes as ultracentrifugation, electrophoresis, and x-ray crystallography aided the move away from neo-vitalism and toward the mechanistic view of the life sciences. The synthesis of sulfa drugs and other antibiotics led to the growth of the pharmaceutical industry and further reinforced this trend. Research during these years was primarily through the Rockefeller Foundation and they did not make funds available

for research that led away from the mechanistic viewpoint. This trend has been amplified over the years and molecular biology with the use of electron microscopy is now the standard.[19]

Statement of the Problem

In observing the natural world around him, Reich noticed that every living thing, and nature itself, observed a pattern of pulsation. The natural state is one of expansion followed by contraction. When this pattern is interrupted a condition of stasis occurs which Reich named a *biopathy*. This biopathy is a disease process caused by a lack of movement in the autonomic life processes. The end result may be one of a number of diseases.

Reich described a form of pathology which he named "the shrinking biopathy." In this biopathy the organism is no longer responsive to the outside world. The energy available to the system is reduced. The system shrinks upon itself, the respiration is reduced, the muscles and bones shrink and the entire movement is away from the world and toward the interior. Reich relates this shrinking to an acquired fear of sexual excitement and states that it creates a condition in which cancer and many other pathological conditions can arise.[20] High levels of free radicals in the body also correlate with various degenerative disease conditions. There is also a correlation between low levels of dehydroepiandrosterone (DHEA) and degenerative diseases, depression, fatigue, and cancer.

Figure 1 shows the DHEA pathway in the human body, from cholesterol to various estrogens and testosterones, at the end of the pathway.

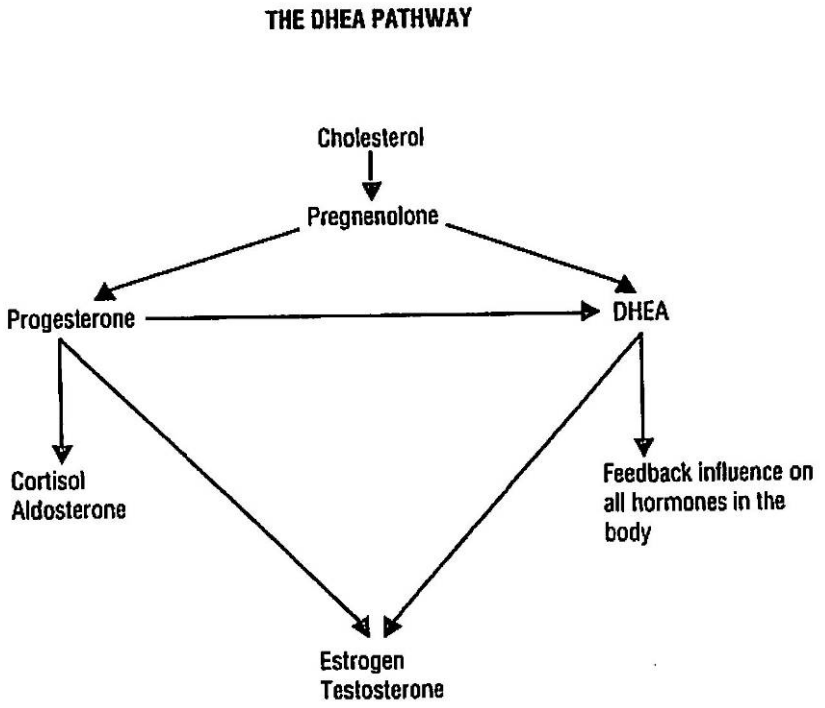

Figure 1. The DHEA pathway.

DHEA or dehydroepiandrosterone is a precursor hormone produced by the adrenal cortex in humans. It is manufactured from cholesterol through an intermediary, pregnenolone, or directly from progesterone.[21]

DHEA and DHEAS, its sulfate derivative, seem to be inactive precursors that are transformed by a complex network of enzymes into androgens, estrogens, or both. This synthesis appears to take place within the tissues where the effects are localized.[22]

Figure 2 shows DHEA levels in humans and association with stress and deficiency. The numbers are expressed in nanograms per deciliter of blood.

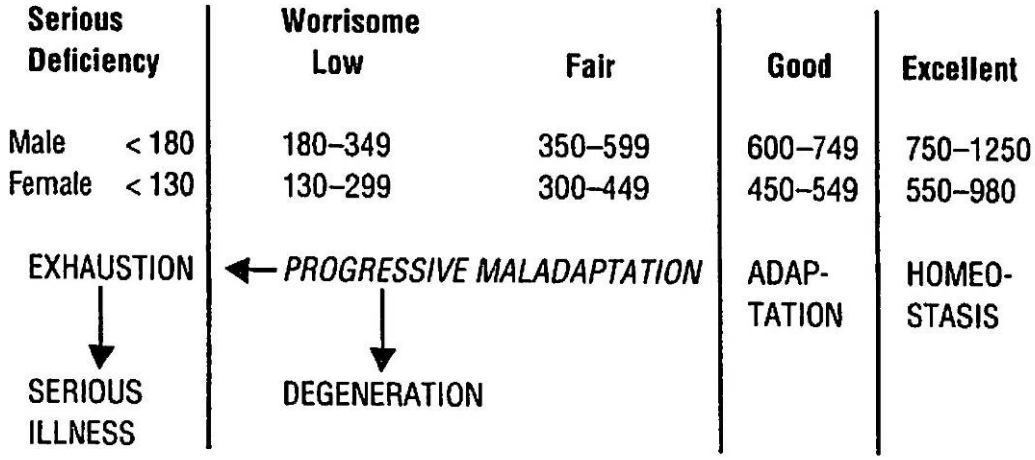

Figure 2. DHEA levels and stress.

DHEA is the most abundant hormone in the human body. While allopathic textbooks and physicians have little to say about DHEA except in rare cases of excess, usually the result of adrenal tumors, it is accepted as a standard marker of good health by alternative and anti-aging health practitioners. Dr. Shealy considers DHEA levels to be an indicator of health and states that low levels are associated with every major disease, including anxiety, autoimmune disorders, cancer, coronary artery disease, depression, diabetes, high blood pressure, obesity, and various immune dysfunctions.[23] Low levels are also found to correlate with sleeplessness, osteoporosis, and Alzheimer's.[24]

Increasing age also shows a concomitant increase in what is known as the metabolic syndrome. This syndrome includes increases in abdominal fat, cholesterol, plasma triglycerides, blood pressure, and plasma glucose, with a decrease in the

protective high-density lipoprotein cholesterol. An association has been shown between lower levels of DHEA, DHEA-S, and testosterone in men with this syndrome.[25]

Decreased DHEA levels may be found in women up to nine years before the development of breast cancer, and in men more than four years before prostate cancer appears.[26]

Ordinarily, serum concentrations of DHEA and DHEAS are highest in the third decade of life, decreasing gradually so that by the age of 70 or 80 the values are approximately 20% of the peak level in men and 30% of the peak level in women.[27]

While this is a general condition, there are individuals in their eighties with high DHEA levels and this seems to correlate with a general vigor and absence of wasting disease. There is a strong correlation between stress and lower DHEA levels. If the system is functioning properly there is a balance between cortisone, the stress hormone associated with the fight or flight response, and DHEA. The stress reaction is associated with dominance of the sympathetic branch of the autonomic nervous system. The cortisone produced by stress should be brought back to normal by a rise in DHEA. DHEA also has an antidiabetic effect as it counteracts the raise in blood sugar caused by cortisol. Insulin, blood sugar, and cortisone all increase the excretion of DHEA, leading to a state of deficiency.[28] DHEA levels are commonly low in those with depression and chronic fatigue.[29]

A well-designed controlled study in a group of elderly men and women with low baseline DHEA levels showed that supplementation with 50 mg/day of DHEA for one year had a statistically significant effect on bone mineral density.[30] Other experiments with supplemental DHEA have shown beneficial results for depression, arthritis, anxiety,

anticancer, improved insulin sensitivity, decreased cortisol levels, improvements in sexuality, general feeling of well-being, and improved immune response.[31]

The conventional medical press has little to say about DHEA supplementation, except for dire warnings of possible dangers. It appears that the pharmaceutical industry is making a concerted effort to modify the molecule into a patentable drug. A study reported in the *World Journal of Surgery* May 31, 2007 showed beneficial effects on estrogen and progesterone-negative breast cancers by combining DHEA-S with an aromatase inhibitor, a drug widely-prescribed to prevent recurrence of tumors in breast cancer survivors.[32] Researchers at Texas A&M University are attempting to treat the vasospastic condition Raynaud's phenomenon with 7-oxo-dehydroepiandrosterone.[33]

There are natural methods for raising DHEA levels, which include exposure to sunlight, laughter, exercise, a healthy diet, certain dietary supplements, and a satisfactory sexual life. Even sexual fantasies can raise DHEA levels.[34] Stimulation of certain acupuncture points can raise DHEA levels.[35]

With any type of hormonal manipulation, undesirable effects are uncertain and may appear months and years after initial treatment. The dosage to achieve a specified blood level varies from one individual to another and frequent blood testing is recommended for those who choose this route. DHEA is converted to both androgens and estrogens in men and women. These conversions take place in the target tissues and will not be measured by testing for circulating hormones.[36] This presents some element of risk in taking an exogenous hormone. Seldom can one be sure that all effects will be desirable. Theoretically, undesirable forms of testosterone or estrogen could be increased and contribute to faster growth of undiagnosed prostate, uterine, ovarian, or breast cancer.

Therefore, if it could be shown that a simple measure of increasing the life energy could have a positive effect on DHEA levels; it could be a great benefit with very little risk. An advantage of an orgone accumulator is that it can be used by those who are too ill for exercise. An added advantage of the orgone accumulator blanket device is the portability of the device.

Free Radicals

Free radicals are incomplete products of oxidation which can be measured in the urine through a simple test. The free radical theory of aging is fairly well accepted at the present time. Denham Harman M.D., Ph.D., is known as the father of the free radical theory of aging. Dr. Harman, Professor Emeritus at the University of Nebraska School of Medicine in Omaha, Nebraska is still active at the age of 90. When Dr. Harman proposed the free radical theory of aging in 1954 the idea was revolutionary. Dr. Harman showed that feeding rats antioxidants could slow their aging and extend their lifespan. It took many years and extensive research before the scientific community began to accept the idea.[37]

Free radicals are intermediate products of metabolism. They are reactive species of molecules with unpaired electrons which react freely with other molecules, resulting in a build up in the body as a consequence of incomplete oxidation. Rust on the body of a car is one form of this which can be easily visualized. One of the most common sources of free radicals is the breakdown of oxygen, which is essential to cellular metabolism. The breakdown of oxygen goes through sequential steps to produce water. These intermediate products include superoxide, hydrogen peroxide, and the hydroxyl radical. Both superoxide and the hydroxyl radical have an unpaired electron in the outer shell.

Hydrogen peroxide is also toxic to cells and can produce further hydroxyl radicals by reacting with reduced transitional metals in cellular metabolism.[38] The unpaired electron in the outer shell reacts freely with any other electron available, often creating a cascade effect throughout the cell.

Free radicals are produced in greater amounts from exposure to alcohol, cigarette smoke, ultraviolet light, ionizing radiation, pollutants, and stress. They are also increased by vigorous exercise and by air travel.

The cell membrane is an area particularly susceptible to free radical damage. The polyunsaturated fatty acids in the cell membranes react with free radicals to produce lipid peroxides. These further decompose to form malondialdehyde, a known carcinogen.[39] This is the breakdown product measured by the Oxidata™ test.

The free radicals lead to waste products which accumulate throughout the body, causing cell membranes to become less flexible, cells to have difficulty disposing of waste, and cause increasing cell death.

Some effects can be visible on the body as irregular collections of pigment on the skin, known as "age-spots." These spots are composed of lipofuscin,[40] a breakdown product of lipid peroxidation which is a universal marker of animal aging. By the age of 90 up to 7% of the content of the myocardial cell may be replaced by this pigment.[41] Similar deposits may occur in the brain and contribute to memory loss.[42]

Free radicals have been shown to oxidize and form cross-links in proteins. This can lead to a decrease in enzymatic activity, a known correlate of aging. DNA is particularly susceptible to free radical damage, with the potential for the free radicals to

knock out a base or cause breakage. While some of this damage is repaired by the cell the accumulation of damaged DNA over time contributes to aging.[43]

The organelles of energy production in the cell, the mitochondria, consume about 90% of the oxygen used by the cell and are the prime target of free radical damage. These organelles have their own DNA, exclusively from the maternal line, which is more susceptible to damage than that of the nucleus. They also have at least 100 different enzymes involved in energy production and these show a decline with age and age-related degenerative diseases.[44] It appears that oxidative stress plays a role in Parkinson's disease and is one of the earliest events in Alzheimer's disease.[45] There is evidence that the common aging phenomenon atherosclerosis begins with oxidative damage to the inner lining of the blood vessels.[46]

The cells have evolved a wide range of antioxidant defenses and repair systems to guard against the damage inflicted by free radicals. These include the enzymes of superoxide dismutase (SOD), catalase, and glutathione peroxide. These detoxify superoxide radicals, hydrogen peroxide, and lipid hydroperoxides. The cell is also protected by several nonenzymatic free radicals scavengers, which include water-soluble vitamin C (ascorbic acid), lipid-soluble vitamin E (α-tocopherol), and substances such as cysteine, uric acid, and glutathione. These systems are not totally effective and also seem to decrease with age.[47]

There is a balance in the body between free radical activity and antioxidant activity. Antioxidants bind with the free radicals and render them harmless. Substances such as vitamin C and vitamin E, alpha-lipoic acid, selenium, and NAC are often consumed in an effort to decrease the free radical load. Many of the health-enhancing

benefits of eating fresh fruits and vegetables come from the large amounts of antioxidants that occur naturally in these foods.

Today there is a multibillion dollar industry devoted to antioxidants and other products designed to stave off the effects of aging. Although many people consume copious amounts of vitamins with antioxidant activity, the effect in the body is uncertain. Some who consume vitamins regularly still have large amounts of free radicals in the urine with the Oxidata™ test. Others, who take no supplements, show none.[48]

There is evidence that stimulation of specific acupuncture points leads to a reduction of free radicals in the urine.[49] There is also evidence that Reiki, an energy balancing technique, can reduce free radical formation.[50] Free radical scavenging effects in the body can be increased and cortisol, the stress hormone, decreased by smelling both lavender and rosemary essential oils.[51]

The doses of antioxidants needed vary between individuals and with the unique needs of the body at one particular moment. Some vitamins have toxic effects at high doses and might have unwanted effects. There are also repeated efforts by the pharmaceutical industry to limit the sale of dietary supplements. Considering the extent of the powerful lobbies and lack of scruples connected with these efforts, nonchemical methods of bringing the body into a state of balance and thereby reducing the amount of free radicals in the urine could be of great benefit. If indeed orgone is a form of healing energy it might also produce a reduction in the toxic byproducts of metabolism.

Malindialdehyde is the end product of lipid peroxidation and the urinary marker of this product can be read through a simple colorimetric test. The Oxidata Test™ is available from Apex Energetics of Irvine, California. This test can be done on a small

amount of urine and is read on a scale of 0 none, 1 minimal, 2 low, 3 high, 4 very high, and 5 severe.

Figure 3 shows the colorimetric Oxidata™ test used to determine the amount of free radicals excreted in the urine. One milliliter of urine is added to the vial of reagent and the color is read after five minutes.

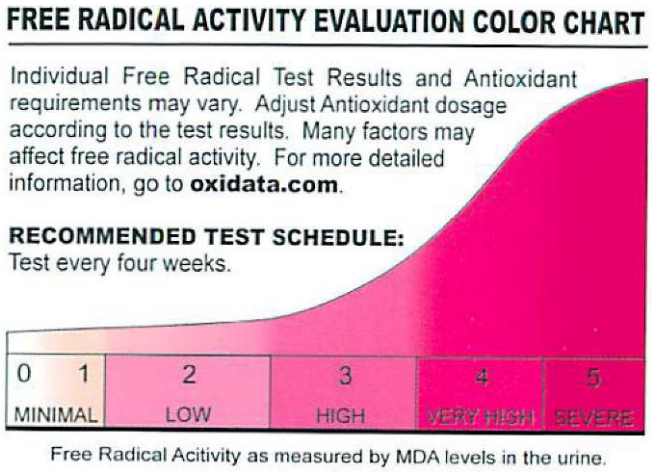

Figure 3. Oxidata Test

Purpose of the Study

The purpose of the study is to show the effects of use of the orgone accumulator blanket on DHEA levels and free radicals in the urine. A psychological test was also given, to determine changes of mood between the beginning and end of the study. These measures have been chosen in an attempt to find psychophysiological variables which relate to the condition of liveliness or free flow of energy in the human organism. During the research conducted by Reich, participants often remarked upon a feeling of well-being engendered by the use of an orgone accumulator device. The study is designed to show both physical and psychological effects.

Research Questions

The question this study seeks to answer is whether the orgone accumulator blanket can show a marked effect on the human organism in as little as three thirty-minute sessions. The measurements of free radicals in the urine, as markers of incomplete oxidation and DHEA levels, as markers of general health, were measured. Psychological testing was obtained by the Profile of Mood States (POMS). The POMS asks specific questions regarding how the subject feels in the present moment. This allows rapid assessment of an intervention. It does not measure pathology and has been replicated many times in normal populations.

The Profile of Mood States is a psychological test which has been widely used and validated since its introduction in 1971. By the end of 2002 the number of citations for the POMS reached nearly 3000.[52] The Profile of Mood States (POMS) gives descriptive adjectives and measures present mood according to a scale of zero to four, with zero ascribed the meaning "not at all" and four ascribed the meaning "extremely." There are 65 adjectives for mood states for a total score. These are broken down into six categories of mood for subscores. These categories are:

1. T-Tension-Anxiety
2. D-Depression-Dejection
3. A-Anger-Hostility
4. V-Vigor-Activity
5. F-Fatigue-Inertia
6. C-Confusion-Bewilderment

The expectation was that the total POMS score would be lowered after treatment with the Orgone Accumulator blanket, as the overall mood was expected to improve. The scores for depression and fatigue were expected to be lower and the score for vigor was expected to rise. These all correlate with a movement of the autonomic nervous system toward a parasympathetic dominance and an associated relaxation. The scores for anxiety, anger, and confusion could potentially move in either direction. Very often when more energy becomes available these negative moods become more pronounced, as the consciousness now has to deal with previously bound information.

Importance of the Study

Today, fifty years after the death of Wilhelm Reich, many people have replicated his studies and gone beyond them to show positive results. The orgone accumulator device is only one of many inventions of Dr. Reich. His techniques and discoveries in psychotherapy have led to a more body-centered method of understanding and treating neurosis. Another invention is the cloud-buster, an apparatus shown by numerous studies to be capable of creating dramatic changes in weather. Reich worked extensively with live blood specimens under the microscope, finding evidence of disease by the appearance of the cells and measuring the length of time they remained viable before disintegrating and relating this to the overall health of the organism. He wrote extensively on society and was concerned with the avoidance of neurosis by the healthy nurturing of children.

In spite of these achievements, the popular press disparages Reich when he is mentioned at all. He is portrayed a madman, a paranoiac, a sexual predator who seduced his patients, and a charlatan.

Although there are many people around the world replicating Reich's studies and validating his findings, there are other inventions which sound similar to the orgone accumulator device which give no credit to Reich. One device which sounds remarkably similar to the orgone accumulator device is known as Farabloc™ and is reported to be made of a linen fabric with thin steel threads woven into it. It is suggested that this device is based on the Faraday cage, which blocks magnetic and electrical interference. There has been no evidence that the Faraday cage has any effect on pain or any other healing effect. The Farabloc™ has been shown in a double-blind crossover study to improve phantom limb pain. This device has been patented.[53]

A brief internet search will also show many items for sale using the term orgone accumulator and/or attributing inventions to the work of Reich. Most of these have nothing to do with Reich's studies or discoveries and are completely useless at best. The danger of these claims it that the unsuspecting public will have reason to believe that Reich was a madman. This paper is a small attempt to inject truth and a spirit of inquiry into researching the orgone accumulator device and raise questions which others may follow into new territory.

Scope of the Study

The study was designed to measure defined physical and psychological parameters which could quantify the effects of the orgone accumulator blanket device on human subjects in three half-hour sessions conducted forty-eight hours apart. Sixty volunteers were recruited for the study and were randomized to either active or control groups. The sample was one of convenience and no attempt was made to verify with a standard population.

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CHAPTER 2:
REVIEW OF LITERATURE

There are obvious differences between living and dead, or inert, matter. Throughout history there have been various theories and names for the energy of life. In fact, the central question in biology might be in defining the energy which distinguishes living from nonliving matter.

Many cultures have ascribed a name to this energy. The Chinese use the word chi, an energy which pervades all living and nonliving materials. The chi contains two opposing forces, yin and yang. When the yin and yang are balanced the system is in harmony, when they are out of balance the result is a disease state. An excess of yang results in excessive organic activity. Excessive yin causes a low energy state. The Indians call this force prana, and have developed a system of manipulating this energy through breathing techniques, exercise, and meditation.[1]

Orgone energy is the term chosen by the pioneering researcher, Dr. Wilhelm Reich, for his discovery "of a primordial energy that fills all space, flows in the body, sparkles in the atmosphere, penetrates all matter, pulsates, is measurable, and can be amplified and concentrated in devices called orgone accumulators."[2]

Closely related to the concept of universal life energy is the concept of the aura. Historically there is evidence of people seeing subtle rays emanating from the human body. Pictures on the walls of ruins in India, Egypt, Peru, and Yucatan have shown human figures with auras around them. Many times Jesus and the saints are depicted with a halo, which resemble the aura, about the head. This aura was also described by many

philosophers throughout history. Hippocrates used the term enomrom, Pythagoras described it as the luminous body and the cabalists called it the astral light.[3]

John White in his book *Future Science* lists 97 different names for the auric phenomenon from 97 different cultures.[4]

Many esoteric teachings describe the human energy field in detail. These include: the ancient Hindu Vedic texts, The Theosophists, the Rosicrucians, the Native American Medicine People, the Tibetan and Indian Buddhists, the Japanese Zen Buddhists, Madame Blavatsky, and Rudolph Steiner. Today we have additional scientific observations to add a concrete level to these observations.[5]

Some of the most compelling research on the aura came from the work of Dr. Valerie Hunt at UCLA. Dr. Hunt worked with a skilled aura reader and healer, Rosalyn Bruyere. She found that spikes of electrical activity correlated with Rosalyn's description of the activity in the associated chakras.[6]

A technique for photographing the aura was developed by Semyon and Valentina Kirlian in the twentieth century. Kirlian photography utilizes an electrical spark discharge to create an image on photographic film. This equipment provides strong evidence for the existence of the aura through a phenomenon known as the "phantom leaf effect." An edge of a leaf is removed and the leaf photographed. The resulting Kirlian photograph shows a picture of the intact leaf as it appeared before it was cut.[7] Others have built upon these early techniques and have attempted to standardize equipment.

The gas discharge visualization device (GDV) was developed by Konstantin Korotkov, Ph.D., a Russian physicist. He has built upon the technique of Kirlian photography, but has enhanced the equipment with the addition of fiberglass optics, a

digitalized TV matrix, and image processing with computer software. Dr. Korotkov has said that comparing the GDV to a Kirlian camera is "like comparing a Mercedes to a bicycle."[8] However inadequate this comparison may be, there is a similar starting point in the equipment. Dr. Korotkov states that: "This is the first device in the world to enable us to visualize the distribution of energy flow in space."[9] Other advantages of this device are simplicity of use and reproducibility of results, as well as clear graphic images.

With the GDV, the subject places each of the ten fingers in turn on a dielectric plate. An electromagnetic field is generated which interacts with the subject and an emission of electrons and protons from the surface of the subject causes a gas discharge to occur. The subject's condition is characterized by physiological and biochemical processes and by the gas release. The gas release is dependent on the activity of sweat glands, which in turn is regulated by the autonomic nervous system.

The spatial distribution of brightness is converted into an image. An analysis of different characteristics of video signals leads to the formation of a set of parameters, which are converted into photographs.[10]

Reich noticed the strong force of attraction which occurs when one moves the palms of the hands away and toward each other repeatedly. He felt this was a manifestation of the orgone energy field and devised an experiment to visualize this effect. He discovered that he could demonstrate a wavy pattern between the hands on a plain x-ray plate by having the x-ray taken when he felt the force between the hands. By contrast, there was no pattern seen if there was no feeling of attraction between the hands.[11]

The early Greek physicians put much emphasis on the pulse. Pulsations, palpitations, tremors, and spasms formed a continuum.[12] Some divinatory meanings were ascribed to the pulse. In the fourth century B.C.E. Aristotle was the first to begin animal dissections.[13] With the emphasis on anatomy and the explanation of the connection of all the vessels with the heart, the mystery of pulsation seemed to be solved. As interest in anatomy became dominant in Western medicine, the living organism was left behind, and dead material became the object of study. This led to further study of anatomical material as itself and the study of the body for further meaning disappeared. The Greek anatomical material emphasized muscles, agents of voluntary motion, and power. In contrast, the Chinese system of medicine saw an association between the chi and the pulse. The Chinese recognize twelve pulses, all originating in the inner organs and terminating at specific points on the wrists, six superficial and six deep. Pulse diagnosis became a fine art and a way of measuring imbalances in the body. This dichotomy deepened throughout the centuries as the Chinese followed natural processes and the Westerners became more interested in voluntary processes.[14]

This preference for the seen over the unseen has influenced the lack of interest in defining and studying a universal life energy in the Western tradition. A study financed by the American Medical Association and published in 1910, known as the Flexner Report, denounced any forms of treatment except chemicals and surgery. As a result, electrotherapies, as well as other treatments such as chiropractic, acupuncture, and homeopathy were severely curtailed. Over half the medical schools did not survive the attack.[15]

Various scholars through the middle ages spoke of a vital force. Mesmer, the French physician who invented mesmerism, which later became hypnotism, reported that bodies could be charged at a distance, implying a kind of force field was involved. Count Wilhelm Von Reichenbach spent thirty years during the mid-1800s studying the force which he named the "odic" force. He found many similarities between this force and the magnetic field. However, unlike the magnetic field, he found that in the odic force like attracts like.[16]

With the discovery of electricity the theory developed that the vital force might be electrical in nature. In 1786 the physiologist Luigi Galvani proved that static electricity could enter the body from outside, travel along a nerve, and make a muscle contract.[17]

Around the turn of the century a Dutch physician, William Einthoven, discovered that heart electricity could be captured by a sensitive galvanometer. He received a Nobel Prize for this achievement in 1924 and the electrocardiogram has become a standard tool in medical diagnosis.[18]

In 1929, Hans Berger postulated a "bioelectrical field" around the body. The electrical activity of the brain was captured on the electroencephalogram and the electrical activity of the heart observed on an electrocardiogram. Later developments are the electromyogram (EMG) and nerve conduction studies, now essential diagnostic tools in neurology.[19] Although these studies of electrical activity became part of the medical toolbox, other electrical studies, which were not so readily applicable to a practical use, were ignored in favor of chemical cures.

Harold Saxton Burr of Yale began to study the electrical phenomenon of many creatures, including humans. Most of his reports appeared in the *Yale Journal of Biology*

and Medicine, where he was an editor. Had he not had this handy journal at his fingertips, most of his discoveries would likely have gone unpublished. Burr and his colleagues found electrical fields around and on the surface of living organisms. Burr called this the L-field for "field of life."

Burr was convinced that disease could be predicted by changes in the L-field before it manifested physically. He also published studies indicating that ovulation was accompanied by a measurable change in the field. Burr was ahead of his time with his theories and did not have sufficiently precise instruments to register the minute changes that occurred.[20]

In the 1960s Robert Becker, an orthopedic surgeon, conducted many experiments studying the influence of electricity on bone. In his early studies he was able to regenerate limbs of salamanders by the application of a weak electrical current. In later experiments, he increased the healing rate of fractured bones. As is common with innovative pioneers, Becker soon found his grants cut and his work derided by colleagues.[21]

Wilhelm Reich was a Viennese psychoanalyst of the school founded by Sigmund Freud. He began training with Freud while a medical student, but was later expelled from the group.[22]

In the early days of psychoanalysis Reich was one of Freud's favorite students. The training requirements for an analyst were not strict at that time. As Freud was the father of the movement, anyone he approved of could become an analyst and begin seeing patients independently. Reich thus became a full analyst when he still had two more years of medical school to complete.[23] Reich was apparently chosen by Freud to be

his successor, yet went in new directions to which his mentor was uninterested, if not downright hostile.

Reich gave credit to Freud for being the first to discover the libido, the life energy which propelled the organism. It seems the libido concept was the basis of Reich's later conception of the orgone energy. Freud later downplayed the importance of the libido. However, the Freudians were completely uninterested in the manner of emotional expression; something that Reich was the first to acknowledge.[24]

It seems that Reich was the first to actually observe the facial expressions, breathing patterns, and musculature of the patients he treated. Analysis up until that time depended entirely upon verbal associations. Reich was the first to move his chair from a position at the head of the patient, where he could not be seen, to a position next to the patient where he could observe and interact during the therapeutic process.

This led to his concept of *armoring*, which is one of the key tenets of his work. Reich noted that expansion and contraction of the organism results in movement and the literal meaning of emotion means "moving outward."[25] In order to defend itself from painful emotions the child learns to hold back feelings through contracting the muscles and holding the breath. This contracture allows the growing child to behave in a manner acceptable to the adults and leads to a state of *armoring*, or chronic muscular contracture preventing eruption of emotion.

While Freud and the other psychoanalysts of the day were interested in treating the neuroses through the long and cumbersome process of psychoanalysis, one patient at a time, Reich began to look at the sociological factors leading to the blockage of the life energy. Thus his interests expanded into the damage done to the individual through the

processes of childbirth and childrearing practices. In particular he was critical of the separation of mother and infant at birth and the circumcision of newborn males.[26] He felt that these practices were the beginning of the armoring process. His vision went beyond treatment of a few individuals and thought that for people to become healthy on a large scale it was necessary to prevent neuroses, not just treat it after it had occurred. He became interested in the study of sociology and felt the need for changes in education, infant upbringing, and family life.[27] This led him into the study of Marx and Engel and what he called *the social consequences of the libido theory.* He states this was the cause of his break with Freud, as Freud was not interested in following the social consequences of the libido theory.[28] Reich felt strongly that neurosis did not occur in those with a healthy sexual functioning. He became acquainted with the work of Bronislaw Malinowski on the lives of the Trobriand Islanders who had a sex-affirmative attitude to childhood sexual play and were free of the neuroses and Oedipal conflicts which characterized Western civilization.[29]

At this time it appeared that the Russian Revolution would bring freedom to the workers and Reich, like many of the intellectuals of the day, was sympathetic to the goals of communism. After some time he became disillusioned with the party under the reign of Stalin, and denounced it as "Red Fascism." Throughout his life Reich denounced all political party systems that sought to restrict freedom. He was vilified by both the Nazis and the Communists. It is ironic that Reich was both investigated by the FBI as a possible Communist and that his eventual downfall was instigated by communist sympathizers in the United States leading to his imprisonment and death.

At the same time the student was outgrowing his teacher, others in the group were reportedly slandering him. Reich was a pioneer and was bold in his insistence that a healthy sexual functioning was essential to the happiness and health of individuals. When he became unhappy with his first marriage he chose another woman and was very open about it. This was not well accepted in the psychoanalytic community. Both Sigmund and Anna Freud, his daughter, believed that a sublimation of sexual drives, rather than an expression of them, was necessary to the process of civilization. There was a plot to have Reich removed from the International Psychoanalytic Congress. Anna Freud worked behind the scenes to discredit him, and encouraging his first wife, who was her patient, to have nothing to do with him.[30] Many rumors and slander were spread about him: that he seduced his patients, that he was schizophrenic, that he was promiscuous.[31]

He broke many laws to provide young people with contraception, a fact that scandalized many of his colleagues.[32] He was active in the sex reform movement in the 1930s, attempting to coordinate eight organizations with 20,000 members. "This organization had seven major aims:

1. The free distribution of contraceptives to those who could not obtain them through normal channels; and massive propaganda for birth control, in order to combat the need for abortion.

2. Complete abolition of the existing abortion prohibition. The provision of free abortion at public clinics; financial and medical safeguards for pregnant and nursing mothers.

3. Abolition of distinction between the married and the unmarried in the legal sense; abolition of the concept of 'adultery'. Freedom of divorce. Elimination of prostitution by re-education; economic, and sex-economic changes to eradicate its causes.

4. Elimination of venereal disease by full sexual education and, above all, by replacing promiscuous sexual behavior with sexually healthy relationships.

5. Avoidance of neuroses and sexual problems by a life-affirmative education. Study of principles of sexual pedagogy. Establishment of therapeutic clinics.

6. Training of doctors, teachers, social workers, etc. in all relevant matters of sexual hygiene.

7. Replacement of punishment for sexual offenses by treatment. Prevention of sex crimes by improved methods of upbringing and the elimination of their economic causes. The protection of children and adolescents against adult seduction."

At the time many of these changes had been instituted in the Soviet Union. The program was immensely popular with young people, but many felt it was "too political" and was incompatible with capitalism. After a short time, the program was canceled in the Soviet Union also.[33]

He was eventually expelled from the International Psychoanalytic Society. He continued to antagonize other psychoanalysts and collected enemies throughout his life. His explanation for this enmity was what he termed "the emotional plague." This describes those highly armored individuals who could not tolerate a free unarmored person in their midst. Those who are infected with the emotional plague feel compelled to torture others.[34]

He lived in five countries and was denounced by both the Nazis and the Communists, who also burned his books.[35] The theory and practice of character analysis marked the high point of his acceptance within the general psychiatric community. "From this point on, his creativity soared, his insights became more radical (in the sense of deeply rooted), his mind took more imaginative leaps—and his reputation within the psychiatric community plummeted. Henceforth, from time to time and from place to place there would be reports of his insanity."[36]

After Reich's expulsion from the Vienna group of psychoanalysts he moved to Berlin and continued his work there. He was expelled from that group and moved to Oslo, Norway in 1934. He continued experimentation and produced controversial work. It was his work with *bions,* which were vesicles he believed transitional between living and nonliving material, which caused him to once more be denounced as a charlatan and to seek a new group. His move from Norway coincided with the invasion of the Nazis to that country.[37]

He then moved to New York where he developed a new following among psychotherapists and writers. Some of those he made a deep impression on were the psychiatrists Theodore P. Wolfe and Elsworth F. Baker, who studied Reich's style of therapy and aided his research. He also deeply impressed such people as William Burroughs, Norman Mailer, Saul Bellow, Paul Goodman, Alexander Lowen, and Fritz Perls.[38]

Reich continued his work in America, where in addition to clinical work with patients, he continued experimentations, first in the basement of his New York home, and later in Rangeley, Maine. The work with orgone energy and the orgone accumulator proceeded there. Although Reich observed positive changes in the users of the orgone accumulator, he made no claims for cure of disease and did not seek to profit from the sale of the devices. He did allow a number of accumulators to be made and rented out without any claims made as to cures. Due to misleading journalistic reports and some individuals who had prejudged the accumulators as fake the FDA launched an investigation against Reich and prohibited the transport or distribution of accumulators.

They obtained the names of individuals who had used accumulators and despite a concentrated effort they could find no users to admit dissatisfaction.[39]

The FDA continued its attack upon Reich. He chose to ignore the attacks and instead of responding to an order to appear in court, instead sent a response stating that scientific natural research could not be decided in a courtroom. This proved to be a naïve and dangerous position for him to take.

"The FDA obtained an injunction against Reich's work. It ordered that all accumulators which had been leased to patients be recalled and destroyed. It also required that all Reich's writings be destroyed. The injunction decree stated:

> It is ordered--
> That the defendants refrain from, either directly or indirectly, in violation of said Act, disseminating information pertaining to the assembly, construction or composition of orgone energy accumulator devices *to be employed for therapeutic or prophylactic uses by man or for other animals.* [Italics mine-M.R.S.]"[40]

The evidence suggests that Reich did not take the injunction seriously and continued with his work, feeling that the court had no right to assess the importance of scientific work. FDA agents invaded his laboratory in Maine and destroyed accumulators. Book burnings took place on several occasions. One of Reich's assistants technically violated the injunction by moving banned material across a state line. Reich was eventually arrested and sentenced to two years in federal prison for contempt of court.

He appealed his case all the way to the U.S. Supreme Court but lost. He was placed in prison in Lewisburg, Pennsylvania, where he died in 1957. His death occurred two weeks before his scheduled parole hearing. His children believe he was poisoned.[41] His official cause of death was heart failure.

One movement of science and medicine from the time Reich studied until today has been away from the general and toward specialization. Reich was a student of the natural world and often made observations of nature which he then expanded to become general rules and principles. He noticed the process of movement in worms and caterpillars moved from the tail end to the front. This process consisted in alternating contractions and expansions, which cause the worm to move forward. He felt it was "the biological energy itself which moves in this wave-like manner."[42] Additional work on amoeba-like movements showed that the amoeba expanded and contracted in a pulse-like manner.

Reich discovered some of the characteristics which he came to call orgone while working on *bions*. These were vesicles which he discovered in heated sand and that exhibited motion. He believed bions were intermediate forms between living and nonliving matter. Reich's experiments on these led him to observe that "some of the bions emitted a type of energy that seems not to obey the laws of any of the known laws of energy."[43] As he continued his observations he came to the conclusion that the orgone energy was not limited to living systems, but was ubiquitous, existing not only around plants and animals but in the atmosphere as well. He formed the hypothesis that the formation of hurricanes and tornados and the formation of galaxies might be due to the confluence of two orgone streams. The orgone energy always flows from the weaker to the stronger system, thus it is negatively entropic and does not obey the laws of thermodynamics. The conclusion is that it is a previously unknown type of energy, which does not obey the laws of the mechanical universe.

The orgone energy has several unique characteristics. It is related to electricity, magnetism, and gravity. It shows an association with static electricity, but not with current electricity. There is a relationship between orgone energy and cosmic rays. It has a strong attraction to water. It is measurable; affects electroscope measurements, Geiger counters and living systems; appears to radiate; and can be shown as a temperature difference between the inside and outside of an orgone accumulator.[44]

The orgone energy pulsates. In 1952 the German scientist W. O. Schumann discovered a natural pulse resonating around the planet, beating at a frequency of 7.83 Hz. This pulse seems to act as a natural tuning form and resonates with systems in the body. NASA discovered early in the space program that isolation from this pulse resulted in severe health problems in returning astronauts. NASA now places simulators in all manned spacecrafts to reproduce this natural pulsation and maintain a healthy environment.[45] This frequency is also found at the junction of the alpha rhythm of 8-12 cycles/second and the theta rhythm of 4-7 cycles/second in the human electroencephalogram (EEG). This rhythm is associated with profound relaxation and a meditative state.

Reich also noted that nearly all cosmic motions are spiral forms. Although the earth moves around the sun, the sun is also moving through its orbit with the result of a spiral motion. In his theory of cosmic superimposition he suggests the intersection of two basic cosmic streams created the motion of the earth and the planets.[46]

Some characteristics of cosmic orgone energy are that it is:

1. Primordial energy
2. Universally existent

3. All-permeating
4. Origin of all energy (motion)
5. Origin of all matter
6. In the living being: biological energy
7. In the Universe: origin of the galactic systems[47]

Reich thus forms the connection between "god" and "ether" and shows the functional relationship to be two sides of the same conceptual idea. Reich had a low tolerance for what he considered "mystical" ideas. Very often what he considered mystical was superstition and dogma. He had a low tolerance for ossified structures such as organized social structures or formal religions. He felt that an understanding of natural laws would free man to live up to his highest potential. It requires no leap of the imagination to conceptualize that "orgone" and "god" might be the same force.

In a letter to his close friend, A. S. Neill, the founder of the Summerhill School, Reich states, " …but orgone biophysics deals with God himself, having shown that what people call god is identical with the cosmic energy which really is every where, penetrates everything, created the world, constitutes the emotions and religious feelings, governs life, etc. etc."[48]

Reich's work with the energy he named *orgone* began with the observation that waves could sometimes be seen passing through a patient at the time of achieving an intense emotional breakthrough. He noticed that a pleasant emotional state caused a sense of expansion from the inside core of the body to the outer world. A negative emotional state caused a movement of contraction, or movement away from the world. This state of

contraction was often represented by a state of chronic muscular tension in the body. He gave this state of chronic tension the name armoring.[49]

Figure 4 shows the major nerve plexuses in the human nervous system. As seen in the figure, there are two cords that run almost the length of the spinal cord, to the left and right of it. In the figure, the sympathetic branch is illustrated on the left and the parasympathetic branch on the right. Nerves from these cords form networks called plexuses. The chakras are also shown in the diagram.[50]

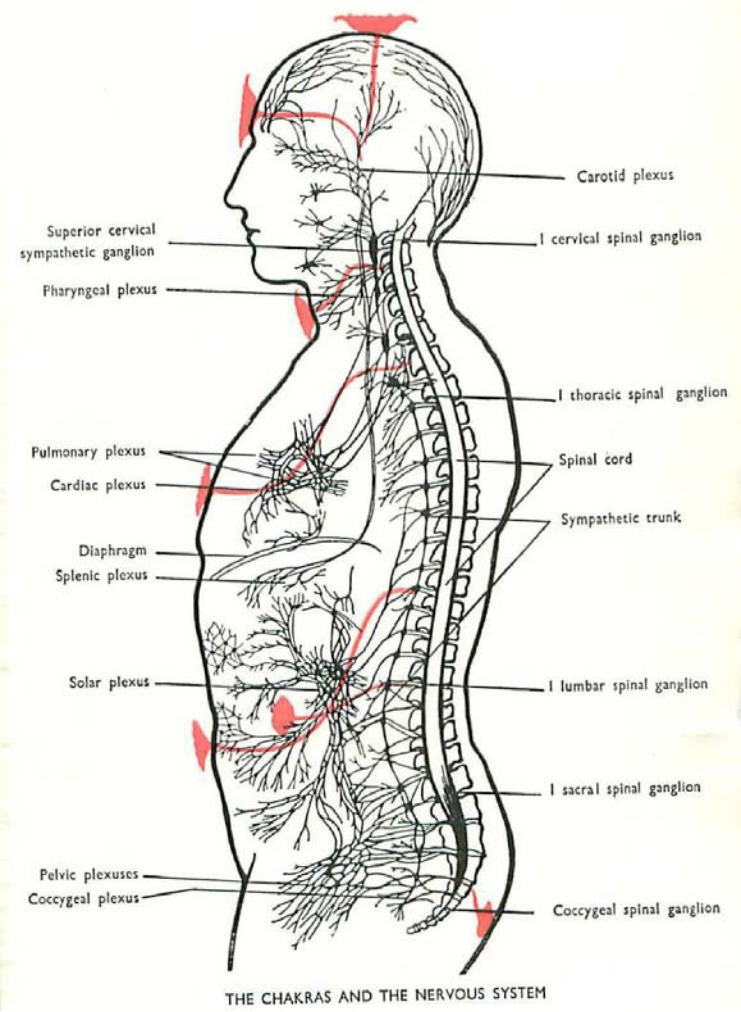

Figure 4. The chakras and the nervous system. From *The Chakras* by C. W. Leadbeater, Quest Book Edition 1972. p 41. Reproduced by permission of Quest Books, the imprint of the Theosophical Publishing House (www.questbooks.net).

There is a marked similarity between the segments that Reich noted, the major nerve centers of the autonomic nervous system and the chakras. Each chakra is also associated with an endocrine gland.

Reich also noted that the individual muscular blocks did not correspond to particular muscles and nerves, but occurred in specified segments. Each of these segments was related to the repression of specific emotions and the dissolution of these energy blocks progressed from the head to the tail. The armoring occurred in seven segments in the body. Reich numbers them and describes the part of the body which is involved.

The first segment is the ocular, the second segment is the oral, the third segment consists of the muscles around the throat, the fourth segment is the chest musculature, the fifth segment consists of the diaphragm, the sixth segment is the lower abdomen, and the seventh segment contains the pelvic muscles. Reich noted that a full orgasmic reflex could not occur without removal of the higher blocks. An ability to unlock the spasms of the eyes, throat, and chest and allow expression and feeling to occur must precede the ability to let go which is central to the orgasm reflex.[51]

Many schools of body work and psychotherapy have developed among followers of Reich's therapeutic work which seek to release this armoring and allow the flow of suppressed emotions. Alexander Lowen, the founder of the therapy known as Bioenergetics, is probably the best known of these. The primary change that Lowen made was to emphasize the importance of the ability to experience pleasure in any form rather than emphasizing full sexual orgasm as a necessity for health.

Figure 5 shows the sympathetic and parasympathetic branches of the nervous systems and the body organs and glands innervated by each branch. The sympathetic innervation to the peripheral effector organ is shown only on the right and the parasympathetic is shown only on the left. The roman numerals represent the cranial nerves that provide parasympathetic outflow to the upper body.[52]

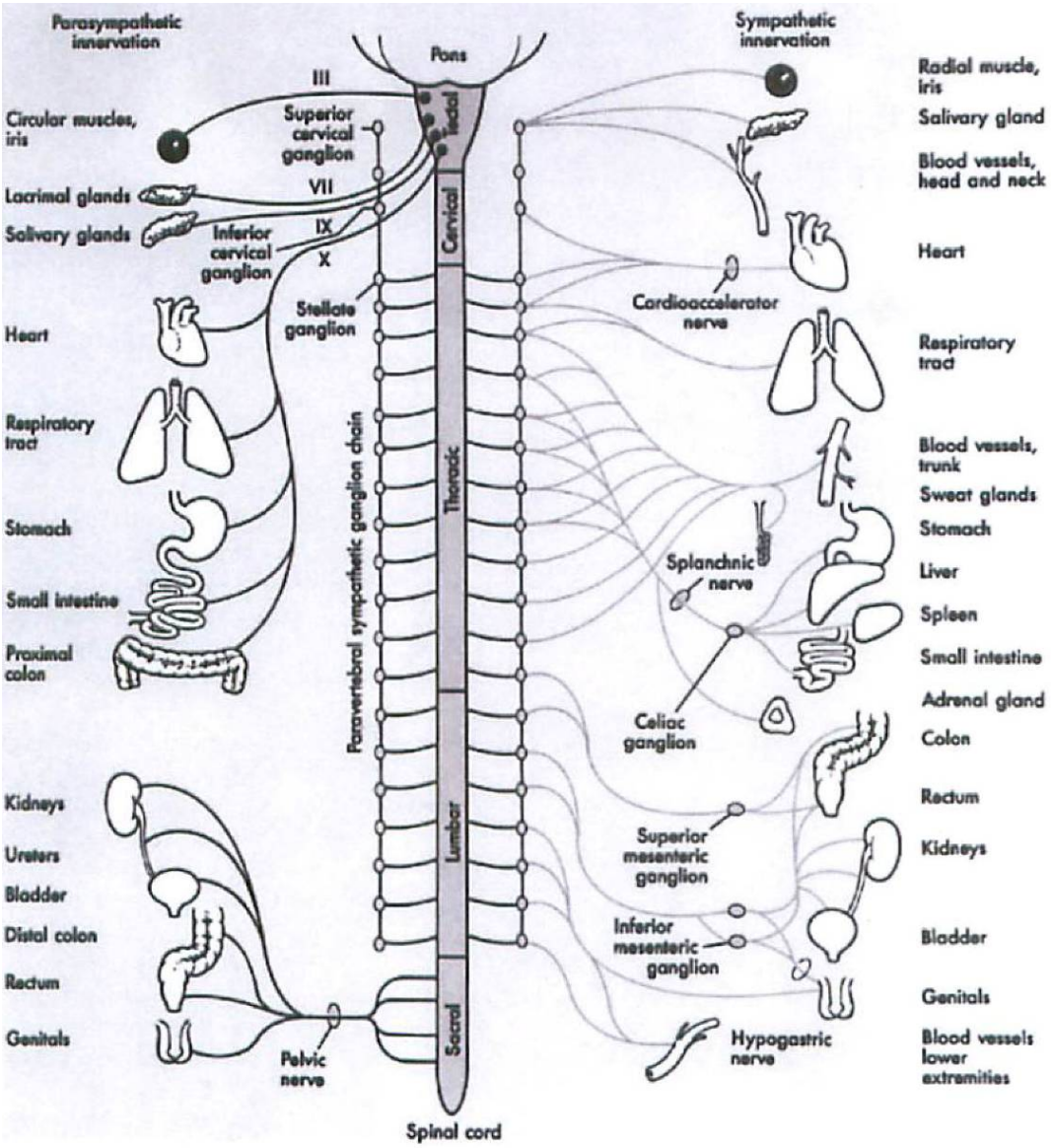

Figure 5. Schematic representation of Autonomic nervous system. From: Human Pharmacology: Molecular to Clinical. Wingard I Brody T Larner J. Mosby Year Book 1991, pp 77-78. Reproduced by permission of Elsevier, Ltd.

Reich also noted a correlation between the emotional state and the autonomic nervous system. The autonomic nervous system is responsible for the bodily functions that do not require conscious thought. It consists of two branches, the sympathetic and the parasympathetic. The sympathetic branch is associated with the fight or flight reflex, or with states of fear and anxiety.

Sympathetic stimulation causes contraction of skeletal muscles, increased heart rate, decreased blood flow to the intestines and genitals, and a subjective sense of fear or anxiety. The sympathetic system also causes the musculature of the bronchi to relax, the eyes and mouth to become dry, and the pupils to dilate. The general movement of the sympathetic stimulation is a pulling in, a contraction from the world. All these adaptations prepare the organism to move away from perceived danger. Blood is shunted from the center to the peripheral muscles. Digestion becomes less important than breathing deeply and running away or fighting.

A state of chronic stimulation of the sympathetic branch of the autonomic nervous system leads to a condition of continuous arousal. This is what Seyle refers to as the general adaptation syndrome (G.A.S.), or the biological stress syndrome. This consists of three stages: (1) the alarm reaction; (2) the state of resistance; and (3) the state of exhaustion.[53] The state of exhaustion is similar to what Reich calls the shrinking biopathy, the result of giving up on life.

The parasympathetic branch is associated with states of relaxation and expansion. When the parasympathetic branch is dominant the blood vessels dilate, peristalsis and digestion improve, breathing is slower, and a sense of well being predominates. There are increased secretions from the mouth and increased genital sensations. The heart rate

slows, adrenal stimulation decreased, and the skin becomes warm and red. The entire movement is one of expansion from the center out toward the world.[54]

The autonomic nervous system runs through the body, outside and separate from the spinal cord and spinal nerves. There are large nerve centers, or plexuses, where many of these autonomic nerves converge. These areas of increased autonomic nerves are situated in the sacrum, the abdomen, the heart, and the throat. They are also the sites of the chakras, the spinning vortices of energy described in ancient Vedic texts. Chakras are described as centers where energy flows into and is concentrated in the body.[55] Many healers and clairvoyants sense and see energy blocks in the areas of the chakras.[56] Reich's concept of character armoring also follows a segmental distribution through the body that is consistent with the chakra system.[57]

The alternating expressions of the sympathetic and parasympathetic branches of the autonomic nervous system cause a pulsation. Reich rejected the dominant view that the autonomic nervous system merely transmitted impulses. He studied meal worms microscopically and observed the pulsation caused by the alternating expansion and contraction of the autonomic nervous system. From this he concluded that the autonomic movement was a direct expression of the plasma current.[58]

This pulsation takes the form of a four-beat pattern of: mechanical tension-bioenergetic charge-bioenergetic discharge-mechanical relaxation. This pattern is expressed throughout living systems, through the rhythmic contractions of the heart, and the peristaltic movements of the viscera. It is also expressed in the rhythm of the breath. It is repeated through the divisions of cells and the movements of amoeba and protozoa.

Reich has named this four-beat pattern the TC-function or the function of tension and charge.[59]

Nowhere is this rhythm more apparent than in the sexual release of orgasm, which is related to the word orgone. Reich noted that the body follows a rhythm of expansion and contraction. When this natural state is inhibited by chronic muscle tension a state of chronic contracture is produced. This leads to a state of dysfunction in which energy is not available to the body, which can then more easily succumb to illness. Reich called this a *biopathy*.

He identifies two primary biopathies: the cardiovascular biopathy and the shrinking biopathy. In the cardiovascular biopathy energy is still produced in the body but it is blocked. When the energy hits a contracted block, the person reacts with anger or anxiety. In the shrinking biopathy the energy production is decreased. It represents a sense of resignation of the organism. This type of dysfunction becomes associated with immune system and degenerative illnesses including cancer.[60]

An interesting correlation with these two types of biopathies is found in Friedman and Rosenman's study of personality traits and body habitus of coronary patients. These two cardiologists noticed that almost all their patients with heart disease had in common a tight jaw and mouth muscles and a tense body posture. They seemed unable to sit still but engaged in repetitive movements such as rapid jiggling of knees or tapping of fingers, fist clenching, and teeth grinding. They exhibited a sense of time urgency and impatience with others. They were highly competitive, unaware of their latent hostility, and unable to tolerate inactivity. These patients were given the designation Type A personalities. Fifty-five hundred healthy men with this designation were followed for a period of eight and a

half years. At the end of this time they were found to be seven times more likely to have heart disease than the Type B personalities. [61]

This study has become so well-accepted in our present day that the terms Type A and Type B personalities have become part of the common vernacular, with the understanding that Type A tends toward suppressed hostility and heart disease and Type B toward resignation and a tendency toward cancer.

In the case of cancer patients there is further evidence that the state of contracture of the organism is related to the increased sympathetic tone. Reich notes that the symptoms of most cancer patients include accelerated pulse, pallor, blotchy cyanosis and dryness of the skin, sunken cheeks, and sluggish functions of the organs, constipation, and the inability to perspire. Some of the effects of the accumulator include lowering of the pulse and blood pressure, reddening of the skin, and outbreak of perspiration. Reich also noted that the pain of cancer was decreased by sitting in the accumulator, an effect he attributed to the relaxation of chronic contractures.[62]

Through many years of experimentation Reich found that organic materials attracted and held orgone energy and that metal attracted and then rapidly repelled it.[63] Reich found that the alternating layers set up an oscillation, which increased the orgone energy in the enclosure. The outside of the box was made of organic material, the inside material was metal. The organic material absorbs the energy and the metallic material reflects it. The organic material on the outside absorbed the energy from the atmosphere and transmitted it to the metal on the inside. The metal radiated the energy toward the center of the box. The movement to the outside is blocked by the organic material, but the flow of energy to the center is unimpaired. The movement of energy on the inside can

oscillate freely. The original accumulators were made as an enclosure in which the participant sat. He created an enclosure made of alternating layers of organic and inorganic material. The first experimental subjects treated in an accumulator were cancerous mice. The experimental mice were placed in the accumulator for one-half hour daily. Within a very short time the mice appeared more vigorous. The fur became shiny and the eyes brightened. In many cases the tumors either ceased to grow or receded. The life expectancy of the mice increased also.[64] The first orgone accumulator for humans was made in December 1940.[65]

The response to exposure to an orgone accumulator consists of subjective sensations of warmth, sometimes increasing to heat; warm perspiration, reddening of the skin; prickling and tingling sensations; objectively measurable rise in temperature and disappearance of tension and pains. Reports have consistently described a feeling of increased energy, faster healing of wounds and burns, and a generalized improvement in mood.

Those who started the treatments with low energy levels felt nothing for the first sessions. Reich felt the full effect was only observable after regular daily use, sometimes taking up to three weeks to achieve the full effect.[66]

Some other effects which were shown in the early experiments were a lessening of symptoms of minor viral illnesses, lowering of blood pressure in hypertensive subjects, and resolution of anemia.

Reich sometimes offered accumulators free of charge to patients with conditions which had been pronounced incurable. He relates a case of a Maine neighbor who

suffered from advanced crippling arthritis and who greatly improved his mobility and quality of life through the use of an accumulator. [67]

Fifteen patients with cancer were treated with the orgone accumulator and closely observed for changes. Thirteen of these patients had already had treatment with x-ray radiation. All were in an advanced state of disease. In every case there was a reduction of pain, a decrease in the use of morphine, an increase in appetite, and weight gain. In three cases, the orgone treatment did not improve life expectancy. In six cases, the treatment delayed the death by several months and made the remaining time more pleasant. Five of the cases diagnosed as inoperable and terminal were still living two years later.[68] Reich was very cautious in ascribing any cures to the accumulator. He felt that the increase of orgone energy brought the body back into a state of natural health. One problem in particular with cancer was that the breakdown products of the tumors still needed to be eliminated from the body, often overwhelming the elimination systems.

An additional problem was that the orgone accumulator did not address the underlying biopathy. Sometimes people who had grown accustomed to the numbness of their armored systems became intensely uncomfortable when sensations began to manifest through their bodies. At this point they usually rejected the treatments.

At the beginning of 1980, in West Berlin, a group of interested doctors and medical students began a critical examination of the experiments of Dr. Reich. An institute was established to perform studies using orgone accumulators as well as psychiatric orgone therapy. Heiko Lassek, M.D., Director of the Wilhelm Reich Institute consulted with seventeen cancer patients who had been pronounced “terminal.” His treatments were performed without charge and without any expectation of “cure.” He

found that patients typically had a marked decrease in pain and in the use of analgesics. Most were able to resume previous activities and reported an improved quality of life. Along with subjective reports from the patients and families, there were also objective measurements from the Reich Blood Test. After a period of more than six months of experiencing a sense of well-being and freedom from pain, the blood picture in these patients began to disintegrate. The cells began to die more quickly and waste products collected which were beyond the ability of the body to remove. All seventeen of the patients lived more than five months, with half living for more than one year. The original terminal diagnosis usually predicted a life span of one to three months.[69] Although there were no "cures" in the sense of the patients overcoming their disease, the use of the therapy allowed a period of improvement in quality of life that was helpful to the patients and their families.

There were other patients who had treatments at the Wilhelm Reich Institute in which the orgone accumulator was used as an adjunct to traditional therapy of surgery, radiation, and chemotherapy. Many of these patients had remissions of disease and were disease-free several years later. In the case of chemotherapy, the side-effects of the treatment were lessened. Dr. Lassek cautions against use of the accumulator during the course of radiation and within three days afterward. There are also some types of cancer that seemed to grow at an accelerated pace or metastasize faster as a result of the treatment.

There have been many people who for ideological reasons, completely reject conventional therapy for their diagnosis and instead build and use orgone accumulators on their own. Dr. Lassek warns against this, as do other investigators in orgone energy.[70]

At the beginning of the human experiments Reich had not yet postulated a theory about how the orgone energy worked. His initial assumption was that the orgone energy had an effect on the organism, similar to x-rays, and the patient was a passive recipient of the process. He later came to understand however that the orgone energy is a specific biological energy and is absorbed by all organisms through the skin and from breathing. The organism thus contains orgone energy and is radiating it constantly. When the living organism is held within the field of the accumulator the two systems interact and their energy fields excite and attract one another.[71]

Early studies showed that the effect was minimal if there was a distance of more than four inches between the subject and the walls. Cancerous mice showed no improvement when placed in an accumulator made for humans but improved when placed in an accumulator designed for mice.

The original prototype for the orgone accumulator was a Faraday cage. This is a metal box which is known to block the effects of electromagnetism. Reich learned that the effects were intensified if the enclosure was layered. Each layer or ply consists of an organic material, such as wood, and a layer of inorganic material, such as metal. The charge is apparently strengthened by an increased number of ply. Accumulators up to 20-ply have been made.

Further experiments showed the accumulator could also be made into a blanket. The blanket is made of alternating layers of steel wool and wool felt. This extends the use of the accumulator to those who are immobile and also allowed the increased flexibility of traveling with the accumulator.

The form of the accumulator can also be changed from a box to a tube. This concentrates the orgone energy and allows direction to specific points. Reich treated himself daily at specific points, which correlate with the chakras to a high degree. This form of the accumulator is also well-suited to insertion into body cavities, such as the nose and vagina, for local treatment of infections. This application is also specifically recommended for ulcers and burns.[72]

This increase in orgone energy can objectively be shown as an increase in air temperature inside the accumulator. This effect has been repeated under various conditions and has been verified using a control accumulator. A doctoral dissertation from Germany has also shown an increase in the temperature of the body of experimental subjects sitting inside an accumulator.[73]

Objective measurements have been made with seeds held in an accumulator for a period of time. This experiment is easily reproducible and does not depend on subjective sensations, often disparagingly known as "the placebo effect." The accumulator charged seeds are then planted next to control seeds, which are identical, except they were not held in an accumulator. The difference in the size and vigor of the plants is striking. DeMeo reports a six-fold increase in the length of mung bean sprouts inside a strong accumulator, as compared to a control group of sprouts.[74]

Reich refers in a rather off-handed manner to seeds growing better when exposed to concentrated orgone in comparison to seeds without such exposure.[75] He apparently was not overly interested in these experiments because he felt they represented unnatural conditions and he was most interested in studying orgone in its natural state.

Many experimenters have repeated the experiments with seeds of various types. One problem with treating seeds is in finding the optimal amount of time for treatment. Plants cannot self-regulate as people can by leaving the enclosure at the time the energy becomes uncomfortable. Thus, they may reach a condition of overcharge. Roberto Maglione, MSc, of Vercelli, Italy has been carrying out experiments with corn seeds kept in an accumulator for a variable amount of time each year since 2000. The data show a positive result for germination rates as well as robustness of the plants for every year except one.[76]

This led to the theory that the accumulator set up a force field that interacted with the energy field of the subject. It was also noted that people who were lively felt the effects of the accumulator more quickly than those who were of a sluggish disposition. In the case of sluggish individuals, it often took repeated exposures before an effect could be felt.[77]

A very interesting anecdote about the use of the orgone blanket strongly suggests that *orgone* and healing energy are the same. Edward Mann, a professor of Sociology at York University, Toronto, Canada, and a former Anglican priest, became interested in the use of orgone blankets in the mid-fifties. One informal study took place at a workshop on unorthodox spiritual healing. Dr. Mann prepared two orgone blankets and two sham blankets which were identical in appearance. He gave no explanation of theory but said that he would be passing around four special blankets during the lecture. He said that two were real and two were dummies, but the participants had no opportunity to compare the blankets. He suggested to the audience that they might want to rest with a blanket on their lap while listening to the lecture and notice what sensations they felt. He asked that each

blanket be passed on after no more than one-half hour. None of the people holding the dummy blankets reported any change. All who had the real blanket felt changes, and most reports were positive. However three people in the audience had marked negative reactions and could not hold the blanket for more than five or ten minutes before becoming very uncomfortable. These included Ambrose and Olga Worrall and a Miss Farelly, a radionic machine operator. Dr. Mann tested some others who were very sensitive to healing energies and all felt a marked change from sitting with or holding the blanket.[78]

Chapter 2 Endnotes:

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CHAPTER 3:
RESEARCH METHODS

The Researcher's Role

The role of the researcher was to design a study using objective reproducible measure and a double-blind design in order to minimize subjective bias. The researcher chose both physical and psychological tests that would correlate with an increase of life energy and attempt to concretize that elusive quality into a set of data that could be subjected to rigorous scientific inquiry.

The researcher made every effort to be objective in this study. Knowing the power of intent[1] the PI utilized the services of others whenever possible and stayed in the background. The Principal Investigator planned the study, which was approved by the Internal Review Board of Holos University as being safe for human subjects.

Data Sources

The subjects were self-selected as volunteers in the study. Volunteers were sought through announcements on Dr. Norm Shealy's natural health radio show and in a lecture by Julie Penick, A.R.N.P., Ph.D., on natural hormones in menopause at St. John's Hospital of Springfield Missouri. Instructors at Missouri State University and the Massage School of Springfield, Missouri announced the opportunity for volunteers in their respective classes. Flyers were posted at the following locations: Panera Restaurant, Spring Valley Health Store, Citizens Memorial Hospital, The Daily Grind coffee shop, Springfield Missouri Library, Focus on Health, Norma's Café, Missouri School of Cosmetology, Wal-Mart stores in Boliver and Springfield, Missouri, Renaissance Book Store, New Life Natural Foods, and Winslow's Health Food Store. Flyers were also

distributed at the following meetings: Springfield Writers Guild, SLEUTHS Inc. (mystery writer's group), Missouri Awareness and Alternative Research Society, Center for Intuitive Development, Society of Children's Book Writers and Illustrators and Unity Church of Springfield, Missouri.

Some in Springfield enlisted volunteers from family, friends, neighbors and former patients. Some staff members of Holos University also participated. The great majority, if not all, the participants had no recent experience with an orgone accumulator device. One participant remarked that her mother had sent her an orgone blanket years earlier but it had not been used recently.

Those who saw the brochures were given a number to call at Holos University. Their calls were returned by Robert Mueller, who served as a Research Assistant for the study. Those who inquired were given exclusion criteria for the study and given a brief explanation of the purpose of the study.

The subjects were told that they would be either in an active group or a control group and that the study would involve lying under a blanket for three one-half hour sessions two days apart. Potential subjects were told they would be asked to give urine and saliva specimens and fill out a brief mood profile (POMS) of how they felt in the moment.

They were told that they would be randomly assigned to either the active or control group and that they would get immediate feedback on free radicals in the urine and results after completion of the study as to their dehydroepiandrosterone (DHEA) levels before and after the study. Those who wished to volunteer were given a time and date to report for the first session.

Table 1 shows a breakdown of participants by decade of age, gender, and experimental or control group.

Table 1. Participants by Age and Gender

Age	Active	Control
Female		
20-29	4	3
30-39	0	6
40-49	2	7
50-59	10	2
60-69	3	4
70-84	1	1
Males		
20-29	1	1
30-39	2	0
40-49	1	2
50-59	3	2
60-69	2	0
70-84	0	2

The study began with sixty-three subjects, thirty-two in the active group and thirty-one in the control group. Four people dropped out during the course of the study, leaving thirty in the active group and twenty-nine in the control group. There were forty-three females and sixteen males in the group. Ages ranged from twenty-one to eighty-four years. The mean age was 48.9 in the active group and 48.8 in the control group.

Data Collection

The study was carried out during the latter part of October, 2006 at an office location in Springfield, Missouri. The first participants arrived at 8 A.M. and were scheduled as late as 9 P.M. Two rooms were dedicated to the study. Each room was

divided by temporary screens into two sections for privacy. The rooms were furnished with identical massage tables and wooden stools for placing clothing. Lighting was soft and provided by shaded incandescent lamps. Overhead fluorescent lights were not used during the study. The rooms were temperature and humidity-controlled by means of a central system.

The blankets were made by Orgonics, Inc. of California in accordance with specifications of the Principal Investigator. They were full-size three-ply blankets with sham blankets identical in appearance. Extra layers of felt were placed in the sham blankets in order to more nearly approximate the weight of the real blankets. Each set of blankets was identified either by numbers (1, 2) or letters (A, B). The boxes were sent from California via Fed Ex. They were sent in separate boxes and kept at a distance from one another throughout the study.

Upon arrival in Springfield, the blankets were removed from the shipping boxes, wiped down with a damp cloth and placed in separate sunny locations. A 24-hour time period was recommended for this initial airing out by the proprietor of Orgonics. Weather precluded this advisable time frame and the blankets received only about six hours of exposure to sunny conditions, before being removed and placed inside as storm clouds began to sprinkle in the area.

Before the arrival of the first experimental subjects, a research assistant placed the blankets in the rooms in which they would be used. The assistant wiped down the blankets with a damp cloth after the end of each session and readied each room for the next subject. Every effort was made by the PI to avoid contact with the blankets, in order

to minimize the possibility of subtly affecting results. The PI did take blood pressures, pulses and temperatures, as well as collect specimens and test urines for free radicals.

Subjects self-selected their arrival times based on their own schedules and desires. The intent was to have each two subjects start about every half hour. Because of varying lengths of time in completing the preliminary tasks, as well as subjects arriving both before and after scheduled times, this schedule was seldom maintained as designed. Upon arrival at the site, subjects were assigned to either the experimental or the control group based on a random number generator of matched pairs.

Upon arrival at the study site, subjects were given an informed consent form to read and sign. The consent forms gave a brief overview of the study and exclusion criteria, and reiterated confidentiality assurance of personal data and again assured subjects that they were free to quit at any time, for any reason or for no reason (see Appendix A).

Subjects were also asked to complete a brief identification form. This form asked for mail, phone and e-mail identification in order to send results of DHEA testing when they became available. It also asked for demographic information, such as age and gender, whether the subject had any diagnosed medical conditions and the names of any drugs or supplements that were taken on a regular basis. The form also asked about the use of alcohol and tobacco (Appendix B).

There were several participants with diagnosed medical conditions, but none that precluded entrance into the study. Those with hypertension were well-controlled. Several females were on hormone replacement therapy. A majority of the subjects took some supplements. There was a wide variation in the types and amounts that were taken. None

of the subjects listed DHEA. The data regarding use of supplements, prescribed medications, alcohol and tobacco was not included in the analysis.

After completing the forms, subjects were taken to an area just outside the bathroom, given a plastic cup marked with their name and instructed to obtain a urine specimen and return it to a table outside the bathroom. The specimen was then tested for free radicals, using the Oxidata™ test. Either the PI or the one of the research assistants tested the urine by breaking off the cap from the vial of solution, placing one ml. of urine into the container and reading the result after five minutes on a color scale. The range was from 0 to 5 with 0 representing no free radicals and five representing extreme. The results were written on a card with the subject's name and also transferred to a master list for the day.

The subjects then returned to the waiting area where they were given the Profile of Mood States form (POMS) and instructed to complete the self-assessment of mood with how they were feeling in the moment.

The subjects were also given a vial with which to collect saliva by passive drool method, using a length of ordinary plastic straw to aid in collection. This represented the pre-test measure for DHEA. Each vial was marked by grease pencil with a unique number and was placed in a freezer until the end of the study. In addition to the numbers, samples were colored-coded with green caps for the initial sample and white caps for the final sample. At the end of the study the samples were labeled and information entered on an Excel spreadsheet which was sent to Salimetrics as an e-mail attachment for processing with the samples. The morning after the study ended samples were packed on

dry ice and sent by United Parcel Service Overnight Express to Salimetrics in Pennsylvania. Results were sent to the PI by e-mail attachment after processing.

After the collection of preliminary data, subjects were taken to the assigned room, marked either 1 or 2. The rooms were on opposite sides of a hall and about fifteen feet apart. Every effort was made to minimize the use of electrical equipment. However, at times a laptop computer was in use in the office sharing a wall with the active group. Both rooms shared a wall with a separate office and the equipment used in those offices was unknown.

Blood pressure, pulse and oral temperature were taken and the subject was given a cotton hospital gown to change into. Blood pressures and pulses were taken by a digital blood pressure cuff and temperatures by digital thermometers. This was done to minimize subjective reporting of results, although with full knowledge that there might be a decrease in accuracy. This also allowed the Research Assistant, who was naïve to medical instruments, to aid in this part of the procedure. An initial attempt to check skin temperature was not successful and was dropped. An initial attempt to check humidity was also dropped as the humidity in the rooms was electronically controlled and there was no practical method to check the outdoor humidity.

The participants were instructed to undress down to their underwear and asked to remove any metal from their bodies. Women were specifically asked to remove under wire bras. Participants were also asked to leave cell phones and crystals outside. It is unknown what effect any of these items may have, but since the orgone energy seems to be related to electromagnetism, it was felt that controlling for these variables would improve the study. They were the asked to don the provided cotton hospital gown and lay

wrapped in the blanket. Blankets were marked with which side to place next to the body. In addition, they were instructed to lie with the darker green felt side away from the body. A timer was set for thirty minutes and left outside each room, on the corresponding side of a small table.

At the end of the thirty-minute session the participants were roused and blood pressure, pulse and temperature were again taken and recorded. They were allowed to dress at this time. They were not asked about their experiences, but several made spontaneous remarks. Interestingly, all who expressed enthusiasm and asked where they could get a similar blanket were found to be in the active group. Several in the control group remarked that they had experienced a good rest. Times were reconfirmed for the second session. Although the concept was to have each participant arrive at subsequent sessions at the same time, the schedules did not always allow this to happen. Subjects were asked to keep as close to their usual routine as possible. They were asked to keep to their usual diet and if they took supplements, to continue this use.

After the subject left the room, the blanket was wiped down on both sides with a damp cloth, the sheet on the exam table was changed and a fresh hospital gown left for the next participant. This procedure was always carried out by the research assistant to minimize the exposure of the PI to the blankets.

When participants arrived for the second session two days later they were led to the same room as previously and given identical instructions for undressing and wrapping in the blanket. As in the first session, blood pressure, pulse and temperature were taken and recorded before and after the session.

The third session was held two days later and the same procedure was followed in it. At the end of the third session participants were again instructed in collection of the urine and saliva specimens and again completed a profile of mood states (POMS).

At the end of the study all saliva specimens, which had been maintained at a temperature of minus 20 degrees in a freezer were packaged and sent on dry ice to Salimetrics, in College Park, Pennsylvania via Fed Ex Priority Overnight service.

Salivary DHEA Enzyme Immunoassay Test Technical Data from Salimetrics technical department is included in Appendix C. Appendix D contains DHEA Enzyme Immunoassay Kit Package Insert.

Results were reported to the Primary Investigator by Salimetrics in the form of an e-mail spreadsheet. Results were converted from pg/ml to ng/dl so as to be more compatible with units more familiar from blood testing. A letter (Appendix E) was sent to each participant giving their pre test and post test results, as well as whether they were in the experimental or control group. The results were sent by e-mail, where e-mail addresses were available. Those who did not provide e-mail addresses were sent letters using the postal service. Participants were given an opportunity to discuss their results with the PI by e-mail or telephone if they wanted more clarification. The method of DHEA Determination was provided from the technical support staff at Salimetrics and is included in Appendix F.

Data Analysis

Data was analyzed using a mixed analysis of variance. The independent variables were real orgone blankets and sham orgone blankets. The dependent variables were the physical measures of Oxidata levels and DHEA levels and psychological scores as

represented by the subscores of the Profile of Mood States; tension, depression, anger, fatigue, confusion and vigor as well as the scale for total mood disturbance. Each of these was tested separately for pre-test post-test change. The Profile of Mood States is a well-validated instrument which shows rapid changes in mood. The participants were instructed to answer with how they felt in the present moment. Individual items were scored with a number of 0 representing not at all to 4 representing extremely.

Measurements of systolic blood pressure, diastolic blood pressure, pulse and temperature were also tested. These parameters were not part of the original hypothesis tested but were collected as a matter of interest. These results are not felt to be reliable as the use of digital devices provided inconsistent results. This gives a total of thirteen measures that were graphed and analyzed. These results are given in chapter 4.

Ethical Considerations

As Reich's early studies showed that certain conditions could be made worse by the use of an orgone accumulator, these conditions were listed as exclusion criteria. These included untreated hypertension, skin rashes, conjunctivitis, and seizure disorder.[2]

There is a theoretical possibility that use of the accumulator could cause an increase in anxiety.[3]

It was emphasized to all participants that they were free to leave the study at any time. No participants reported discomfort while using the blankets. The four subjects who failed to return for subsequent sessions were called when they did not arrive at the appointed time. Two were not reached until a day later. Each one stated that they either forgot or became busy with other activities.

The Institutional Review Board of Holos University approved the study as being safe for human subjects.

Pilot Study Results

The pilot study was carried out in the early months of 2006 in Ft. Yukon, Alaska. One would expect the orgone effect to be weaker here because of the distance from the equator, but stronger because of the low relative humidity. Observations of orgone energy have shown it to be stronger at the equator and to lessen with increasing distance from it.[4] It has also been shown to be stronger on sunny days and to decrease in rainy or cloudy weather.[5]

The pilot study included four females and two males. The age range of the participants was from 43 to 59 years. The pilot study tested for urinary excretion of free radicals with the Oxidata™ test. Five of the six subjects showed a lessening of free radicals, with two showing an initial level of five and a final level of 0. Three showed a change of one to two levels, with one showing no change. Each level represents a significant change and so a change from 5 or severe free radicals to 0 or no free radicals across a five-day span is indicative of a strong effect.

The pilot study tested only for free radicals. Participants did not complete the profile of mood states and DHEA levels were not tested. At the time of the pilot study, the Oxidata was the primary measure to be tested. As plans for the study progressed, consideration was given to other measures that were added. The Profile of Mood States could not be obtained until a comprehensive application was filed, giving assurances that it would be supervised by faculty familiar with its use, thus slowing the availability of this tool. Saliva tests for DHEA required a minimum of 30 tests, which made this

impractical for the pilot study. At the time of the pilot study the primary question of the Principal Examiner was whether as little as three sessions could show a measurable effect. Each participant in the pilot study was tested separately. No control subjects were used for the pilot study. Table 2 shows the data of the pilot study.

Table 2. Pilot Study Pretest Posttest Measurments

ID Number	Gender	Age	Pre-Test	Post-Test
1.	F	58	5	0
2.	M	46	5	4
3.	F	59	5	0
4.	M	43	3	2
5.	F	54	2	0
6.	F	52	5	5

Chapter 3 Endnotes:

[1] William Tiller, *Science and Human Transformation: Subtle Energies, Intentionality and Consciousness* (Walnut Creek, California: Pavior, 1997).
[2] Reich, *The Cancer Biopathy: Volume II of the Discovery of the Orgone*.
[3] DeMeo, *The Orgone Accumulator Handbook*.
[4] Ibid., 45.
[5] Reich, *The Cancer Biopathy: Volume II of the Discovery of the Orgone*, 112-42.

CHAPTER 4:
RESEARCH FINDINGS

Standards for statistical significance are arbitrary and are chosen depending on the context being evaluated. Various standards of significance are used. A strong statistical significance is 0.005, often an acceptable standard is 0.01, and some evaluations use 0.05. What these numbers mean in real terms is that the probability of the outcome being due to chance is 5 out of one thousand, ten out of one hundred, and five out of one hundred.

The graphs that follow are profile plots showing the estimated margin of means from the mixed analysis of variance. The mean is the average point of all participants. Profile plots represent predicted means of each variable across the levels for each factor. Each of the following graphs show the predicted mean for the experimental group and the control group for each variable measured. When observed means are plotted the error is also shown. In the case of predicted means, the points are shown without the error.
In all the graphs below the horizontal axis shows the pre-test measurement as point one and the post-test measurement as point two. The predicted means are plotted against the vertical axis.

Dehydroepiandrosterone Results

Figure 6 shows a pretest/posttest measurement of DHEA levels. The experimental group showed a lowering of DHEA, while the control group showed a slight increase. The primary hypothesis for this study is that the parameter colloquially known as "liveliness" would be increased by the use of the orgone accumulator blanket device and that this increase in liveliness could be shown as an increase in DHEA levels measured before the first session and after the third session. As shown in Figure 6, the DHEA level did show a small rise in the experimental group. In the control group, however, the

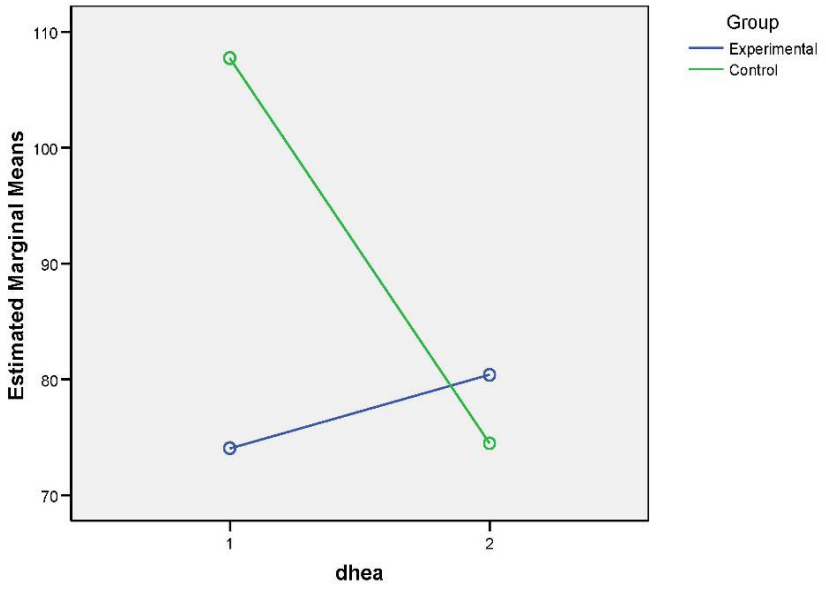

Figure 6. DHEA levels.

DHEA level decreased from the first to the second measure. The p value of .095 in the intervention group did not reach the level of statistical significance. DHEA levels are thought to remain relatively constant for an individual over a short period of time in the absence of intervention. Because of this one would expect that a slight increase or a slight decrease in an individual would balance out among the group and that the resulting

increase or decrease would be small. The fact that the DHEA level rose slightly in the experimental group and fell more in the control group is an indication that no effect can be claimed for the treatment.

Oxidata Results

As shown in Figure 7, the active group showed a decrease in free radicals, while the control group showed an increase. The expectation is that free radicals will remain fairly consistent over a period of time. The manufacturer of the Oxidata test suggests repeating the test two weeks after a change is made and once a month if no change is made. Each unit of one represents a change of 20% from the highest possible measurable amount to an undetectable amount. The actual change in both groups was small. The p value for the Oxidata data was .293 and did not reach the level of statistical significance.

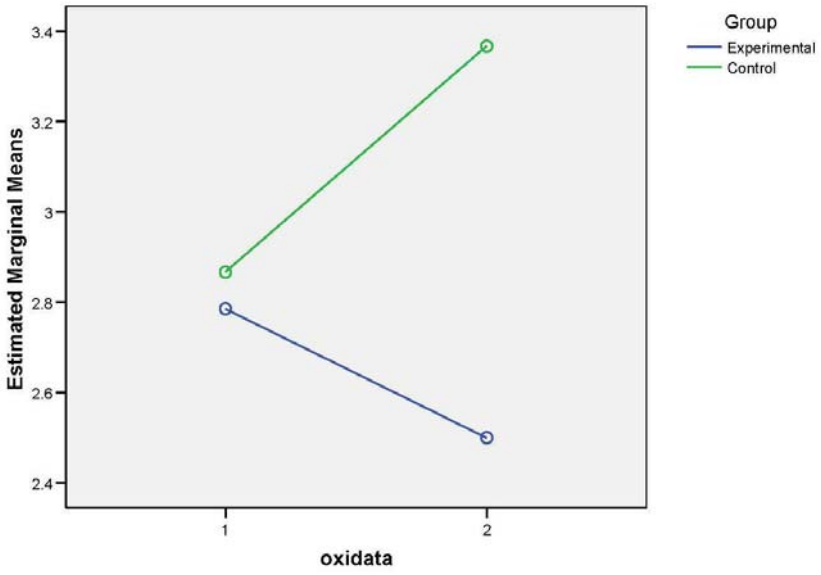

Figure 7. Oxidata results.

Profile of Mood States Results

As shown in Figure 8, the experimental subjects showed a slightly higher level of tension and anxiety at the beginning of the study and had a lower level at the end of the study, in comparison to the control group. The p value of the within subjects contrasts was 0.583, indicating no statistical significance.

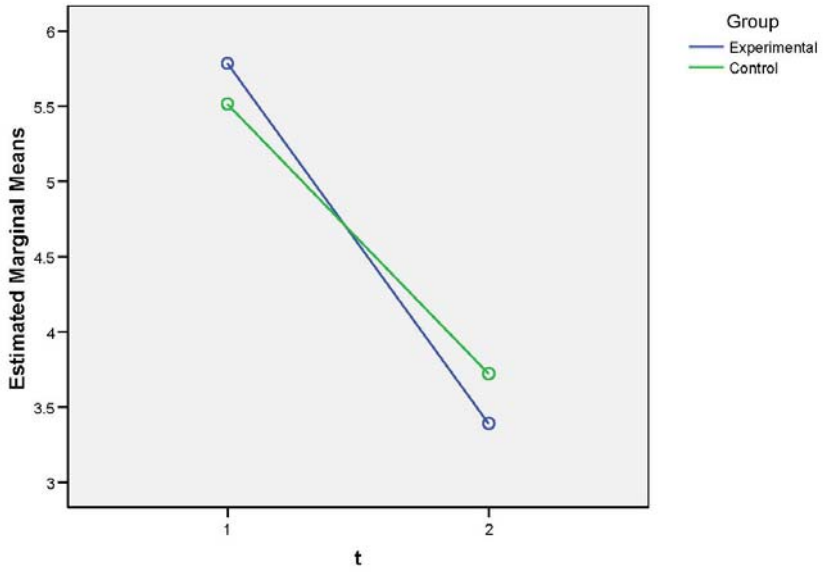

Figure 8. Profile of Mood States-Tension-Anxiety Subscale.

As shown in Figure 9, the experimental group using the real orgone accumulator blanket device showed a larger decrease in the scale of depression and dejection, as compared to the control group, which used the sham device. The mean in the active group dropped from 5.25 to 2.6 and in the control dropped from 3.6 to 2.5. The changes within each group were statistically significant (0.004), but the difference between groups is not statistically significant (0.255).

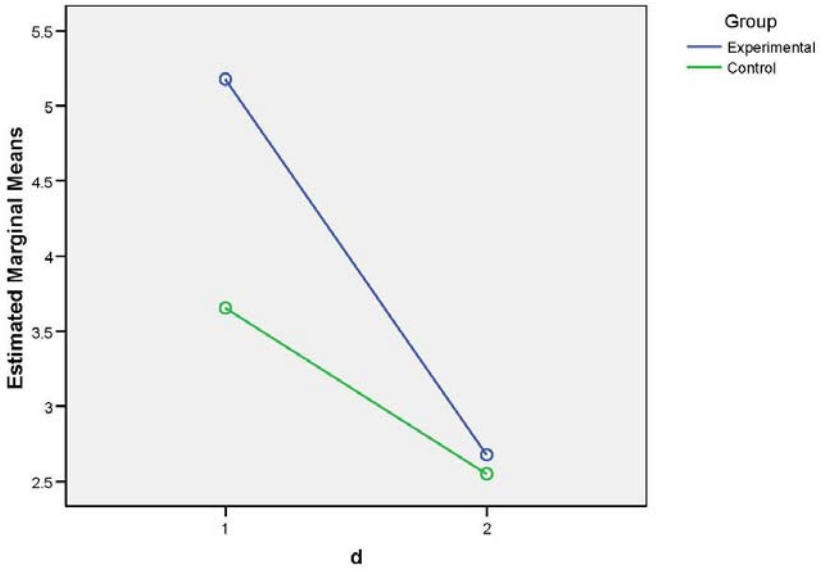

Figure 9. Profile of Mood States Depression-Dejection Subscales

Figure 10 shows the pre-test post-test measurements of the subscale anger-hostility of the Profile of Mood States.

The control group started with a slightly higher level of anger-hostility than the experimental group. Both groups showed a decrease. The control group started with a mean level of 3.0 which dropped to 2.4. The active group started with a level of 2.5 which dropped to 2.3. The p value of .718 did not reach the level of statistical significance.

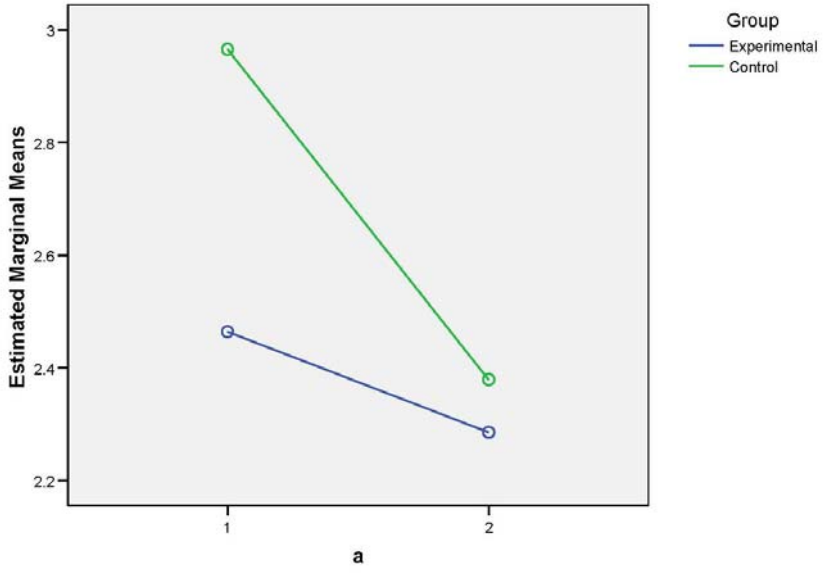

Figure 10. Profile of Mood States Anger-Hostility Subscale

Figure 11 shows the pre-test post-test change in the vigor-activity subscale of the Profile of Mood States.

The experimental group showed an increase in vigor-activity between the pre-test and post-test measurements. The mean for the experimental group was 13 pre-test and 17 post-test. The control group showed a decrease in vigor from pre-test to post-test, showing a pre-test mean of 5 and a post-test mean of 4.75. The vigor sub-scale is the only scale where a higher score represents a more desirable state. The level of significance for the vigor subscale was .136, which does not represent a statistically significant number.

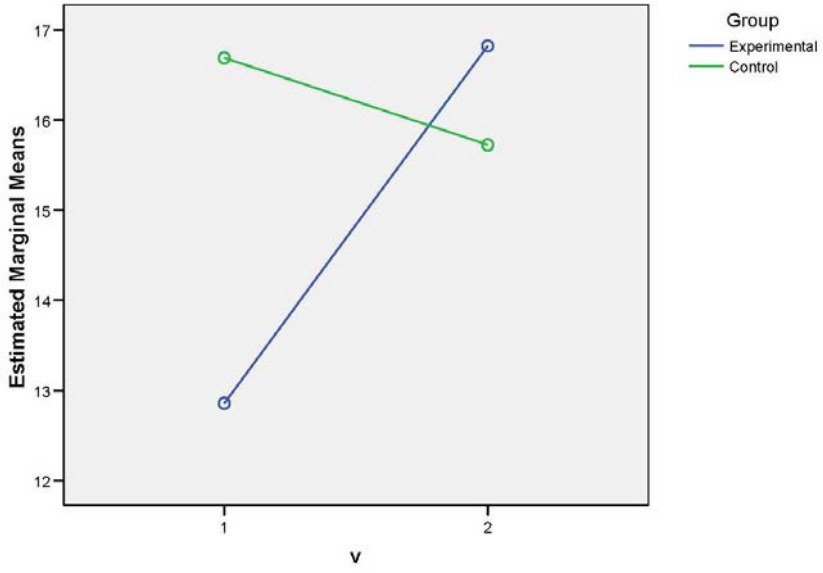

Figure 11. Profile of Mood States Vigor-Activity Subscale

Figure 12 shows the Profile of Mood States fatigue subscale. As shown in this figure, the experimental group started with a slightly higher score for fatigue at the pre-test measure and had a lower score at the post-test measure in comparison with the control group. The pre-test mean for the experimental group was 6 and the post-test mean was 3.

For the control group the pre-test mean was 5 and the post-test mean was 4.8. The significance was .073, which is below the level of statistical significance.

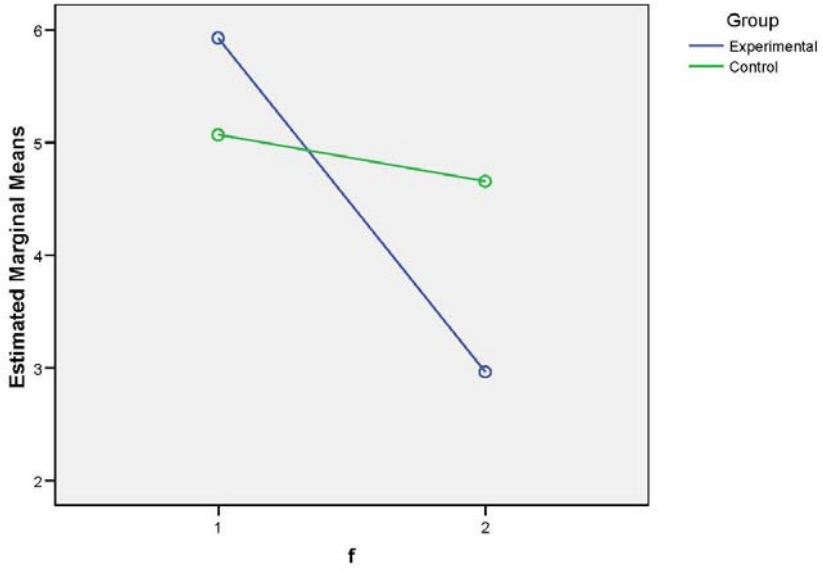

Figure 12. Profile of Mood States Fatigue-Inertia Subscale

Figure 13 shows the Profile of Mood States subscale for Confusion-Bewilderment, labeled as subscale c. This subscale shows a decrease in confusion in both the active and control groups. The experimental group shows a greater level of confusion on the initial test and a lower score at the end, as compared to the control group, but the difference is not statistically significant (0.237). The changes are, however, statistically significant (0.000). A possible explanation for the changes in both groups could be relaxation during the sessions.

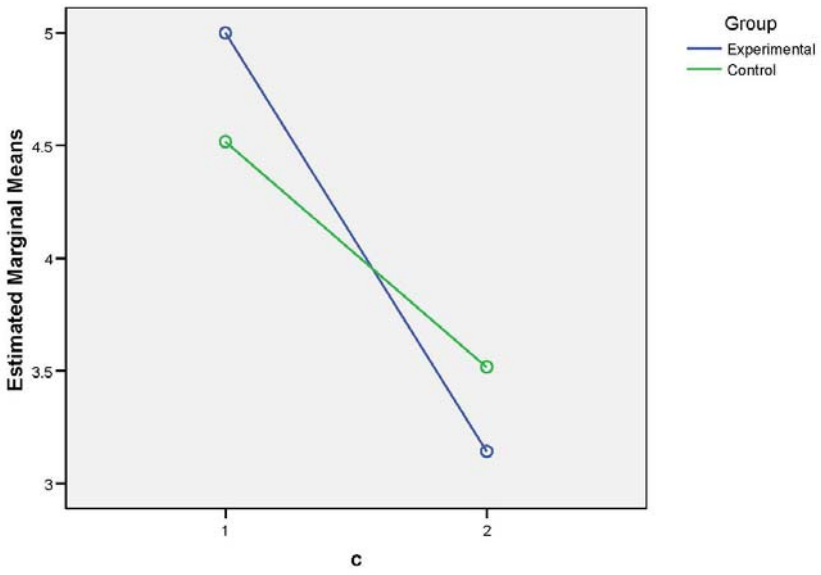

Figure 13. Profile of Mood States Confusion-Bewilderment Subscale

As shown in Figure 14, the Total Mood Disturbance Subscale (TMD) of the Profile of Mood States showed a larger decrease in the experimental subjects as compared to the control subjects. The TMD is determined by adding the numbers for tension, depression, anger, fatigue and confusion, and subtracting the score for vigor. The resulting number represents the Total Mood Disturbance. Both groups showed a decrease in total mood disturbance between the pre-test and the post-test, and the difference between the groups is not statistically significant. The changes for each group were significant (0.001). Again for this composite scale, perhaps relaxation could be responsible for the change in both groups.

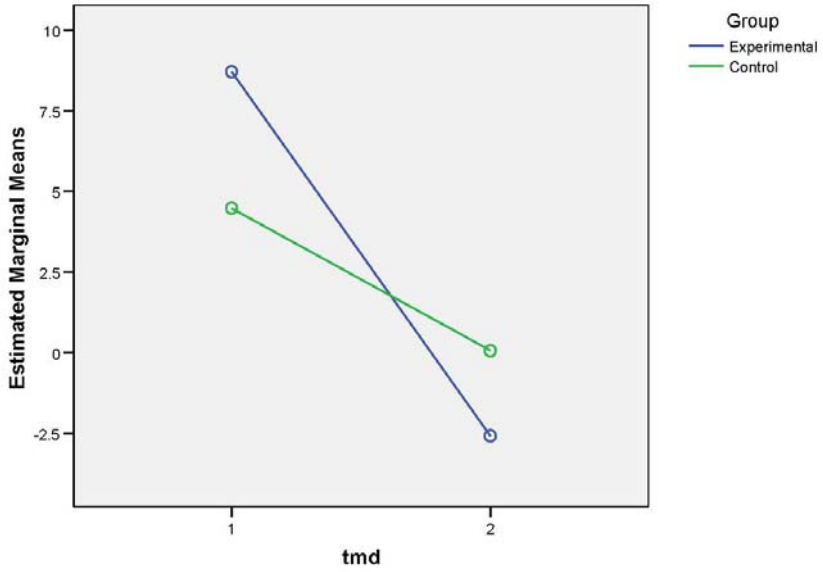

Figure 14. Profile of Mood States Total Mood Disturbance Subscale

The decision to check pulse, temperature and blood pressure before and after each session was based on observations by Reich and others that one effect of the accumulator is a rise in temperature, with a lowering of blood pressure and pulse. This observation was confirmed in a double-blind study presented by Muschenish and Gebauer for a Ph. D dissertation by the University of Marburg, West Germany in 1986.[1] Only the abstract has been translated into English, and so some details of the study were not available to the Principle Investigator. The Muschenish and Gebauer study used a smaller number of subjects. Fifteen volunteers were used, with each having twenty experimental hours in an accumulator or a control box. Ten of the subjects had ten sessions in an 8-ply accumulator and ten in a control box of equivalent appearance. Five additional subjects had all twenty sessions in the same box, either experimental or control. This study used a relaxation chair before each session to establish a stable baseline. The study confirmed a rise in body temperature, but pulse, measured by continuous EKG measurement, showed a high degree of fluctuation.

Others have shown a rise in temperature from 0.3 to 1.5 degrees Centigrade. These temperature differences are more evident when weather is sunny than when rainy, and are also accompanied by lowering of the pulse rate and a visible reddening of the skin.[2]

Over a period of years Reich urged his friend, A. S. Neill to build an accumulator for his personal use. Reich pointed out to Neill that he would have to spend more time in the accumulator because of the damp weather in England. Reich speaks of the temperature difference being up to two degrees when the sun is shining but disappearing completely during rain.[3]

Figure 15 represents the pulse rate of the experimental and control groups in pre-test, post-test measurements. The pulse was measured before and after each session, and comparisons are made only between the pre-test and post-test measurements of that session. Thus, measures 1 and 2, 3 and 4, and 5 and 6 are compared. There may have been some carry-over effects from the orgone accumulator blanket device, as well as some relaxation effect in both groups from session one to session three but this is only speculative. The experimental group had a markedly higher pulse than the control group in the first session. The experimental group showed a marked lowering on the pulse in each session. The control group showed slight change in comparison, but the difference between groups is not statistically significant.

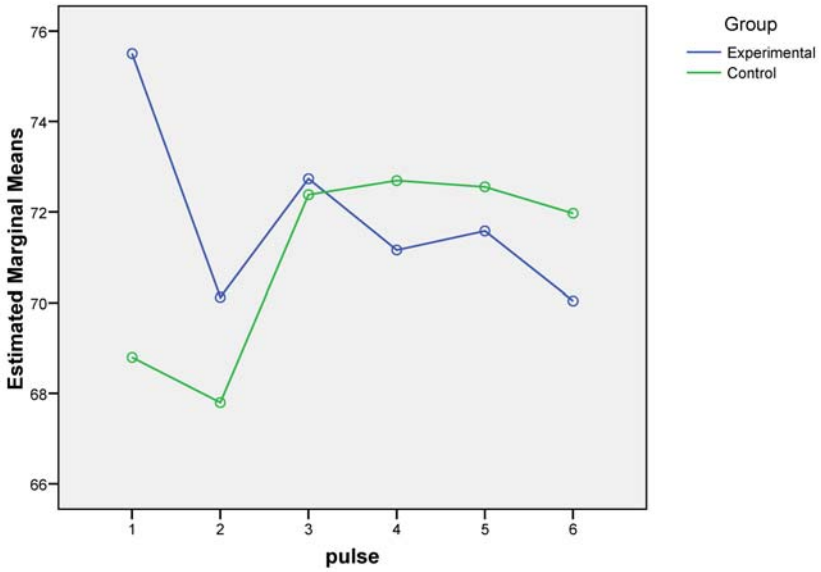

Figure 15. Pulse

Figure 16 represent the pre-test and post-test measurements of systolic blood pressure in both the experimental group and control group. Comparisons were between the values 1 and 2, 3 and 4, and 5 and 6, the measurements across the horizontal axis.

Measurements 1 and 2, 3 and 4, and 5 and 6 represent pretest and posttest measurements on three different days. As seen in the diagram, both the experimental and control group showed a drop in systolic blood pressure in each testing session. The drop for both groups in systolic blood pressure was statistically significant (0.003) but the difference between the groups is not significant (0.078).

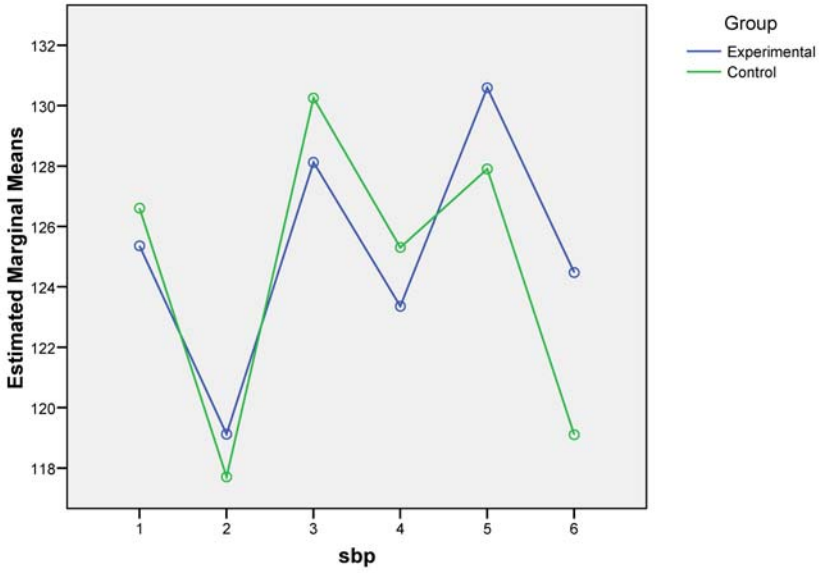

Figure 16. Systolic Blood Pressure

The original design of the experiment called for a fifteen minute rest in a relaxation chair before the pretest measurement of blood pressure and pulse. This would affect the baseline blood pressure and would give a more accurate portrayal of the effects of the orgone accumulator blanket device. When the location of the experiment was

changed it was no longer possible to have the relaxation chair a part of the protocol. Thus, the first fifteen minutes of each one-half hour session could be seen as equivalent to developing the baseline, thus diluting the effect of the accumulator.

Figure 17 illustrates diastolic blood pressure in the both the experimental group and the control group over the three testing sessions. The comparisons are only between 1 and 2, 3 and 4, and 5 and 6, the points across the horizontal axis. The diastolic blood pressure shows an apparent drop in each session in both groups, but this change is not statistically significant. The graphs drawn by the statistical analysis package are possibly visually misleading. The much smaller changes in Figure 17 occupy the same space as the larger changes in Figure 16, because of the differences in the markings of the vertical scales.

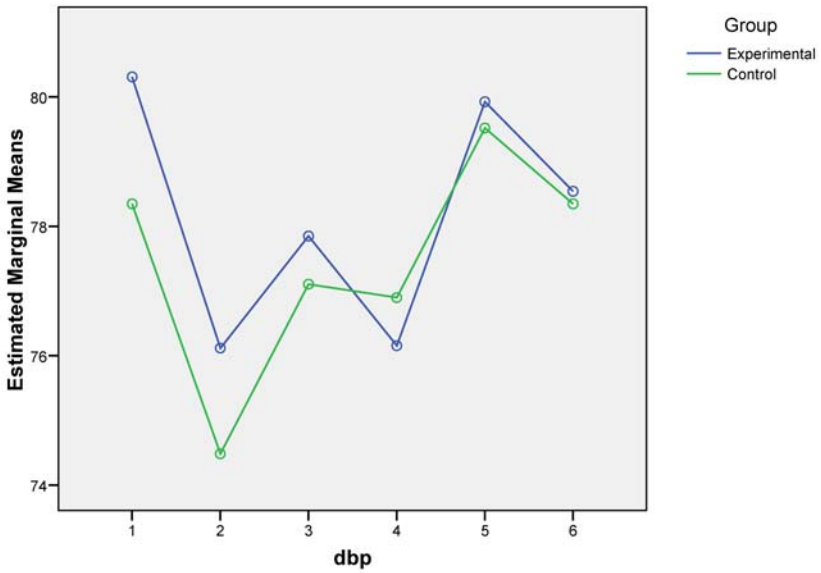

Figure 17. Diastolic Blood Pressure

Figure 18 illustrates pre-test and post-test measurements of temperature. These measurements are illustrated for each of the three sessions. These measurements were not a parameter in the study but were included as an item of interest. The phenomenon of To-T, temperatures being higher in the accumulator than in the surrounding air or in a control apparatus, has been well-documented.[4,5]

The phenomenon of To-T has been a consistent measurement shown by many experimenters in a variety of times and places. This physical measurement has been interpreted by supporters of the orgone theory to represent a real physical force.

As the illustration shows, the experimental group showed an increase in temperature on all three days. The control group showed a drop in temperature on the first day and a rise on days two and three. The difference between the two groups is not statistically significant.

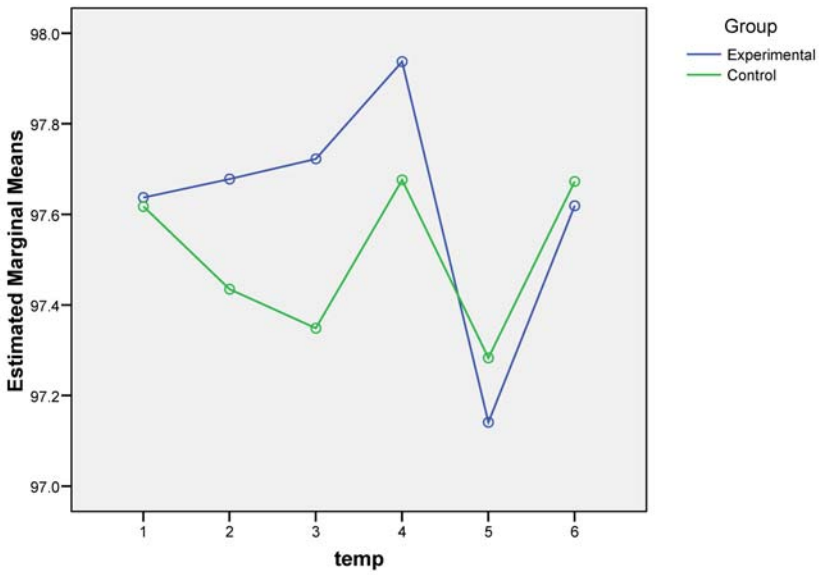

Figure 18. Temperature

Chapter 4 Endnotes:

[1] DeMeo, *The Orgone Accumulator Handbook*, 148-53.
[2] K. Bremer, "Medical Effects of Orgone Energy," *Orgone Energy Bulletin* 5 (1953).
[3] Placzek, 97.
[4] Reich, *The Cancer Biopathy: Volume II of the Discovery of the Orgone*.
[5] DeMeo, *The Orgone Accumulator Handbook*.

CHAPTER 5:
CONCLUSIONS, DISCUSSION, AND SUGGESTIONS

Summary

The hypothesis for this study is that the use of the orgone accumulator blanket device would show an increase in liveliness and that this increase could be shown as an increase in salivary DHEA levels and decrease in urinary excretion of free radicals. The DHEA levels did show an improvement in the experimental subjects in contrast to the control subjects. The experimental subjects showed an increase in the DHEA levels that did not reach the level of statistical significance. By contrast, the control subjects showed a decrease in DHEA levels between the pre-test and post-test measurements.

An additional hypothesis was also made that this increase in liveliness would be shown on the Profile of Mood States, a subjective test showing the mood in the present moment. The results were suggestive of a positive trend but did not reach the level of statistical significance, and may have resulted from relaxation during the sessions, because the control also showed these improvements.

Conclusions

The primary conclusion reached from this study is that the use of the orgone accumulator blanket device for three 30-minute sessions with 30 experimental subjects and 30 control subjects did not show a statistically significant result. The experimental subjects did have more improvement than the control subjects and this effect would benefit from further investigation.

The use of the orgone accumulator blanket device on the psychological subscales of the Profile of Mood States were suggestive of a trend, and showed a slightly greater

improvement, particularly in the subscale of vigor than those of the control group, but the difference was not statistically significant. The results suggest that the psychological factors show change more quickly than the physical factors, and this is consistent with what we know about the rapidity with which moods and affect can change in contrast to bodily changes.

Discussion

The initial rationale for choosing salivary samples for DHEA testing was that it would be less invasive than blood specimens and thus less objectionable for participants. In fact many people find the procedure of venipuncture stressful in itself.[1]

In actuality, the majority of subjects found it difficult to produce the 1 ml of saliva required in a timely manner, thus slowing the efficiency of the process. This was also likely an additional cause of stress in some participants.

In addition, the salivary levels show more diurnal variation than blood samples and were more difficult to interpret. Although the study design anticipated that subjects would arrive at the same time for each session, the volunteer nature of the study and the active schedules of the subjects made that impractical.

The wide range of salivary DHEA levels, from nearly undetectable to nearly 600 pg/ml, made it difficult to evaluate this measure (Appendix G).

The subjective nature of the Oxidata™ test is a criticism that some have made. In an effort to eliminate this bias an attempt was made to have each result read by two examiners, especially when there seemed to be room for interpretation. Some results were very clearly on one or the other extremes of the scale. The cases that were open to interpretation were a minimal number, and in those cases, the two examiners discussed

and reached an agreement which was mutually agreeable. Exact records of the number of times the two observers initially disagreed were not kept. This innovation was made to minimize subjectivity. The assay is designed to be used as a personal indicator and this adaptation was designed to minimize the subjectivity of the response. The low level of disagreement indicated that the expected subjectivity did not appear to any great degree.

An additional problem is that the test is affected by specific gravity of the urine. A dilute urine specimen will show dilution of the free radicals present in a larger volume of fluid, thus lowering the value of the color shown.

The test is ideally done on first-morning urine specimens, which are likely to be more concentrated than specimens obtained later in the day. The fact that many subjects had three sessions at wildly divergent times of day increases the likelihood of other factors confounding the results. In addition, several subjects began the study on a week-end, when they were presumably rested and unstressed and completed the study on Wednesday and Thursday, late in the work week. The study encompassed the Saturday night before Halloween, an occasion when many attended Halloween parties and consumed alcohol before final testing.

Other possible sources of error were in using digital thermometers instead of glass thermometers and in using automated digital devices for measuring blood pressure and pulse. The principal investigator has been unable to find written verification for her belief that these automated devices make up for increased efficiency with decreased accuracy. The measurement of these parameters was not consistent with previous studies. It is unknown how much of the effect is the result of instrumentation and how much the rainy weather.

The orgone accumulator, whether in the form of a blanket or a box, has been noted throughout the relevant literature to have results that are subjective and vary widely between individuals. Given that increasing the number of ply increases the effect and that increasing the number of exposures will enhance the probability of a sensation of change with the accumulator, the present study may not have been adequate in terms of exposure to the accumulator.

Several people made spontaneous comments after both the first and subsequent sessions about feeling warm or tingly sensations while under the blanket. As the study was an attempt to quantify objective criteria, these comments were not recorded or quantified. It would be helpful in a further study to create a questionnaire asking subjects to record their sensations on a scale of 0 to 5, with questions regarding, warmth, coolness, tingling, and other sensations.

The Principal Investigator was present at two group discussions at the Wilhelm Reich Museum in which two physicians are designing a large-scale study of orgone accumulators. Ron Maio D. O., an emergency room physician from Michigan, and Conny Huthsteiner, M. D., a psychiatrist from Harvard, are in the process of designing a study to use the orgone accumulator in the treatment of burns. The study they are planning would be very expensive and require funding from a research grant. The logistics are exceedingly complex to reach a design acceptable for a grant proposal. One point which Drs. Maio and Huthsteiner emphasized was the degree that electrical power, x-ray equipment, and fluorescent lights can interfere with the orgone energy, making this study unsuitable for a hospital environment.[23]

Suggestions for Future Research

For a future study, the participants should come to the first session after an overnight fast and have initial blood drawn for DHEA levels at 8 A.M. This would give a more consistent stable baseline. The final blood draw would again be at 8 A.M. on the day after completion of the study. All sessions would be held during daylight hours and rescheduled if weather turned rainy or cloudy.

Additional improvements in the study design would be a dry, sunny location and one with minimal impact from power lines and other electronic equipment. The initial plan was to conduct the study in a rural location in an environmentally clean research building. A number of subjects did not want to participate if they had to drive out of town, and so the study was relocated to an office complex in the city of Springfield, Missouri. Time constraints and the number of subjects needed precluded doing the study at a more desirable location. The addition of a preliminary few minutes of rest in a relaxation chair before the first measurement of temperature, pulse, and blood pressure would help to separate the relaxation effect and provide a better baseline.

The effects of the orgone accumulator are increased by a larger number of ply, or layers, of metal and organic material. By shifting the device from a blanket to a box, with an identical-appearing control box, the number of ply could be increased to eight or more without the problem of additional weight. Increasing the number of sessions from three to 10, 15, or 20 would also increase the likelihood of a positive result of statistical significance.

If the experimenters are able to provide motivation, perhaps a monetary reward, for completing the study, it might compensate for the extra inconvenience.

Previous studies have shown the effects of the orgone accumulator devices to achieve results more rapidly in younger subjects. A study with the majority of participants under the age of forty would be helpful. Ideally, participants would be gender and age matched into pairs for greater statistical significance.

It is difficult to quantify the number of sessions or the length of time needed to demonstrate the orgone effects. As previously mentioned, age, weather conditions and environment are factors. The inherent liveliness or orgonotic charge of the organism, a factor that can't be quantified at this point, is probably a more important factor. Reich mentions in his early studies that some people feel the effects after only five minutes, and some require an hour or more. "The full therapeutic effect is provided only with regular, daily use, and in the case of anorgonotic patients, not until after two to three weeks of regular use."[4] Some researchers have suggested providing orgone accumulator blankets for home use to be a more effective way to measure these changes.[5]

An ideal environment for conducting a study would be during a retreat in which all subjects were, as much as possible, shielded from outside influences, and eating similar food and engaging in similar activity.

I believe the study results are sufficiently intriguing that the association between DHEA levels and the orgone accumulator warrants further study. The results of this study included only a small number of participants and did not reach the level of statistical significance but are suggestive of an effect that needs further elucidation.

Chapter 5 Endnotes:

[1] K. Vedhara and others, "Acute Stress, Memory, Attention and Cortisol," *Psychoneuroendocrinol* 25 (2000).
[2] Group Discussion, in *Orgone Conference* (Rangeley, Maine: 2006).
[3] Group Discussion, in *Orgone Conference* (Rangeley, Maine: 2007).
[4] Reich, *The Cancer Biopathy: Volume II of the Discovery of the Orgone*.
[5] Group Discussion (2006).

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APPENDIX A
Subject Informed Consent

STUDY NAME: EFFECTS OF ORGONE ACCUMULATOR BLANKET DEVICE ON FREE RADICALS

March 15, 2006

PRINCIPAL INVESTIGATOR: Ruth S. Alvarez, MPAS, PA-C, under the direction of Bernard Williams, Ph.D. and C. Norman Shealy, M. D., Ph.D.

NAME OF EQUIPMENT/THERAPY

The equipment used in this study is an orgone accumulator blanket device. This device is a small blanket consisting of alternating layers of wool felt and steel wool and covered by a soft layer of wool felt. The orgone accumulator blanket device is an experimental device and no claims are made as to the effects. This device is based on decades of research by Dr. Wilhelm Reich, who believed it was a way to increase the universal life energy in the body, an energy he called orgone. The theory behind this device is that it pulls energy from the atmosphere and concentrates it near the body of the experimental subject, creating an increase in the energy field of the subject. Most subjects report no change in the way they feel when under the blanket. Some report a warm or tingling sensation while using this device. Half the subjects in the experiment will have a device of identical appearance but of a design that does not act to increase the energy. Neither the subject nor the experimenter will know which blankets are real and which are sham until the end of the experiment.

Blood pressure, pulse and temperature measurements will be taken at the beginning, middle and end of each session. Subjects will be asked to provide a urine specimen before the testing and after the third session. This specimen is for testing free radicals in the urine, which is a rough measure of stress in the body. This will be tested in front of you, with immediate notification of results. Further testing is of saliva for an adrenal hormone, dehydroepiandrosterone or DHEA, which is also a general marker of health in the body. You will be given instructions and assistance in collecting this specimen and this will be done twice, once before the first session and once after the last one. These specimens are sent to an outside laboratory for analysis.

You will also be given a brief written test, the Profile of Mood States. This includes 65 Items, which you rate on a scale of 0 to 4, or from not at all to extremely, depending upon how you feel at that time. Your identity will be kept private. Your identity and your contact information will be on file only with the principal investigator. Your identity will

not be disclosed to anyone, unless required by law. You will have an opportunity to review your results after completion of the study.

You will be able to stop the study at any time and for any reason. There will be no penalty for stopping the study early.

If you have any questions about the study, please contact the Primary Investigator, Ruth Alvarez at (907) 662-2998.

Subject Statement: I am signing this statement of my own free will. I understand that by signing this form, I do not lose any rights to which I am entitled, including the right to leave this study at any time.

To the best of my knowledge I do not have the following conditions: untreated hypertension, a seizure disorder, an implanted pacemaker or defibrillator, a skin rash or conjunctivitis. I agree to inform the Primary Investigator if I develop any of these during the course of the study.

I hereby state that I am at least 18 years of age and have the legal capacity to enter into contract, and no guardian has been appointed for me.

The consent form has been read by or to me and the study information has been fully explained. Any questions that have arisen have been adequately explained by the Primary Investigator. I may request a signed copy of this form.

I understand that this is an academic research study. I agree to cooperate with all research personnel and to follow the procedures as outlined to me.

Subject's Name Date

Subject's Printed Name

Witness's Signature (If statement was read to subject.)

Witness's Printed Name

APPENDIX B
ID Forms for Subjects

NAME_____

ADDRESS_____

PHONE_____E-MAIL_____

ANY DIAGNOSED MEDICAL

CONDITIONS_____

MEDICATIONS TAKEN

REGULARLY_____

_____

SUPPLEMENTS/HERBS/VITAMINS_____

_____

PLEASE ANSWER THE FOLLOWING AS TO NONE, OCCASIONALLY, NUMBER OF TIMES PER WEEK/MONTH

TOBACCO_____

ALCOHOL_____

PHYSICAL EXERCISE_____

THANK YOU FOR TAKING PART IN THIS STUDY. ALL INFORMATION WILL BE HELD IN STRICT CONFIDENCE. THE INFORMATION IS BEING GATHERED FOR STATISTICAL PURPOSES ONLY.

APPENDIX C
Salivary DHEA Enzyme Immunoassay Test Technical Data

SALIMETRICS LLC
101 Innovation Blvd., Suite 302
State College, PA 16803 USA
(T) 814-234-7748, (F) 814-234-1608
800-790-2258 (USA & Canada only)
www.salimetrics.com
techservices@salimetrics.com

SALIVARY DHEA ENZYME IMMUNOASSAY KIT

Catalog No. 1-2202/1-2212, 96-Well Kit

Intended Use

Salimetrics DHEA kit is a competitive immunoassay specifically designed for the *in vitro* diagnostic measurement of dehydroepiandrosterone (DHEA) in saliva. This kit may be used as an aid in evaluating the synthesizing function of the adrenal androgen gland. Saliva DHEA accurately reflects the amount of serum DHEA in circulation. This kit is not intended for use with serum or plasma samples. Please read the complete kit insert before performing this assay. For further information about this kit, its application, or the procedures in this insert, please contact the technical service team at Salimetrics or your local sales representative.

Summary and Explanation of the Test

DHEA, a major secretory product of the adrenal glands with anti-oxidant activity, is a precursor to the synthesis of both estrogenic and androgenic steroids (testosterone). (1-4) Low levels may occur in hypoadrenalism. High levels may occur in conditions such as 21-hydroxylase and 3ß-hydroxysteroid dehydrogenase deficiencies, virilizing adrenal adenoma and carcinoma, and some cases of female hirsutism. (4,5) DHEA has also been found to be related to cases of depression (6,7), schizophrenia (8), bone resorption (9,10), obesity (11), and rheumatoid arthritis (12).

In the blood only 1 to 15% of DHEA is in its unbound or biologically active form. The remaining DHEA is bound to serum proteins. The majority of DHEA in saliva is non-protein bound and enters the saliva via intracellular mechanisms. Salivary DHEA levels are unaffected by salivary flow rate or salivary enzymes (13).

This kit is designed to measure DHEA levels in saliva. The standard is in a saliva-like matrix. In addition, a built-in pH indicator warns the user of acidic or basic samples.

Test Principle

A microtitre plate is coated with rabbit antibodies to DHEA. DHEA in standards and unknowns compete with DHEA linked to horseradish peroxidase for the antibody binding sites. After incubation, unbound components are washed away. Bound DHEA peroxidase is measured by the reaction of the peroxidase enzyme on the substrate tetramethylbenzidine (TMB). This reaction produces a blue color. A yellow color is formed after stopping the reaction with 2-molar sulfuric acid. Optical density is read on a standard plate reader at 450 nm. The amount of DHEA peroxidase detected is inversely proportional to the amount of DHEA present (14).

pH Indicator

A pH indicator in the assay diluent alerts the user to samples with high or low pH values. Acidic samples will turn the diluent yellow. Alkaline samples will turn the diluent purple. Dark yellow or purple wells indicate that a pH value for that sample should be obtained using pH strips. DHEA values from samples with a pH $\leq$ 4.0 or $\geq$ 9.0 may be artificially inflated or lowered (15).

Precautions

1. Stop Solution is a 2-molar solution of sulfuric acid. This solution is caustic; use with care.
2. This kit uses break-apart microtitre strips. Unused wells must be stored at 2 - 8°C in the sealed foil pouch and used in the frame provided.
3. Do not mix components from different lots of kits.
4. When using a multichannel pipette, reagents should be added to duplicate wells at the same time. Follow the same sequence when adding additional reagents so that incubation time with reagents is the same for all wells.
5. See 'Material Safety Data' at the end of procedure.
6. We recommend that samples be screened for possible blood contamination (16,17) using a reliable screening tool such as the Salimetrics Blood Contamination EIA Kit (Cat No. 1-1302/1-1312). Do not use dipsticks, which result in false positive values due to salivary enzymes.
7. Routine calibration of pipettes is critical for the best possible assay performance.
8. Pipetting of samples and reagents must be done as quickly as possible (without interruption) across the plate.
9. When running multiple plates, or multiple sets of strips, a standard curve should be run with each individual plate and/or set of strips.
10. The temperature of the laboratory may affect assays. Salimetrics' kits have been validated at 68 - 74°F (20 - 23.3°C). Higher or lower temperatures will cause an increase or decrease in OD values, respectively. Salimetrics cannot guarantee test results outside of this temperature range.

Storage

All components of this kit are stable at 2 - 8°C until the kit's expiration date.

Reagents and Reagent Preparation

1. **Anti-DHEA Coated Plate:** A ready-to-use 96-well microtitre plate pre-coated with rabbit anti-DHEA antibodies in a resealable foil pouch.
2. **DHEA Standard:** 1 mL of DHEA in a saliva-like matrix with a non-mercury preservative, at a concentration of 1000 pg/mL.
3. **DHEA Controls:** Two controls representing high and low levels of DHEA in a saliva-like matrix with a non-mercury preservative. Each vial contains 0.5 mL. See vials for target ranges.
4. **Wash Buffer:** 100 mL of a 10X phosphate buffered solution containing detergents and a non-mercury preservative. Dilute only the amount needed for current day's use. Discard any leftover reagent. Dilute the wash buffer concentrate 10-fold with room temperature deionized water (100 mL of 10X wash buffer to 900 mL of deionized H_20). **(Note:** *If precipitate has formed in the concentrated wash buffer, it may be heated to 60 °C for 15 minutes. Cool to room temperature before use in assay.)*
5. **Assay Diluent:** 63 mL of a phosphate buffered solution containing a pH indicator and a non-mercury preservative.
6. **Enzyme Conjugate:** 50 µL of a solution of DHEA labeled with horseradish peroxidase. Dilute prior to use with assay diluent.
7. **Tetramethylbenzidine (TMB):** 25 mL of a non-toxic ready-to-use solution.
8. **Stop Solution:** 12.5 mL of a 2-molar solution of sulfuric acid (USA customers only). Stop solution is provided in powdered form to customers outside the USA. Reconstitute the powdered stop solution with 12.5 mL of deionized water. Let set for 10 minutes before using.
9. **Non-specific Binding Wells:** These wells do not contain anti-DHEA antibody. In order to support multiple use, a strip of NSB wells is included. They are located in the foil pouch. Wells may be broken off and inserted where needed.

Note: The quantity of reagent provided with break-apart kits is sufficient for three individual runs. The volume of diluent and conjugate used for assays using less than a full plate should be scaled down accordingly, keeping the same dilution ratio.

Materials Needed But Not Supplied

- Precision pipette to deliver 12 µL, 50 µL, 100 µL, 150 µL and 18 mL
- Precision multichannel pipette to deliver 50 µL, 150 µL, and 200 µL
- Vortex
- Plate rotator (if unavailable, tap to mix)
- Plate reader with a 450 nm filter
- Computer software for data reduction
- Deionized water
- Reagent reservoirs
- One 20 mL disposable tube
- Five small disposable tubes
- Pipette tips
- Serological pipette

Specimen Collection

Due to the episodic secretion pattern of steroid hormones, we can only expect reproducible and reliable results in cases of multiple sampling. Therefore, we recommend taking 5 samples within at least a 2-hour period and pooling the samples before testing (18).

Collecting saliva by unstimulated passive drool is the preferred saliva collection method. **Do not use Salivettes, Sorbettes or cotton ropes to collect samples.** False high readings will result (19). Avoid sample collection within 60 minutes after eating a major meal or within 12 hours after consuming alcohol. Acidic or high sugar foods can compromise assay performance by lowering sample pH and influencing bacterial growth. To minimize these factors, rinse mouth thoroughly with water 10 minutes before sample is collected. **Do not** add sodium azide to saliva samples as a preservative. Samples visibly contaminated with blood should be recollected. After collection it is important to keep samples cold. Refrigerate sample within 30 minutes, and freeze at or below -20°C within 4 hours of collection. Record the time and date of specimen collection. Keep saliva samples frozen until day of assay.

Freezing saliva samples will precipitate the mucins. On day of assay, thaw completely, vortex, and centrifuge at 1500 x g (@3000 rpm) for 15 minutes. It is important to avoid additional freeze-thaws cycles. Sample should be at room temperature before adding to assay plate. Pipette clear sample into appropriate wells. Particulate matter may interfere with antibody binding, leading to falsely elevated results.

Procedure

Bring all reagents to room temperature.

Step 1: Determine your plate layout. Here is a suggested layout.

	1	2	3	4	5	6	7	8	9	10	11	12
A	1000 Std	1000 Std	Ctrl H	Ctrl H								
B	400 Std	400 Std	Ctrl L	Ctrl L								
C	160 Std	160 Std	Unk-1	Unk-1								
D	64 Std	64 Std	Unk-2	Unk-2								
E	25.6 Std	25.6 Std	Unk-3	Unk-3								
F	10.2 Std	10.2 Std	Unk-4	Unk-4								
G	Zero	Zero	Unk-5	Unk-5								
H	NSB	NSB	Unk-6	Unk-6								

Step 2: Keep the desired number of strips in the strip holder and place the remaining strips back in the foil pouch. If you choose to place non-specific binding wells in H-1, 2, remove strips 1 and 2 from the strip holder and break off the bottom wells. Place the strips back into the strip holder leaving H-1, 2 blank. Break off 2 NSB wells from the strip of NSBs included in the foil pouch. Place in H-1, 2. Alternatively, NSBs may be placed wherever you choose on the plate. Reseal the zip-lock and refrigerate the pouch at 2 - 8°C. *Caution: Extra NSB wells should not be used for determination of standards, controls or unknowns.*

Step 3:

- Label five microcentrifuge tubes or other small tubes 2 through 6.
- Pipette 150 µL of assay diluent into tubes 2 through 6.
  Serially dilute the standard 2.5X by adding 100 µL of the 1000 pg/mL standard (tube 1) to tube 2. Mix well. After changing pipette tips, remove 100 µL from tube 2 to tube 3. Mix well. Continue for tubes 4, 5, and 6. The final concentrations of standards for tubes 1 through 6 respectively are 1000 pg/mL, 400 pg/mL, 160 pg/mL, 64 pg/mL, 25.6 pg/mL, and 10.2 pg/mL. Standard concentrations in nmol/L are 3.47, 1.39, 0.55, 0.22, 0.09, and 0.03 respectively.
- Pipette 18 mL of assay diluent into the disposable tube. Set aside for Step 5.

Step 4:

- Pipette 50 µL of standards, controls and unknowns into appropriate wells. Standards, controls and unknowns should be assayed in duplicate.
- Pipette 50 µL of assay diluent into 2 wells to serve as the zero.
- Pipette 50 µL of assay diluent into each NSB well.

Step 5: Dilute the enzyme conjugate 1:1500 by adding 12 µL of the conjugate to the 18 mL of assay diluent prepared in Step 3. Immediately mix the diluted conjugate solution and add 150 µL to each well using a multichannel pipette.

Step 6: Cover plate with adhesive cover provided. Mix plate on rotator for 5 minutes at 500 rpm (or tap to mix) and incubate at room temperature for 3 hours.

Step 7: Wash the plate 4 times with wash buffer. A plate washer is recommended. However, washing may be done by gently squirting wash buffer into each well with a squirt bottle or by pipetting 300 µL of wash buffer into each well and then flipping the liquid into a sink. After each wash, the plate should be thoroughly blotted on paper towels before turning upright. If using a plate washer, blotting is still recommended after the last wash.

Step 8: Add 200 µL of TMB solution to each well with a multichannel pipette.

Step 9: Mix on a plate rotator for 5 minutes at 500 rpm (or tap to mix) and incubate the plate in the dark at room temperature for an additional 25 minutes.

Step 10: Add 50 µL of stop solution with a multichannel pipette.

Step 11:

- Mix on a plate rotator for 3 minutes at 500 rpm (or tap to mix). Be sure all wells have turned yellow. If green color remains, continue mixing until green color turns to yellow. **Caution:** *Do not mix at speeds over 600 rpm.*
- Wipe off bottom of plate with a water-moistened lint-free cloth and wipe dry.
- Read in a plate reader at 450 nm. Read plate within 10 minutes of adding stop solution (correction at 492 to 620 is desirable).

Calculations

1. Compute the average optical density (OD) for all duplicate wells.
2. Subtract the average OD for the NSB wells from the average OD of the zero, standards, controls and unknowns.
3. Calculate the percent bound (B/Bo) for each standard, control and unknown by dividing the average OD (B) by the average OD for the zero (Bo).
4. Determine the concentrations of the controls and unknowns by interpolation using software capable of logistics. We recommend using a 4-parameter sigmoid minus curve fit.

Limitations

- Samples with DHEA values greater than 1000 pg/mL should be diluted with assay diluent and rerun for accurate results. To obtain the final DHEA concentration, multiply the concentration of the diluted sample by the dilution factor.
- A pH value should be obtained on samples that appear yellow or purple after assay diluent is added and the plate is mixed. Samples with pH values ≥ 9.0 or ≤ 4.0 should be recollected.
- See "Specimen Collection" recommendations to insure proper collection of saliva specimens and to avoid interfering substances.
- Samples collected with sodium azide are unsuitable for this assay.

Quality Control

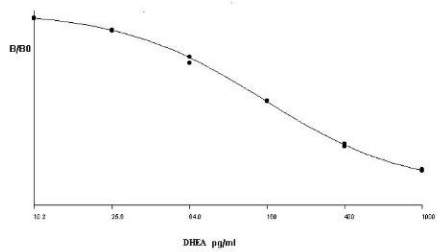
The Salimetrics' high and low salivary DHEA controls should be run with each assay. The control ranges established at Salimetrics are to be used as a guide. Each laboratory should establish its own range. Variations between laboratories may be caused by differences in techniques and instrumentation.

Typical Results

The following results are shown for illustration only and should not be used to calculate results from another assay.

Well	Sample	Average OD	B	B/Bo	DHEA pg/mL
A1,A2	S1	0.344	0.295	0.234	1000
B1,B2	S2	0.513	0.464	0.368	400
C1,C2	S3	0.741	0.692	0.548	160
D1,D2	S4	0.958	0.909	0.720	64
E1,E2	S5	1.145	1.096	0.868	23.5
F1,F2	S6	1.23	1.181	0.936	10.2
G1,G2	Bo	1.311	1.262	NA	NA
H1,H2	NSB	0.049	NA	NA	NA

Example: DHEA 4-Parameter Sigmoid Minus Curve Fit



Material Safety Data*

Hazardous Ingredients
Stop Solution is a 2-molar solution of sulfuric acid. This solution is caustic; use with care. We recommend the procedures listed below for all kit reagents.

Handling
Follow good laboratory procedures when handling kit reagents. Laboratory coats, gloves, and safety goggles are recommended. Wipe up spills using standard absorbent materials while wearing protective clothing. Follow local regulations for disposal.

Emergency Exposure Measures
In case of contact, immediately wash skin or flush eyes with water for 15 minutes. Remove contaminated clothing. If inhaled, remove individual to fresh air. If individual experiences difficulty breathing, give oxygen and call a physician.

* The above information is believed to be accurate but is not all-inclusive. This information should be used only as a guide. Salimetrics shall not be liable for accidents or damage resulting from contact with reagents.

Performance Characteristics

A. Linearity of Dilution

Two samples were serially diluted with assay diluent and assayed.

Sample	Dilution Factor	Expected (pg/mL)	Observed (pg/mL)	Recovery (%)
1			334.66	
	1:2	167.33	157.33	94.0
	1:4	83.67	91.22	109.0
	1:8	41.83	49.44	118.2
	1:16	20.92	20.08	96.0
2			511.38	
	1:2	255.69	287.69	112.5
	1:4	127.84	140.12	109.6
	1:8	63.92	69.30	108.4
	1:16	31.96	34.25	107.2

Linearity is established from 500 to20 pg/mL

B. Precision

1. The intra-assay precision was determined from the mean of 12 replicates each.

Sample	N	Mean (pg/mL)	Standard Deviation (pg/mL)	Coefficient of Variation (%)
H	12	618.61	32.79	5.3
L	12	44.59	2.58	5.8

2. The inter-assay precision was determined from the mean of average duplicates for 12 separate runs.

Sample	N	Mean (pg/mL)	Standard Deviation (pg/mL)	Coefficient of Variation (%)
H	12	579.47	45.91	7.9
L	12	34.83	2.97	8.5

C. Recovery

Six saliva samples containing different levels of an endogenous DHEA were spiked with known quantities of DHEA and assayed.

Sample	Endogenous (pg/mL)	Added (pg/mL)	Expected (pg/mL)	Observed (pg/mL)	Recovery (%)
1	84.45	50	134.45	136.21	98.7
2	66.84	400	466.84	511.34	109.5
3	317.92	50	367.92	334.18	90.8
4	317.92	500	817.92	919.4	112.4
5	41.84	16	57.84	64.49	111.5
6	185.04	16	201.04	181.30	90.2

D. Sensitivity

The lower limit of sensitivity was determined by interpolating the mean minus 2 SD's for 10 sets of duplicates at 0 pg/mL standard. The minimal concentration of DHEA that can be distinguished from 0 is 5 pg/mL.

E. Correlation with Serum

The correlation between serum and saliva DHEA was determined by assaying 39 matched samples using the Diagnostic Systems Laboratories serum DHEA radioimmunoassay and the Salimetrics Salivary DHEA EIA. The DHEA serum-saliva correlation, using a log 10 transformation for the total (n = 39), combined males and females is 0.857, $p < 0.0001$.

Antibody Specificity		
Compound	Spiked Concentration (ng/mL)	% Cross-reactivity in HS Salivary DHEA EIA
DHEA-S	1000	0.063
Androstenedione	1000	0.0378
17-β Estradiol	1	ND
Estriol	1000	ND
Estrone	1000	ND
Progesterone	1000	ND
17 α-Hydroxyprogesterone	1000	ND
Testosterone	1000	ND
Cortisol	1000	ND
Aldosterone	1000	ND
Cortisone	1000	ND
11-Deoxycortisol	1000	ND
21-Deoxycortisol	1000	ND
Triamincinolone	1000	ND
Corticosterone	1000	ND
Transferrin	1000	ND

ND = None detected (<0.004)

Method Comparison

The correlation between the Salimetrics EIA and a published serum RIA modified for use with saliva (17) was evaluated by assaying 40 common samples. The EIA-RIA results were highly correlated, $r(38) = 0.881$, $p < 0.001$.

Salivary DHEA Expected Ranges: *

Group	Number	Mean (pg/mL)	Standard Deviation (pg/mL)
Females	19	165.6	71.6
Males	20	153.5	68.8

*To be used as a guide only. Each laboratory should establish its own range.

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Seller's Limited Warranty

"Seller warrants that all goods sold hereunder will be free from defects in material and workmanship. Upon prompt notice by Buyer of any claimed defect, which notice must be sent within thirty (30) days from date such defect is first discovered and within three months from the date of shipment, Seller shall, at its option, either repair or replace the product that is proved to Seller's satisfaction to be defective. All claims should be submitted in written form. This warranty does not cover any damage due to accident, misuse, negligence, or abnormal use. Liability in all cases, will be limited to the purchased cost of the kit.

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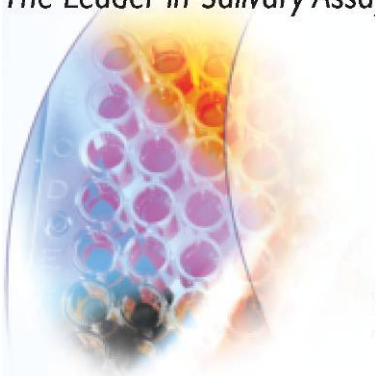
Solkraftsvagen 18B, 135 70 Stockholm, Sweden
(T) 46-40-457755
CE

APPENDIX D
DHEA Enzyme Immunoassay Kit Package Insert

The Leader in Salivary Assays...



SALIMETRICS

leading the way with

Salivary DHEA

(dehydroepiandrosterone)

Enzyme Immunoassay Kit

U.S. Cat. Nos.: Research Kit 1-1202
International Cat. Nos.: Research Kit 1-1212 Diagnostic Kit, 1-2212

Salimetrics' kits are recognized by many researchers as the most advanced development in salivary testing. Our kits offer unique features such as sample pH screening with an indicator to warn of pH levels outside the acceptable range and an artificial saliva matrix that matches the composition of saliva and minimizes matrix interference.

Salimetrics' kits offer these distinct advantages:

- Results that accurately reflect the biologically active fraction
- pH indicator to warn of sample pH levels outside the acceptable range of the assay
- Artificial saliva matrix for standards and controls that minimizes matrix interference
- Outstanding lot-to-lot reproducibility
- 96-well format, easily automated
- Instruction sheets previewed on website
- No expensive chemiluminescent chemicals
- No dangerous radio-isotopes
- No separations

The Salimetrics DHEA kit offers superior performance characteristics:

High Accuracy and Precision

- Recovery: Average 102.2%
- Linearity of Dilution: Recovery of 106.9% for dilutions from 1:2 to 1:16
- Precision: Average intra-assay coefficient of variation (n=12), 5.8% for low (44.6 pg/mL) and 5.3% for high (618.6 pg/mL) concentration; inter-assay coefficient of variation (n=12 duplicates), 8.5% variation for low (34.8 pg/mL) and 7.9% for high (579.5 pg/mL) concentration

Strong Correlation with Serum Assays

- r (37)= 0.857, $p<0.0001$

High Sensitivity

- Able to detect concentration as low as 5 pg/mL

Highly Specific Antibodies

- Very low cross-reactivity <0.063% with DHEA-S, testosterone, androstenedione, cortisol, and progesterones

Conservative Sample Volume

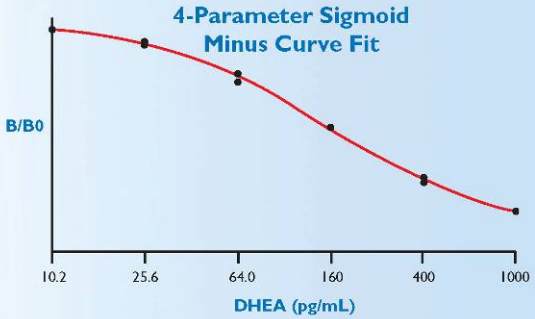
- Only 50 µL test volume

Non-toxic Reagents

- New non-toxic form of TMB offers better sensitivity

Short Incubation Times

- Only 3.5 hours total



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DHEA Research Topic Areas

- Adrenal function in hypoadrenalism (low levels)
- Adrenal carcinomata, adenomata
- Female hirsuitism
- 21-Hydroxylase deficiency
- 3β-Hydroxysteroid dehydrogenase deficiency (high values)
- DHEA replacement therapy
- Anti-diabetic effects of DHEA
- Androgen synthesizing function of adrenal cortex
- DHEA effect on enzymes of steroidal hormone production
- DHEA regulatory control over immune function
- Effective relationship to atherosclerotic development & cardiovascular disease
- Biological effects of DHEA & disease progression (e.g., infection, cancer)
- Influences on cytokine production
- Role in cognitive development or decline
- Transition to adrenarche
- Cortisol-DHEA ratio, stress, depressive episodes
- Eating disorders, obesity studies

Salivary DHEA EIA Kit Components

Salimetrics' DHEA kits include a standard, controls, 96-well microtiter plate, and reagents for processing the assay. Controls offered by Salimetrics are designed to eliminate the variability of "in house" pooled control samples made from human saliva. Our controls, prepared in an artificial saliva matrix, have reliable lot-to-lot consistency.

CLIA-certified Testing Service

Our staff have extensive experience in collection, storage, handling, and testing of saliva for numerous academic, clinical, and industrial studies. We also handle serum EIA and blood spot samples. Quality controls are included in each assay to insure accurate test results. This service is backed by extensive technical support. Following are examples of salivary assays that we commonly perform.

Alpha-amylase	Cortisol	Estradiol	Progesterone
Androstenedione	C-reactive protein	Estriol	17α-Hydroxyprogesterone
Blood protein	Dexamethasone	IL-6	Secretory IgA
Cotinine	DHEA	Melatonin	Testosterone

For more information, or to place an order,
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APPENDIX E
Letter to Participants

P. O. Box 53
Fort Yukon, AK 99740

December 10, 2006

Dear _____,

Thank you again for participating in my research project. I sincerely appreciate the time you took in completing this study.

The results are now available for DHEA levels. The levels ranged from nearly undetectable to about 500. This is roughly half of the blood level of DHEA.

Your initial level was __ ng/ml. Your final level was __ ng/ml. You were in the active (control) group. This means the blanket you used was (was not) the real design.

The blankets used in the study were made by www.orgonics.com. If you are interested in obtaining or making a blanket for home use, the web site will be useful. Information is also available through www.orgonelab.com. Further information about Dr. Wilhelm Reich can also be found at www.reichmuseum.com.

Sincerely,

Ruth Alvarez

APPENDIX F
DHEA Determination Method

DHEA Determination:

All samples were assayed for salivary DHEA in duplicate using a highly-sensitive enzyme immunoassay (Salimetrics, PA). The test used 50 ul of saliva per determination, has a lower limit of sensitivity of 10 pg/mL, range of standard curve from 10.2 to 1000 pg/mL, and average intra-and inter-assay coefficients of variation are 4.9% and 3.5% respectively. Method accuracy was determined by spike recovery (99.5%) and linearity was determined by serial dilution (97.3%). The serum-saliva correlation equals 0.883.

APPENDIX G
Salivary DHEA Levels

Samples A represent pre-test measures. Samples B represent post-test measures.

Date: 11/09/06

Investigator: Ruth Alvarez

DHEA Singlet Results

ND-none detected
* = below lower limit of sensitivity (<5 pg/mL)

Salimetrics ID	Sample #	Timepoint	result (pg/mL)
06300-059	1	1a	92.54
06300-014	2	2a	92.97
06300-048	3	3a	223.23
06300-054	4	4a	40.82
06300-049	5	5a	81.97
06300-030	6	6a	66.54
06300-006	7	7a	179.23
06300-024	8	8a	277.73
06300-012	10	10a	31.73
06300-020	11	11a	57.87
06300-021	12	12a	76.61
06300-001	13	13a	66.19
06300-053	14	14a	41.94
06300-017	15	15a	84.73
06300-055	16	16a	44.49
06300-019	17	17a	37.80
06300-044	18	18a	579.24
06300-042	19	19a	80.03
06300-016	20	20a	12.16
06300-029	21	21a	59.16
06300-041	22	22a	173.33
06300-040	23	23a	45.65
06300-056	24	24a	113.08
06300-031	25	25a	83.94
06300-039	26	26a	43.92
06300-018	27	27a	*2.03
06300-057	28	28a	34.07
06300-027	29	29a	55.01
06300-038	30	30a	210.31

(continued on next page)

Appendix G *(continued)*

Salimetrics ID	Sample #	Timepoint	result (pg/mL)
06300-033	31	31a	52.83
06300-002	33	33a	63.47
06300-022	34	34a	90.86
06300-051	35	35a	65.85
06300-025	36	36a	25.73
06300-023	37	37a	*2.03
06300-052	38	38a	56.59
06300-032	39	39a	189.27
	40	40a	no sample received
06300-015	41	41a	50.38
06300-050	42	42a	112.59
06300-004	43	43a	168.33
06300-036	44	44a	49.18
06300-043	45	45a	67.93
06300-047	46	46a	58.19
06300-007	47	47a	170.46
06300-011	48	48a	28.94
06300-008	49	49a	38.34
06300-046	50	50a	61.13
06300-026	51	51a	67.58
06300-005	52	52a	52.52
06300-037	53	53a	146.01
06300-028	54	54a	56.91
06300-003	55	55a	75.86
06300-045	56	54a	27.94
06300-010	57	57a	81.58
06300-035	58	58a	108.72
06300-034	59	59a	39.44
06300-009	61	61a	44.78
06300-013	62	62a	80.03
06300-058	63	63a	5.36
06300-092	101	1b	48.85
06300-085	102	2b	226.91
06300-061	103	3b	36.19
06300-107	104	4b	83.53
06300-111	105	5b	49.18
06300-101	106	6b	78.57
06300-109	107	7b	224.82
06300-087	108	8b	184.23
06300-117	110	10b	69.22

(continued on next page)

Appendix G *(continued)*

Salimetrics ID	Sample #	Timepoint	result (pg/mL)
06300-069	111	11b	65.85
06300-118	112	12b	28.12
06300-060	113	13b	*3.90
06300-095	114	14b	32.95
06300-066	115	15b	41.10
06300-096	116	16b	72.96
06300-063	117	17b	34.33
06300-074	118	18b	34.64
06300-116	119	19b	130.19
06300-090	120	20b	19.85
06300-102	121	21b	68.01
06300-086	122	22b	94.57
06300-110	123	23b	43.64
06300-113	124	24b	59.84
06300-108	125	25b	125.80
06300-077	126	26b	50.20
06300-100	127	27b	27.35
06300-089	128	28b	32.40
06300-106	129	29b	58.72
06300-082	130	30b	136.02
06300-094	131	31b	18.51
06300-115	133	33b	35.78
06300-071	134	34b	103.11
06300-105	135	35b	65.61
06300-083	136	36b	39.31
06300-064	137	37b	ND
06300-093	138	38b	109.36
06300-112	139	39b	113.88
06300-075	141	141b	54.37
06300-067	142	142b	58.84
06300-114	143	143b	108.25
06300-091	144	144b	21.00
06300-078	145	145b	96.59
06300-097	146	146b	79.46
06300-073	147	147b	85.85
06300-065	148	148b	26.71
06300-079	149	149b	101.25
06300-068	150	150b	47.70

(continued on next page)

Appendix G *(continued)*

Salimetrics ID	Sample #	Timepoint	result (pg/mL)
06300-062	151	151b	70.40
06300-084	152	152b	83.53
06300-088	153	153b	172.57
06300-076	154	154b	166.99
06300-099	155	155b	70.87
06300-104	156	156b	44.27
06300-080	157	157b	107.70
06300-081	158	158b	154.83
06300-072	159	159b	24.03
06300-103	161	161b	16.33
06300-070	162	162b	102.20
06300-098	163	163b	32.95

_____Technical Supervisor

APPENDIX H
Statistical Data

General Linear Model

Notes

Output Created		07-FEB-2007 11:02:29
Comments		
Input	Data	C:\Documents and Settings\pthomli\Desktop\Stat Analysis Projects\Ruth Alvarez ORGONE1006.sav
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Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		GLM DHEA1 DHEA2 BY Group /WSFACTOR = dhea 2 Polynomial /METHOD = SSTYPE(3) /PLOT = PROFILE(dhea*Group) /CRITERIA = ALPHA(.05) /WSDESIGN = dhea /DESIGN = Group .
Resources	Elapsed Time	0:00:00.22

Within-Subjects Factors

Measure: MEASURE_1

dhea	Dependent Variable
1	DHEA1
2	DHEA2

Between-Subjects Factors

		N
Group	1	29
	2	27

Multivariate Tests(b)

Effect		Value	F	Hypothesis df	Error df	Sig.
dhea	Pillai's Trace	.024	1.335(a)	1.000	54.000	.253
	Wilks' Lambda	.976	1.335(a)	1.000	54.000	.253
	Hotelling's Trace	.025	1.335(a)	1.000	54.000	.253
	Roy's Largest Root	.025	1.335(a)	1.000	54.000	.253
dhea * Group	Pillai's Trace	.051	2.887(a)	1.000	54.000	.095
	Wilks' Lambda	.949	2.887(a)	1.000	54.000	.095
	Hotelling's Trace	.053	2.887(a)	1.000	54.000	.095
	Roy's Largest Root	.053	2.887(a)	1.000	54.000	.095

a Exact statistic
b Design: Intercept+Group
Within Subjects Design: dhea

Mauchly's Test of Sphericity(b)

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon(a) Huynh-Feldt	Epsilon(a) Lower-bound	Epsilon(a) Greenhouse-Geisser
dhea	1.000	.000	0	.	1.000	1.000	1.000

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.
a May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.
b Design: Intercept+Group
Within Subjects Design: dhea

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
dhea	Sphericity Assumed	5063.431	1	5063.431	1.335	.253
	Greenhouse-Geisser	5063.431	1.000	5063.431	1.335	.253
	Huynh-Feldt	5063.431	1.000	5063.431	1.335	.253
	Lower-bound	5063.431	1.000	5063.431	1.335	.253
dhea * Group	Sphericity Assumed	10954.267	1	10954.267	2.887	.095
	Greenhouse-Geisser	10954.267	1.000	10954.267	2.887	.095
	Huynh-Feldt	10954.267	1.000	10954.267	2.887	.095
	Lower-bound	10954.267	1.000	10954.267	2.887	.095
Error(dhea)	Sphericity Assumed	204874.716	54	3793.976		
	Greenhouse-Geisser	204874.716	54.000	3793.976		
	Huynh-Feldt	204874.716	54.000	3793.976		
	Lower-bound	204874.716	54.000	3793.976		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

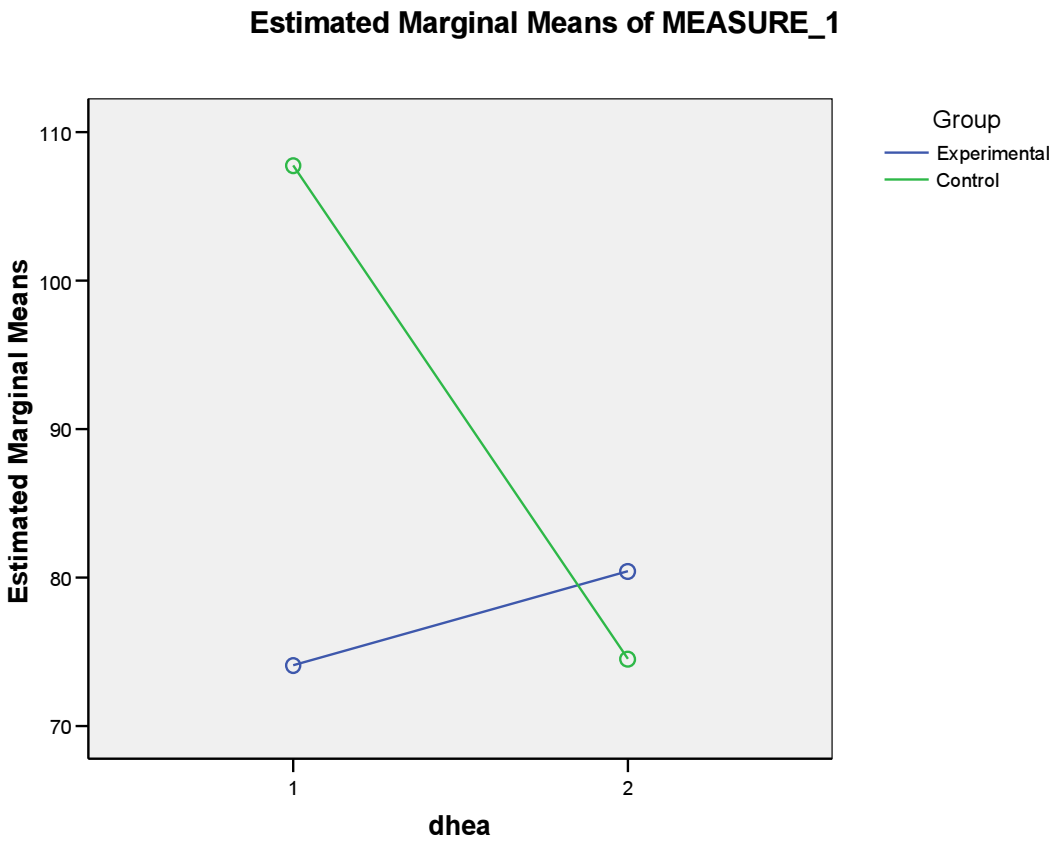
Source	dhea	Type III Sum of Squares	df	Mean Square	F	Sig.
dhea	Linear	5063.431	1	5063.431	1.335	.253
dhea * Group	Linear	10954.267	1	10954.267	2.887	.095
Error(dhea)	Linear	204874.716	54	3793.976		

Tests of Between-Subjects Effects

Measure: MEASURE_1
Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	792557.348	1	792557.348	127.485	.000
Group	5390.497	1	5390.497	.867	.356
Error	335710.022	54	6216.852		

Profile Plots



General Linear Model

Notes

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	N of Rows in Working Data File	63
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		GLM OXID1 Oxid2 BY Group /WSFACTOR = oxidata 2 Polynomial /METHOD = SSTYPE(3) /PLOT = PROFILE(oxidata*Group) /CRITERIA = ALPHA(.05) /WSDESIGN = oxidata /DESIGN = Group .
Resources	Elapsed Time	0:00:00.20

Within-Subjects Factors

Measure: MEASURE_1

oxidata	Dependent Variable
1	OXID1
2	Oxid2

Between-Subjects Factors

		N
Group	1	28
	2	30

Multivariate Tests(b)

Effect		Value	F	Hypothesis df	Error df	Sig.
oxidata	Pillai's Trace	.001	.084(a)	1.000	56.000	.773
	Wilks' Lambda	.999	.084(a)	1.000	56.000	.773
	Hotelling's Trace	.001	.084(a)	1.000	56.000	.773
	Roy's Largest Root	.001	.084(a)	1.000	56.000	.773
oxidata * Group	Pillai's Trace	.020	1.125(a)	1.000	56.000	.293
	Wilks' Lambda	.980	1.125(a)	1.000	56.000	.293
	Hotelling's Trace	.020	1.125(a)	1.000	56.000	.293
	Roy's Largest Root	.020	1.125(a)	1.000	56.000	.293

a Exact statistic
b Design: Intercept+Group
Within Subjects Design: oxidata

Mauchly's Test of Sphericity(b)

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon(a) Huynh-Feldt	Epsilon(a) Lower-bound	Epsilon(a) Greenhouse-Geisser
oxidata	1.000	.000	0	.	1.000	1.000	1.000

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.
a May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.
b Design: Intercept+Group
Within Subjects Design: oxidata

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
oxidata	Sphericity Assumed	.333	1	.333	.084	.773
	Greenhouse-Geisser	.333	1.000	.333	.084	.773
	Huynh-Feldt	.333	1.000	.333	.084	.773
	Lower-bound	.333	1.000	.333	.084	.773
oxidata * Group	Sphericity Assumed	4.470	1	4.470	1.125	.293
	Greenhouse-Geisser	4.470	1.000	4.470	1.125	.293
	Huynh-Feldt	4.470	1.000	4.470	1.125	.293
	Lower-bound	4.470	1.000	4.470	1.125	.293
Error(oxidata)	Sphericity Assumed	222.607	56	3.975		
	Greenhouse-Geisser	222.607	56.000	3.975		
	Huynh-Feldt	222.607	56.000	3.975		
	Lower-bound	222.607	56.000	3.975		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

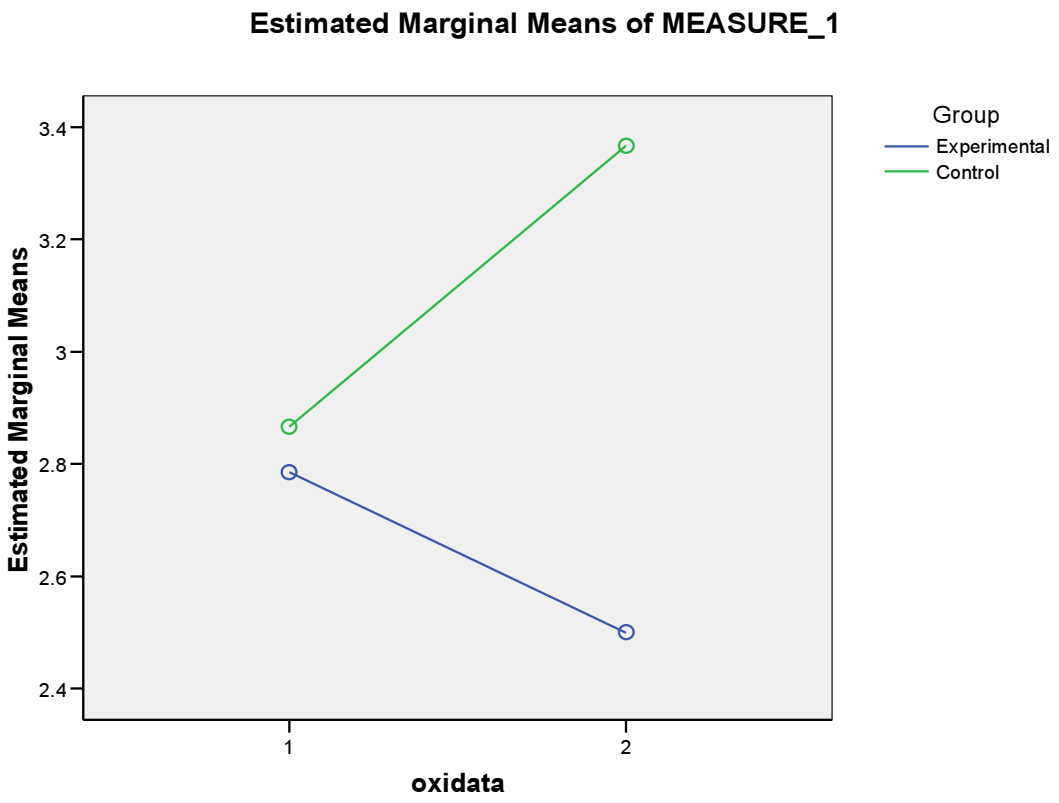
Source	oxidata	Type III Sum of Squares	df	Mean Square	F	Sig.
oxidata	Linear	.333	1	.333	.084	.773
oxidata * Group	Linear	4.470	1	4.470	1.125	.293
Error(oxidata)	Linear	222.607	56	3.975		

Tests of Between-Subjects Effects

Measure: MEASURE_1
Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	960.847	1	960.847	215.626	.000
Group	6.503	1	6.503	1.459	.232
Error	249.540	56	4.456		

Profile Plots



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  pulpre1 pulpos1 pulpre2 pulpos2 pupre3 pupos3 BY Group
  /WSFACTOR = pulse 6 Polynomial
  /METHOD = SSTYPE(3)
  /PLOT = PROFILE( pulse*Group )
  /CRITERIA = ALPHA(.05)
  /WSDESIGN = pulse
  /DESIGN = Group .
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General Linear Model

Notes

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	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		GLM pulpre1 pulpos1 pulpre2 pulpos2 pupre3 pupos3 BY Group /WSFACTOR = pulse 6 Polynomial /METHOD = SSTYPE(3) /PLOT = PROFILE(pulse*Group) /CRITERIA = ALPHA(.05) /WSDESIGN = pulse /DESIGN = Group .
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[DataSet1]

Within-Subjects Factors

Measure: MEASURE_1

pulse	Dependent Variable
1	pulpre1
2	pulpos1
3	pulpre2
4	pulpos2
5	pupre3
6	pupos3

Between-Subjects Factors

		N
Group	1	26
	2	29

Multivariate Tests(b)

Effect		Value	F	Hypothesis df	Error df	Sig.
pulse	Pillai's Trace	.216	2.702(a)	5.000	49.000	.031
	Wilks' Lambda	.784	2.702(a)	5.000	49.000	.031
	Hotelling's Trace	.276	2.702(a)	5.000	49.000	.031
	Roy's Largest Root	.276	2.702(a)	5.000	49.000	.031
pulse * Group	Pillai's Trace	.149	1.713(a)	5.000	49.000	.149
	Wilks' Lambda	.851	1.713(a)	5.000	49.000	.149
	Hotelling's Trace	.175	1.713(a)	5.000	49.000	.149
	Roy's Largest Root	.175	1.713(a)	5.000	49.000	.149

a Exact statistic
b Design: Intercept+Group
Within Subjects Design: pulse

Mauchly's Test of Sphericity(b)

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon(a)		
					Huynh-Feldt	Lower-bound	Greenhouse-Geisser
pulse	.277	65.618	14	.000	.689	.757	.200

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.
a May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.
b Design: Intercept+Group
Within Subjects Design: pulse

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
pulse	Sphericity Assumed	479.008	5	95.802	2.334	.043
	Greenhouse-Geisser	479.008	3.445	139.058	2.334	.067
	Huynh-Feldt	479.008	3.783	126.629	2.334	.061
	Lower-bound	479.008	1.000	479.008	2.334	.133
pulse * Group	Sphericity Assumed	732.741	5	146.548	3.570	.004
	Greenhouse-Geisser	732.741	3.445	212.719	3.570	.011
	Huynh-Feldt	732.741	3.783	193.706	3.570	.009
	Lower-bound	732.741	1.000	732.741	3.570	.064
Error(pulse)	Sphericity Assumed	10879.186	265	41.054		
	Greenhouse-Geisser	10879.186	182.567	59.590		
	Huynh-Feldt	10879.186	200.486	54.264		
	Lower-bound	10879.186	53.000	205.268		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

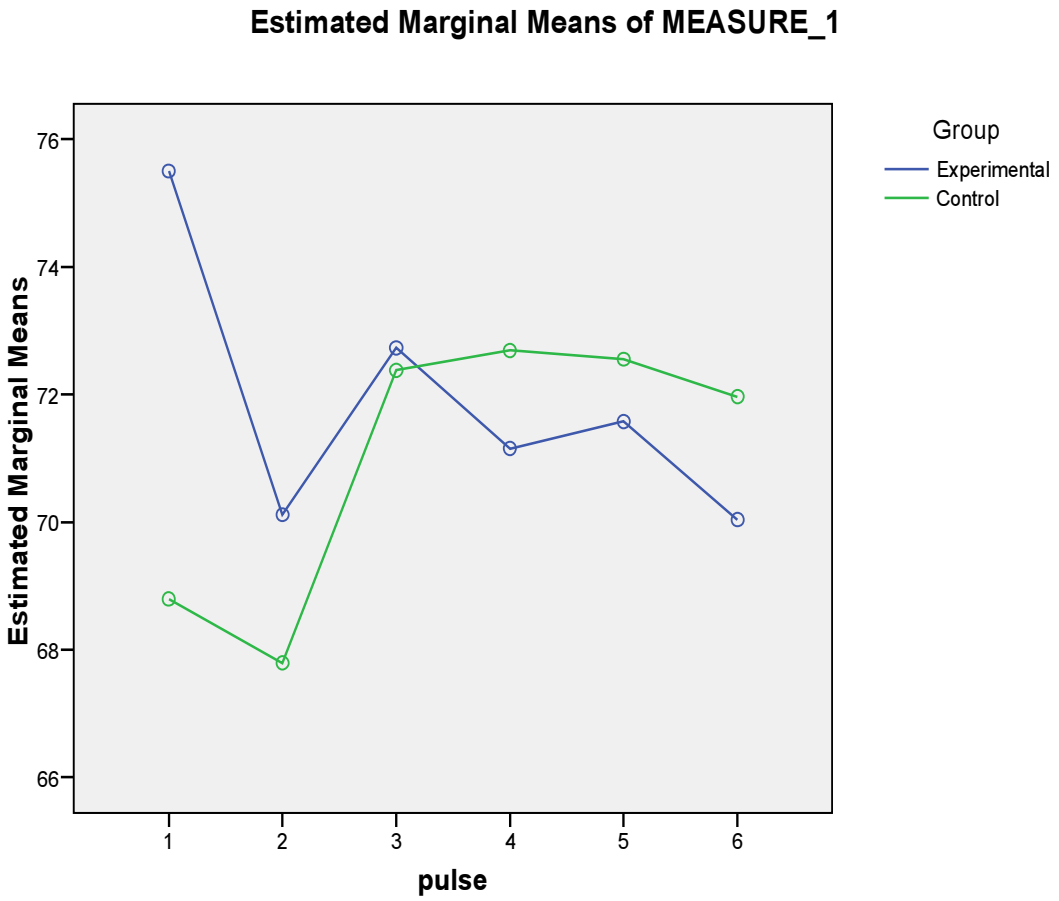
Source	pulse	Type III Sum of Squares	df	Mean Square	F	Sig.
pulse	Linear	6.929	1	6.929	.085	.771
	Quadratic	6.614	1	6.614	.139	.711
	Cubic	189.798	1	189.798	9.472	.003
	Order 4	160.274	1	160.274	4.555	.037
	Order 5	115.392	1	115.392	5.443	.023
pulse * Group	Linear	591.315	1	591.315	7.284	.009
	Quadratic	121.537	1	121.537	2.550	.116
	Cubic	11.979	1	11.979	.598	.443
	Order 4	1.303	1	1.303	.037	.848
	Order 5	6.608	1	6.608	.312	.579
Error(pulse)	Linear	4302.795	53	81.185		
	Quadratic	2525.721	53	47.655		
	Cubic	1062.049	53	20.039		
	Order 4	1865.002	53	35.189		
	Order 5	1123.618	53	21.200		

Tests of Between-Subjects Effects

Measure: MEASURE_1
Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	1679231.959	1	1679231.959	3050.798	.000
Group	55.826	1	55.826	.101	.751
Error	29172.465	53	550.424		

Profile Plots

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  /WSFACTOR = sbp 6 Polynomial
  /METHOD = SSTYPE(3)
  /PLOT = PROFILE( sbp*Group )
  /CRITERIA = ALPHA(.05)
  /WSDESIGN = sbp
  /DESIGN = Group .
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General Linear Model

Notes

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Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		GLM sbppre1 sbppo1 sbppre2 sbppo2 sbppr3 sbppos3 BY Group /WSFACTOR = sbp 6 Polynomial /METHOD = SSTYPE(3) /PLOT = PROFILE(sbp*Group) /CRITERIA = ALPHA(.05) /WSDESIGN = sbp /DESIGN = Group .
Resources	Processor Time	0:00:00.47
	Elapsed Time	0:00:00.37

[DataSet1]

Within-Subjects Factors

Measure: MEASURE_1

sbp	Dependent Variable
1	sbppre1
2	sbppo1
3	sbppre2
4	sbppo2
5	sbppr3
6	sbppos3

Between-Subjects Factors

		N
Group	1	17
	2	20

Multivariate Tests(b)

Effect		Value	F	Hypothesis df	Error df	Sig.
sbp	Pillai's Trace	.440	4.876(a)	5.000	31.000	.002
	Wilks' Lambda	.560	4.876(a)	5.000	31.000	.002
	Hotelling's Trace	.786	4.876(a)	5.000	31.000	.002
	Roy's Largest Root	.786	4.876(a)	5.000	31.000	.002
sbp * Group	Pillai's Trace	.087	.589(a)	5.000	31.000	.708
	Wilks' Lambda	.913	.589(a)	5.000	31.000	.708
	Hotelling's Trace	.095	.589(a)	5.000	31.000	.708
	Roy's Largest Root	.095	.589(a)	5.000	31.000	.708

a Exact statistic
b Design: Intercept+Group
Within Subjects Design: sbp

Mauchly's Test of Sphericity(b)

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon(a)		
					Huynh-Feldt	Lower-bound	Greenhouse-Geisser
sbp	.237	47.669	14	.000	.657	.754	.200

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.
a May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.
b Design: Intercept+Group
Within Subjects Design: sbp

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
sbp	Sphericity Assumed	3326.832	5	665.366	4.571	.001
	Greenhouse-Geisser	3326.832	3.284	1013.104	4.571	.004
	Huynh-Feldt	3326.832	3.768	882.962	4.571	.002
	Lower-bound	3326.832	1.000	3326.832	4.571	.040
sbp * Group	Sphericity Assumed	414.453	5	82.891	.569	.723
	Greenhouse-Geisser	414.453	3.284	126.211	.569	.652
	Huynh-Feldt	414.453	3.768	109.998	.569	.675
	Lower-bound	414.453	1.000	414.453	.569	.456
Error(sbp)	Sphericity Assumed	25476.105	175	145.578		
	Greenhouse-Geisser	25476.105	114.933	221.660		
	Huynh-Feldt	25476.105	131.873	193.186		
	Lower-bound	25476.105	35.000	727.889		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

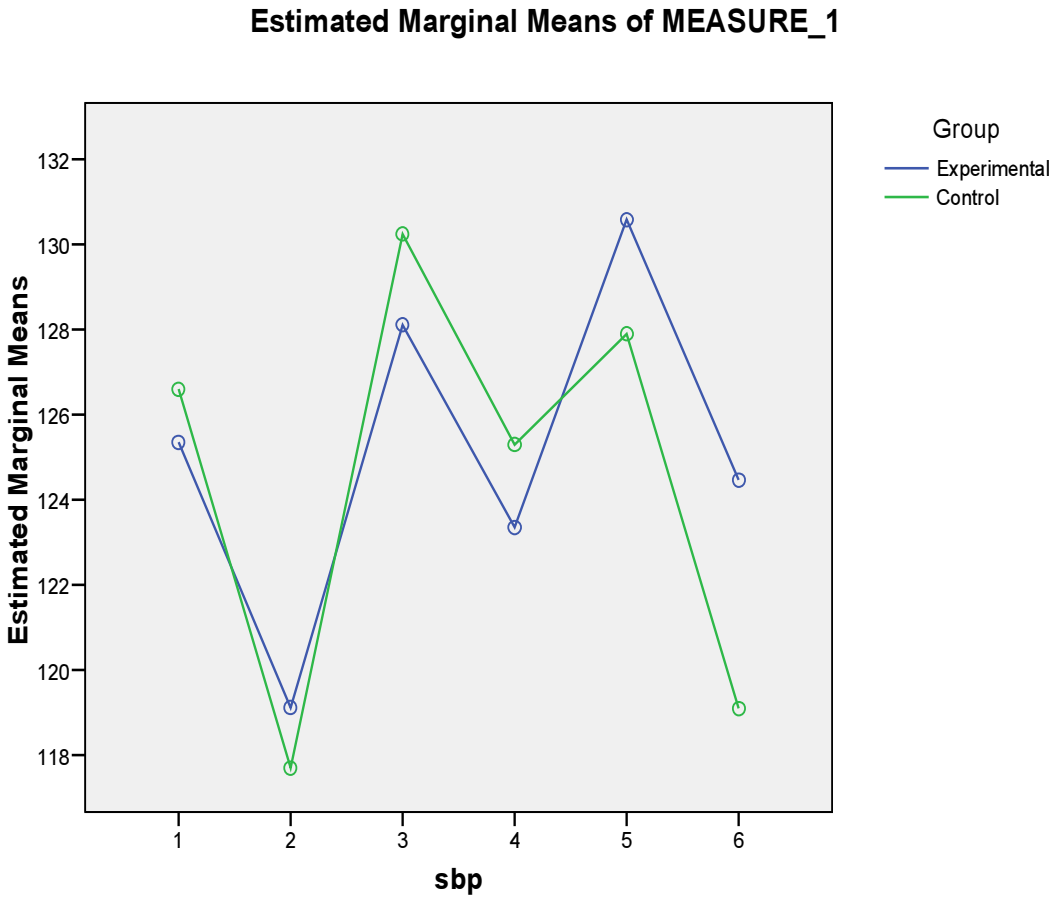
Source	sbp	Type III Sum of Squares	df	Mean Square	F	Sig.
sbp	Linear	23.520	1	23.520	.174	.680
	Quadratic	229.177	1	229.177	1.224	.276
	Cubic	1222.502	1	1222.502	7.376	.010
	Order 4	183.516	1	183.516	1.219	.277
	Order 5	1668.117	1	1668.117	18.763	.000
sbp * Group	Linear	180.544	1	180.544	1.332	.256
	Quadratic	117.903	1	117.903	.630	.433
	Cubic	28.080	1	28.080	.169	.683
	Order 4	87.763	1	87.763	.583	.450
	Order 5	.164	1	.164	.002	.966
Error(sbp)	Linear	4743.280	35	135.522		
	Quadratic	6551.791	35	187.194		
	Cubic	5801.143	35	165.747		
	Order 4	5268.210	35	150.520		
	Order 5	3111.682	35	88.905		

Tests of Between-Subjects Effects

Measure: MEASURE_1
Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	3436074.647	1	3436074.647	3396.473	.000
Group	26.377	1	26.377	.026	.873
Error	35408.092	35	1011.660		

Profile Plots

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GLM
  dibppr1 dbppo1 dbppre2 dbppo2 dbppre3 dbppos3 BY Group
  /WSFACTOR = dbp 6 Polynomial
  /METHOD = SSTYPE(3)
  /PLOT = PROFILE( dbp*Group )
  /CRITERIA = ALPHA(.05)
  /WSDESIGN = dbp
  /DESIGN = Group .
```

General Linear Model

Notes

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Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		GLM dibppr1 dbppo1 dbppre2 dbppo2 dbppre3 dbppos3 BY Group /WSFACTOR = dbp 6 Polynomial /METHOD = SSTYPE(3) /PLOT = PROFILE(dbp*Group) /CRITERIA = ALPHA(.05) /WSDESIGN = dbp /DESIGN = Group .
Resources	Processor Time	0:00:00.41
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[DataSet1]

Within-Subjects Factors

Measure: MEASURE_1

dbp	Dependent Variable
1	dibppr1
2	dbppo1
3	dbppre2
4	dbppo2
5	dbppre3
6	dbppos3

Between-Subjects Factors

		N
Group	1	26
	2	29

Multivariate Tests(b)

Effect		Value	F	Hypothesis df	Error df	Sig.
dbp	Pillai's Trace	.125	1.398(a)	5.000	49.000	.241
	Wilks' Lambda	.875	1.398(a)	5.000	49.000	.241
	Hotelling's Trace	.143	1.398(a)	5.000	49.000	.241
	Roy's Largest Root	.143	1.398(a)	5.000	49.000	.241
dbp * Group	Pillai's Trace	.021	.215(a)	5.000	49.000	.954
	Wilks' Lambda	.979	.215(a)	5.000	49.000	.954
	Hotelling's Trace	.022	.215(a)	5.000	49.000	.954
	Roy's Largest Root	.022	.215(a)	5.000	49.000	.954

a Exact statistic
b Design: Intercept+Group
Within Subjects Design: dbp

Mauchly's Test of Sphericity(b)

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon(a)		
					Huynh-Feldt	Lower-bound	Greenhouse-Geisser
dbp	.208	80.141	14	.000	.636	.694	.200

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.
a May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.
b Design: Intercept+Group
Within Subjects Design: dbp

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
dbp	Sphericity Assumed	790.394	5	158.079	1.588	.164
	Greenhouse-Geisser	790.394	3.178	248.705	1.588	.192
	Huynh-Feldt	790.394	3.468	227.898	1.588	.187
	Lower-bound	790.394	1.000	790.394	1.588	.213
dbp * Group	Sphericity Assumed	67.048	5	13.410	.135	.984
	Greenhouse-Geisser	67.048	3.178	21.097	.135	.946
	Huynh-Feldt	67.048	3.468	19.332	.135	.956
	Lower-bound	67.048	1.000	67.048	.135	.715
Error(dbp)	Sphericity Assumed	26379.758	265	99.546		
	Greenhouse-Geisser	26379.758	168.436	156.616		
	Huynh-Feldt	26379.758	183.814	143.513		
	Lower-bound	26379.758	53.000	497.731		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

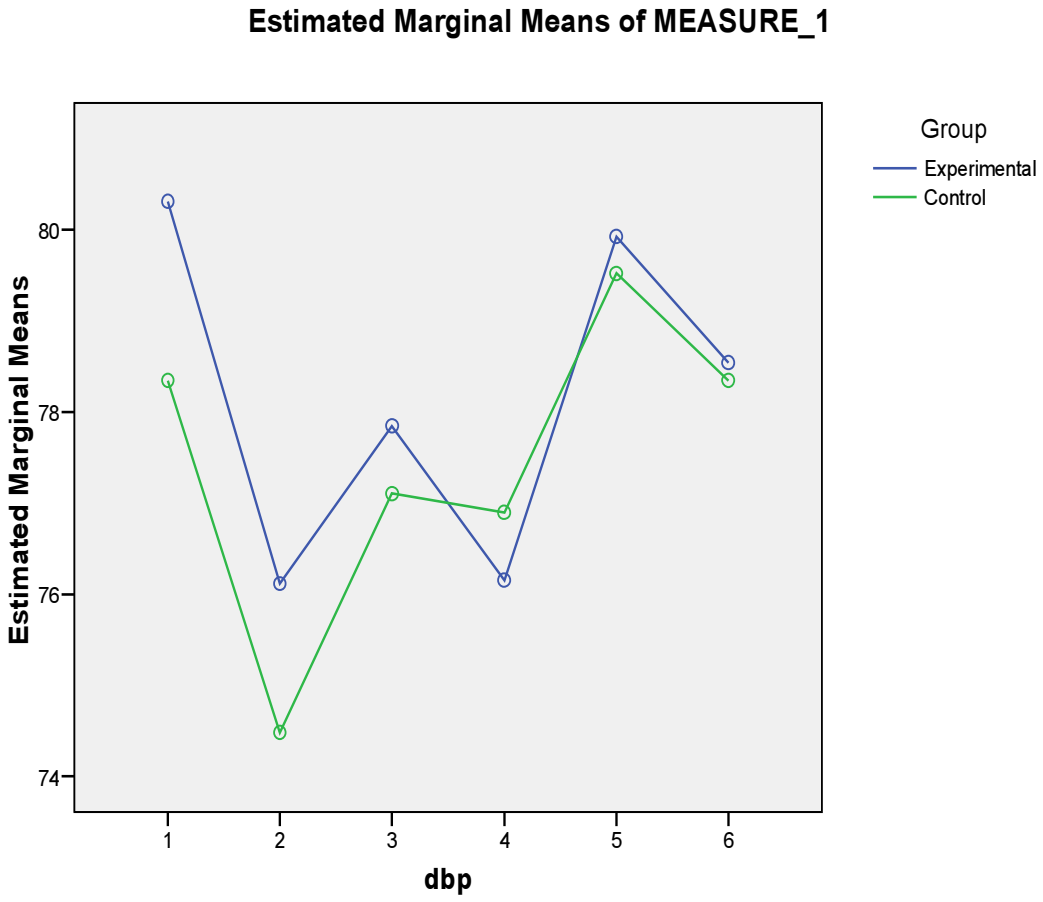
Source	dbp	Type III Sum of Squares	df	Mean Square	F	Sig.
dbp	Linear	48.774	1	48.774	.348	.558
	Quadratic	207.309	1	207.309	2.070	.156
	Cubic	303.674	1	303.674	2.853	.097
	Order 4	.988	1	.988	.011	.916
	Order 5	229.648	1	229.648	3.643	.062
dbp * Group	Linear	38.451	1	38.451	.274	.603
	Quadratic	12.478	1	12.478	.125	.725
	Cubic	2.460	1	2.460	.023	.880
	Order 4	7.674	1	7.674	.087	.769
	Order 5	5.986	1	5.986	.095	.759
Error(dbp)	Linear	7425.048	53	140.095		
	Quadratic	5307.681	53	100.145		
	Cubic	5642.067	53	106.454		
	Order 4	4664.119	53	88.002		
	Order 5	3340.843	53	63.035		

Tests of Between-Subjects Effects

Measure: MEASURE_1
Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	1991384.644	1	1991384.644	3054.406	.000
Group	40.208	1	40.208	.062	.805
Error	34554.477	53	651.971		

Profile Plots




```
GLM
  tpre1 tpos1 tpre2 tpos2 tpre3 tpos3 BY Group
  /WSFACTOR = temp 6 Polynomial
  /METHOD = SSTYPE(3)
  /PLOT = PROFILE( temp*Group )
  /CRITERIA = ALPHA(.05)
  /WSDESIGN = temp
  /DESIGN = Group .
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General Linear Model

Notes

Output Created		22-OCT-2007 15:06:16
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	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		GLM tpre1 tpos1 tpre2 tpos2 tpre3 tpos3 BY Group /WSFACTOR = temp 6 Polynomial /METHOD = SSTYPE(3) /PLOT = PROFILE(temp*Group) /CRITERIA = ALPHA(.05) /WSDESIGN = temp /DESIGN = Group .
Resources	Processor Time	0:00:00.33
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[DataSet1]

Within-Subjects Factors

Measure: MEASURE_1

temp	Dependent Variable
1	tpre1
2	tpos1
3	tpre2
4	tpos2
5	tpre3
6	tpos3

Between-Subjects Factors

		N
Group	1	27
	2	29

Multivariate Tests(b)

Effect		Value	F	Hypothesis df	Error df	Sig.
temp	Pillai's Trace	.290	4.094(a)	5.000	50.000	.003
	Wilks' Lambda	.710	4.094(a)	5.000	50.000	.003
	Hotelling's Trace	.409	4.094(a)	5.000	50.000	.003
	Roy's Largest Root	.409	4.094(a)	5.000	50.000	.003
temp * Group	Pillai's Trace	.117	1.323(a)	5.000	50.000	.270
	Wilks' Lambda	.883	1.323(a)	5.000	50.000	.270
	Hotelling's Trace	.132	1.323(a)	5.000	50.000	.270
	Roy's Largest Root	.132	1.323(a)	5.000	50.000	.270

a Exact statistic
b Design: Intercept+Group
Within Subjects Design: temp

Mauchly's Test of Sphericity(b)

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon(a)		
	Greenhouse-Geisser	Huynh-Feldt	Lower-bound	Greenhouse-Geisser	Huynh-Feldt	Lower-bound	Greenhouse-Geisser
temp	.375	51.040	14	.000	.665	.727	.200

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.
a May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.
b Design: Intercept+Group
Within Subjects Design: temp

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
temp	Sphericity Assumed	10.871	5	2.174	5.756	.000
	Greenhouse-Geisser	10.871	3.325	3.270	5.756	.001
	Huynh-Feldt	10.871	3.635	2.991	5.756	.000
	Lower-bound	10.871	1.000	10.871	5.756	.020
temp * Group	Sphericity Assumed	2.915	5	.583	1.544	.176
	Greenhouse-Geisser	2.915	3.325	.877	1.544	.201
	Huynh-Feldt	2.915	3.635	.802	1.544	.196
	Lower-bound	2.915	1.000	2.915	1.544	.219
Error(temp)	Sphericity Assumed	101.987	270	.378		
	Greenhouse-Geisser	101.987	179.538	.568		
	Huynh-Feldt	101.987	196.273	.520		
	Lower-bound	101.987	54.000	1.889		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

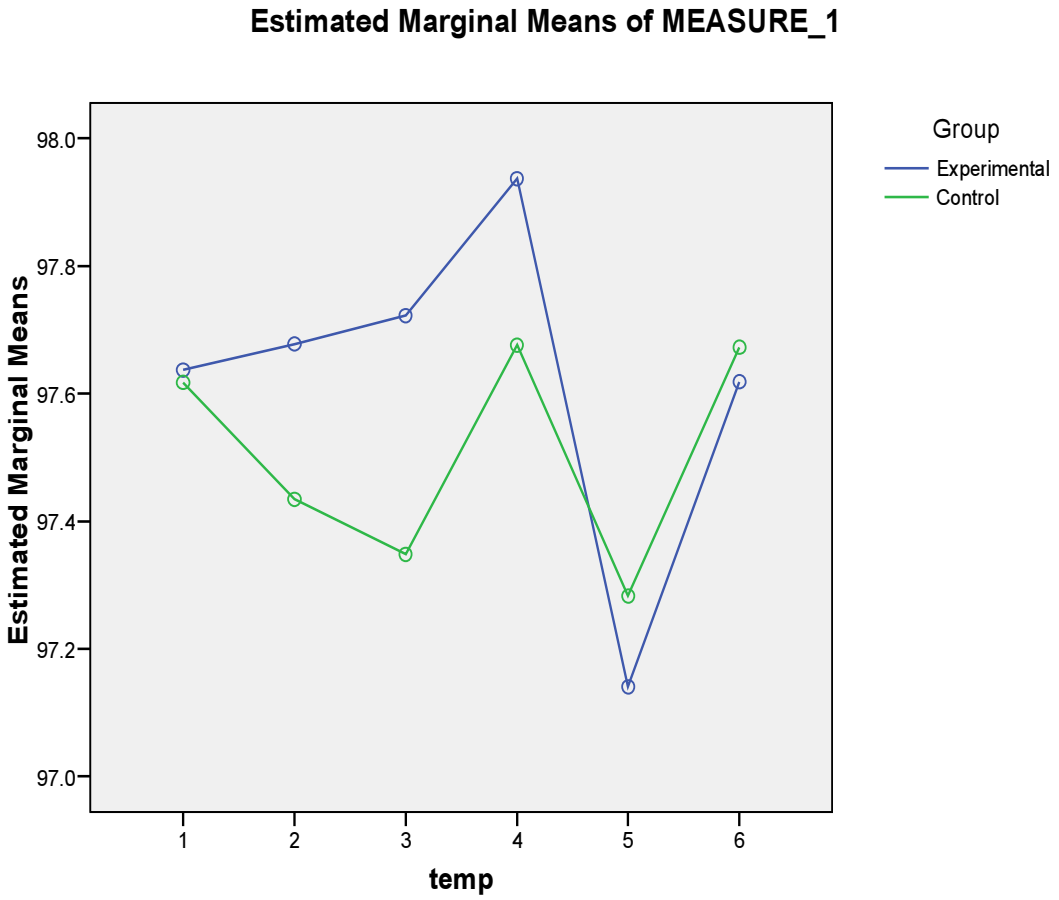
Source	temp	Type III Sum of Squares	df	Mean Square	F	Sig.
temp	Linear	.359	1	.359	1.073	.305
	Quadratic	.035	1	.035	.129	.721
	Cubic	.624	1	.624	1.458	.232
	Order 4	5.454	1	5.454	11.284	.001
	Order 5	4.399	1	4.399	11.770	.001
temp * Group	Linear	.535	1	.535	1.600	.211
	Quadratic	1.316	1	1.316	4.897	.031
	Cubic	.600	1	.600	1.402	.242
	Order 4	.434	1	.434	.898	.348
	Order 5	.029	1	.029	.078	.781
Error(temp)	Linear	18.069	54	.335		
	Quadratic	14.518	54	.269		
	Cubic	23.117	54	.428		
	Order 4	26.099	54	.483		
	Order 5	20.184	54	.374		

Tests of Between-Subjects Effects

Measure: MEASURE_1
Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	3194195.379	1	3194195.379	1368611.272	.000
Group	1.149	1	1.149	.492	.486
Error	126.030	54	2.334		

Profile Plots

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Orgone Data
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General Linear Model

Notes

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Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		GLM preT post BY Group /WSFACTOR = t 2 Polynomial /METHOD = SSTYPE(3) /PLOT = PROFILE(t*Group) /CRITERIA = ALPHA(.05) /WSDESIGN = t /DESIGN = Group .
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Within-Subjects Factors

Measure: MEASURE_1

t	Dependent Variable
1	preT
2	post

Between-Subjects Factors

		N
Group	1	28
	2	29

Multivariate Tests(b)

Effect		Value	F	Hypothesis df	Error df	Sig.
t	Pillai's Trace	.212	14.835(a)	1.000	55.000	.000
	Wilks' Lambda	.788	14.835(a)	1.000	55.000	.000
	Hotelling's Trace	.270	14.835(a)	1.000	55.000	.000
	Roy's Largest Root	.270	14.835(a)	1.000	55.000	.000
t * Group	Pillai's Trace	.006	.305(a)	1.000	55.000	.583
	Wilks' Lambda	.994	.305(a)	1.000	55.000	.583
	Hotelling's Trace	.006	.305(a)	1.000	55.000	.583
	Roy's Largest Root	.006	.305(a)	1.000	55.000	.583

a Exact statistic
b Design: Intercept+Group
Within Subjects Design: t

Mauchly's Test of Sphericity(b)

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon(a)		
	Greenhouse-Geisser	Huynh-Feldt	Lower-bound	Greenhouse-Geisser	Huynh-Feldt	Lower-bound	Greenhouse-Geisser
t	1.000	.000	0	.	1.000	1.000	1.000

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.
a May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.
b Design: Intercept+Group
Within Subjects Design: t

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
t	Sphericity Assumed	124.808	1	124.808	14.835	.000
	Greenhouse-Geisser	124.808	1.000	124.808	14.835	.000
	Huynh-Feldt	124.808	1.000	124.808	14.835	.000
	Lower-bound	124.808	1.000	124.808	14.835	.000
t * Group	Sphericity Assumed	2.562	1	2.562	.305	.583
	Greenhouse-Geisser	2.562	1.000	2.562	.305	.583
	Huynh-Feldt	2.562	1.000	2.562	.305	.583
	Lower-bound	2.562	1.000	2.562	.305	.583
Error(t)	Sphericity Assumed	462.719	55	8.413		
	Greenhouse-Geisser	462.719	55.000	8.413		
	Huynh-Feldt	462.719	55.000	8.413		
	Lower-bound	462.719	55.000	8.413		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

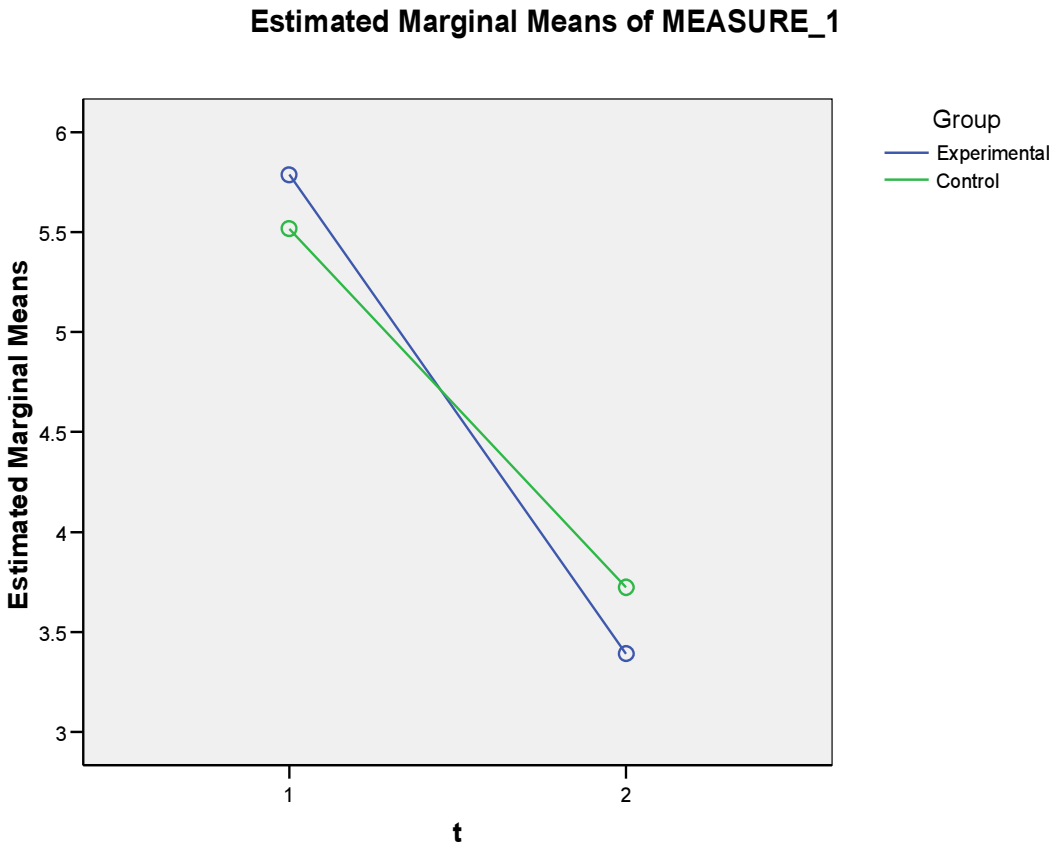
Source	t	Type III Sum of Squares	df	Mean Square	F	Sig.
t	Linear	124.808	1	124.808	14.835	.000
t * Group	Linear	2.562	1	2.562	.305	.583
Error(t)	Linear	462.719	55	8.413		

Tests of Between-Subjects Effects

Measure: MEASURE_1
Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	2416.730	1	2416.730	80.572	.000
Group	.028	1	.028	.001	.976
Error	1649.709	55	29.995		

Profile Plots



General Linear Model

Notes

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Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		GLM preD posD BY Group /WSFACTOR = d 2 Polynomial /METHOD = SSTYPE(3) /PLOT = PROFILE(d*Group) /CRITERIA = ALPHA(.05) /WSDESIGN = d /DESIGN = Group .
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Within-Subjects Factors

Measure: MEASURE_1

d	Dependent Variable
1	preD
2	posD

Between-Subjects Factors

		N
Group	1	28
	2	29

Multivariate Tests(b)

Effect		Value	F	Hypothesis df	Error df	Sig.
d	Pillai's Trace	.138	8.818(a)	1.000	55.000	.004
	Wilks' Lambda	.862	8.818(a)	1.000	55.000	.004
	Hotelling's Trace	.160	8.818(a)	1.000	55.000	.004
	Roy's Largest Root	.160	8.818(a)	1.000	55.000	.004
d * Group	Pillai's Trace	.024	1.325(a)	1.000	55.000	.255
	Wilks' Lambda	.976	1.325(a)	1.000	55.000	.255
	Hotelling's Trace	.024	1.325(a)	1.000	55.000	.255
	Roy's Largest Root	.024	1.325(a)	1.000	55.000	.255

a Exact statistic
b Design: Intercept+Group
Within Subjects Design: d

Mauchly's Test of Sphericity(b)

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon(a)		
	Greenhouse-Geisser	Huynh-Feldt	Lower-bound	Greenhouse-Geisser	Huynh-Feldt	Lower-bound	Greenhouse-Geisser
d	1.000	.000	0	.	1.000	1.000	1.000

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.
a May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.
b Design: Intercept+Group
Within Subjects Design: d

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
d	Sphericity Assumed	92.489	1	92.489	8.818	.004
	Greenhouse-Geisser	92.489	1.000	92.489	8.818	.004
	Huynh-Feldt	92.489	1.000	92.489	8.818	.004
	Lower-bound	92.489	1.000	92.489	8.818	.004
d * Group	Sphericity Assumed	13.892	1	13.892	1.325	.255
	Greenhouse-Geisser	13.892	1.000	13.892	1.325	.255
	Huynh-Feldt	13.892	1.000	13.892	1.325	.255
	Lower-bound	13.892	1.000	13.892	1.325	.255
Error(d)	Sphericity Assumed	576.845	55	10.488		
	Greenhouse-Geisser	576.845	55.000	10.488		
	Huynh-Feldt	576.845	55.000	10.488		
	Lower-bound	576.845	55.000	10.488		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

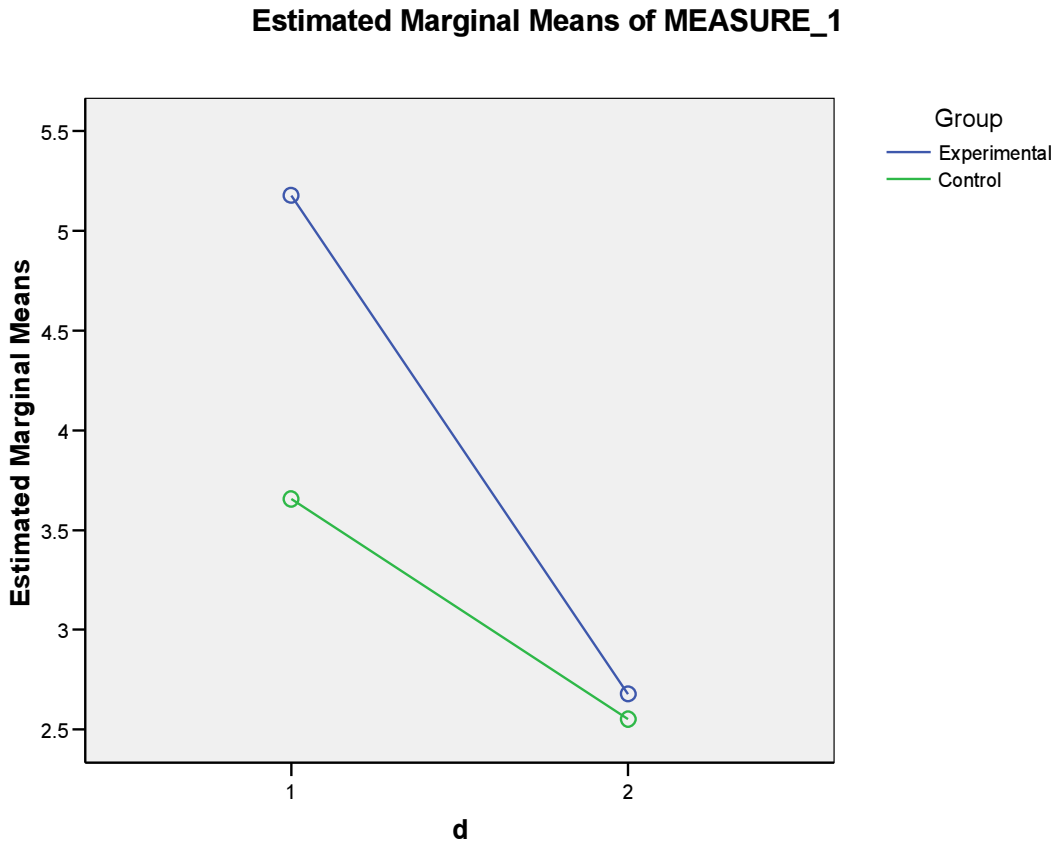
Source	d	Type III Sum of Squares	df	Mean Square	F	Sig.
d	Linear	92.489	1	92.489	8.818	.004
d * Group	Linear	13.892	1	13.892	1.325	.255
Error(d)	Linear	576.845	55	10.488		

Tests of Between-Subjects Effects

Measure: MEASURE_1
Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	1408.871	1	1408.871	17.792	.000
Group	19.398	1	19.398	.245	.623
Error	4355.094	55	79.184		

Profile Plots



General Linear Model

Notes

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	N of Rows in Working Data File	63
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		GLM PreA posA BY Group /WSFACTOR = a 2 Polynomial /METHOD = SSTYPE(3) /PLOT = PROFILE(a*Group) /CRITERIA = ALPHA(.05) /WSDESIGN = a /DESIGN = Group .
Resources	Elapsed Time	0:00:00.20

Within-Subjects Factors

Measure: MEASURE_1

a	Dependent Variable
1	PreA
2	posA

Between-Subjects Factors

		N
Group	1	28
	2	29

Multivariate Tests(b)

Effect		Value	F	Hypothesis df	Error df	Sig.
a	Pillai's Trace	.008	.464(a)	1.000	55.000	.499
	Wilks' Lambda	.992	.464(a)	1.000	55.000	.499
	Hotelling's Trace	.008	.464(a)	1.000	55.000	.499
	Roy's Largest Root	.008	.464(a)	1.000	55.000	.499
a * Group	Pillai's Trace	.002	.132(a)	1.000	55.000	.718
	Wilks' Lambda	.998	.132(a)	1.000	55.000	.718
	Hotelling's Trace	.002	.132(a)	1.000	55.000	.718
	Roy's Largest Root	.002	.132(a)	1.000	55.000	.718

a Exact statistic
b Design: Intercept+Group
Within Subjects Design: a

Mauchly's Test of Sphericity(b)

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon(a)		
	Greenhouse-Geisser	Huynh-Feldt	Lower-bound	Greenhouse-Geisser	Huynh-Feldt	Lower-bound	Greenhouse-Geisser
a	1.000	.000	0	.	1.000	1.000	1.000

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.
a May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.
b Design: Intercept+Group
Within Subjects Design: a

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
a	Sphericity Assumed	4.166	1	4.166	.464	.499
	Greenhouse-Geisser	4.166	1.000	4.166	.464	.499
	Huynh-Feldt	4.166	1.000	4.166	.464	.499
	Lower-bound	4.166	1.000	4.166	.464	.499
a * Group	Sphericity Assumed	1.184	1	1.184	.132	.718
	Greenhouse-Geisser	1.184	1.000	1.184	.132	.718
	Huynh-Feldt	1.184	1.000	1.184	.132	.718
	Lower-bound	1.184	1.000	1.184	.132	.718
Error(a)	Sphericity Assumed	493.571	55	8.974		
	Greenhouse-Geisser	493.571	55.000	8.974		
	Huynh-Feldt	493.571	55.000	8.974		
	Lower-bound	493.571	55.000	8.974		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

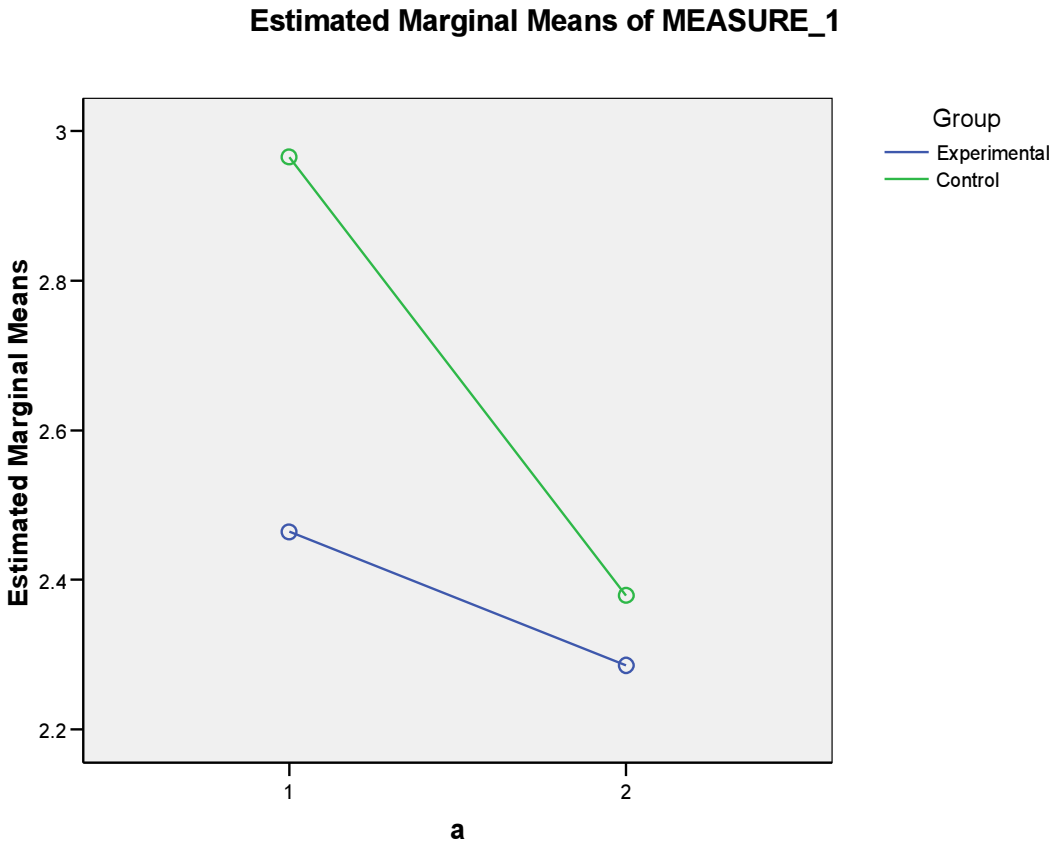
Source	a	Type III Sum of Squares	df	Mean Square	F	Sig.
a	Linear	4.166	1	4.166	.464	.499
a * Group	Linear	1.184	1	1.184	.132	.718
Error(a)	Linear	493.571	55	8.974		

Tests of Between-Subjects Effects

Measure: MEASURE_1
Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	725.854	1	725.854	15.724	.000
Group	2.520	1	2.520	.055	.816
Error	2538.901	55	46.162		

Profile Plots



General Linear Model

Notes

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	N of Rows in Working Data File	63
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		GLM preF posF BY Group /WSFACTOR = f 2 Polynomial /METHOD = SSTYPE(3) /PLOT = PROFILE(f*Group) /CRITERIA = ALPHA(.05) /WSDESIGN = f /DESIGN = Group .
Resources	Elapsed Time	0:00:00.20

Within-Subjects Factors

Measure: MEASURE_1

f	Dependent Variable
1	preF
2	posF

Between-Subjects Factors

		N
Group	1	28
	2	29

Multivariate Tests(b)

Effect		Value	F	Hypothesis df	Error df	Sig.
f	Pillai's Trace	.096	5.859(a)	1.000	55.000	.019
	Wilks' Lambda	.904	5.859(a)	1.000	55.000	.019
	Hotelling's Trace	.107	5.859(a)	1.000	55.000	.019
	Roy's Largest Root	.107	5.859(a)	1.000	55.000	.019
f * Group	Pillai's Trace	.057	3.340(a)	1.000	55.000	.073
	Wilks' Lambda	.943	3.340(a)	1.000	55.000	.073
	Hotelling's Trace	.061	3.340(a)	1.000	55.000	.073
	Roy's Largest Root	.061	3.340(a)	1.000	55.000	.073

a Exact statistic
b Design: Intercept+Group
Within Subjects Design: f

Mauchly's Test of Sphericity(b)

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon(a)		
	Greenhouse-Geisser	Huynh-Feldt	Lower-bound	Greenhouse-Geisser	Huynh-Feldt	Lower-bound	Greenhouse-Geisser
f	1.000	.000	0	.	1.000	1.000	1.000

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.
a May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.
b Design: Intercept+Group
Within Subjects Design: f

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
f	Sphericity Assumed	81.281	1	81.281	5.859	.019
	Greenhouse-Geisser	81.281	1.000	81.281	5.859	.019
	Huynh-Feldt	81.281	1.000	81.281	5.859	.019
	Lower-bound	81.281	1.000	81.281	5.859	.019
f * Group	Sphericity Assumed	46.334	1	46.334	3.340	.073
	Greenhouse-Geisser	46.334	1.000	46.334	3.340	.073
	Huynh-Feldt	46.334	1.000	46.334	3.340	.073
	Lower-bound	46.334	1.000	46.334	3.340	.073
Error(f)	Sphericity Assumed	762.999	55	13.873		
	Greenhouse-Geisser	762.999	55.000	13.873		
	Huynh-Feldt	762.999	55.000	13.873		
	Lower-bound	762.999	55.000	13.873		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

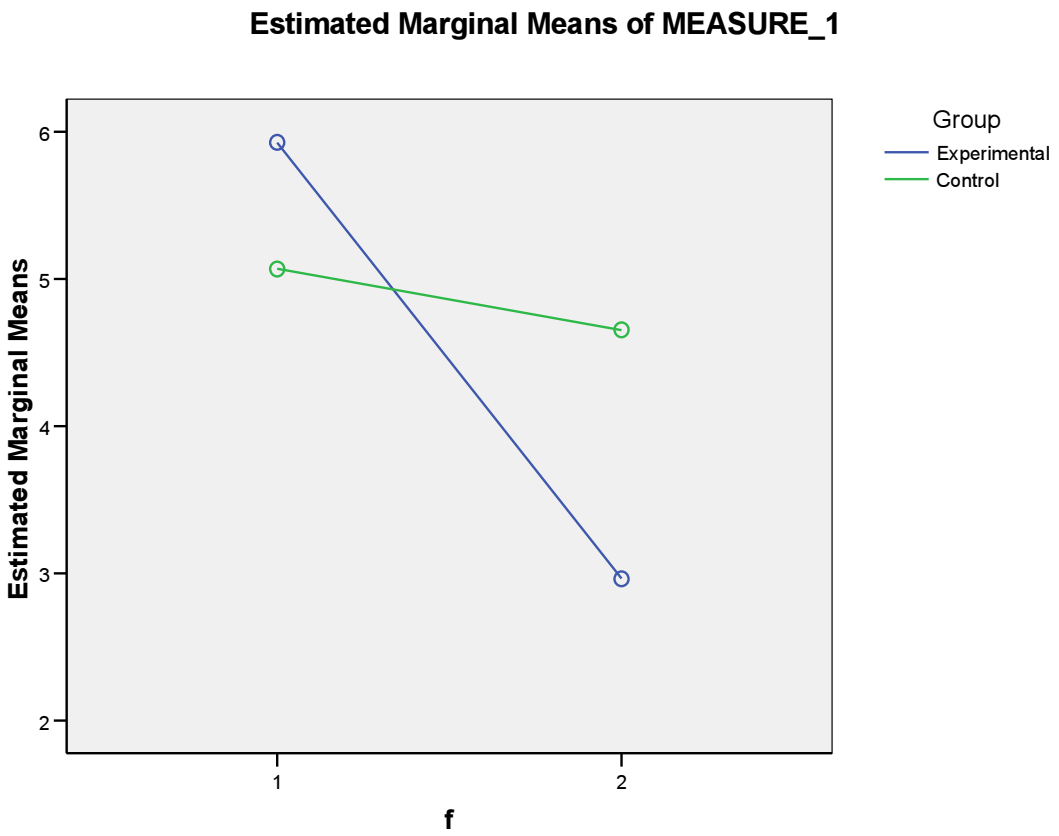
Source	f	Type III Sum of Squares	df	Mean Square	F	Sig.
f	Linear	81.281	1	81.281	5.859	.019
f * Group	Linear	46.334	1	46.334	3.340	.073
Error(f)	Linear	762.999	55	13.873		

Tests of Between-Subjects Effects

Measure: MEASURE_1
Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	2468.712	1	2468.712	68.636	.000
Group	4.922	1	4.922	.137	.713
Error	1978.236	55	35.968		

Profile Plots



General Linear Model

Notes

Output Created		07-FEB-2007 11:40:52
Comments		
Input	Data	C:\Documents and Settings\pthomli\Desktop\Stat Analysis Projects\Ruth Alvarez ORGONE1006.sav
	Filter	<none>
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	Split File	<none>
	N of Rows in Working Data File	63
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		GLM preC posc BY Group /WSFACTOR = c 2 Polynomial /METHOD = SSTYPE(3) /PLOT = PROFILE(c*Group) /CRITERIA = ALPHA(.05) /WSDESIGN = c /DESIGN = Group .
Resources	Elapsed Time	0:00:00.22

Within-Subjects Factors

Measure: MEASURE_1

c	Dependent Variable
1	preC
2	posc

Between-Subjects Factors

		N
Group	1	28
	2	29

Multivariate Tests(b)

Effect		Value	F	Hypothesis df	Error df	Sig.
c	Pillai's Trace	.224	15.854(a)	1.000	55.000	.000
	Wilks' Lambda	.776	15.854(a)	1.000	55.000	.000
	Hotelling's Trace	.288	15.854(a)	1.000	55.000	.000
	Roy's Largest Root	.288	15.854(a)	1.000	55.000	.000
c * Group	Pillai's Trace	.025	1.427(a)	1.000	55.000	.237
	Wilks' Lambda	.975	1.427(a)	1.000	55.000	.237
	Hotelling's Trace	.026	1.427(a)	1.000	55.000	.237
	Roy's Largest Root	.026	1.427(a)	1.000	55.000	.237

a Exact statistic
b Design: Intercept+Group
Within Subjects Design: c

Mauchly's Test of Sphericity(b)

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon(a)		
	Greenhouse-Geisser	Huynh-Feldt	Lower-bound	Greenhouse-Geisser	Huynh-Feldt	Lower-bound	Greenhouse-Geisser
c	1.000	.000	0	.	1.000	1.000	1.000

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.
a May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.
b Design: Intercept+Group
Within Subjects Design: c

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
c	Sphericity Assumed	58.145	1	58.145	15.854	.000
	Greenhouse-Geisser	58.145	1.000	58.145	15.854	.000
	Huynh-Feldt	58.145	1.000	58.145	15.854	.000
	Lower-bound	58.145	1.000	58.145	15.854	.000
c * Group	Sphericity Assumed	5.233	1	5.233	1.427	.237
	Greenhouse-Geisser	5.233	1.000	5.233	1.427	.237
	Huynh-Feldt	5.233	1.000	5.233	1.427	.237
	Lower-bound	5.233	1.000	5.233	1.427	.237
Error(c)	Sphericity Assumed	201.714	55	3.668		
	Greenhouse-Geisser	201.714	55.000	3.668		
	Huynh-Feldt	201.714	55.000	3.668		
	Lower-bound	201.714	55.000	3.668		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

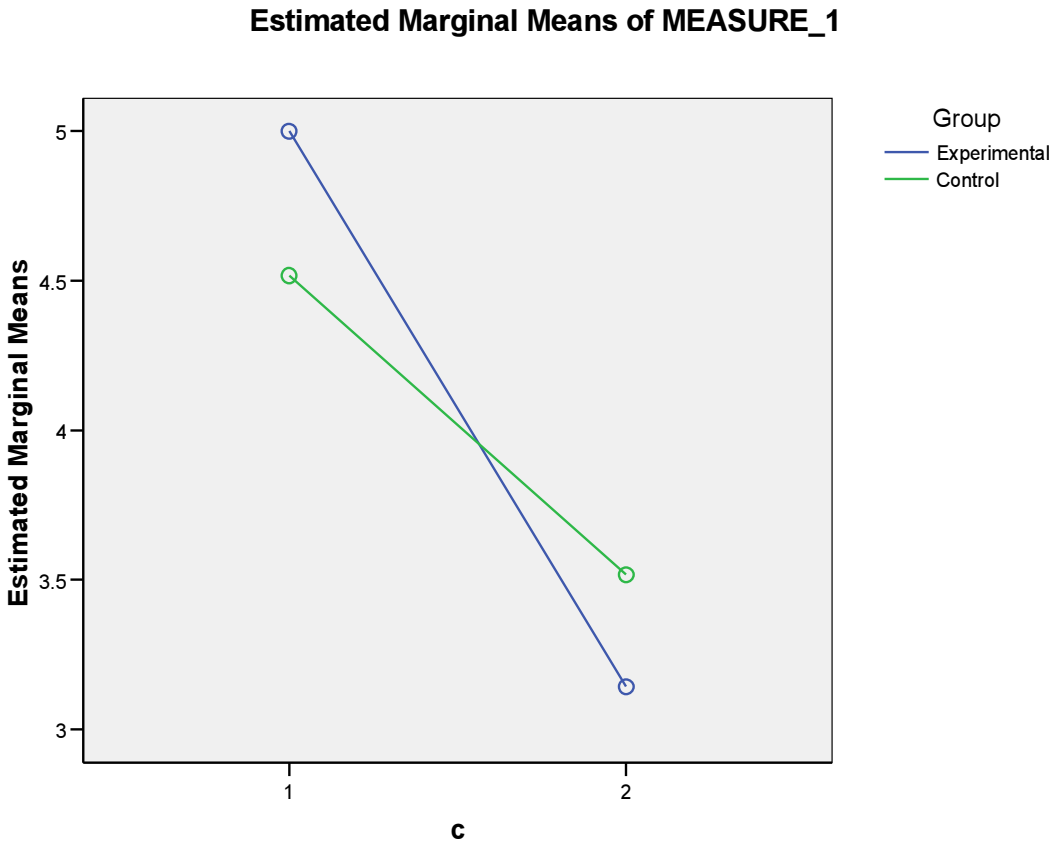
Source	c	Type III Sum of Squares	df	Mean Square	F	Sig.
c	Linear	58.145	1	58.145	15.854	.000
c * Group	Linear	5.233	1	5.233	1.427	.237
Error(c)	Linear	201.714	55	3.668		

Tests of Between-Subjects Effects

Measure: MEASURE_1
Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	1864.084	1	1864.084	99.907	.000
Group	.084	1	.084	.004	.947
Error	1026.197	55	18.658		

Profile Plots



General Linear Model

Notes

Output Created		07-FEB-2007 11:41:28
Comments		
Input	Data	C:\Documents and Settings\pthomli\Desktop\Stat Analysis Projects\Ruth Alvarez ORGONE1006.sav
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	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	63
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		GLM prev posV BY Group /WSFACTOR = v 2 Polynomial /METHOD = SSTYPE(3) /PLOT = PROFILE(v*Group) /CRITERIA = ALPHA(.05) /WSDESIGN = v /DESIGN = Group .
Resources	Elapsed Time	0:00:00.20

Within-Subjects Factors

Measure: MEASURE_1

v	Dependent Variable
1	prev
2	posV

Between-Subjects Factors

		N
Group	1	28
	2	29

Multivariate Tests(b)

Effect		Value	F	Hypothesis df	Error df	Sig.
v	Pillai's Trace	.015	.848(a)	1.000	55.000	.361
	Wilks' Lambda	.985	.848(a)	1.000	55.000	.361
	Hotelling's Trace	.015	.848(a)	1.000	55.000	.361
	Roy's Largest Root	.015	.848(a)	1.000	55.000	.361
v * Group	Pillai's Trace	.040	2.292(a)	1.000	55.000	.136
	Wilks' Lambda	.960	2.292(a)	1.000	55.000	.136
	Hotelling's Trace	.042	2.292(a)	1.000	55.000	.136
	Roy's Largest Root	.042	2.292(a)	1.000	55.000	.136

a Exact statistic
b Design: Intercept+Group
Within Subjects Design: v

Mauchly's Test of Sphericity(b)

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon(a)		
					Huynh-Feldt	Lower-bound	Greenhouse-Geisser
v	1.000	.000	0	.	1.000	1.000	1.000

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.
a May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.
b Design: Intercept+Group
Within Subjects Design: v

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
v	Sphericity Assumed	64.053	1	64.053	.848	.361
	Greenhouse-Geisser	64.053	1.000	64.053	.848	.361
	Huynh-Feldt	64.053	1.000	64.053	.848	.361
	Lower-bound	64.053	1.000	64.053	.848	.361
v * Group	Sphericity Assumed	173.105	1	173.105	2.292	.136
	Greenhouse-Geisser	173.105	1.000	173.105	2.292	.136
	Huynh-Feldt	173.105	1.000	173.105	2.292	.136
	Lower-bound	173.105	1.000	173.105	2.292	.136
Error(v)	Sphericity Assumed	4153.965	55	75.527		
	Greenhouse-Geisser	4153.965	55.000	75.527		
	Huynh-Feldt	4153.965	55.000	75.527		
	Lower-bound	4153.965	55.000	75.527		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

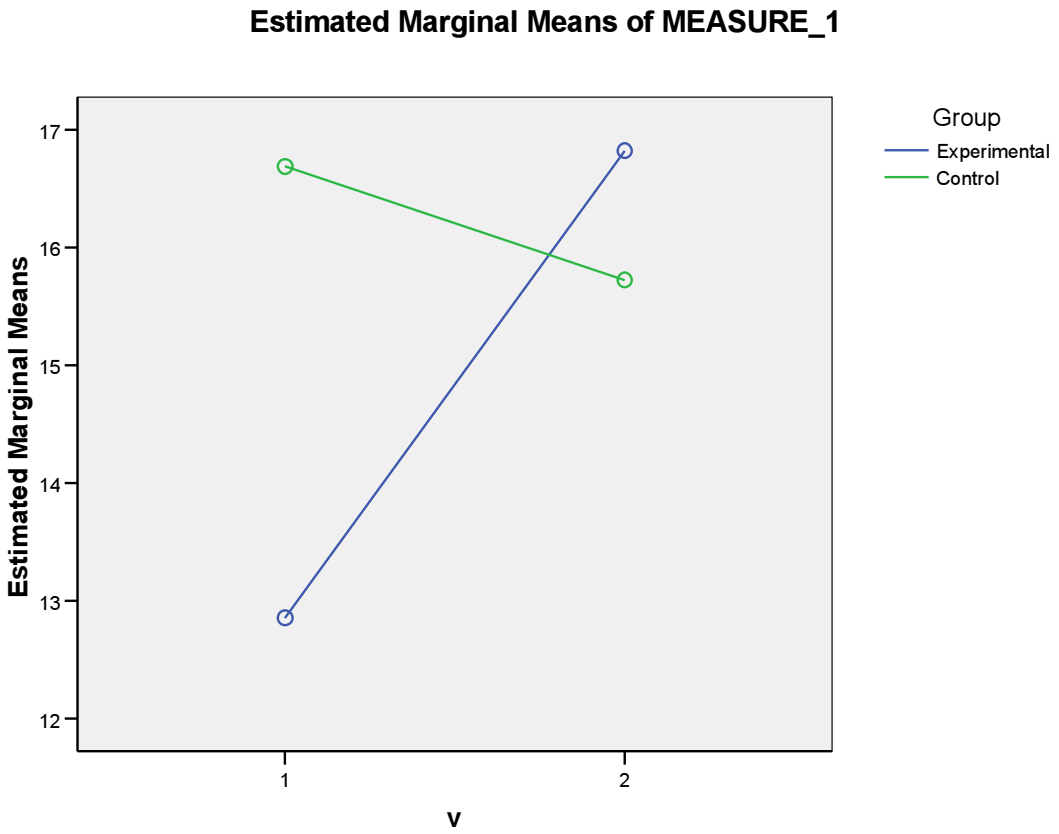
Source	v	Type III Sum of Squares	df	Mean Square	F	Sig.
v	Linear	64.053	1	64.053	.848	.361
v * Group	Linear	173.105	1	173.105	2.292	.136
Error(v)	Linear	4153.965	55	75.527		

Tests of Between-Subjects Effects

Measure: MEASURE_1
Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	27461.710	1	27461.710	286.517	.000
Group	53.289	1	53.289	.556	.459
Error	5271.571	55	95.847		

Profile Plots



General Linear Model

Notes

Output Created		07-FEB-2007 11:42:07
Comments		
Input	Data	C:\Documents and Settings\pthomli\Desktop\Stat Analysis Projects\Ruth Alvarez ORGONE1006.sav
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	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	63
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		GLM preTMD posTMD BY Group /WSFACTOR = tmd 2 Polynomial /METHOD = SSTYPE(3) /PLOT = PROFILE(tmd*Group) /CRITERIA = ALPHA(.05) /WSDESIGN = tmd /DESIGN = Group .
Resources	Elapsed Time	0:00:00.20

Within-Subjects Factors

Measure: MEASURE_1

tmd	Dependent Variable
1	preTMD
2	posTMD

Between-Subjects Factors

		N
Group	1	28
	2	29

Multivariate Tests(b)

Effect		Value	F	Hypothesis df	Error df	Sig.
tmd	Pillai's Trace	.169	11.208(a)	1.000	55.000	.001
	Wilks' Lambda	.831	11.208(a)	1.000	55.000	.001
	Hotelling's Trace	.204	11.208(a)	1.000	55.000	.001
	Roy's Largest Root	.204	11.208(a)	1.000	55.000	.001
tmd * Group	Pillai's Trace	.038	2.147(a)	1.000	55.000	.149
	Wilks' Lambda	.962	2.147(a)	1.000	55.000	.149
	Hotelling's Trace	.039	2.147(a)	1.000	55.000	.149
	Roy's Largest Root	.039	2.147(a)	1.000	55.000	.149

a Exact statistic
b Design: Intercept+Group
Within Subjects Design: tmd

Mauchly's Test of Sphericity(b)

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon(a)		
	Greenhouse-Geisser	Huynh-Feldt	Lower-bound	Greenhouse-Geisser	Huynh-Feldt	Lower-bound	Greenhouse-Geisser
tmd	1.000	.000	0	.	1.000	1.000	1.000

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.
a May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.
b Design: Intercept+Group
Within Subjects Design: tmd

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
tmd	Sphericity Assumed	1755.591	1	1755.591	11.208	.001
	Greenhouse-Geisser	1755.591	1.000	1755.591	11.208	.001
	Huynh-Feldt	1755.591	1.000	1755.591	11.208	.001
	Lower-bound	1755.591	1.000	1755.591	11.208	.001
tmd * Group	Sphericity Assumed	336.362	1	336.362	2.147	.149
	Greenhouse-Geisser	336.362	1.000	336.362	2.147	.149
	Huynh-Feldt	336.362	1.000	336.362	2.147	.149
	Lower-bound	336.362	1.000	336.362	2.147	.149
Error(tmd)	Sphericity Assumed	8615.374	55	156.643		
	Greenhouse-Geisser	8615.374	55.000	156.643		
	Huynh-Feldt	8615.374	55.000	156.643		
	Lower-bound	8615.374	55.000	156.643		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	tmd	Type III Sum of Squares	df	Mean Square	F	Sig.
tmd	Linear	1755.591	1	1755.591	11.208	.001
tmd * Group	Linear	336.362	1	336.362	2.147	.149
Error(tmd)	Linear	8615.374	55	156.643		

Tests of Between-Subjects Effects

Measure: MEASURE_1
Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	814.664	1	814.664	.798	.376
Group	18.033	1	18.033	.018	.895
Error	56140.300	55	1020.733		

Profile Plots