

SOUND AS MEDICINE FOR MENTAL AND EMOTIONAL WELLNESS**Dr. Sujata Singhi**Institutional affiliation: Independent researcher of Sound Therapies
sujatasinghi.com@gmail.com**ABSTRACT**

Depression, stress, overthinking, and anxiety are associated with a higher risk of disease. This study has looked into the effects of sound therapy, the Himalayan Singing Bowl, on mental and emotional wellness. 51 members participated with a mean age of 45.2 years. In following the Himalayan Sound Therapy, the individuals reported reduced anxiety, lower stress, lessened anger, and an increase in emotional well-being ($P < .001$) compared to their earlier life. Feeling of emotional wellness, mental health, focus, and memory significantly improved across all the individuals ($P < .001$). When used as a therapeutic solution for improving emotional wellness and mental health, the Himalayan singing bowl may facilitate faster relaxation and release of stress when compared to simple relaxation techniques. This singing bowl therapy may also be extensively beneficial for the younger generation with behavioural disorders in learning methods to handle their emotions and manage mental health.

The scientific facts have established a connection between stress and other anxiety-related disorders through ways that impact the psyche and the body. Stress and anxiety also have a significant impact on the immune system of an individual. Anxiety harms the autonomic nervous system by hyper-activating the sensitive nervous system also acknowledged as a “fight or flight” mode. To handle the impact of stress on bodily processes, it is vital to turn on the “rest and absorb” mode, i.e., parasympathetic nervous system activity.

Majority of the diseases like heart, diabetes, and mental diseases have all been associated with stress and anxiety. Meditation, together with mindfulness-based meditations, has shown assurance in inducing the relaxation reaction and aiding alleviates anxiety and enhances well-being. The relaxation response is the body’s physical response in relaxation, with lower blood pressure to defy the fight-or-flight response and start of the parasympathetic nervous system. As capable as alertness and other meditation systems, a frequent grumble is the time, persistence, and discipline necessary to learn meditation. Thus, a form of relaxation and strain relief that does not need a precipitous learning curve or an immense deal of obedience to utilize could potentially be a vast benefit to mental and emotional wellness.

INTRODUCTION

This study intended to observe if sound vibrations from the Himalayan Singing Bowls could provoke quicker and profound relaxation. Sound healing has been in usage for many years in varied forms across diverse cultures in spiritual rituals, festivals, public ceremonies, and meditative means using instruments for instance, singing bowls, cymbals, bells, or using singing sounds and chants data substantiates the effect of sound vibrations on emotional and mental wellness. Sound remedy or therapeutic involvements of sound, compared to music therapy, involves a mixture of unlike sounds with no meticulous melody or rhythm. The reverberation through sound vibrations impacts the material body while the hearing progression impacts the mind.

This study aimed to test the hypothesis the Himalayan singing bowl, when used as a therapeutic solution for improving emotional wellness and mental health, may facilitate faster relaxation and release of stress when compared to simple relaxation techniques. The writer set out to inspect the likelihood that purely listening to the elevated-intensity, low-frequency mixture of singing bowls in a sound meditation could make a deep relaxation response and optimistically affect mood and sense of happiness.

While sound healing is not a new thought, research is scarce in areas such as Himalayan singing bowls. The bulk of Himalayan Singing Bowl studies speak about the physics of these musical instruments, together with the sonic and wave properties, in addition to endeavouring to model the singing bowl's acoustic distinctiveness. In this study, Himalayan singing bowls are used for emotional healing as compared to meditation.

The cause for the positive results of Himalayan singing bowls is uncertain; on the other hand, numerous studies have been proposed. One study comprises the prospective consequences of two-channel beats in which the brain projects to the hertz disparity amid sounds played in ears pushing the brain into brainwave conditions of deep relaxation, for example, beta waves or yet meditative or stupor-like brainwave states in theta waves additionally, lively the movement of sound waves on the supposed energy field of the body might be a reason. Such studies may begin to distinguish the potential outcomes on mood in addition to physical variations connected with singing bowls.

The mainstream of singing bowl studies speaks about the physics of these musical gadgets, including the sonic and wave aspects, in addition to attempting to model the singing bowl's acoustic features. Quantum physics has established that all have sound, whether a lifeless object like a bench, a chair, a living being, or a sphere, or a cosmos. And where there is sound, there is an equivalent vibration. When sound is united with intention, which is the most significant characteristic of healing, sound vibration can be focussed on to elevate the body's vibration rate of recurrence. Sound healing mainly helps with relaxation. The stress of any sort releases high levels of cortisol. Sound intonations can rapidly arbitrate to poise this stressed state of mind. It is, consequently, being used in a situation like nervousness, post-traumatic stress disorder (PTSD), depression, sleep disorders, etc. Apart from dropping stress, its healing advantages are convalescing quality of sleep, decreasing blood pressure, pain managing, and decreasing the risk of stroke.

METHODOLOGY

The main aim of the study was to (a) confirm that sound has a significant response on the mood (positive influence and negative outcome, as evaluated by Psychometric Forms survey) and (b) composition (as measured by HRV constraints, for example, HR, RMSSD, and SI). The resultant objective was to do an initial assessment of precise alterations in positive and negative affect parameters (as calculated by Mood State).

This study was organized as a part of a wellness event where group healing and meditation with Himalayan Singing Bowls open to anybody who was interested. The individuals who accepted to join the study informed their approval. Ethics board approval was not necessary since the healing cum meditation was open to the community, and the intrusions were open, consistent with earlier work in this area. A room with high-quality soundproof interiors was used. This guaranteed the minimal impact of external sound and an enjoyable indoor temperature.

Total 51 subjects agreed to the form for Psychometric Forms, 21 subjects signed Mood State Form, and 30 subjects agreed to undergo the measurements of HRV. Those who agreed to Psychometric Forms and Mood State Form finished the self-administered survey before and after the meditation. Those who approved to wear the HRV gadget wore it all through the meditative practice.

Table 1. Demographics of the subjects

Table 1. Demographics of the individuals who participated in various measurements

	Psychometric			HRV (Heart rate Variability)			Mood state		
	n	Mean Age	SD	n	Mean Age	SD	n	Mean Age	SD
Male	20	35.53	13.78	18	35.00	13.19	10	29.25	7.83
Female	31	38.49	12.60	12	38.67	12.92	11	35.78	11.13
Total	51	45.2	13.16	30	37.20	12.69	21	32.71	10.13

The meditation took place exactly for one hour on the date announced in advance. The individuals were asked to sit with their legs crossed in the meditation pose on a meditation chair that had back support. After agreeing to the consent, the individuals were given concise directions specifying the period of the healing cum meditation (exactly 60 mins) and necessary to focus the concentration on the sounds of the Himalayan singing bowl or watch their breath - particularly when their mind gets unfocused. The meditation is performed by a skilled therapist, Dr. Sujata Singhi with the usage of a Himalayan singing bowl (HSB)

Individuals were asked to make three hum sounds at the start and closing stages of the meditation and all through the process, they are asked to keep their eyes shut while continuing the focus on scrutiny of the sound or their breath. No other directions are given. In the start, after the three hum sounds, the individuals were advised to follow the gathering leader's order on progressive muscle relaxation lasting a maximum of 3 mins asking for the individuals to relax all body parts beginning with toe part, limbs, and so on. For the poise of the training, only the sound ambience of the Himalayan bowls was utilized

No more spoken directions were provided. As stated previously, the gatherings ended with three humming sounds. At the end of the gathering, the individuals were advised to gradually watch the changes in the mind and the body and unclose the eyes when they were at ease. The illumination in the room was blocked right through the sound healing and meditation session. During the session, the sound vibrations of the Himalayan Singing bowl followed a plain pattern of maintaining a break of about 4-5 seconds between the consecutive hitting of the Himalayan Singing bowl, and at regular intervals, all the Himalayan Singing bowls were hit a bit quicker to make louder sound from all Himalayan Singing bowls jointly (every 8-10 mins). The bowls were hit by a mallet and the rimming used a wood stick covered by leather at one end. The admission to the room was locked right through the exercise and maintained at a steady temperature. The Himalayan Singing bowls were placed in one corner of an extended room with a seating facility of 20 individuals.

RESULTS

Pre- and post-meditation statistics of Psychometric Forms for 51 enrolled persons displayed a statistically noteworthy raise in the constructive effect (pre=33.25, post=36.26, $p < 0.00$) and a statistically significant decrease in the negative affect (pre=19.92, post= 14.21, $p < 0.00$) (Table 2).

The over results substantiate the main objective

(a) of the study that there is a statistically noteworthy decrease in negative affect and an alike boost in positive affect.

HRV Parameters

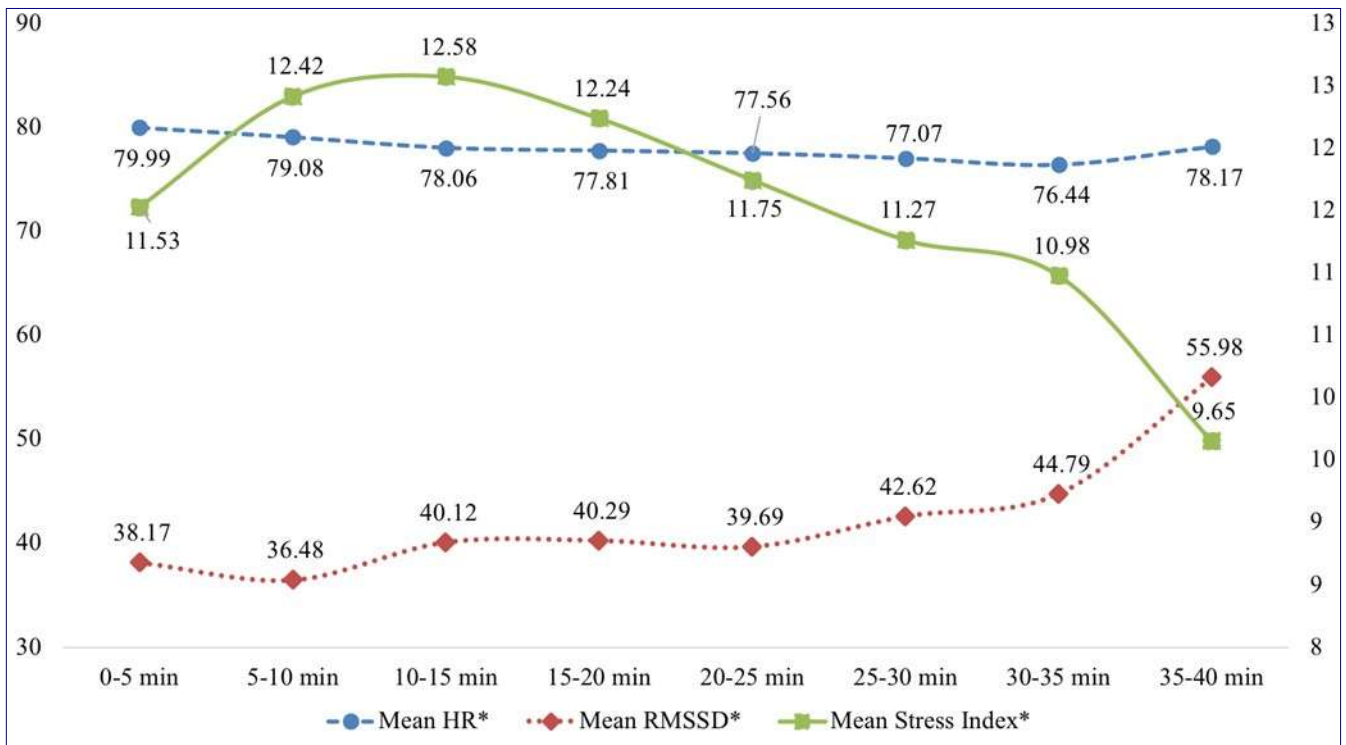
Table 3 displays the key HRV constraints collected every 5 minutes during the Himalayan Singing bowl healing cum Meditation for 15 individuals (Mean Age=37.20, SD=12.69). Paired T-Test computations between the first (0-5 min) and the final interval (35-60 min) of the meditation denote a statistically important alteration

Table 2. PSYCHOMETRIC FORMS Change in Positive Affect and Negative Affect for all individuals

n	Mean PA	SD PA	Mean PA	SD PA	p-value	Mean NA	SD NA	Mean NA	SD NA	p-value
	Before	Before	After	After	PA*	Before	Before	After	After	NA*
37	33.25	7.42	36.26	6.80	0.00	19.92	6.68	14.21	4.08	0.00

Table 3. Changes in key HRV parameters during the meditation (* denotes a statistically significant change in the parameter during 35-60 min as compared to 0-5 min, despite the use of PMR during 0-5 mins).

Time	Mean HR*	Mean RMSSD*	Mean Stress Index*
0-5 min	79.99	38.17	11.53
5-10 min	79.08	36.48	12.42
10-15 min	78.06	60.12	12.58
15-20 min	77.81	60.29	12.24
20-25 min	77.56	39.69	11.75
25-30 min	77.07	42.62	11.27
30-35 min	76.44	44.79	10.98
35-60 min	78.17	55.98	9.65



Changes in HRV parameters. Parameters with * indicate a statistically significant change (during 35-45 min as compared to 0-5 min). The X-axis shows the time into the meditative practice. Y-axis shows the three parameters, i.e., HR, RMSSD (Primary, left) and Stress Index (Secondary, right)

The psychosomatic aspects were collected using Psychometric Forms and abbreviated Mood State forms. The HRV data were collected to compute physiological constraints using the specified device with a PPG ear sensor during the complete session. The characteristics accessible in the Kubios application were used to export the constraints in an a. txt file which comprised Heart tempo, Stress Index, and RMSSD. Each file was put into a tabled and analysed using a pivot table. The data was incorporated for every 5 minutes of the 60-minute-long sessions. Excel characteristics, especially function TTEST, were utilized to do a numerical analysis of the data. The study utilized Paired T-test to put side by side the changes between varieties of intervals for each method. 37 out of the 51 subjects who entered the Psychometric Forms appropriately were made part of the study. 14 individuals completed the Mood State forms to determine Tension (TEN), Anger (ANG), Confusion (CON), Fatigue (FAT), Depression (DEP), Esteem Related Affect (ERA), and Vigor (VIG). All the forms were completed by the member post and premeditation for further breakdown. 15 individuals completed the complete HRV recording during the meditation procedure to determine the physiological constraints like heart tempo, and stress index, etc.

Psychometric Forms is a psychometric questionnaire utilized across a diverse trial group that measures two parts or moods of a person. Each section has 10 expressions in which the person can rate from 1 to 4. Finally, we can gauge the positive and negative effects of the individual before and after any intervention. Psychometric Forms have been extensively used in areas ranging from largely mood alteration in areas ranging from clinical studies involving persons in addition to in the areas involving healthy individuals doing a variety of tasks such as creative work. Psychometric Forms have also been used to compute psychological changes in mood in studies connected to meditation and also singing bowls. While Psychometric Forms offers important insight about the

mood, extra justification of the changes in mood via physiological information could put in more trustworthiness to the overall conclusion. The Mood State Form is an easy and effective self-reported questionnaire to recognize changes in specific moods. The probability was to comprehend the detailed impact on positive and negative moods with the usage of Psychometric Forms and additionally understand the changes in specific moods with the help of abbreviated Mood State.

HRV is a beat-to-beat interval between consecutive heartbeats and denotes a physical state. It has been utilized to calculate the effect of the Himalayan singing bowl. HRV is also promising as a significant marker of autonomic nervous system inequity, stress, metabolic condition, and stress. For this learning, we utilized (a) Heart Rate (b) RMSSD (The RMSSD mirrors the beat-to-beat discrepancy in heart rate and is the main time area measure used to approximate the vitally-mediated variations replicated in HRV) and (c) Stress Index (The stress index is a slightly extensively used index of stress and is robustly linked to sympathetic nervous activity). Collectively, these three physical measures offer a comprehension of the relaxation method in contrast to heart rate unaided and offer a more comprehensive viewpoint about the variations in the autonomic nervous system. Exclusively, changes in heart rate and stress index might give a gauge of the drop in sympathetic nervous system movement. The advance in RMSSD denotes a discrete parasympathetic nervous system activity.

CONCLUSION

This study shows a noteworthy mental and emotional impact of a 60 min Himalayan Singing Bowls healing cum meditation, established not just via a survey but also utilizing Heart Rate Variability method all through the program to recognize the impact on the general physiological evaluation of stress and autonomic nervous system. This involvement can help in the decrease of anxiety and quicker reduction of stress through the Himalayan Singing bowl in contrast to the other stress relaxation techniques.

Abbreviations used

HRV: Heart rate variability

RMSSD: Root Mean Square Of Successive Difference

PPG- Photoplethysmogram

SI-Stress Index

SD:-Standard Deviation

PA-Positive Affect

NA-Negative Affect

REFERENCES

1. "A Comparative Study of the Impact of Himalayan Singing Bowls and Supine Silence on Stress Index and Heart Rate Variability."
2. Journal of Behavior Therapy and Mental Health. Vol. 2, Issue 1 (2019).
3. "Effects of Singing Bowl Sound Meditation on Mood, Tension, and Well-being: an observational study."
4. "Feasibility of a trial with Tibetan Singing Bowls, and suggested benefits in metastatic cancer patients. A pilot study in an Italian Oncology Unit."
5. Bidin, Livia, et. al. European Journal of Integrative Medicine Vol. 8 Issue 5 (2016).