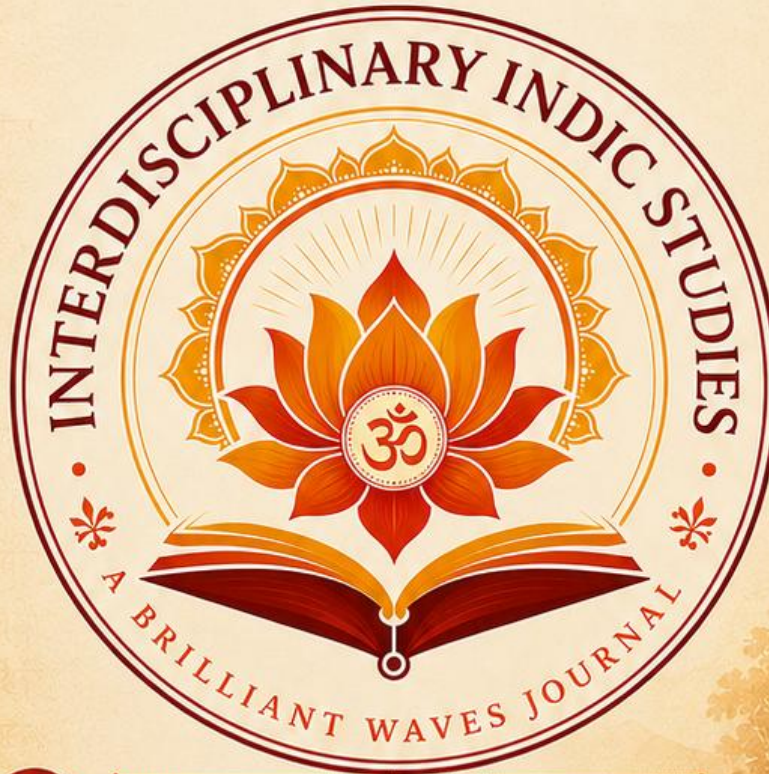


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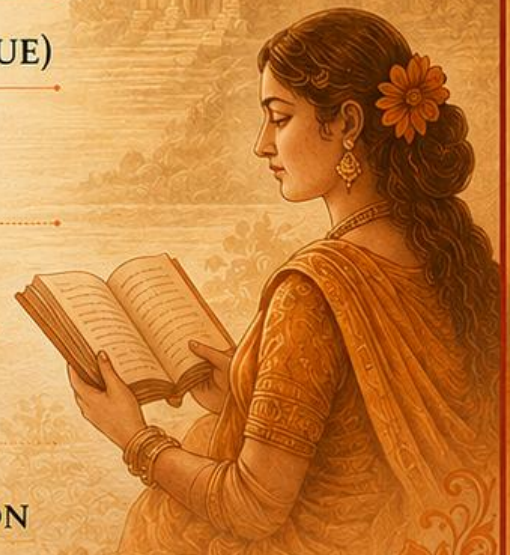
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Before and After Effect of Mahamantra on State Anxiety: A Quasi- Experimental Study on Young Adults of Kolkata

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Abstract

This quasi-experimental study aimed to investigate the impact of listening quietly to music featuring Mahamantra chanting on the state anxiety levels of young adults in Kolkata. It employed purposive sampling to apprentice 26 participants (4 males, 22 females) in the age range of 18-25 years from Adamas University Campus. With due consent, participants were required to perform a pre-test consisting of demographic questions and the State scale from the State Trait Anxiety Inventory (STAI) via Google Form. They were made to listen to a 20-minute musical Mahamantra chanting audio and then were required to complete a post-test using the same State scale. Descriptive analysis through pie charts was performed to envisage alterations in state anxiety before and after the intervention of the musical Mahamantra chanting. Due to the small sample size of 26 participants, generalizability would be difficult, hence non-parametric tests were performed. Wilcoxon Signed Rank Test was used to determine and Mann-Whitney U test, were utilized for statistical analysis due to the small sample size and unequal gender proportions. Findings revealed a decrease in state anxiety after the intervention, particularly among females, although not statistically significant. Gender-specific variations were observed, suggesting potential differential effects of the intervention. However, further research with larger samples and controlled designs is warranted to corroborate these preliminary findings and elucidate the mechanisms underlying the observed changes in state anxiety. These findings underscore the potential of Mahamantra chanting as a stress management tool for young adults, emphasizing the need for tailored interventions and gender-sensitive approaches in anxiety management programs.

Keywords: *Maha-mantra, Anxiety, Immediate Relaxation, Meditation, Chanting*

Introduction

Sanatana Dharma, often referred to as originated in the Indian subcontinent. The Hinduism, is a complex and diverse term "Sanatana Dharma" translates to religious and philosophical system that "eternal truth" or "eternal law," reflecting



its foundational belief in timeless principles that govern existence. Sanatana Dharma encompasses a vast array of beliefs, practices, rituals, and philosophies that have evolved over thousands of years. It does not have a single founder or a unified set of doctrines but instead represents a continuous tradition of spiritual exploration, moral values, and cultural practices.

Dharma refers to righteousness, duty, moral order, and cosmic law. It forms the basis of individual and societal conduct, emphasizing the fulfillment of duties and responsibilities in accordance with one's role and station in life.

Sanatana Dharma teaches that actions (karma) have consequences, and individuals experience the results of their actions across multiple lifetimes through the process of reincarnation (samsara). The ultimate goal is to attain liberation (moksha) from this cycle of birth and death.

Sanatana Dharma accommodates a diverse pantheon of deities, representing various aspects of the divine. While some sects emphasize devotion to specific gods and goddesses, others advocate the worship of a single Supreme Being (Brahman) as the ultimate reality behind the cosmos.

Sanatana Dharma draws upon a rich corpus of scriptures, including the Vedas, Upanishads, Bhagavad Gita, Ramayana, and Mahabharata, among others. These texts contain philosophical teachings, mythological narratives, ethical guidelines, and practical wisdom.

Sanatana Dharma promotes spiritual practices such as yoga, meditation, and contemplation as means of self-realization, inner purification, and union with the divine.

Sanatana Dharma encompasses a wide spectrum of beliefs, practices, and cultural expressions, accommodating diverse sects, schools of thought, and regional traditions. It emphasizes tolerance, inclusivity, and respect for differing perspectives.

The above directives within Hinduism find their roots the Vedas that are a collection of ancient sacred texts in Hinduism, composed in Sanskrit between approximately 1500 BCE and 500 BCE. There are four Vedas: Rigveda, Samaveda, Yajurveda, and Atharvaveda. Each Veda consists of hymns, rituals, prayers, and philosophical teachings. They are considered the oldest scriptures of Hinduism and serve as the foundation for Hindu religious and spiritual practices.

In this context, Hymns are religious songs or poetic compositions typically praising or addressing the divine, expressing devotion, gratitude, or supplication. In the context of Hinduism, hymns are often part of sacred texts like the Vedas, where they are composed in poetic verses called mantras. These hymns may be sung or recited during rituals, ceremonies, or personal worship to evoke spiritual feelings and connect with the divine. Hymns play a significant role in various religious traditions worldwide, serving as a

means of expressing faith, reverence, and devotion.

The term "Mahamantra" typically refers to a powerful and significant mantra in Hinduism, particularly in Vaishnavism, one of the major traditions within Hinduism. The Maha Mantra, also known as the Hare Krishna mantra, is also considered a hymn in Hinduism. It is a sacred chant that is central to the practice of bhakti yoga, emphasizing devotion to the divine. The Maha Mantra is composed of three names of God: "Hare," "Krishna," and "Rama," repeated in a specific sequence:

**“Hare Krishna, Hare Krishna, Krishna
Krishna, Hare Hare, Hare Rama, Hare
Rama, Rama Rama, Hare Hare”**

Devotees chant this mantra as a form of meditation and prayer, aiming to invoke the divine presence, purifies the mind, and deepens their spiritual connection. The Maha Mantra is considered particularly potent for invoking the grace and blessings of Lord Krishna and Lord Rama. This mantra is



believed to have great spiritual potency and is considered a means of attaining spiritual liberation or enlightenment. It is often chanted repetitively as a form of devotion, meditation, or prayer. The practice of chanting the Mahamantra is central to the traditions of Gaudiya Vaishnavism, popularized by the 15th-century saint Sri Chaitanya Mahaprabhu.

The repetitive nature of chanting, especially when synchronized with music, can induce a meditative state by helping to quiet the mind and focus attention. The rhythmic cadence of the mantra can lead to a sense of relaxation and inner peace. The sacred sounds of the mantra, combined with music, create vibrations that resonate within the body and mind. This can have a harmonizing effect on the nervous system, promoting relaxation and stress reduction.

Music has the power to evoke emotions and feelings. When combined with chanting the Maha Mantra, it can enhance the devotee's emotional connection to the divine, fostering a sense of devotion, love, and surrender. Chanting the Maha Mantra with music can serve as a form of mindfulness practice,

anchoring the practitioner's awareness in the present moment. This can help alleviate anxiety, promote mental clarity, and enhance overall well-being.

Singing the Maha Mantra with music in a group setting can create a sense of unity and shared spiritual experience among participants. This communal chanting can amplify the meditative and relaxation effects, as well as deepen the sense of connection to the divine and to others. Therefore, chanting the Maha Mantra with music or any other mantra/hymn with music can be a powerful spiritual practice that not only promotes relaxation and stress relief but also deepens one's spiritual connection and fosters inner peace and well-being. However, it becomes imperative to delve into the existing literature to see if mahamantra or other mantras/hymns with music can have a meditative or relaxation effect.

Literature Review

A study conducted on the effects of Mahamantra chanting for stress reduction



among nursing professionals in a randomized controlled trial found that Mahamantra chanting is a simple yet potentially effective coping mechanism with the potential to improve stress and quality of life (Niva et al., 2021).

Govindan et al. (2022) investigated the chanting of the Mahamantra and other approaches towards overall well-being in a comparative study. The study found that Mahamantra meditation was proven to be the best method through modern scientific experimentation. Additionally, it claims that modern scientific approaches toward peace establishment are converging with the already existing Vedic principles, which have been available for more than 5000 years in written form.

Furthermore, Sekar et al. (2019) conducted research on the effect of Mahamantra chanting on Autonomic and cognitive function in an interventional study. The study revealed a significant increase in parasympathetic tone (LF/HF ratio) ($p < 0.05$), shortened ART ($p = 0.05$), VRT (p

$= 0.01$), and significantly decreased serum cortisol levels ($p = 0.05$) among subjects who underwent Mahamantra meditation.

Whitehurst, R. (2011) authored a research-based book named "Mahamantra Yoga," where he emphasized that Mahamantra Yoga is both a technical treatise on the method of chanting the Hare Krishna Mantra. In many forms of Indian spiritual life, a sacred phrase such as the Hare Krishna Mantra is recited repeatedly in the pursuit of steadiness of the mind and access to the divine presence.

In an investigation on OM Mantra chanting, it was found that 50 subjects (male and female aged 18-25 years) were classified into two groups: Experimental group ($N = 25$) and Control group ($N = 25$). After applying one month of Yogic intervention (Om Chanting) in the experimental group only, results showed a significant decrease in anxiety levels of young adults in the experimental group, but no significant difference in the control group was found. This indicates significant

effects of Om Mantra chanting on the anxiety level of young adults (Verma et al., 2022).

Gaumond, D. (2007) conducted research on mantra chanting, where he investigated the use of certain vocalized “power sounds,” referred to as “mantras,” and their effect on human consciousness.

Brown, S.B. (2021) investigated meditation and explored in his study the practice of kirtan in the United States through various interviews, fieldwork, and analysis of recordings made at various Krishna temples and festivals. The study demonstrated the musical techniques that can be spontaneously deployed in acts of collective worship to create intense feelings of deep, focused meditation and uninhibited, expressive bliss.

A study on mantra music was conducted to explore three aspects of Hare Krishna kirtan: theological, personal experiential, and social. Chanting is used to spread the message of Krishna consciousness and

provide opportunities for members of different religious and social groups to come together to celebrate (Black, S. 2008).

Kumar, N. (2019) conducted research on two yoga-based mantra recitations: Gayatri Mantra recitation and Om recitation. The study aimed to find out the effect of Gayatri Mantra and Om recitation on selective attention as measured by the color stroop test. The study was performed on undergraduate males aged 18-30 years. Participants participated in Gayatri Mantra and Om recitation for two consecutive days for 15 minutes, and the sequence of the session was randomly assigned to the participants. Before the test and after completing each session, attention was assessed using the color stroop test. Within-group comparison showed that due to Gayatri Mantra and Om recitation, stroop scores improved in both groups ($P > 0.001$; Wilcoxon Signed Rank Test). Stroop score improvement percentages were 16.6% after Gayatri Mantra recitation



and 9.26% after OM recitation. This study shows that both Gayatri Mantra and simply sitting led to improvement in attention as measured by the stroop task.

A study focused on kirtan, which can be a vehicle for spiritual realization and communion with the divine (Brown, S. 2012). It examines how kirtan has the potential to create experiences that are perceived as being personally and spiritually meaningful, not only for adherents to Krishna consciousness but also for those who ascribe to different belief systems but nevertheless find elements of common spiritual experiences within the kirtan process.

Chanting is a rhythmic, repetitive vocalization practiced in a wide range of cultures. It is used in spiritual practice to strengthen community, heal illness, and overcome psychological and emotional difficulties (Perry et al., 2021). This investigation examined the psychological and contextual factors associated with mystical states during chanting. Data were

analyzed from 464 participants across 33 countries who regularly engaged in chanting. Results showed that 60% of participants experienced mystical states during chanting.

Absorption, altruism, and religiosity were higher among people who reported mystical states while chanting compared to those who did not report mystical states. There was no difference in mystical experience scores between vocal, silent, group, or individual chanting, and no difference in the prevalence of mystical states across chanting traditions. However, an analysis of subscales suggested that mystical experiences were especially characterized by positive mood and feelings of ineffability. The research sheds new light on factors that impact chanting experiences.

Another study aimed to evaluate a novel, cost-effective therapy for treating insomnia. The study employed a randomized controlled trial with two groups: therapy and control. Participants



were screened using research diagnostic criteria for insomnia recommended by the American Academy of Sleep Medicine (AASM) before undergoing simple randomization. The study included participants from Hindu, Muslim, and Christian faiths who were assigned to either the therapy group (Hare Krishna Mantra Based Cognitive Therapy: HMBCT) or the non-therapy group (control with relaxing music).

Both groups underwent six weeks of treatment with traditional cognitive-behavioral therapy techniques, including stimulus control, sleep restriction, and sleep hygiene. Each week, participants in the therapy group received six 45-minute sessions of HMBCT in the evening and were asked to practice the therapy in the evening of the day of sleep recording. Sleep quality was assessed using behavioral measures, sleep logs, and polysomnography recordings before and after the six-week treatment period. There was a

one-week period before and after the six weeks when no treatment was provided.

Results showed that HMBCT significantly improved sleep quality measures, including a 61% reduction in Epworth Sleepiness Scale (ESS) scores and an 80% reduction in Insomnia Severity Index (ISI) scores. Participants did not take any sleep-inducing medication during the study. These findings suggest that adding mantra chanting to traditional cognitive-behavioral therapy may improve sleep quality (Behera et al., 2023).

This study by Damerla et al. (2018) focuses on the evaluation of audible and mindful practice of chanting meditation on heart variability (HRV) and on cognitive disposition. Chanting is practiced in many religious and secular traditions and involves rhythmic vocalization or mental repetition of a sound or phrase. This study examined how chanting relates to cognitive function, altered states, and quality of life across a wide range of traditions.

A global survey was used to assess experiences during chanting, including flow states, mystical experiences, mindfulness, and mind wandering (Perry et al., 2022). Further, attributes of chanting were assessed to determine their association with altered states and cognitive benefits, and whether psychological correlates of chanting are associated with quality of life. Results revealed that different aspects of chanting were associated with distinctive experiential outcomes.

Stronger intentionality (devotion, intention, sound) and higher chanting engagement (experience, practice duration, regularity) were associated with altered states and cognitive benefits. Participants whose main practice was call and response

chanting reported higher scores of mystical experiences. Participants whose main practice was repetitive prayer reported lower mind wandering. Lastly, intentionality and engagement were associated with quality of life indirectly through altered states and cognitive benefits. This research sheds new light on the phenomenology and psychological consequences of chanting across a range of practices and traditions.

From the above studies, it is evident that there are very few researches on young adults dealing with the impact of listening quietly to the Music Mahamantra Chanting on current psychological states such as state anxiety.

Rationale of the Study

Sanatana Dharma, commonly known as Hinduism, is a complex religious and philosophical system deeply rooted in the Indian subcontinent. Within Hinduism, the practice of chanting sacred mantras,

particularly the Mahamantra or Hare Krishna mantra, holds significant spiritual importance. While previous research has explored the effects of Mahamantra chanting on various aspects such as stress

reduction, autonomic function, and cognitive benefits, there remains a gap in the literature regarding its impact on specific psychological states, particularly state anxiety, among young adults.

Given the prevalence of anxiety disorders among young adults and the potential benefits of mantra chanting in promoting relaxation and stress relief, it is essential to investigate the effects of listening quietly to music with Mahamantra chanting on state anxiety levels. This study aimed to bridge this gap by examining how exposure to Mahamantra chanting, combined with music, influences the state anxiety levels of young adults in Kolkata.

Drawing on existing literature, which demonstrates the therapeutic potential of mantra chanting and the meditative effects of rhythmic vocalization, this study seeks to contribute to our understanding of the psychological effects of Mahamantra chanting in a specific demographic group. By focusing on young adults, who often experience high levels of stress and

anxiety, this research aimed to provide insights into the potential role of Mahamantra chanting as a complementary intervention for promoting mental well-being among this population.

Furthermore, this study aligned with the broader objective of exploring the therapeutic applications of traditional Hindu practices in contemporary contexts. By investigating the impact of Mahamantra chanting on state anxiety, this research not only sheds light on the psychological benefits of a centuries-old spiritual practice but also highlights its relevance in addressing modern mental health challenges.

In summary, this study sought to address a significant gap in the literature by examining the effects of Mahamantra chanting on state anxiety levels among young adults in Kolkata. By elucidating the potential therapeutic effects of this ancient practice, the findings of this research may inform the development of

novel interventions for promoting mental

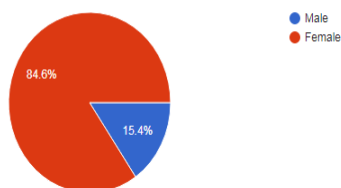
well-being in this demographic group.

Research Methodology

Sample Design and Sample size: 26 participants were approached for this study with purposive sampling method. Out of this, 4 were males, and 22 were females. All the participants were in the age range of 18- 25 years, and were college-going students of Kolkata, pooled from Adamas University Campus.

- Inclusion criteria- Participants from Kolkata and within Adamas University Campus, in the age range of 18- 25 years, males and females
- Exclusion criteria- Anyone outside of Kolkata and out of Adamas University Campus, below or above the age range 18- 25 years, third gender.

Sex:
26 responses



Tools for the study: Google form, a 20 minute music mantra audio. For measuring the state anxiety of the participants, State scale from State Trait Anxiety Inventory was used, which had 20 questions, and opinion had to be rated on a Likert scale ranging from 1 - Not at all , 2- A little , 3- Somewhat, 4- Very Much So . The internal consistency coefficients of the scale have range from 0.86 to 0.95; test-retest reliability coefficients have ranged from 0.65 to 0.75.

Design of the study: A post-test – pre-test design was implemented for the study, to delve into the before and after effects of the music mahamantra listening.

Ethical Considerations: In the first phase, participants were approached to take consent for participating in the study. Once they gave the verbal consent, they were debriefed that on the day of the study, they would be required to bring headphones as they would be required to listen to music.

Procedure: On the decided day of the intervention, the participants were seated in a classroom with normal room temperature. At

first they were given a google form that comprised demographic questions, a written consent and the first section having state scale from STAI Questionnaire, that they were asked to fill. Once they all filled the form, they were made to go through a link on the 2nd section of the google form, which took them to a music mantra chanting audio. They were asked to close their eyes, sit with back straight, and focus on the music as it goes through their headphones, the words and syllables of the mantra, while deep long breathings. When the music ended, the researcher asked them to fill the 3rd section of the form, where again, the State scale of STAI inventory was given.

Data analysis: for analysing the data, descriptive interpretation was done, in terms of pie charts for each question of the State scale, to see if there were substantial differences in how participants felt and rated the questions after the music intervention. Due to the small sample size and unequal proportion of males and females, non-parametric statistical analysis was done. To determine statistically the significant differences in before and after conditions, Wilcoxon Signed Rank Test was done, and to determine if there were significant differences among males and females, Mann-Whitney U test was done.

Aim of the Study

The aim of this study is to investigate the impact of listening quietly to music

featuring Mahamantra chanting on the state anxiety levels of young adults residing in Kolkata.

Objectives of the Study

1. To assess the before and after effect of listening quietly to music featuring Mahamantra chanting on the state anxiety levels of young adults in Kolkata, by comparing their anxiety levels before and after exposure to the intervention.
2. To explore potential differences in the before and after effects of Mahamantra chanting between male and female

participants, aiming to identify any gender-specific variations in the response to the intervention regarding state anxiety levels.

Hypothesis

Null Hypothesis¹- There is no difference between before music mantra state anxiety and after music mantra state anxiety in female group.

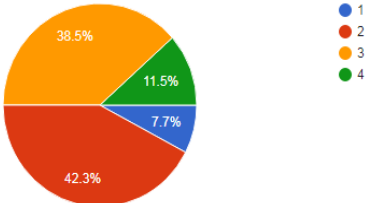
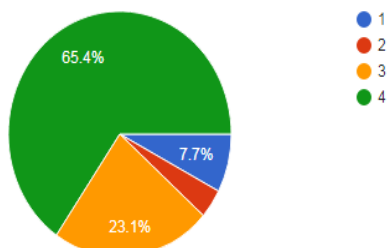
Null Hypothesis²- There is no difference between before music mantra state anxiety

and after music mantra state anxiety in male group.

Null Hypothesis³- There is no difference in state anxiety among the participants in before and after maha mantra intervention.

Findings

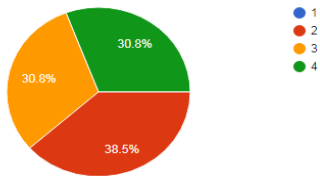
Descriptive Findings:

Responses towards State Anxiety Questionnaire Prior to the Administration of the Music Mantra Chanting	Responses towards State Anxiety Questionnaire After the Administration of the Music Mantra Chanting
1 - Not at all 2- A little 3- Somewhat 4- Very Much So	1 - Not at all 2- A little 3- Somewhat 4- Very Much So
1. Feel calm 26 responses 	1. Feel calm 26 responses 

In this figure, it is evident that before the mantra music only, 11.5 % participants reported feeling very much calm, 38.5% participants felt calm somewhat, 42.3% participants felt little calm & 7.7% participants did not feel calm at all before the mantra music.

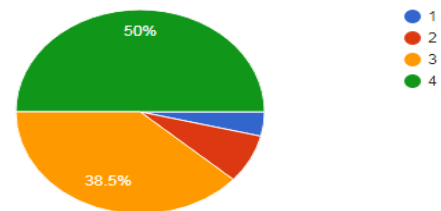
From the above figure, it is evident 65.4 % of the participants felt very calm, 23.1% participants felt calm somewhat, 7.7% participants did not feel calm at all after the exposure of mantra music.

2. I feel secure
26 responses



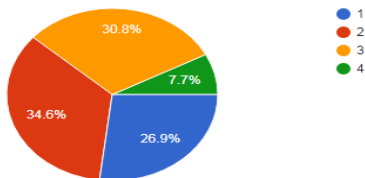
In this above chart, it is evident that 30.8% participants reported very much secure, 30.8% participants felt secure somewhat & 38.5% participants felt secure a little before the mantra music.

2. I feel secure
26 responses



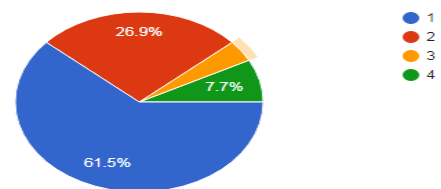
In this above figure, it is evident that 50% of the participants reported that they felt very much secure, 38.5% participants felt secure somewhat & 7.7% participants felt secure a little after the mantra music.

3. I feel tense
26 responses



In this figure, it is shown that only 7.7% participants felt tensed, 30.8% participants felt tense somewhat, 34.6% participants felt

3. I feel tense
26 responses

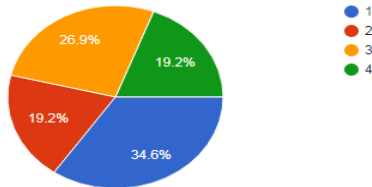


In this figure, it is shown that only 7.7% participants felt tensed, 26.9% participants felt tense a little & 61.5% participants did not feel tense at all after the exposure of mantra

tense a little & 26.9% participants did not feel tense at all before the exposure of mantra music.

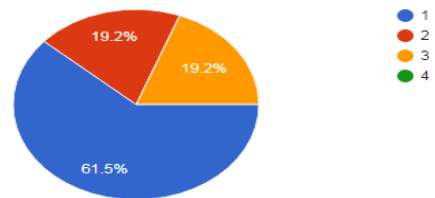
music.

4. I feel strained
26 responses



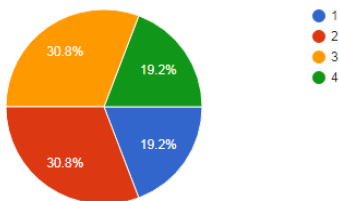
In this chart, 19.2% participants felt strained very much, 26.9% participants felt strained somewhat, 19.2% participants felt strained a little & 34.6% participants did not feel strained at all before the mantra music.

4. I feel strained
26 responses



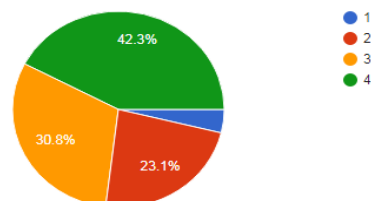
In this chart, it is evident that 19.2% participants felt strained very much, 19.2% participants felt strained somewhat, 19.2% participants felt strained a little & 61.5% participants did not feel strained at all after the mantra music.

5. I feel at ease
26 responses

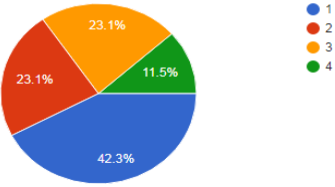
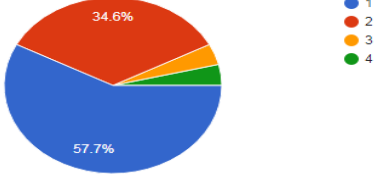
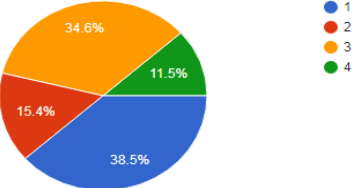
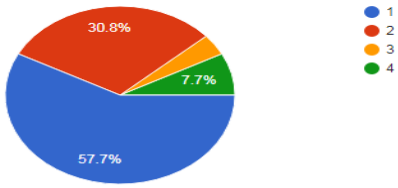


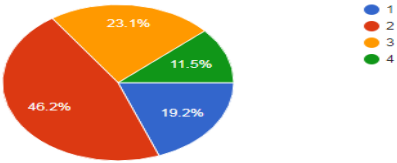
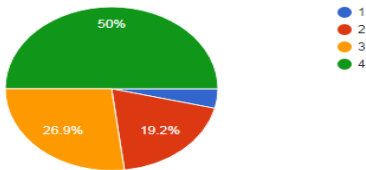
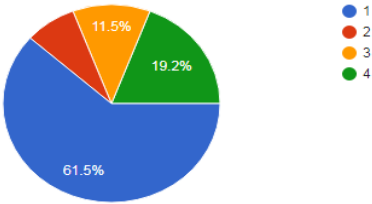
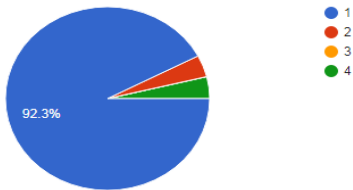
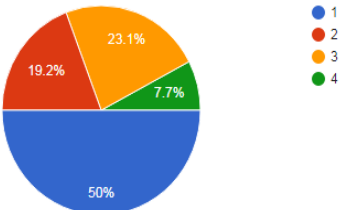
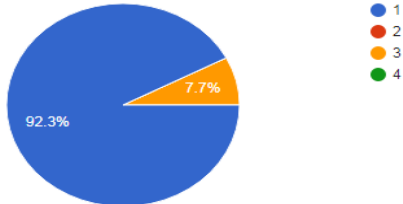
In this figure, it is evident that 19.2% participants felt at ease very much, 30.8% participants felt at ease somewhat, 30.8% participants felt at ease a little & 19.2% participants did not feel at ease at all before exposure of mantra music.

5. I feel at ease
26 responses



In this figure, it is evident that 42.3% participants felt at ease very much, 30.8% participants felt at ease somewhat & 23.1% participants felt at ease a little after exposure of mantra music.

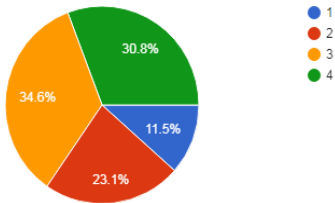
6. I feel upset 26 responses  In this chart, 11.5% participants felt upset very much, 23.1% participants felt upset somewhat, 23.1% participants felt upset a little, 42.3% participants did not feel upset at all before the mantra music.	6. I feel upset 26 responses  In this chart, 34.6% participants felt upset a little & 57.7% participants did not feel upset at all after the mantra music.
7. I am presently worrying over possible misfortunes 26 responses  In this above chart, it is shown that 11.5% participants felt worry over possible misfortunes very much, 34.6% participants felt worry over possible misfortunes somewhat, 15.4% participants felt worry over possible misfortunes a little & 38.5% participants did not worry over possible misfortunes at all before the mantra music.	7. I am presently worrying over possible misfortunes 26 responses  In this above chart, it is shown that 7.7% participants felt worry over possible misfortunes very much, 30.8% participants felt worry over possible misfortunes a little & 57.7% participants did not worry over possible misfortunes at all after the mantra music.

8. I feel satisfied 26 responses  In this chart, it is evident that 11.5% participants felt satisfied very much, 23.1% participants felt satisfied somewhat, 46.2% participants felt satisfied a little & 19.2 % participants didn't feel satisfied at all before the mantra music.	8. I feel satisfied 26 responses  In this chart, it is evident 50% participants felt satisfied very much, 26.9% participants felt satisfied somewhat, 19.2% felt satisfied a little after the mantra music.
9. I feel frightened 26 responses  It is seen in this chart that, 19.2% participants felt frightened very much, 11.5% participants felt frightened somewhat , 61.5% participants didn't feel frightened at all before exposure of the mantra music.	9. I feel frightened 26 responses  It is seen in this chart that, 92.3% participants did not feel frightened at all after exposure of mantra music.
10. I feel uncomfortable 26 responses 	10. I feel uncomfortable 26 responses 

In this figure, it is shown that 7.7% participants felt uncomfortable very much, 23.1% participants felt uncomfortable somewhat, 19.2% participants felt uncomfortable a little & 50% participants did not feel uncomfortable at all before the mantra music.

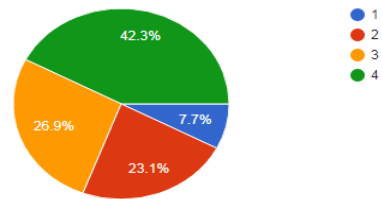
In this figure, it is shown that 92.3% participant did not feel uncomfortable at all after the mantra music.

11. I feel self-confident
26 responses



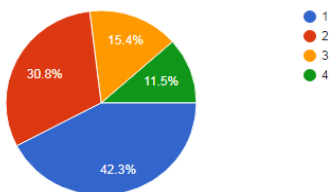
In this chart, it is seen that 30.8% participants felt self-confident very much, 34.6% participants felt self-confident somewhat, 23.1% participants felt self-confident a little & 11.5% participants did not feel self-confident at all before exposure of the mantra music.

11. I feel self-confident
26 responses

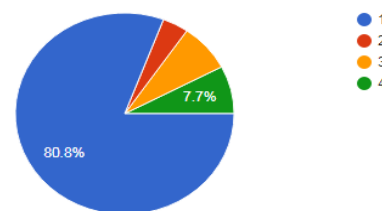


In this chart, it is seen that 42.3% participants felt self-confident very much, 26.9% participants felt self-confident somewhat, 23.1% participants felt self-confident a little & 7.7% participants did not feel self-confident at all after exposure of the mantra music.

12. I feel nervous
26 responses



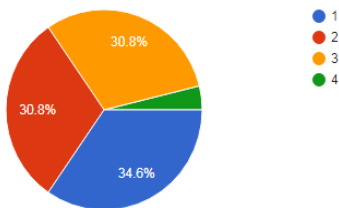
12. I feel nervous
26 responses



It is seen in this figure, 11.5% participants felt nervous very much, 15.4% participants felt nervous somewhat, 30.8% participants felt nervous a little & 42.3% participants did not feel nervous at all before the mantra music.

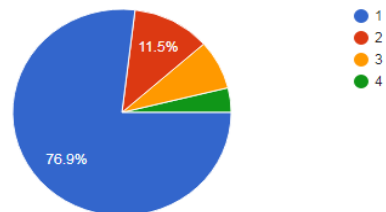
It is seen in this figure, that 7.7% participants felt nervous very much & 80.8% participants did not feel nervous at all after the mantra music.

13. I feel jittery
26 responses



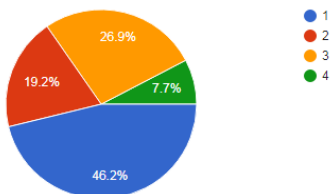
In this chart, it is evident that 30.8% participants felt jittery somewhat, 30.8% participants felt jittery a little, 34.6% participants did not feel jittery at all before exposure of the mantra music.

13. I feel jittery
26 responses



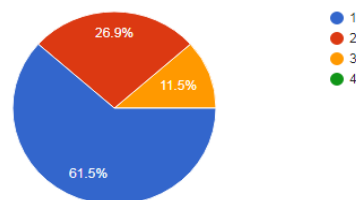
In this chart, it is evident that 11.5% participants felt jittery a little & 76.9% participants are not feeling jittery at all after the mantra music.

14. I feel indecisive
26 responses



It is seen in this figure that 7.7% participants felt indecisive very much, 26.9% participants felt indecisive somewhat

14. I feel indecisive
26 responses

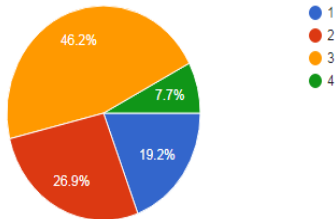


Whereas, only 11.5% participants felt indecisive somewhat, 26.9% participants felt indecisive a little & 61.5% participants means more than half of the samples didn't feel

or lesser than very much, 19.2% participants felt indecisive a little & rest 46.2% participants didn't feel indecisive at all before listening the mantra music.

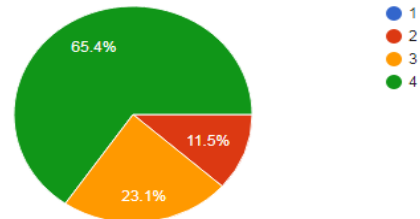
indecisive at all after listening the mantra music.

15. I feel relaxed
26 responses



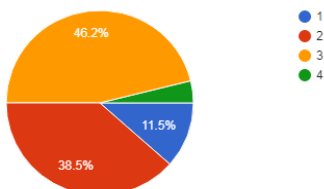
In the above chart, it is evident that only 7.7% participants felt relaxed very much, 46.2% participants felt relaxed lesser than so much, 26.9% participants felt relaxed at the measurement of little & 19.2% participants didn't feel relaxed at all before the mantra music.

15. I feel relaxed
26 responses



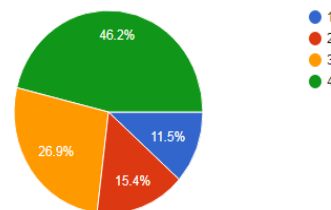
Here, in this above chart, it is evident that 65.4% participants felt relaxed very much, 23.1% participants felt relaxed somewhat & only 11.5% participants felt relaxed a little bit after listening to the mantra music.

16. I feel content
26 responses



In this figure, it is seen that 46.2% participants felt content lesser than very

16. I feel content
26 responses

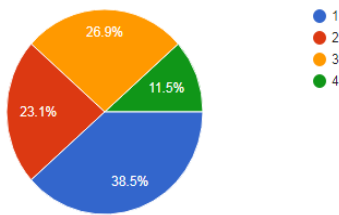


Whereas, in this figure, it is seen that 46.2% participants felt content very much which indicates approximately half of the samples

much or somewhat, 38.5% participants felt content a little & 11.5% participants didn't feel content at all before exposure of the mantra music .

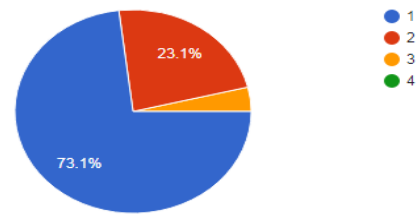
felt content very much , 26.9% participants felt content somewhat, 15.4% participants felt content a little bit & only rest 11.5% participants didn't feel content at all here after exposure of the mantra music .

17. I feel worried
26 responses



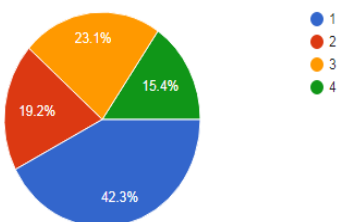
In the above chart, it is found out that 11.5% participants felt worried very much, 26.9% participants felt worried somewhat , 23.1% participants felt worried a little bit & 38.5% participants didn't feel worry at all before listening the mantra music.

17. I feel worried
26 responses



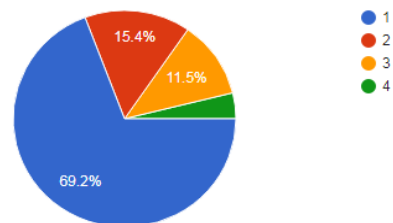
Whereas , in this above chart, it is found out that only 23.1% participants felt worried a little bit & 73.1% participants didn't feel worry at all after the mantra music. Here , we see a very much big difference in data before listening the mantra music and after listening the mantra music in terms of comparison.

18. I feel confused
26 responses

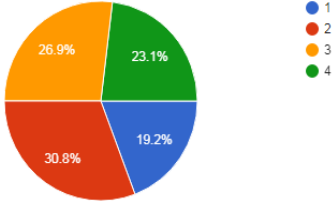
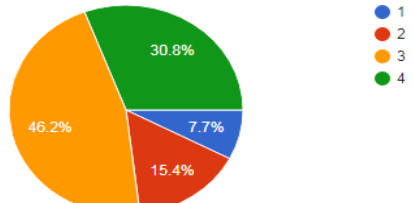
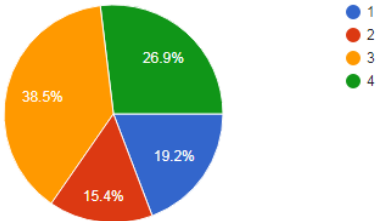
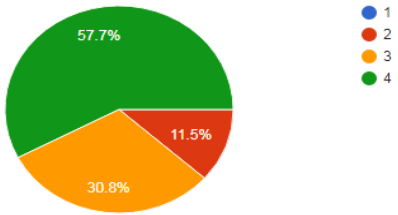


It is shown in this figure that , 15.4% participants felt confused very much, 23.1%

18. I feel confused
26 responses



only 11.5% participants felt confused somewhat, 15.4%

participants felt confused somewhat, 19.2% participants felt confused a little & 42.3% participants did not feel confused at all here before the mantra music .	participants felt confused a little bit & 69.2% participants did not feel confused at all after the mantra music.
19. I feel steady 26 responses  Here , in this chart it is seen that 23.1% participants felt steady very much, 26.9% participants felt steady somewhat , 30.8% participants felt steady a little bit & rest 19.2% participants did not feel steady at all before exposure of the mantra music.	19. I feel steady 26 responses  In this chart, it is seen that 30.8% participants felt steady very much, 46.2% participants felt steady somewhat, 15.4% participants felt steady a little bit & 7.7% participants didn't feel steady at all after exposure of the mantra music.
20. I feel pleasant 26 responses  In the above figure, it is found out that , 26.9% participants felt pleasant very much, 38.5% participants felt pleasant somewhat , 15.4% participants felt pleasant a little bit &	20. I feel pleasant 26 responses  Whereas, in the above figure , it is found out that 57.7% participants means more than half of the samples felt pleasant very much, 30.8% participants felt pleasant lesser than very much or somewhat & only 11.5% participants felt

19.2% participants didn't feel pleasant at all before listening the mantra music.	pleasant a little bit after listening the mantra music.
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Statistical Treatment Findings:

Result Table 1: Comparison of Before and After State Anxiety among Females

Ranks				
		N	Mean Rank	Sum of Ranks
FemaleAfter – FemaleBefore	Negative Ranks	13 ^a	10.31	134.00
	Positive Ranks	8 ^b	12.12	97.00
	Ties	1 ^c		
	Total	22		
a. Female After < Female Before				
b. Female After > Female Before				
c. Female After = Female Before				

From the above table it can be seen that there are 13 instances where the rank are lower in the after condition than the before condition. Also there are 8 instances where the ranks in after condition is higher than the before condition. Hence, it can be interpreted that on average the females had lower ranks in state

anxiety after the mantra music intervention compared to the before condition. Also, the mean ranks for negative instances suggest that on average, the ranks of the females decreased after the music mantra intervention.

Test Statistics ^b	
	Female After – Female Before
Z	-.644 ^a
Asymp. Sig. (2-tailed)	.519
a. Based on positive ranks.	
b. Wilcoxon Signed Ranks Test	

The above table is indicative that on average the ranks of the females for state anxiety decreased after the intervention of the music mantra introduced. The p value of 0.519 is indicative that it is greater than the

significance level of 0.05 suggesting that there is not enough evidence to state that the difference in the before and after scores of state anxiety are significant.

Result Table 2- Comparison of Before and After State Anxiety among Males

Ranks				
		N	Mean Rank	Sum of Ranks
Male After - Male Before	Negative Ranks	3 ^a	2.00	6.00
	Positive Ranks	0 ^b	.00	.00

	Ties	1 ^c		
	Total	4		
a. Male After < Male Before				
b. Male After > Male Before				
c. Male After = Male Before				

The table above is reflective that there are 3 instances where the scores on state anxiety are lower in the after condition than the before condition after the music mantra intervention. Therefore, the interpretation is that, on

average, the ranks of males decreased after the administration of music mantra, with no males experiencing an increase in state anxiety, and at-least one instance of on change in state anxiety.

Test Statistics ^b	
	Male After – Male Before
Z	-1.633 ^a
Asymp. Sig. (2-tailed)	.102
a. Based on positive ranks.	
b. Wilcoxon Signed Ranks Test	

The above table is indicating that the negative value is suggestive on average that state anxiety of males decreased after the administration of mantra music. The p-value value is greater than the significance level of 0.05 suggesting that there is not enough evidence to reject the null hypothesis.

Result Table 3: Comparison among Males and Females

Ranks

	GENDER	N	Mean Rank	Sum of Ranks
BEFORE	1	22	13.34	293.50
	2	4	14.38	57.50
	Total	26		
AFTER	1	22	13.43	295.50
	2	4	13.88	55.50
	Total	26		

The table above is reflective that the 22 females have a mean rank of 13.34 and a sum of ranks of 293.50. the 4 males have a mean rank of 14.38 and a sum of ranks of 57.50. Therefore, for both the genders, the mean ranks for state anxiety are relatively close before and after the music mantra administration. The sum of ranks for state anxiety for each gender group also shows consistency before and after the music mantra. Therefore, there doesn't appear to be a significant difference in state anxiety

For both before and after conditions, the p-values (0.803 and 0.915 respectively) are greater than the typical significance level

Test Statistics ^b		
	Males	Females
Mann-Whitney U	40.500	42.500
Wilcoxon W	293.500	295.500
Z	-.249	-.107
Asymp. Sig. (2-tailed)	.803	.915
Exact Sig. [2*(1-tailed Sig.)]	.811 ^a	.918 ^a
a. Not corrected for ties.		
b. Grouping Variable: GENDER		

of 0.05. This suggests that there is not enough evidence to reject the null hypothesis that there is no significant difference in the state anxiety in among males and females. In summary based on this analysis, while there is a trend

indicating a decrease in state anxiety after the music mantra intervention, the difference is not statistically significant at the conventional significance level of 0.05.

Discussion

The descriptive findings presented in the responses towards the State Anxiety Questionnaire prior to the administration of the Music Mantra Chanting provide valuable insights into the participants' emotional states and feelings before engaging with the mantra music. Here's an interpretation of the findings:

Before the mantra music, a significant proportion of participants reported feeling some level of calmness, with 11.5% feeling very calm, 38.5% feeling somewhat calm, and 42.3% feeling a little calm. Only 7.7% did not feel calm at all. Participants also expressed a sense of security before engaging with the mantra music, with 30.8% feeling very secure,

30.8% feeling somewhat secure, and 38.5% feeling a little secure. While a minority of participants reported feeling tense (7.7%) or strained (19.2%) very much, a considerable portion experienced some level of tension (30.8% somewhat tense, 34.6% a little tense) or strain (26.9% somewhat strained). A notable percentage of participants felt at ease to some extent (19.2% very much at ease, 30.8% somewhat at ease, 30.8% a little at ease), while a minority felt uncomfortable (7.7% very uncomfortable, 23.1% somewhat uncomfortable, 19.2% a little uncomfortable).

Participants experienced various emotional states before the mantra music, including

feeling upset (11.5% very upset, 23.1% somewhat upset), worried about possible misfortunes (11.5% very worried, 34.6% somewhat worried), satisfied (11.5% very satisfied, 23.1% somewhat satisfied), frightened (19.2% very frightened, 11.5% somewhat frightened), and indecisive (7.7% very indecisive, 26.9% somewhat indecisive). A portion of participants reported feeling self-confident (30.8% very self-confident, 34.6% somewhat self-confident) and nervous (11.5% very nervous, 15.4% somewhat nervous) to varying degrees. Some participants felt jittery (30.8% somewhat jittery, 30.8% a little jittery) or confused (15.4% very confused, 23.1% somewhat confused) before the mantra music. Before engaging with the mantra music, participants felt varying levels of contentment (46.2% somewhat content, 38.5% a little content) and pleasantness (26.9% very pleasant, 38.5% somewhat pleasant).

The descriptive findings from the responses towards the State Anxiety

Questionnaire after the administration of the Music Mantra Chanting intervention are as follows-

There was a notable increase in the percentage of participants reporting feeling very calm after the mantra music, with 65.4% indicating a significant increase from the pre-music state. Only 7.7% reported not feeling calm at all after exposure to the mantra music. A substantial proportion of participants reported feeling very secure after engaging with the mantra music, with 50% expressing this sentiment. This represents a notable increase compared to the pre-music state. The percentage of participants feeling tense decreased significantly after exposure to the mantra music, with only 7.7% reporting feeling tense. Similarly, a significant reduction in feeling strained was observed, with 61.5% of participants not feeling strained at all after the mantra music. The majority of participants reported feeling at ease after exposure to the mantra music, with 42.3% feeling very

at ease. Additionally, a large percentage (92.3%) did not feel uncomfortable at all after listening to the mantra music.

There was a decrease in negative emotional states such as feeling upset and worried about possible misfortunes after exposure to the mantra music. Only 34.6% reported feeling upset a little, and 7.7% felt worried a little, indicating a significant reduction in these negative emotions. A substantial proportion of participants reported feeling satisfied (50%) and content (46.2%) very much after exposure to the mantra music, indicating positive emotional outcomes. The majority of participants did not feel frightened (92.3%) or confused (69.2%) at all after listening to the mantra music, indicating a significant reduction in these negative emotions. A notable percentage of participants reported feeling very confident (42.3%) and not feeling nervous at all (80.8%) after exposure to the mantra music, indicating increased confidence and reduced nervousness.

The majority of participants did not feel jittery (76.9%) or indecisive (61.5%) at all after listening to the mantra music, indicating a significant reduction in these negative emotions. A majority of participants reported feeling pleasant very much (57.7%) after exposure to the mantra music, indicating positive emotional experiences. Comparing the above two, it can be understood that, there was a noticeable increase in the percentage of participants reporting feeling very calm after exposure to the mantra music. Before the music, only 11.5% reported feeling very calm, whereas after the music, this number significantly rose to 65.4%. Before the music, 30.8% of participants reported feeling very secure, which increased slightly to 50% after exposure to the mantra music.

The percentage of participants feeling tense decreased from 7.7% before the music to 7.7% after, indicating a minor

change. However, there was a substantial reduction in feeling strained, from 19.2% before the music to 19.2% after. The proportion of participants feeling at ease increased significantly from 19.2% before the music to 42.3% after. Similarly, discomfort decreased substantially from 92.3% before to 92.3% after the music. Negative emotional states like feeling upset and worried decreased after exposure to the mantra music. For example, feeling upset decreased from 42.3% before to 34.6% after, and worry over possible misfortunes decreased from 38.5% before to 7.7% after. There was a notable increase in feelings of satisfaction and contentment after exposure to the mantra music. For instance, feeling satisfied very much increased from 11.5% before to 50% after and feeling content very much increased from 0% before to 46.2% after.

Both fear and confusion decreased significantly after exposure to the mantra music. For example, feeling frightened

decreased from 19.2% before to 0% after, and feeling confused somewhat decreased from 23.1% before to 11.5% after. Confidence increased slightly after exposure to the mantra music, with 42.3% feeling very confident after compared to 30.8% before. Additionally, nervousness decreased from 11.5% before to 7.7% after. Both jitteriness and indecisiveness decreased after exposure to the mantra music. For example, feeling jittery a little decreased from 30.8% before to 11.5% after, and feeling indecisive somewhat decreased from 26.9% before to 11.5% after. Participants reported feeling more pleasant after exposure to the mantra music, with 57.7% feeling pleasant very much after compared to 26.9% before. Overall, the comparison reveals a significant positive shift in participants' emotional states after exposure to the mantra music, including increased calmness, security, ease, satisfaction, confidence, and pleasantness, along with decreased negative emotions such as

tension, strain, upset, worry, fear, and confusion.

From the statistical findings it can be seen that-

Before the intervention, 13 instances showed lower ranks in state anxiety after the music mantra intervention, while 8 instances showed higher ranks. The mean ranks for negative instances suggest a decrease in state anxiety after the intervention. The Wilcoxon Signed Ranks Test indicates that the difference in state anxiety before and after the intervention is not statistically significant ($p = 0.519$). There were 3 instances where state anxiety scores were lower after the intervention, with no instances of higher scores. The mean ranks suggest a decrease in state anxiety among males after the intervention. The Wilcoxon Signed Ranks Test suggests that the decrease in state anxiety among males is not statistically significant ($p = 0.102$).

The mean ranks for state anxiety among females and males before and after the intervention was relatively close. The Mann-Whitney U Test indicates that there is not enough evidence to reject the null hypothesis that there is no significant difference in state anxiety between males and females before ($p = 0.803$) and after ($p = 0.915$) the intervention. Hence it can be stated that both females and males showed a trend of decreased state anxiety after the Music Mantra Chanting intervention, although not statistically significant. There was consistency in the mean ranks of state anxiety before and after the intervention for both genders. The lack of statistical significance may be due to the small sample size, variability in individual responses, or other unaccounted factors. While the findings suggest a potential benefit of the intervention in reducing state anxiety, further research with larger sample sizes and controlled conditions may provide more conclusive results.

Conclusion

In conclusion, the findings from the statistical treatment of the data suggest a promising trend of reduced state anxiety among both females

and males after the Music Mantra Chanting intervention, although the differences were not found to be statistically significant. While

there were instances of lower state anxiety scores after the intervention for both genders, the lack of statistical significance may be attributed to factors such as the small sample size or variability in individual responses. Nonetheless, the consistency in mean ranks before and after the intervention indicates a

potential benefit of the Music Mantra Chanting in alleviating state anxiety. Further research with larger sample sizes and controlled conditions is warranted to validate these findings and explore the effectiveness of the intervention more comprehensively.

Limitation

Firstly, the small sample size, particularly in the male group, may limit the generalizability of the findings and reduce the statistical power to detect significant differences. Additionally, the study's reliance on self-reported measures of state anxiety may introduce bias or inaccuracies due to individual interpretation or social desirability effects. Moreover, the lack of a control group prevents establishing a causal relationship between the Music Mantra Chanting intervention and changes in state anxiety, as other factors could have influenced the results. Furthermore, the short-term nature of the intervention and

the absence of follow-up assessments limit understanding the long-term effects of the chanting practice on state anxiety. Lastly, the study's focus on a single intervention without considering potential confounding variables, such as participants' prior experience with meditation or relaxation techniques, restricts the comprehensive understanding of the intervention's effectiveness.

Implication

Firstly, despite the non-significant findings regarding the Music Mantra Chanting intervention's effect on state anxiety, the observed trends towards reduced anxiety levels post-intervention indicate potential benefits. Further investigations with larger and more diverse samples, longer intervention durations, and rigorous experimental designs are warranted to elucidate the intervention's efficacy. Additionally, exploring the mechanisms underlying the observed changes in state anxiety, such as physiological or psychological processes, could enhance

understanding and inform the development of more effective interventions. From a practical perspective, incorporating Music Mantra Chanting or similar relaxation techniques into stress management programs, mental health interventions, or holistic wellness practices may offer individuals accessible and potentially beneficial tools for managing anxiety and promoting well-being. Moreover, considering individual differences and preferences in intervention delivery and content could optimize its effectiveness and appeal to a broader range of individuals.

Recommendation

Conducting further studies with larger and more diverse samples would enhance the generalizability and statistical power of the findings, providing a clearer understanding of the Music Mantra Chanting intervention's effects on state anxiety. Longitudinal research designs with multiple measurement points before, during, and after the intervention could capture the trajectory of change in state anxiety more comprehensively, allowing for a deeper exploration of the

intervention's temporal effects. Utilizing randomized controlled trials or quasi-experimental designs with control groups would enable researchers to isolate the specific effects of the Music Mantra Chanting intervention, minimizing confounding variables and providing stronger evidence for its efficacy. Investigating the underlying mechanisms through which Music Mantra Chanting influences state anxiety, such as physiological responses, cognitive

processes, or emotional regulation, could provide insights into its therapeutic mechanisms and inform optimization strategies. Considering individual differences in response to the intervention and tailoring its delivery and content based on participants' preferences, needs, and characteristics could enhance engagement and effectiveness, maximizing its potential benefits. Integrating Music Mantra Chanting or similar relaxation techniques into existing stress management programs, mental health interventions, or wellness practices could offer individuals accessible and culturally sensitive tools for anxiety management and well-being promotion. Providing training and education for practitioners, educators, and mental health professionals on the theory, delivery, and potential benefits of Music Mantra Chanting interventions could facilitate its effective implementation and dissemination in various settings. Given the observed differences in state anxiety between male and female participants,

further research exploring potential gender-specific effects and mechanisms of the intervention is warranted to tailor interventions more effectively to diverse populations.



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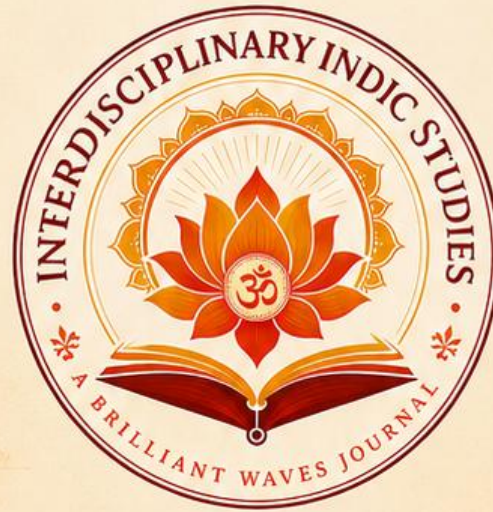




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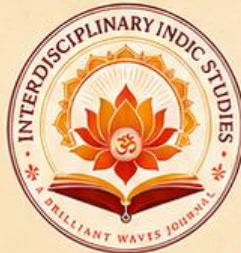
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वसुधैव कुटुम्बकम्।
सत्यं वद। धर्मं चर।
आ नो भद्राः क्रतवो यन्तु विश्वतः।
तमसो मा ज्योतिर्गमय।
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