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EFFECT OF LISTENING TO MUSIC AND FOCUSED MEDITATION ON  
THE HUMAN ENERGY FIELD AS MEASURED BY THE GDV AND THE  
PROFILE OF MOOD STATES (POMS).

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**ABSTRACT**

The purpose of this study was to explore the effect of music and focused meditation on the human energy field as measured by the GDV and Profile of Mood States (POMS). The results indicate that both interventions had a significant palliative effect on the GDV physiological measures and the POMS psychological measures. The GDV data indicates a strengthening of the human energy field in area and brightness and the POMS data demonstrates a significantly improved mood state. The results suggest that listening to music and focused meditation are useful self care tools for strengthening the human energy field and improving mood state—qualities associated with a healing environment. GDV energy field imaging quantifies and makes the energy field visible.

**KEY WORDS:** GDV, HUMAN ENERGY FIELD, POMS, MUSIC, FOCUSED MEDITATION

**INTRODUCTION**

The effect of listening to music on the body's physiology is well noted in the literature: facilitated a state of well-being necessitating 50% less of the recommended dose of sedatives needed to perform painful operations; [1] improved oxygen saturation levels, increased weight gain and shortened hospital stay for infants [2]; assisted premature infants in developing the essential neurological skill of sucking; [3] increased dehydroepiandrosterone-to-cortisol ratios, increased natural killer cell activity, and increased lymphocyte-activated killer cell activity [4]; increased range of movement in legs, arms, hips and spine [5]; increased endorphin levels which allowed the body to create its own anesthetic [6]; increased levels of interleukin-1 (IL-1) in the blood [7]; increased movement in chronic, mostly Parkinsonian, patients with limbs frozen for forty years began to feed themselves to the beat of music [8]; significant increase in salivary IgA [9]; induced sleep, gave pain relief, calmed cocaine infants, and eased breathing for infants on respirators; [10] produced measurable effects on the heartbeat and breath—two basic life elements; [11] ability of music to act as a bridge between states of consciousness [12].

The physiological effect of guided imagery on the body is well noted in the literature. [13,14] Focused meditation, in this study, is a form of guided imagery where the subject imagines his energy field enlarging and growing more luminous after viewing the GDV aura image of his own energy field. Research indicates that guided imagery can: change physiological processes and increase survival rate of cancer patients—innovative work of radiation oncologist and psychotherapist team of O. Carl and Stephanie Simonton; [15] generate a physiological response in the muscle involved in the visualization; [16] increase a specific kind of white blood cells, either neutrophil or T-cells depending on the type imagined to increase, indicating that imagery can achieve highly specific results; [17] improve athletic

performance levels as demonstrated by the Soviet 1980 Winter Olympic sports team used visualization to increase performance levels—team mates who visualized outperformed those who did not; [18] manifest the desired outcome of imaging, biofeedback process developed by Elmer and Alyce Green at the Menninger Clinic—alter brainwaves and lower blood pressure (1960s); [19,20] reduce depression and raise beta-endorphin levels after six weeks of guided imagery and music; [21] shorten hospital stay and decrease blood loss post surgery with Belleruth Napierstek's guided imagery scripts-- establishing solid quantitative data on the efficacy of guided imagery on physiological processes; [22] balance brain hemispheres--French researcher Gerard Renoux, of the University of Tours; [23] provide a level of comfort that is both healing and centering when the profound power of sacred imagery is utilized according to author Caroline Myss [24].

### **THE HUMAN ENERGY FIELD**

The human energy field (HEF) is described by clairvoyants as a cloud of multicolored light, a colorful mist, which surrounds and emanates from the body and is usually not discerned by most people. Webster defines an aura as “an invisible emanation or vapor” or a particular atmosphere or quality that seems to arise from or emanate and surround a person or thing [25]. It is a vibrational field unique to each person and is thought to contain information concerning the health of the physical body, and reflects a person's well being [26,27].

The HEF has been described and studied in art and literature throughout history. Ninety- seven different cultures have a word for this phenomena of light emanating from the body [28].

Pythagoras perceived the HEF and was the first to record it in western literature about 500 BC [29]. This idea had been known worldwide for thousands of years, most notably by the eastern traditions where the energy was called Prana in the Vedic texts and Chi in the Taoist texts. Written description of the aura occurs in biblical accounts in both the Old and New Testament [30]. The HEF in the form of light emanating from the heads of holy people has been portrayed world wide in the art of European painters and in Russian icons dating from the 6<sup>th</sup> century.

In the 16<sup>th</sup> century Paracelsus described the aura:

‘The vital force is not enclosed in man, but radiates round him like a luminous sphere, and it may be made to act at a distance. In these semi-natural rays the imagination of man may produce healthy or morbid effects. It may poison the essence of life and cause diseases, or it may purify it after it has been made impure, and restore the health.’[31]

A few of the eminent scientists studying the energy field in more modern times include Austrian physician Franz Mesmer (1734-1815) [32], German scientist Baron Karl von Reichenbach (1788- 1869) [33], English physician Walter Kilner in England (1847-1920) [34] British parapsychologist C.W.Leadbeater [35], researcher Dr. Harold Saxon Burr at Yale University [36], Dr. Leonard Ravitz at William and Mary University [37] American seer Edgar Cayce [38], researcher Dr. Valerie Hunt at UCLA [39,40], clairvoyant Rev. Rosalyn Bruyere [41], American clairvoyant Dora van Gelder Kunz [42], neuropsychiatrist Dr. Shafica Karagulla [43], American physicist and healer Barbara Brennan [44], and philosopher and psychologist Dr. Hiroshi Motoyama [45].

### **ENERGY FIELD IMAGING, BIOELECTRGRAPHY AND THE GDV**

## **Evolution of Kirlian Photography and the Gas Discharge Visualisation Technique**

Energy field imaging with the GDV is based on Kirlian photography also known as bio-electrography. George Christoph Lichtenberg (1742-1799), became a physics professor at Gottingen in 1777 and was one of the first university teachers in Germany to enliven physics lectures with experiments in electricity. In one of his experiments he found that dust settling on the inductors gathered into rows of minute stars, called Lichtenberg figures [46]. Prior to 1900, the Russian engineer and physician Dr. Yakub Narkevitch Yodko was the first to observe that bioelectrography images of healthy people and unhealthy people varied. Yodko also studied people under varying conditions including fatigue, excitement, as well as both asleep and awake [47]. In the 1880s the Serbian immigrant to America Nicola Tesla conducted many experiments with high voltage photography and demonstrated the luminous discharges around the body [48].

Professor Alexander Gurwitsch (1874-1954), a Russian researcher in the 1920s first described emanations given off by onion shoots that had the capacity to cause mitosis in other onion shoots [49].

Dr. Fritz Popp, a German biophysist [50], expanded on the research of Gurwitsch and Kasnatschejew over a twenty-five year period in Germany. He developed very sensitive equipment to measure the light or biophotons given off by living systems. His equipment was so sensitive it could measure an emanation of a firefly at about 10 kilometers [51].

In 1939, Semyon Davidovich Kirlian, a Russian electrician began making experiments and developed a process for recording luminous energy emanating from the human body on film. Over the next quarter century, Kirlian and his wife Valentina, using seeds, leaves and fingertips of humans as subjects, went on to develop and refine this new method of photography. The process came to be known as Kirlian photography and the luminous images as the Kirlian effect [52].

UCLA scientist Dr. Thelma Moss was one of the first Americans to work in this new field of bioelectrography. She traveled to Russia, England and Europe to meet with pioneers in Kirlian photography. She became aware of the work of the Russian scientists Viktor Adamenko and Viktor Inyushin who describe changes in Kirlian photographs resulting from different states of consciousness. She also met with Scottish metallurgists Drs. Dennis Milner and Ted Smart who focused their research on air, not leaves, seeds, fluids or fingertips as had been the focus of the Kirlians. She also became aware of the work of Brazilian Professor Henry Andrade who independently made his own electrical photographs in the early 1960s. In 1973 scientist from twenty countries and many disciplines—physics, chemistry, electronics, biology, psychology, psychiatry—gathered in Prague and the field of bioelectrography was launched. Apparently, Kirlian photography was simultaneously evolving around the world [53].

In 1973, Dr. William Tiller and David Boyers researched the subject of corona discharge patterns and Kirlian photography. In the process the pair duplicated some of the Soviet research. Tiller and Boyers focused on investigating metallic electrodes rather than living systems [54].

In the 1980s, Peter Mandel, a German naturopathic doctor, developed an intuitive, but now well documented method of interpreting the bio-electrographic images for medical diagnosis. Mandel based his interpretations on the analysis of the corona of fingertips and toes in relation to their function as endpoints of the meridians of traditional Chinese medicine and German neo-acupuncture developed

by Voll [55]. Konstantin Korotkov utilized the framework devised by Mandel as a basis for interpretation of the GDV computer constructed aura [56].

The scientific community has been slow to accept Kirlian photography as a legitimate tool. Because of the widely disparate types of equipment used to create the images, results have been inconsistent. Lack of rigorous scientific standards has hindered the acceptance of Kirlian photography. In November 2000, the International Union of Medical and Applied Bio-Electrography held its 5th official congress in Curitiba, Brazil and agreed to promote the scientific status of bioelectrography and thorough scientific research. Dr. Konstantin Korotkov was unanimously elected President of the IUMAB for the term 2001-2004 [57]. The formation of the IUMAB is another step in formalizing the study of the energy field and demanding more standardization so information can be more readily compared and built upon. This standardization will give researchers a common language and accelerate progress in further understanding Kirlian photography and what it is actually measuring.

Technical description of the Kirlian process is beyond the scope of this paper but are readily available in the works of kirlian researchers Harry Dakin [58], John Iovine [59] and Kendall Johnson [60]. Dr. Richard Gerber gives a description which provides basic information that is not overly technical [61]. The process of bioelectrography and the GDV is detailed by Konstantin Korotkov in his book *The Human Energy Field* [62].

#### **MICRO-ACUPUNCTURE AND THE GDV**

Micro-acupuncture [63] establishes the concept that vast amounts of information about the health of the total body are contained in the fingertips. In the 1950s French physician Dr. Paul Nogier observed acupoints on the ear correspond to specific body organs. In 1973, Dr. Ralph Alan Dale, Director of the Acupuncture Education Center in Surfside, Florida, noted more than 30 body parts with this holographic characteristic including the hand, foot, nose and orbit of the eye. The suggestion here is that many parts of the body contain energetic information for the body as a whole [64]. Dale describes the work of Korean acupuncturist Tae-Woo Yoo and his development in 1971 of the Koryo Soo-ji Chim (hand acupuncture) system [65].

In the hologram of Yoo's hand system, the middle finger corresponds to the head. This is a point of difference from Jae Woo Park's Su Jok (Hand Foot) acupuncture, which bases its system on the thumb corresponding to the head [66]. Both practices appear to be effective. It is necessary to continue to collect empirical data on the micro-acupuncture of the hand and particularly the fingertips to define exactly what is being reflected and what precisely the GDV images of the fingertips are measuring.

Dr. Hiroshi Motoyama notes the importance of the fingertips as the terminal points (sei points) of the twelve major meridians of chi/ki energy; this is a basic concept of ancient Chinese medicine and recorded in the oldest text of Chinese medicine, *The Yellow Emperor's Treatise on Internal Medicine*. The sei points at the fingertips are where the chi/ki enters and leaves the body; the energy at the sei point

is said to reflect the condition of the entire meridian [67].

The concepts of the hand being holographic of the entire body and the luminous discharge of the fingertips functioning as energetic microcosms of the body need further elucidation. But, just as body fluids—blood and urine—contain vast amounts of information about the functioning of body systems, the idea is being posited that the emissions from the fingertips yield vast amounts of information as well.

## RESEARCH METHOD

### PARTICIPANTS

Subjects over the age of 25 were recruited by advertising in local newspapers. Forty nine subjects participated; 19 were healthy, with no diagnosis and no medication and 30 subjects had a variety of diagnoses including depression, ADD, arthritis, breast cancer, diabetes fibromyalgia, gerd, glaucoma, heart condition, high cholesterol, Lymphodema, multiple sclerosis, osteoporosis, Parkinson's.

**Table 1**

Demographics

Total subjects	Mean Age	No Diagnosis	Diagnosis	Men	Wome n
49	50.47	19	30	7	42

### DESIGN

The design is repeated measures with the same subject measured before and after the intervention. The subjects experienced three conditions, two of which will be reported here: Listening to Pachelbel's Canon in D for 15 minutes (LM) and Focused Meditation (FM) on one's own energy field after viewing a printout of his personal energy field imagery as calculated and projected by the GDV.

Subjects completed the POMS, SUDS, and GDV protocol, before and after the interventions.

### PROCEDURE

Forty-nine subjects participated in listening to music for 15 minutes. Subjects met in small groups of up to five participants, completed the pre intervention POMS and GDV protocols; listened to music, and then repeated the POMS and GDV. The same procedure was followed for the focused meditation.

Sixteen subjects continued to listen to the focused meditation for three weeks, three times per week and then returned to complete the POMS, SUDS, and GDV protocol.

### MATERIALS

#### The Gas Discharge Visualization Technique

The Gas Discharge Visualization Technique (GDV) was developed by Konstantin Korotkov in 1995 to capture, map and analyze the electromagnetic field emanating from the human body. The GDV allows us to "see" and measure phenomena that up until this time had not been measurable; it has quantified the HEF. A high intensity electric field is created by the GDV (10kV, 1024 Hz, .05 second duration) around any object set on the plate, which in this study is the fingertips [68].

"The electric field produces a visible gas discharge glow around the object ("a Kirlian picture"). The image is transferred to a PC-computer using built in video techniques and modern electronics...Gas discharge can be produced around any object, and will show variations in size, color, distribution, etc. depending on the very slight changes in the object...The GDV glow around fingers can be divided in sectors which corresponds to acupuncture meridians in fingers...Verification of the equipment settings and environmental conditions is done by comparing the numerical parameters of the test object image to the optimal parameters." [69]

The computer software calculates descriptive values from the images. Evaluation of these images can be done by comparing the numerical data. The corona discharge of the ten fingers of each subject was captured and analyzed using

the GDV parameters of area, brightness, and anxiety.

### **The Profile of Mood States (POMS)**

The POMS consists of 65 adjectives describing mood rated on occurrence “within the past week” for the pre- test and “at this moment” for the post-test. The total mood disturbance score is calculated from the subscales of Tension-Anxiety, Depression-Dejection, Anger-Hostility, Fatigue, Confusion and Vigor subscale score [70]. The higher the total score, the greater the mood disturbance; conversely, the lower the score, the healthier the mood. The POMS has been used to measure mood change in other research with music and guided imagery [71].

### **Subjective Units of Distress: SUDS**

The SUDS is perhaps the simplest of scales in that the subject rates himself on a scale of calm (1) to distress (10) before and after the intervention.

### **Music**

Pachelbel’s *Canon in D*, was selected because it met the criterion of healing music as described by Dr. Randall McClelland:

- Pulse at or below heart rate for calming (below 72 beats per minute);
- Rhythm: Smooth and flowing
- Melodies: Slow and sustained
- Dynamics: Very soft to moderately loud
- Duration: Minimum fifteen minutes of steady music [72].

Helen L. Bonny, originator of Guided Imagery and Music, includes Pachelbel’s Canon in D in a repertoire which she found accesses music of a healing nature and particularly generates a feeling of serenity and tranquility [73]. Andrew Watson, a healer and therapist, posits that the heart is a transformer of universal energy into the healing force of unconditional love and that music of the Baroque period, and Pachelbel *Canon in D* in particular can trigger this process [74]. Fifteen minutes has been demonstrated to be enough time for sound to have a physiological effect on the body, brain waves in particular [75].

## **HYPOTHESES**

Listening to 15 minutes of music (LM) and focused meditation (FM) will elicit changes in psychological and physiological variables demonstrating:

### **Psychological Variables**

- decrease in the POMS Total Score (POMS-Tot)
- decrease in the POMS -Tension (POMS-T)
- decrease in POMS -Depression (POMS-D)
- decrease in the SUDS

### **Physiological Variables**

- increase in the GDV Area
- increase in the GDV Brightness (GDV Br)
- decrease in the GDV Anxiety Score (GDV Anx).

## **RESULTS**

The data yields total support for each hypothesis for all psychological and physiological variables of GDV-Area and Brightness for both LM and FM. GDV-Anxiety shifted significantly for LM after fifteen minutes but for FM

significance was reached at the three week follow-up with subject focusing for three weeks, three times per week for fifteen minutes, thus indicating a cumulative effect on the body.

Using SPSS software paired sample t-tests were computed for the Profile of Mood States (POMS) and SUDS scores both before and after the music intervention. The paired t-test was used because the same subject was measured pre and post intervention, repeated measures design, and the mean pretest score of all subjects was compared with the mean posttest score of all subjects.

Table 2 illustrates that the mean POMS-Total decreased by 23.29 points from pre to post music intervention, while the mean POMS-Tension and POMS-Depression scores decreased by 7.00 and 6.25 points respectively. These results show total support for our hypotheses.

As predicted there were statistically significant improvements on the POMS-Total score,  $t(47)=6.573$ ,  $p<.001$ ; POMS-Tension  $t(47)=7.549$ ,  $p<.001$ ; and POMS-Depression,  $t(47)=5.096$ ,  $p<.001$ . There was also a statistically significant 1.68 drop in the SUDS scale after the music intervention  $t(48)=5.08$ ,  $p<.001$ , moving from stressed to calm.

**Table 2**  
Paired Sample t-test. Listening to Music (LM). Psychological Variables

	Paired Difference s of Means	Standard Deviation	Standar d Error of Mean	t-score	df	p-value
POMS-Tot	23.29	25.549	3.543	6.573	47	<.001
POMS-T	7.00	6.425	0.927	7.549	47	<.001
POMS-D	6.25	8.497	1.226	5.096	47	<.001
SUDS	1.68	2.320	0.331	5.080	48	<.001

Paired sample t-tests using SPSS software indicated statistically significant changes for the POMS-Total score, POMS-Tension score, and POMS-Depression score respectively  $t(44)=7.682$ ,  $t(44)=8.915$ ,  $t(44)=6.038$ , each at  $p<.001$  as illustrated in Table 3. There was also a statistically significant 1.93 drop in the SUDS after the FM intervention  $t(44)=8.248$ , i.e. the mood improved significantly.

The POMS-Total score decreased by 21.4 points,  $p<.001$ , while the POMS-Tension and POMS depression decreased by 6.07 points and 4.36 points, respectively and was each significant at  $p<.001$ .

**Table 3**  
Paired Sample t-test. Focused Meditation (FM). Psychological Variables

	Paired Difference s of Means	Standard Deviation	Standar d Error of Mean	t-score	df	p-value
POMS-Tot	21.4	18.687	2.786	7.682	44	<.001
POMS-T	6.07	4.565	0.680	8.915	44	<.001
POMS-D	4.36	4.839	0.721	6.038	44	<.001
SUDS	1.93	1.572	0.234	8.248	44	<.001

The mean change in the mean POMS-Total Score, POMS-T, POMS-D and SUDS

between pretest and posttest were dramatic and merit separate charts so that these large changes can be more clearly illustrated. Table 4 displays the LM shift of 27.59 to 4 between pretest and posttest mean POMS-Total Score as well as the FM shift from 20.33 to -1.07, both at  $p < .001$ . The higher the POMS-Total score, the more negative the mood; the lower the score, the more positive the mood.

Table 5 demonstrates the POMS-Tension mean group LM score changed from 10.84 to 3.83 and the FM mean declined from 8.53 to 2.47, both changes at  $p < .001$ .

Table 6 demonstrates a similar reduction in the POMS-Depression LM mean score from 10.18 to 3.83 and FM from 6.62 to 2.27, both changes at  $p < .001$ .

Table 7 demonstrates the SUDS mean perceived reduction in stress between pretest and posttest. Subjects rated themselves more comfortable after 15 minutes of LM and FM at a significance of  $p < .001$  with the LM mean score decreasing from 4.47 to 2.70, and FM mean score from 4.92 to 2.99.

**Table 4**  
POMS-Total Score. Psychological Variables.  
Pretest and Posttest Mean Score (Standard Deviation)

Condition	N	Mean (SD) Pre	Mean (SD) Post	t score	p-value
LM	49	27.59(33.10)	4.00(22.16)	6.573	<.001
FM	45	20.33(26.18)	-1.07(15.44)	7.682	<.001

The percent reduction in the POMS-Total Score was 85.% for LM and 105% for FM.

**Table 5**  
POMS -Tension. Psychological Variables.  
Pretest and Posttest Mean Score (Standard Deviation)

Condition	N	Mean (SD) Pre	Mean (SD) Post	t score	p-value
LM	49	10.84(7.65)	3.83(4.23)	7.549	<.001
FM	45	8.53(5.05)	2.47(3.14)	8.915	<.001

The percent reduction in the POMS-Tension was 64.7% for LM and 71% for FM.

**Table 6**  
POMS - Depression. Psychological Variables.  
Pretest and Posttest Mean Score (Standard Deviation)

Condition	N	Mean (SD) Pre	Mean (SD) Post	t score	p-value
LM	49	10.18(10.13)	3.83 (5.06)	5.096	<.001
FM	45	6.62(6.57)	2.27 (3.47)	6.038	<.001

The percent reduction for POMS-D was 62.3% for LM and 65.7% for FM.

**Table 7**  
SUDS Scale.Psychological Variables.  
Pretest and Posttest Mean Score (Standard Deviation)

Condition	N	Mean (SD) Pre	Mean (SD) Post	t score	p-value
LM	49	4.47(2.04)	2.70(2.37)	5.080	<.001
FM	45	4.92(2.09)	2.99(1.74)	8.248	<.001

### Figure 1

Figures 1 and 2 illustrate LM data in Tables 4, 5, 6. Figure 1 illustrates visually the shift in mood (POMS-Tot) before and after the intervention from 27.59 to 4; the mean POMS-T from 10.8 to 3.93; the mean POMS- D from 10.18 to 3.83. All of these POMS measures were significant at  $p < .001$ .

### FIGURE 2

Figure 2 illustrates FM data in Tables 4,5,6.

## Physiological Variables

### GDV-Area and GDV- Brightness

For the physiological GDV measures either related sample t-test or Wilcoxon statistics were run, depending on the normality of the results of the variable. The results, as illustrated in Table 8 and 9, totally support our hypothesis for GDV Area and GDV Brightness: Area and Brightness of the energy field increased significantly.

The Listening to Music LM GDV Area and GDV Brightness variables had normal distributions thus satisfying the assumptions for doing the parametric t-test. The LM GDV Area and GDV Br, illustrated in Table 8, t-test results indicated a statistically significant increase in both parameters: GDV Area  $t(47)=2.725$ ,  $p < .01$ , and GDV Br  $t(47)=4.391$ ,  $p < .001$ , i.e. the energy field grew larger and brighter.

**Table 8**  
Paired Sample t-test. GDV Area and Brightness. LM Physiological Variables

	Paired Difference s of Means	Standard Deviation	Standar d Error of Mean	t-score	df	p-value
GDV Area	594.680	1527.6013	218.228 8	2.725	48	<.009
GDV Br	1.787	2.849	0.4071	4.391	48	<.001

A paired sample t-test was computed for FM variable GDV Br. (Table 9). As

predicted, the t-test for GDV Br indicated a statistically significant increase in brightness at the posttest  $t(43)=2.232$ ,  $p<.03$ . The Wilcoxon statistic was used for variables GDV Area and indicated a significant increase at  $p<.05$ ,  $z=3.93$ .

**Table 9**  
Paired Sample t-test. GDV Area and Brightness. FM Physiological Variables

	Paired Differences of Means	Standard Deviation	Standard Error of Mean	t-score	df	p-value
GDV Br	-.81	2.405	.362	2.232	43	<b>&lt;.031</b>

Wilcoxon Pairs Test

	N	Z score	p value
GDV-Area	44	3.827	<b>&lt;.05</b>

**Table 10**

GDV Brightness. Physiological Variable. Pretest and Posttest Mean Score (Standard Deviation)

Condition	N	Mean(SD) Pre	Mean(SD) Post	t score	p value
LM	49	164.79(2.76)	166.58(2.83)	4.391	<b>&lt;.001</b>
FM	44	166.33(2.82)	167.13(3.36)	2.232	<b>&lt;.03</b>

As predicted the t-test for GDV-Br indicated a statistically significant increase in brightness between the mean pretest and mean posttest for both LM:  $t(49)=4.391$ ,  $p<.001$  and FM:  $t(44)=2.232$ ,  $p<.03$ .

**GDV- Anxiety**

The Wilcoxon statistic was used for the FM GDV Anx variable and was non-significant ( $p>.05$ ) after the 15-minute intervention, but after three weeks (three times per week of focused meditation for fifteen minutes) there was a significant decrease in the anxiety score, indicating a cumulative effect on the HEF.

GDV-Anx decreased significantly after LM. Table 11 illustrates that a pre and posttest mean difference  $t(49)=2.048$ ,  $p<.046$ . GDV-Anx did not increase significantly after 15 minutes of FM  $t(49)=.247$ ,  $p>.05$  (Table 12), but for those sixteen participants who continued to engage in the FM protocol for three weeks, three times per week, a significant shift in GDV-Anx did occur, at  $p<.01$ , (Table 11). This suggests that the effect of FM was cumulative over the three-week period.

The results for GDV-Anxiety indicated a violation of the normality assumption and thus the non-parametric Wilcoxon statistic was used for analysis.

**Table 11**

GDV Anxiety Score. Pretest and Posttest Mean Score (Standard Deviation)

Condition	N	Mean (SD) Pre	Mean(SD) Post	t score	p value
LM	49	1.80(1.60)	1.37(.82)	2.048	<b>&lt;.046</b>
FM	44	1.52(.67)	1.57(1.17)	247	<b>&gt;.05</b>

FM After 3 weeks	16	2.61(.471)	2.39(.52)	2.913	<.01

**Table 12**

GDV Anxiety Score. Wilcoxon Matched pairs

Condition	N	Z-Score	p- value
LM	48	2.195798	<.05
FM	44	.035011	>.05

The Wilcoxon statistic indicated a significant result for LM GDV- Anx,  $z=2.19$ ,  $p<.05$ , illustrated in Table 12, but the FM result was not significant after 15 minutes. However, after three weeks of focus, three times per week, the FM GDV-Anxiety score decreased significantly,  $p<.01$  as illustrated in Table 11.

## DISCUSSION

This study suggests that the bioelectric field of the body improved with the simple interventions of listening to music and focused meditation for a period of fifteen minutes: both the GDV-Area and GDV-Brightness increased significantly. The GDV-Anx score improved significantly after fifteen minutes of listening to music, whereas for the focused meditation, a significant improvement occurred after three weeks of three times per week practice. According to Dr. Korotkov, the GDV-Area parameter most commonly expands with healing, whereas the GDV-Brightness parameter is controversial and has varying results. For example, researchers Trampuz, Kononenko and Rus [76] and that as area increased, brightness decreased whereas C. Howell, practitioner at the London Center for Counseling and Psychotherapy found that as area increased so did brightness [77].

The findings of this study support the 1960s findings of Dora van Gelder Kunz, noted clairvoyant and Dr. Shafica Karagulla, neuropsychiatrist. The two teamed as observer and researcher in examining the role of the charka and human energy field in health and disease in 200 subjects. In the first step, they observed the etheric body of healthy subjects for two years. The etheric body is the HEF's layer closest to the body and from Kunz' observation, extends out about five centimeters. In the second step of the study, Kunz focused on the etheric level of ill subjects and described the charkas and the functioning of the endocrine glands. Kunz observed each subject for up to three hours from a distance of twenty feet. She did not speak with the subjects and often could not see their faces. Karagulla reviewed the medical charts for details of the subject's illness. Kunz and Karagulla developed an outline for assessing characteristics of the etheric body that indicate health and illness [78]. Their findings, briefly summarized:

**Table 13**

### Characteristics of the Human Energy Field in Health and Illness

<u>Measure</u>	<b>Health</b>	<b>Illness</b>
<b>Color</b>	Pale violet or blue-gray	Murky
<b>Brightness</b>	Luminous	Dull
<b>Motion</b>	Rhythmic, but speed may vary	Dysrhythmic
<b>Form</b>	Size, shape and symmetry	Small, asymmetrical
<b>Angle</b>	At right angles to the physical body	Droopy
<b>Elasticity</b>	Ability to expand and stretch	Poor elasticity

<b>Texture</b> thin	Firm and fine	Coarse, porous, broken,
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The results of this study are consistent with the innovative research by Kunz and Karagula in that both the size and luminosity of the HEF increased as a result of the subject's listening to music and focused meditation—both characteristics of a healthy HEF.

This study suggests that the energy field responds to the stimuli of music and focused meditation as measured by the GDV, POMS, and the SUDS thereby influencing the creation of a healing environment for the body.

The significant change in the GDV data between pre and post conditions indicates an energetic shift, which may be important in facilitating our body's ability to protect and produce health. As indicated by the GDV- Area, the energy field increased significantly with both the intervention of music and focused meditation suggesting increased protection of the physical body from toxic influences. These findings are consistent with the literature indicating the palliative effect of music in creating a healing environment as previously cited.

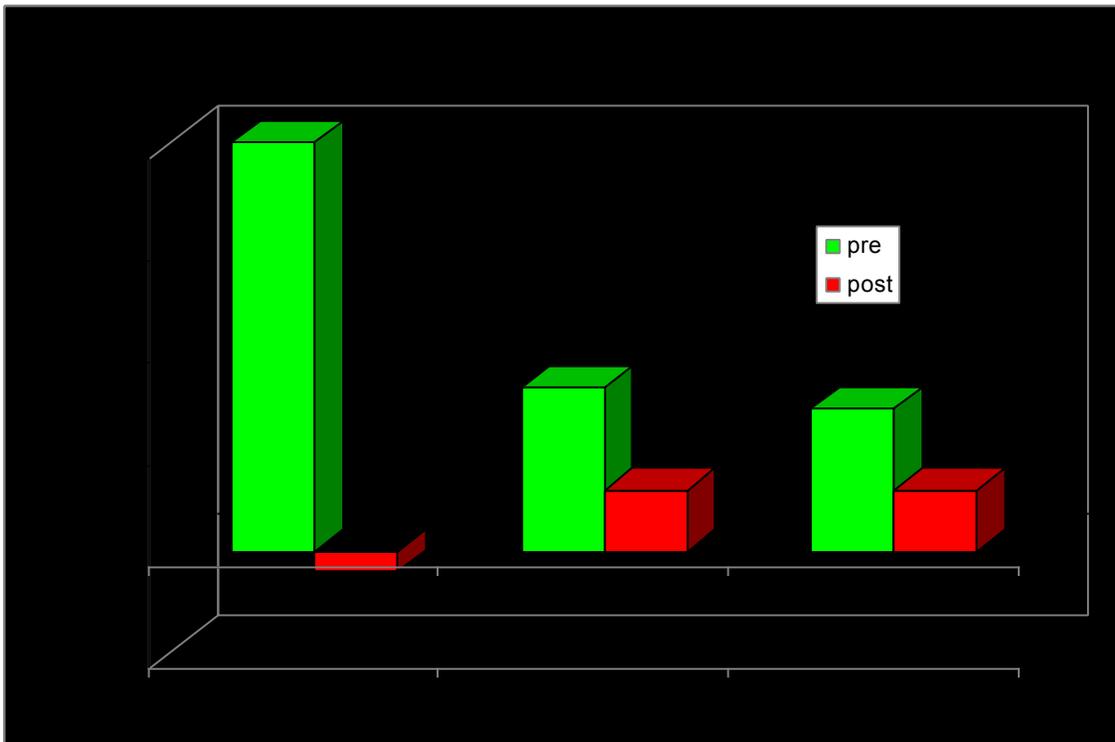
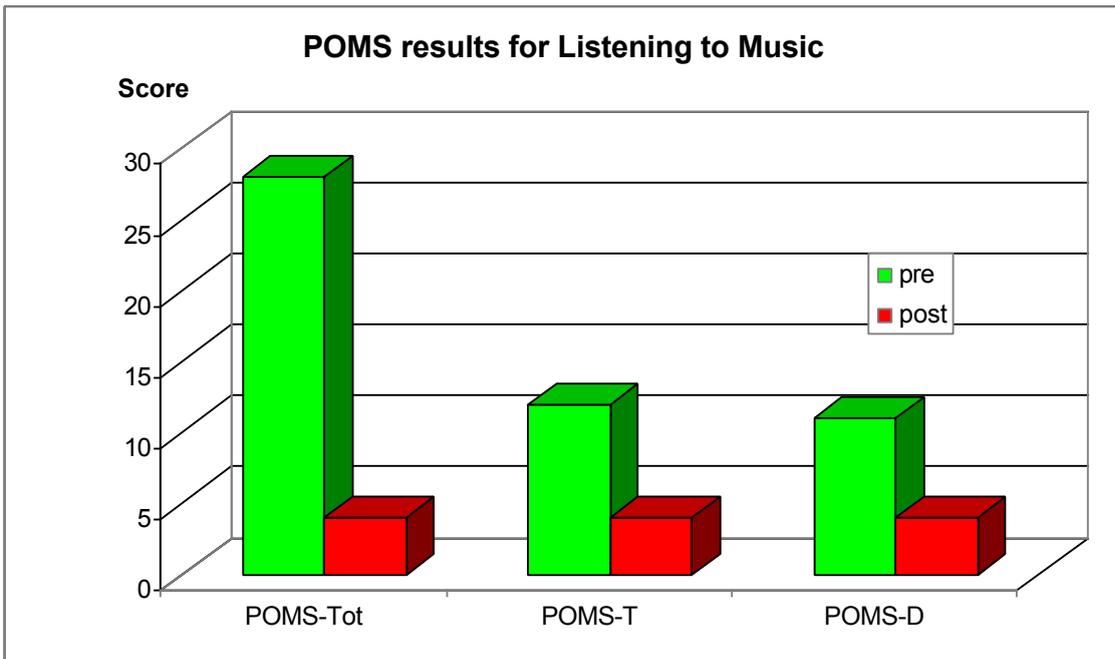
Our data suggests that a fifteen-minute time frame is also sufficient to effect palliative effects on mood and physiology as measured by the GDV technology and POMS.

## **CONCLUSION**

Music as a form of energy medicine is in its infancy; its therapeutic value and place in healing is just beginning to be quantified. The GDV technology with its ability to quantify the human energy field allows us to contribute to this data. The ability to influence one's energy field is a little known but vital self-care tool; the implications for maintaining wellness, fighting infection and preparation for surgery need further exploration.

Perhaps listening to music and engaging in focused meditation on a daily basis will join the accepted health care regimens of adequate diet and regular exercise. This study demonstrates the dynamic interaction between state of consciousness and energy field; as the subject's mood shifted from a negative state to a positive state, the bioelectric field also improved and thereby healing conditions were enhanced.

This study gives empirical evidence to the body of knowledge that we can participate in our wellness and healing; we can improve our mood and strengthen our bioelectric field with the readily available noninvasive inexpensive tools of listening to music and focused meditation.



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