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Effects of music therapy, mantra therapy, and alpha beta binaural beats on human energy fields using RFI technology

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Abstract: This technical paper is based on research on human energy fields, also known as aura, which is radiated by the body externally under the application of various therapies. Music therapist helps patients to improve and maintain their health by using music. The internal energy state of the body is required to be measured to visually confirm a person's symptoms. It can be achieved with aura measurements and it is done using resonant field imaging (RFI) technology. Here, the music, mantra sounds, and alpha-beta binaural beats are considered as external therapies for aura interpretation. By using RFI, the energy field can be accurately identified and the function of a specific region in the human body. The analysis shows the health condition and energy of the human body samples before and after applying the therapies such as Gayatri mantra chanting, Mahamrityunjaya mantra chanting, listening to soft flute music, and listening to alpha beats.

Keywords: music therapy; mantra therapy; alpha-beta binaural; energy field; resonant field imaging; RFI.

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1 Introduction

Various life processes of human beings are involved in mental and physiological activities with an electromagnetic field. The electromagnetic radiation produced due to the movement of atoms is measurable or quantifiable (Hautus et al., 2021). It is evident from the effect of vibrational or acoustic spectroscopy. This radiating field causes the entire energy body for the physical body, and it is commonly termed aura (Rastogi et al., 2021a). From the interaction and emission process of the body, the biological energy field is formed by the body in space with the environment, including the gravitational field and electromagnetic field. This procedure's concepts and the instruments used in this imaging system provide information on a patient's health concerns by analysing their auras (Rastogi et al., 2022a). Aura contains several layers which are interpenetrated and surrounded by each successive layer. The energy therapies are intended to restore the energy to the bio field. Hence it promotes health, healing and general well-being (Rogers et al., 2021).

In a therapeutic setting, the patient's aura reacts to ideas, feelings, physical effects, and ambient stimuli (Mujib et al., 2021). Recently, several alternative and complementary therapies have been available to patients. Therapies such as sound and music are prominent. Music therapy is a health profession in which a music therapist helps patients improve and maintain their health by using music and its various physical, emotional, cerebral, social, artistic, and spiritual aspects (McConnell and Porter, 2017). It is proven to be an expressive or beneficial treatment. Music therapy has been clinically validated to help patients' physical abilities, emotional development, behavioural and social skills. Music therapy has been utilised in medicine for various purposes, including preoperative care, critical care, labour pain, cancer treatment, and colonoscopy (Rastogi et al., 2022b). Based on the research, music therapy during colonoscopy was observed to lower patients' anxiety and discomfort levels and increase patient comfort (Vaudreuil et al., 2022).

The calming influence of music can help patients maintain stable moods and stay active (Rastogi et al., 2021b). It also detects psychological changes for the benefit of self-regulation and self-healing. Music therapy decreases depression and helps children with autism. Depression is associated with a mood disorder categorised by persistent low mood, loss of pleasure, and diminished interest. The moods and emotions can be modulated with the effect of music therapy. Music therapy improves function, helps stimulate creativity, and enhances communication between Patients and caregivers. Expressing music in a therapeutic environment helps individuals express themselves on a deeper level. The integration of harmony, rhythm and melody is believed to enhance a

calm sense by minimising heart rate, breathing rate and other body functions. It reduces depression by minimising anxiety (Zhao et al., 2016; Situmorang, 2021).

According to the findings, college students are interested in learning music, which provides a good basis for using music to treat psychiatric disorders (Moss, 2019; Wenqin, 2022). The brain wave characteristics are analysed with alpha beta binaural beat treatment. The therapeutic effects, such as music, imagery, and prayer, are profound and require an hour (Shamsi et al., 2021). In several cases, supportive treatments are required with adjunctive therapies. Radiofrequency ablation is suggested as initial therapy and is associated with mantra chanting and recitation to resolve health problems and ailments. Specialists have been working on refining mobile therapy management with anticoagulants (Engelbregt et al., 2021). Research indicates that certain health conditions can be improved with stress reduction approaches. The mental health issue is related to stress and isolation of being ill. It can be resolved by maintaining good mental health with a therapist while coping with physical challenges.

In RFA, dysfunctional tissue is ablated with medium frequency alternate current heat generation. Mantra therapy is based on the frequency of certain sounds. Both are based on deviating the frequency level of the body to improve health conditions. Anticoagulant is based on the objective of avoiding the formulation of a thrombus. Mobile therapy management was utilised to enhance the quality of life of patients with coagulation diseases. It uses innovative interaction design and mobile technology. The digital solution for anticoagulation therapy management was provided to improve remote doctor-patient communication. It would provide benefits for saving time for patients and healthcare workers, and it facilitates therapy management (Barricelli et al., 2013).

Therapy's effect must be measured using effective technology to represent the energy field. Resonant field imaging (RFI) is one of the approaches which involve extensive scientific data and accurate explanations for all auras and bioenergy fields. It detects all kinds of bio-energies presented in the specific location of the human body (Rastogi et al., 2020). RFI creators started with the basics that colour is the frequency to establish a method of interpretation suited for therapeutic applications (He, 2022). It calculates the resonance frequency of actual colour as light energy and generates a complicated set of formulas and computations. Aura colours can be detected using RFI to find the accurate frequency of the energy field in several regions (Rastogi et al., 2021c).

It is a well-established concept in electrical engineering that all electrical impulses produce magnetic waves around them (Rahman et al., 2021). It causes the transmission of psychological and emotional activities across the system as electrical impulses (Vuralli et al., 2021). The electrical impulses emit electromagnetic fields relevant to the mental activity created outside the human body. Electroencephalogram (EEG) technology describes the electromagnetic principles for successfully assessing and monitoring mental activity (Bringmann et al., 2021). Ambient electro field delicate energies that transport information form metaphysical energy. Aura reading is a highly helpful and effective approach for thoroughly evaluating individuals, animals, plants, and things (Ibarra-Zarate et al., 2022).

Dadkhah et al. (2019) presented a single-blind clinical trial investigation on individuals diagnosed with gastrointestinal cancer. The individuals were randomly allocated to one of the two groups: control and music with massage therapy. Patients in the music plus massage treatment group had two interventions at the same time as getting chemotherapy. But the control group did not have any intervention. Before and after chemotherapy, the Rhodes questionnaire was used to determine nausea and vomiting.

Descriptive and inferential statistical tests were used to examine the data. Based on the findings, combining music with periorbital massage reduces nausea and vomiting in chemotherapy patients. It can be used as a supplementary medicine treatment in conjunction with other medical therapies to ease cancer symptoms.

Hasanah et al. (2020) presented a pre-experimental design. It aims to find the effect of music therapy on salivary cortisol levels in children with leukaemia. With IV-Line insertion, saliva cortisol levels were measured in children and young people with leukaemia. Following the IV-line insertion operation, music was played through earbuds. An enzyme-linked immunoassay assay (ELISA) test was used to determine salivary cortisol levels. If the variations in cortisol were less than 0.05 mg/ml, they were deemed clinically significant. The impact of music therapy on cortisol levels was tested using the Wilcoxon test, with a p-value of 0.05 being considered statistically significant. The levels of cortisol have been noted as median (minimax) of 4.14 (0.25e9.89) and 3.47 (0.16e15.31) before and after applying music therapy. The variation in median attained was 0.67 mg/ml. The deviation of 0.05 mg/m represents the effect of music therapy on cortisol levels. Even though the salivary cortisol levels ($p = 1/4 = 0.99$) are not affected by music therapy, it was revealed that the effect of music therapy minimises the cortisol levels.

Zamanifar et al. (2020) presented (a study) on the anxiety of clinical nurses and the effects of music therapy and massage with chamomile-lavender essential oil. It was a double-blind, randomised clinical experiment. Purposeful sampling was used to choose 120 nurses from best hospital's clinical wards in Sanandaj, Iran, between 2018 and 2019. A control group was randomly allocated to three groups with various treatments. A beck anxiety inventory was used to assess nurses' anxiety before and after the intervention and after three work shifts. The SPSS v.22 programmer was used to analyse the data. The hypotheses were tested using a one-way ANOVA. The therapy's encouraging results have shown the effectiveness of the approach.

Srivastava et al. (2019) presented a multi-modal approach for treating various diseases. The disease includes positive psyche restructuring through the chanting of Vedic hymns (mantras) and meditation on their meaning, exposure to medicinal fumes of multiple herbs – as well as their effective pulmonary administration, purification of the enclosed spaces, the proximity of bright light and heat from the fire, and so on. The encouraging results reported in the therapy of numerous disorders with Yagya therapy demonstrate its effectiveness as a therapeutic method.

Rastogi et al. (2022c) presented Yajna and the mantra science on health care with a futuristic scientific approach. This research aimed to analyse the effect of Gayatri mantra and Om recitation on people's health. Gayatri mantra is a powerful mantra that is found in the Rig Veda. For three days, all patients were taught to recite the Gayatri mantra. The data from the baseline were used. For two days in a row, the participants chanted Gayatri mantras and recited Om for roughly 15 minutes. The participants were given the session's sequence at random. According to the Stroop task, Gayatri chants and seating comfort increased attention in this exploratory investigation.

Aghagoli et al. (2021) presented a link between stimulation-evoked BB rhythmic brain activity and a behavioural reaction in a short-term memory task. For 15 minutes, 20 participants in groups A, B, and C were exposed to alpha (10 Hz), beta (14 Hz), and gamma (30 Hz) BB, respectively. Their EEG was recorded in three different states: before, during, and after the BB. Before and after a BB session, participants took a digit

span test. Only group A showed a significant gain in the cognitive score, whereas groups B and C showed a significant decrease in reaction time. After BB, group A experienced a significant drop in theta and a rise in alpha power. In contrast, group B experienced a significant increase in theta and a fall in gamma imaginary coherence (ICH).

Kurdi and Gasti (2018) presented anaesthesiologists' physical status classifications 1E and 2E inclusion criteria on women over 18 who were scheduled for an emergency caesarean delivery under spinal anesthetic in the American society. Patients with hearing/ear impairments and psychological illnesses were excluded from the study. Patients were randomly assigned to one of three groups: peaceful meditation music (M), binaural beat meditation music (B), or control (C). After the intervention, data were collected and statistically evaluated. Both intraoperative meditation music groups reported significantly lower postoperative pain, anxiety and superior psychological health compared to the control group. There was no statistically significant difference in postoperative nausea, vomiting occurrence and severity in all three groups.

In this experimental research, the therapeutic value of mantras, music and alpha beta binaural beats as sound therapies for healing and rejuvenation was critically examined using RFI for the first time. The psychophysical profiles of human body samples for the three sets of experiments were analysed by comparing the mean values of physical health, mental/emotional health and energy stability scores generated by the RFI software. Analysing the effects of various therapies on human energy field helps to enhance people's mental health and overall well-being. It is considered a treatment for people with anxiety and depression. It also improves the quality of life for the person with physical health issues. It induces positive feelings such as calmness, confidence, emotional intimacy and empowerment. The study's key findings show that applying therapy is helpful for people with sleep disorders, reducing obsessive thoughts and anxiety.

The structure of the paper: Section 2 describes the paper's methodology, Section 3 includes the results and analysis, and Section 4 concludes the paper.

2 Methodology

This section includes the methodologies investigating the effects of mantra therapy, music therapy and alpha-beta binaural beats on human energy fields using RFI.

2.1 Mantra therapy

Treatment with Gayatri mantra and Mahamritunjaye mantra was studied in mantra therapy experiments (Rastogi et al., 2021a, 2022b, 2020, 2021c; Bringmann et al., 2021). Recorded CDs of both mantras were used for this. The samples were collected with the intention of listening to the audio CDs for 30 minutes. According to the audio CD, the samples were also chanting the mantras. Before and after chanting and listening simultaneously to the mantras, frequency readings were taken at 40 locations throughout the body of the samples using the RFI instrument. 17 points were within 2 inches of the body (physical health indicators), whereas 17 points were within 6 inches of the body (emotional/mental health indicators). Six readings were taken from the front six chakra points of the body, and 34 readings were taken from the sides of the body (left, right and top). The RFI manual contains these instructions. All frequency readings were entered into the RFI software. The software generates and displays aura colours in two layers

(17 + 17) around the body and the front chakras (6). In addition, the software provides a complete description of the aura and numerical scores ranging from 1 to 100 as markers of physical health, mental/emotional health, and energy stability.

2.2 *Music therapy*

Music therapy is an allied health profession in which a music therapist uses music to assist clients/patients in improving their physical and mental health (McConnell and Porter, 2017; Vaudreuil et al., 2022; Situmorang, 2021; Moss, 2019). There are two types of music therapy: active and receptive. In receptive treatment, the therapist plays or composes music for the patient, who is free to draw, listen, or meditate. For the first phase of this experiment, a recorded CD of soothing flute music composed by Pandit Hari Prasad Chaurasia, an exponent of Indian classical music, was used (He, 2022). The samples listened to the instrumental music for only 30 minutes. Only the front six chakra point's frequency readings were obtained around six inches from the body using an RFI frequency counter. In the second stage of this experiment, audio files of bass and treble music were used. The samples listened to the sound for only 30 minutes. Only the frequency readings of the front six chakra points were obtained about six inches from the body (Dadkhah et al., 2019; Hasanah et al., 2020; Zamanifar et al., 2020; Wenqin, 2022).

2.3 *Binaural beats*

Binaural beats are becoming increasingly popular, especially among people seeking natural relaxation, improved attention, better sleep and deep meditation (Hautus et al., 2021; Shamsi et al., 2021; Rahman et al., 2021). Binaural beat treatment is a relatively new type of sound wave therapy in which the right and left ears hear two slightly different frequency tones but interpret them as one tone. For the brain to recognise binaural beats, the frequencies should be less than 1,000 Hz. Binaural beats activate specific brain systems. Because of extended exposure, the frequency may encourage the creation of stress hormones and symptoms such as a racing heart and shallow breathing; it is therefore set as 25 Hz. At the lower end of the beta range, the system can produce recordings that stimulate the brain and cause positive benefits such as enhanced learning capacity, higher physical energy, and heightened awareness. Beta binaural audio is highly good for stimulating tired brain to stay awake. Binaural beats are divided into four categories:

- 1 *Delta patterns*: These have a frequency of 0.1 to 4 Hz and are connected with dreamless sleep.
- 2 *Theta patterns*: These relate to sleep, rapid eye movements, meditation, creativity, and are set at a frequency between 4 and 8 Hz.
- 3 *Alpha patterns*: These are set at a frequency between 7 and 14 Hz, which may aid in relaxation.
- 4 *Beta patterns*: These are set at a frequency of 14 to 100 Hz and can support focus and alertness.

2.3.1 *Alpha binaural beats*

Lower frequency waves are produced when our thoughts are not focused, and our brains roam freely or relaxed, such as when we meditate or daydream. When lightly engaged in typical duties such as gardening, showering, applying cosmetics, or doing light housekeeping, alpha brainwaves are experienced. The advantages and characteristics of alpha beats are described below,

- Our cerebral hemispheres automatically synchronise or get in sync with one another.
- Daydreaming mind and relaxed, detached (absent-minded) awareness
- Makes it possible for us to recall our dreams and meditation states.
- Provides a link between the conscious and subconscious mind and a path to meditation.

2.3.2 *Beta binaural beats*

The beta state, often known as the ‘fight or flight state,’ is the underlying frequency of worry and high-level stress. It is a condition in which the body produces a lot of energy to cope with threats to survival. Beta binaural beats at a frequency of 20 Hz were employed in this experiment.

2.4 *Human energy field measure with RFI*

RFI is a digital frequency metre used to measure the frequencies within the megahertz (MHz) and gigahertz (GHz) range. It has two parts, an antenna and a frequency counter. For taking measurements, Bayonet Neill-Concelman (BNC) adapter is attached to the BNC Connector of the frequency counter. The frequency instrument has four switches: a power switch, a range switch, a mode switch, and a gate button. The range switch operates with the frequency counter range of 250 MHz or 2.8 GHz. The measured frequency was captured with the digital frequency metre’s mode switch, and the device’s resolution was estimated with the gate button. RFI digital metre uses the RFI software for translating the frequency into colour within the visible light spectrum. It displays several points and regions throughout the human body. The points are populated with the measurement of RFI frequency and based on the frequency, colours are displayed in those regions. Within the RFI document, the colours are referenced and defined to describe the status of the specific body region.

By using music therapy, some tools are utilised for getting the desired frequency of sound. It focuses on addressing the symptoms of stress or pain. Using the three intervention approaches relieves stress and has a therapeutic effect on our nervous system. They improve confidence levels and dispel darkness due to fear. Binaural beats are rarely based on frequency deviation, which causes illusion in the brain. Certain musical frequencies improve healing and increase the body’s frequency to promote health and spiritual enhancement. Using mantra therapy, both body and mind resonate within some frequency range. Inducing certain sound frequencies affects neurons synergistically as well as coherently.

3 Experimental analysis and observations

3.1 Mantra therapy

3.1.1 Experimental analysis of Gayatri mantra chanting

All the participants involved in the experiments were in the age group of 18–22 yrs. They were the engineering students of National Institute of Technology (NIT), Kurukshetra, Haryana, India. They all participated willingly, and consent was taken from them. An investigation was conducted on the human body’s aura condition before and after chanting the Gayatri mantra for three days. This study obtained the aura measurements of 13 samples three times over two weeks. The subject information for Gayatri’s mantra chanting is given in Table 1.

Table 1 The subject details of Gayatri mantra chanting

<i>Subject details</i>	
Number of samples	13
Age of sample	18–22 years
Number of male samples	5
Number of female samples	8
Duration	Thrice in two consecutive weeks

In addition to that, the therapy is applied for the first time to the participants. They were generally healthy and fit, with no specific diseases or ailments. They were not having hearing or communication problems, had no senile dementia, were conscious and taking no anxiolytic medication.

Table 2 Comparison of mean value before and after Gayatri mantra chanting

<i>Duration</i>	<i>Mean values</i>	<i>Mean value before chanting</i>	<i>Mean value after chanting</i>
First day	Physical health score	48.15	55.92
	Mental/emotional health score	58.07	61.5
	Energy stability score	43	44.23
Second day	Physical health score	56.07	56.38
	Mental/emotional health score	45.38	70.38
	Energy stability score	36.92	64.61
Third day	Physical health score	59.6	61.61
	Mental/emotional health score	53.07	70.76
	Energy stability score	33.07	65.38

Observations and calculations: Table 2 shows the mean values of physical, mental/emotional health scores and energy stability scores for three days before and after performing the Gayatri mantra on 13 samples. Figures 1, 2 and 3 represent the comparative analyses of Gayatri mantra chanting (before and after) for the three days of these samples.

Figure 1 Day 1 mantra chanting (see online version for colours)

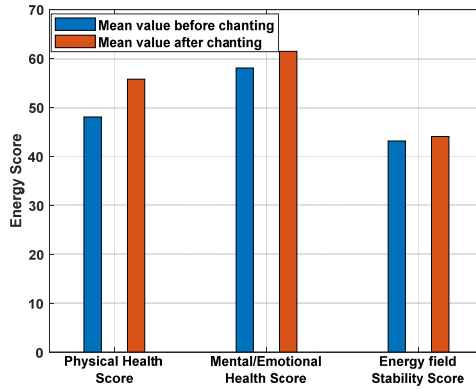


Figure 2 Day 2 mantra chanting (see online version for colours)

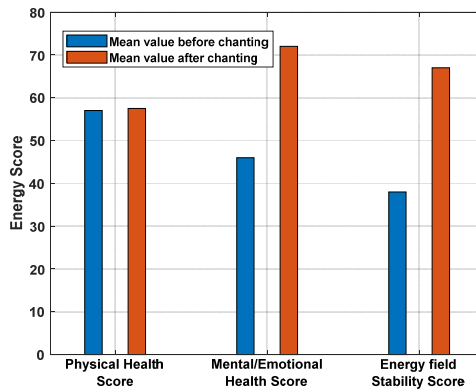
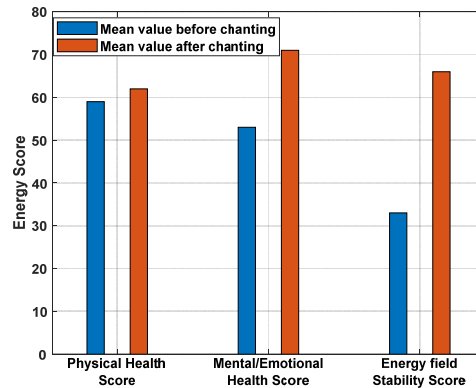


Figure 3 Day 3 mantra chanting (see online version for colours)



The results show that the mean physical health score after chanting on 1st day improves by 16% than that before chanting. The mean mental/emotional health score value increases by 6% more than before chanting. The mean energy stability score increases by

3% on the 1st day of chanting. In the case of the second day, mean physical, mental/emotional and energy stability scores improved by 1%, 55% and 75% than before chanting. Also, on the third day of the experiment, the mean physical, mental and energy stability scores improve by 3.4%, 33% and 98%, respectively.

3.1.2 Experimental analysis of Mahamrityunjaya mantra chanting

A research study was conducted on the human body’s aura condition before and after the Mahamrityunjaya mantra chanting. Aura measurements were obtained twice a week on 17 samples in this investigation. The procedure was repeated for two weeks in a row. There were 40 points of the human body locations where frequencies were obtained from the samples during this study.

Table 3 Physical, mental/emotional health and energy stability score comparison: day 1 (see online version for colours)

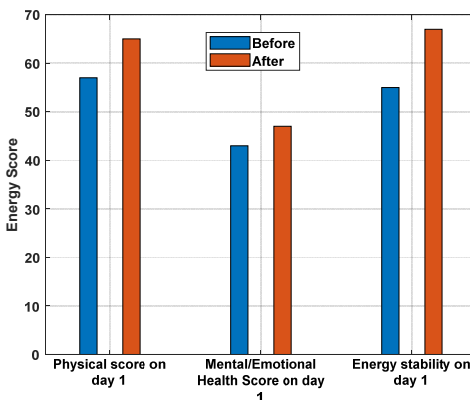
Candidate	Physical health score		Mental/emotional health score		Energy stability score	
	Before	After	Before	After	Before	After
Sample 1	58	70	30	40	30	70
Sample 2	62	64	60	50	75	75
Sample 3	53	60	30	30	40	65
Sample 4	52	64	20	50	50	50
Sample 5	56	61	20	30	30	85
Sample 6	46	67	50	30	40	75
Sample 7	59	76	40	40	85	50
Sample 8	57	72	60	60	50	75
Sample 9	65	74	40	40	60	100
Sample 10	62	66	40	50	61	50
Sample 11	54	64	80	80	30	35
Sample 12	51	57	45	60	60	69
Sample 13	49	56	60	70	40	30
Sample 14	65	73	40	50	75	65
Sample 15	70	75	30	30	45	75
Sample 16	53	60	50	40	90	100
Sample 17	65	74	40	40	60	100
Mean	57.47	64.64	43.23	46.47	54.17	66.88
Standard deviation	6.4179	6.3887	15.237	14.117	18.350	20.400

Observations and calculations: Tables 3 and 4 show the physical, mental/emotional health scores, energy stability scores and the mean values of 17 samples for the two days before and after performing the Mahamrityunjaya mantra. Figures 4 and 5 represent the comparative analyses of Mahamrityunjaya mantra chanting (before and after) for the two days based on these samples’ mean physical, mental/emotional and energy stability scores.

Table 4 Physical, mental/emotional health score and energy stability score comparison: day 2 (see online version for colours)

Candidate	Physical health score		Mental/emotional health score		Energy stability score	
	Before	After	Before	After	Before	After
Sample 1	60	70	60	70	66	68
Sample 2	15	85	30	30	61	68
Sample 3	55	75	50	50	67	71
Sample 4	60	70	60	60	63	66
Sample 5	90	100	80	60	57	65
Sample 6	50	100	60	50	59	70
Sample 7	75	65	50	60	62	66
Sample 8	80	25	80	80	55	69
Sample 9	70	65	60	50	60	61
Sample 10	70	75	50	50	65	75
Sample 11	65	20	60	65	50	60
Sample 12	30	60	40	40	54	60
Sample 13	51	48	35	50	50	65
Sample 14	75	60	50	52	54	60
Sample 15	85	85	70	60	69	73
Sample 16	50	60	20	30	57	61
Sample 17	70	65	60	50	65	68
Mean	61.82	64.35	53.82	53.35	59.64	66.23
Standard deviation	18.589	20.945	15.67	12.4567	5.6562	4.5442

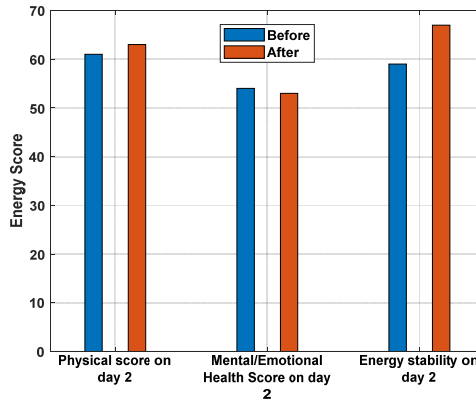
Figure 4 Before and after Mahamrityunjaya mantra chanting observations: day 1 (see online version for colours)



Comparing the mean physical health score before mantra chanting on day 1 to the mean value after mantra chanting, a 12.5% increase is noticed. Similarly, reciting the mantra on day 2 is 4.1% higher than the mean value before chanting. The mean mental/emotional health score after mantra chanting on day 1 increases by 7.5%, while it reduces by 1% on

day 2. The mean energy stability score increases significantly by 23.5% on day 1 and 11.1% on day 2.

Figure 5 Before and after Mahamrityunjaya mantra chanting observations: day 2
(see online version for colours)



3.2 Experimental analysis of music therapy

3.2.1 Experiment A

In the first part of this investigation, the effects of music therapy were observed on ten male samples. The samples were made to listen to soft flute music for 30 minutes. Table 5 shows the mean values of physical, mental/emotional health and energy stability scores as analysed by the RFI system. The mean values for the ten samples are compared in Figure 6.

Table 5 Experimental analysis of music therapy

<i>Physical health score mean</i>		<i>Mental/emotional health score mean</i>		<i>Energy stability score mean</i>	
<i>Before</i>	<i>After</i>	<i>Before</i>	<i>After</i>	<i>Before</i>	<i>After</i>
57.6	59	50.5	59.1	39.1	39.5

When comparing the mean physical health score for the ten samples before and after music therapy, an increase of 2.4% was observed. In the case of mean mental/emotional health scores before and after music therapy, a change of 17% was observed. In the case of the mean energy stability score before and after music therapy, a change of 1% was observed. Overall, analysis shows that soft music therapy significantly improves mental/emotional health.

3.2.2 Experiment B

In the second part of the investigation, the number of samples was ten males. Five samples were made to listen to bass type music (lower frequencies of the audio band 0–20 kHz), and five samples were made to listen to treble type music (higher frequencies of the audio band 0–20 kHz). RFI frequency counter measurements of only the front six

chakras were taken throughout this investigation. The figures show mean chakra frequency readings of five samples for bass music and five samples for treble music. The chakras are designated as: 1 = root chakra, 2 = sacral chakra, 3 = solar plexus, 4 = heart chakra, 5 = throat chakra, 6 = third eye chakra. Figure 7 shows the mean value of chakra energies (frequency, KHz) before and after bass music therapy. Figure 8 shows the mean value of chakra energies before and after treble music therapy.

Figure 6 Comparative study: music therapy (see online version for colours)

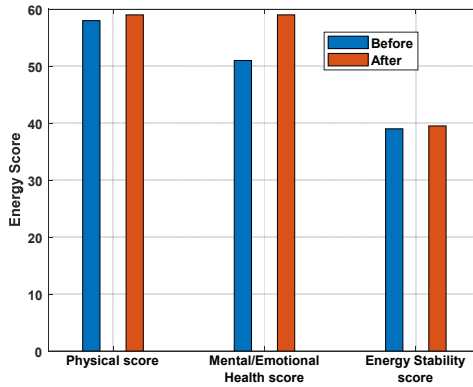


Figure 7 Bass music therapy (mean values of five samples) (see online version for colours)

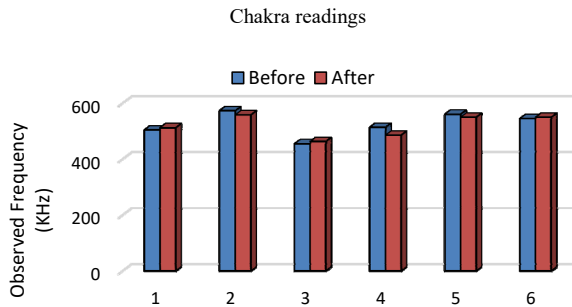
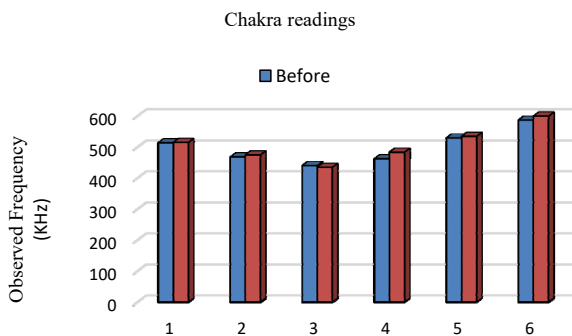


Figure 8 Treble music therapy (mean values of five samples) (see online version for colours)



The figures show that music therapy enhances/influences the frequencies of almost all chakras, indicating an improvement in the samples’ physical, mental/emotional health. Bass music positively affects the root chakra, solar plexus, throat and third eye chakras. Bass music disturbs the frequencies of the sacral and heart chakras. It means that bass music energises mainly the physical aspects of a person’s health. Treble music has a prominent effect on all the chakras except the solar plexus. It means that treble music uplifts both the physical aspects and a person’s mental well-being.

3.3 Experimental analysis of binaural beats

3.3.1 Alpha binaural beats

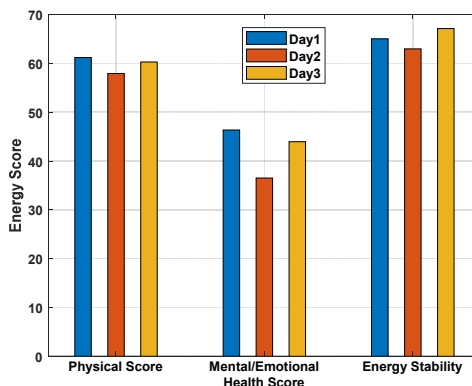
Our brain hemispheres synchronise (or are in sync) with one another on their own. The dreams are recollected, and meditation states achieved, thanks to a daydreaming mind and calm, detached (absent-minded) awareness. Increased vividness, creative vision and imagination, super learning, memory retention, attention, and focus are enhanced by experiencing and listening to alpha binaural beats.

Physical, mental/emotional, and energy stability scores over three days for 12 male samples before and after listening to alpha beats were collected and created by the RFI system and software in this experiment. Table 6 represents the mean values of the three categories of scores for the 12 samples before and after alpha binaural beat sessions. The graphical representation in Figure 9 compares each day’s outcome.

Table 6 Mean value of physical, mental/emotional and energy stability scores of samples

Day	Physical health score		Mental/emotional health score		Energy stability score	
	Before	After	Before	After	Before	After
Day 1	61.75	59.67	46.67	50.83	65.83	67.5
Day 2	58.33	62.33	36.67	68.75	63.33	66.67
Day 3	60.75	61.92	44.58	78.75	67.5	62.5

Figure 9 Comparative analyses: alpha binaural beats therapy (see online version for colours)



The following conclusions can be drawn from Figure 9, representing the mean values of the physical, mental/emotional health and energy stability scores for the three days of observations: the physical health score decreases by 3% on day 1, but increases by 7%

and 2% on day 2 and day 3. On all three days, the mental/emotional health score significantly boosts following an alpha binaural beat session, 9% on day 1, 87% on day 2 and 77% on day 3. The energy stability score improves by 2.5% and 5.3% on day 1 and day 2. However, it reduces by 7.4% on day 3.

3.3.2 Beta binaural beats

Before and after listening to beta beats, the RFI device was used to capture the frequency readings of each sample. The frequency of the human body was measured at 40 different locations. The RFI image scanner was used to construct the aura images and calculate the two-week scores. The sample details for binaural beats are given in Table 7. Tables 8 and 9 represent the mean physical, mental/emotional and energy stability values of samples before and after beta binaural beats sessions for males and females in week 1.

Table 7 The sample details of binaural beats analysis

<i>The sample details</i>	
No. of samples	16
No. of male samples	8
No. of female samples	8
Age group	18–22 years
Measurements taken	Once a week for two consecutive weeks

Table 8 Beta binaural beats analysis of males in week 1

<i>Mean values</i>	<i>Before beta binaural session</i>	<i>After beta binaural session</i>
Physical health score	55.125	60.125
Mental/emotional health score	58.75	69.375
Energy field stability score	50.0	46.25

Table 9 Beta binaural beats analysis of females in week 1

<i>Mean values</i>	<i>Before beta binaural session</i>	<i>After beta binaural session</i>
Physical health score	53.25	57.25
Mental/emotional health score	41.875	71.875
Energy field stability score	66.25	59.375

Table 10 Beta binaural analysis of males and females in week 2

<i>Mean values</i>	<i>Before beta binaural session for males</i>	<i>After beta binaural session for males</i>	<i>Before beta binaural session for females</i>	<i>After beta binaural session for females</i>
Physical health score	55.75	60.625	59.5	65.375
Mental/emotional health score	65	44.375	60.625	66.25
Energy field stability score	48.75	61.25	41.25	52.25

Figure 10 shows the comparative analyses before and after a beta binaural beat session in week 1 for males and females. Table 10 shows the beta binaural analysis of males and

females in week 2. The plots show a clear difference in physical, mental/emotional health levels, and energy field stability of people who willingly undertake beta sessions. People who score better are healthier, have greater physical energy, and are generally more attentive. In the case of males, the mean physical health score increased by 9%, the mental/emotional score increased by 18%, and energy stability reduced by 7.5%. In the case of females, the mean physical health score improved by 7.5%, the mental/emotional score improved by 72% and energy stability reduced by 10.4%.

Figure 10 Mean value for beta binaural beats in week 1 (see online version for colours)

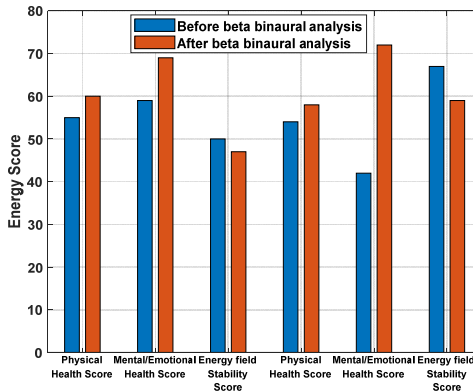


Figure 11 Mean value for beta binaural beats in week 2 (see online version for colours)

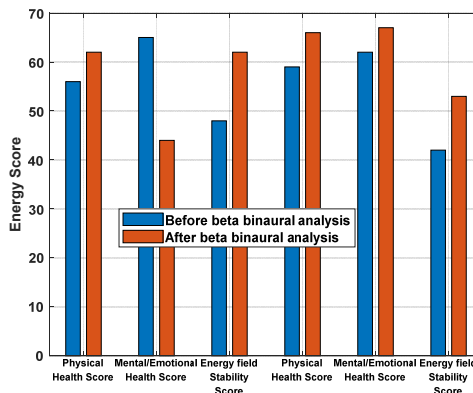


Figure 11 represents the mean value of beta binaural beats in week 2 for males and females. The mean physical health score for males improves by 8.7%, the mental/emotional health score reduces by 31.7%, and the energy field stability improves by 26%. In the case of females, all three scores show an improvement of 9.9%, 9.3% and 27%, respectively.

The data for analysing the effect of therapies are collected from 16 subjects of male and female candidates. All the candidates have physical fitness and applied therapy for the first time. The mean and standard deviation parameters represent the numerical variables, and the categorical values are represented with numbers and percentages. The comparison was given for each test before and after applying particular therapy. It was

observed with the technology of RFI. It was found that the score of physical health score, mental/emotional health score, and field stability score was higher after music therapy, mantra chanting and binaural beats. After three days of chanting the mantra, the score has been increased to 61.61, 70.76, and 65.38, respectively. Similarly, the other scores also increased enormously, improving the human energy field.

3.4 Discussion

The study's findings showed that the involvement of music therapy reduces anxiety, pain, improve comfort, and the vital signs were positively affected (McConnell and Porter, 2017). The body's pain perception and psychological reactions are affected by anxiety by reducing patient satisfaction (Vaudreuil et al., 2022). Previous studies showed that music therapy is a good non-pharmacological alternative to colonoscopy for anxiety levels and minimising pain with overall patient satisfaction (Situmorang, 2021; Moss, 2019). Music therapy is considered an alternate approach from the past to the present because of its physical, natural, social and psychological effects (Dadkhah et al., 2019; Hasanah et al., 2020; Zamanifar et al., 2020). The brain's right hemisphere is affected by music, which produces psychophysiological responses throughout the limbic system. The perception of pain and severity is deducted psychologically with the release of endorphin and encephalin. In this study, the comfort level among the intervention groups is found to be high. By chanting mantras, blood circulation becomes better (Rastogi et al., 2021a). The sohum/humsa meditation increases concentration so that one can remember more with clarity. Establishing meditation skills encourages us to learn about ourselves with active meditation (Rastogi et al., 2022b).

The auditory illusion of binaural beats is observed with two adjacent frequencies at the same time. The brain can recognise the frequency variation between two sounds. This approach has been utilised to induce meditation by correlating the thoughtful process (Shamsi et al., 2021). Binaural beats are uncomfortable in some cases because of repeated auditory stimuli, causing depression and anxiety. The literature was supported by the research findings (Rahman et al., 2021). This paper discussed the therapeutic effects of music therapy, mantra therapy and alpha-beta binaural beats therapy on human energy fields. The functioning of the human body is based on a certain frequency level. The interventions discussed in this paper are related to the resonant frequency of body health condition. It is suggested that inducing certain frequency levels helps improve energy levels and health conditions. The analysis shows that people who willingly chant mantras with goals have significantly higher scores of different health and energy levels than those who do not. Individuals with higher scores at all levels are healthier, calmer, and more stable.

The experiment of Gayatri mantra chanting was conducted with the data collected from 13 samples in the age group of 18–22 years. After the first day of chanting, the mean value increased to 55.92, 61.5, and 44.23. After the second day of mantra chanting, the mean value increased to 56.38, 70.38 and 64.61. After chanting the Gayatri mantra, the physical health score, mental/emotional health score, and energy stability score were improved to the mean value of 64.64, 46.47, and 66.88, respectively. In the case of mantra therapy, the plots show a significant change of 16%, 55% and 98% in the scores of physical health, mental/emotional health, and energy field stability of people before and after chanting mantras on three separate days.

The physical, mental/emotional health scores and energy stability scores of 17 samples were analysed for Mahamrityunjaya mantra chanting for two days. Before chanting the mantra, the mean value based on 17 samples is noted as 57.47, 43.23 and 54.17. The mean value obtained after the first day of Mahamrityunjaya mantra chanting is 64.64, 46.47 and 66.88. The standard deviation after mantra chanting is 6.3887, 14.117 and 20.400. All the sample values are increased after chanting mantras. Before the second day of mantra chanting, the mean of samples is 61.82, 53.82 and 59.64. After the second day of Mahamrityunjaya mantra chanting, the mean values obtained were 64.35, 53.35, and 66.23 for the physical, mental/emotional, and energy stability scores, respectively. After Mahamrityunjaya mantra chanting, the standard deviation obtained on the second day is 20.945, 12.4567 and 4.5442 for the physical health, mental/emotional, and energy stability scores.

The effect of music therapy was observed for ten male samples. The mean value of physical, mental and energy stability scores is 57.6, 50.5 and 39.1. After listening to soft flute music for 30 minutes, the mean value of physical, mental and energy stability scores increased to 59, 59.1 and 39.5. Similarly, listening to bass type music and treble music therapy positively affects the root chakra, solar plexus, throat and third eye chakras. When analysing the effects of music therapy, the figures show that mental/emotional scores can improve by 17% with soft music listening. Music therapy enhances/influences the frequencies of almost all the chakras, indicating improvement in the samples' physical, mental/emotional health. The study shows that Bass music mainly energises the physical aspects of a person's health and treble music uplifts a person's physical aspects and mental well-being.

For 12 male samples, the results after listening to alpha beats were collected by the RFI system. The deviation in health score is high after three days of observation. Applying alpha beta binaural beat therapy, the graphs show that the health and energy levels scores improved by 9%, 87%, and 27% for samples who freely participated in the binaural beat sessions. Before and after listening to beta beats, the human body frequency was measured in 40 different locations. Compared with the binaural session of male and female, the health score of the female is higher than male samples. The female sample's physical, mental, and energy score after the beta binaural session is 65.37, 66.25 and 52.25. The paper provides evidence that alternative therapies like music, mantra and alpha-beta binaural beats significantly enhance physical, mental and emotional wellness when used methodically. The diagnostic and imaging capabilities of RFI as a tool have been successfully examined for the study of auras.

4 Conclusions

This paper presents a novel approach to RFI-based experimental investigation for electronic measurements of human energy fields in therapeutic treatment. The paper analysed the image parameters for assessing subjects' psychophysical condition and a detailed experimental evaluation of the effect of therapeutic treatment on an individual's physical health, emotional health, and energy stability. The experiments were conducted to measure the human energy field before and after applying music therapy, mantra therapy and alpha beta binaural beats. The experimental analysis for mantra therapy has been conducted for 13 samples chanting the Gayatri mantra and Mahamrityunjaya

mantra. In the case of music therapy, the results were analysed by listening to soft flute music, bass type music and treble type music for 30 minutes. Also, the physical, mental/emotional, and energy stability scores are analysed after listening to alpha and beta binaural beats. Results of the experimental analysis show that the therapeutic treatment significantly affects humans in reducing pain and enhancing energy stability.

For future scope, this paper intends to extend this work and contribute to the existing therapeutic research by creating awareness of these therapies. Since these therapies are natural and have no side effects, they can be safely used as complementary and alternative therapies to treat various health issues. They are the energy medicine of the future. This research can also contribute by providing a roadmap to the researchers to show how health problems can be solved by manipulating energy. More experimental work in this context can be conducted, and more results can be analysed to validate this fact.

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