

Research Article

# **Cross-Cultural Study on the Effects of 10 Days of Online Mind Sound Resonance Technique (Msrt) on State Anxiety, Stress, Quality of Sleep, and Mindfulness**

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## **Abstract**

**Objectives:** The purpose of this pilot randomized control trial study was to understand the effects of a 10-day online intervention of a yoga and chanting-based relaxation technique called Mind Sound Resonance Technique (MSRT) on measures of anxiety, stress, sleep, and mindfulness. This study was conducted in parallel within the United States and India. Two-hundred and ten participants were recruited for this pilot study, fifty participants from India and one-hundred and sixty participants from the United States. Participants were initially administered a series of questionnaires to assess measures of state anxiety, stress, quality of sleep, and mindfulness. Each day, participants received a link at 9 AM local time containing the practice video of MSRT. Upon completion of the 10-day intervention, participants were administered the same series of questionnaires to assess any changes in the previously mentioned measures. Sixty-five participants completed all portions of the study and were compensated. Data analysis was conducted, showing no statistically significant differences after the intervention, including cross-cultural differences. However, several sleep related questions showed statistically significant improvements in certain aspects of sleep such as restfulness and an improvement in insomnia. Several confounding factors could have contributed to the lack of statistically significant results. The findings of this pilot study suggest that further refined research within the effectiveness of an online Mind Sound Resonance Technique intervention - specifically on various aspects of sleep such as insomnia and quality of sleep - should be designed and implemented. *ASEAN Journal of Psychiatry, Vol. 22 (1): January – February 2021: 01 04*

**Keywords:** Mind Sound Resonance Technique (Msrt), Anxiety, Sleep, Mindfulness

## **Introduction**

Stress has become an increasingly prevalent issue in the modern world. Starting from early ages, chronic stress levels among populations across the world have been increasing. This includes populations as young as undergraduates [1]. As a result of chronic stress, several health problems tend to arise, such as a weaker memory, worsened cognition and learning abilities, weaker immune function, cardiovascular disease, gastrointestinal complications, and endocrine problems [2]. Along with stress, anxiety, sleep deprivation, and insomnia are becoming more and more prevalent [3].

Previous studies have shown that yoga interventions can have significant positive effects on psychological measures such as stress, mindfulness, quality of life, quality of sleep, and compassion, among vari-

ous other variables [4]. A 9-day yoga intervention can improve vigilance, self-rated sleep, state anxiety, and self-rated sleep within military personnel [5]. Long-term yoga interventions showed improvements in symptoms of anxiety, stress, and depression in patients with clinical depression [6]. Mindfulness-based yoga practices are shown to improve quality of sleep [7].

Mind Sound Resonance Technique (MSRT) is a specific mindfulness-based yoga practice focused on calming the mind-body complex. Previous literature has shown that MSRT has immediate effects on state anxiety and cognitive functions within people suffering from generalized anxiety disorder [8]. In addition, long-term interventions of MSRT have shown a reduction in the levels of stress, anxiety, fatigue, and psychological distress [9]. Single-session inter-

ventions of MSRT administered to medical students, a population group known to have higher stress levels than the average person, showed improvements in cognitive performance immediately after the intervention [10]. MSRT also has a direct impact on stress by reducing sympathetic nervous activity and increasing vagal dominance [11]. Finally, a study done by Sharma et al. showed that a week-long intervention of MSRT added on to regular yoga practice enhances sleep quality and reduces stress, pain and anxiety levels in patients suffering from chronic musculoskeletal pain [12].

The purpose of this study was to understand the effects of a 10-day online intervention of MSRT and its effects on perceived stress, state anxiety, quality of sleep, and mindfulness scores. In addition, the relative effects of MSRT on the previously stated measures in spiritually and/or religiously inclined individuals versus those who are not inclined to spirituality and religion were studied. An online intervention was chosen because the efficacy of an online yoga intervention has been shown by previous literature, where the effects of Sukshma Vyayama, a yoga practice, was administered to women with breast cancer and results showed that AI-induced pain was significantly reduced [13].

The study was administered to participants between the ages of 18-50 in the United States as well as in India to understand the cross-cultural differences on the proposed measures. This intervention was administered via a pre-recorded video link on YouTube, using the Qualtrics platform, between 6-10 PM local time. Perceived stress, state anxiety, quality of sleep, and mindfulness assessments were administered 24 hours prior to the 10-day intervention as well as 24 hours after the last practice session of the intervention. Data was also collected about each participant's level of spirituality, prior history with religion and meditation or yoga practice, and quality of life. Our hypothesis was that MSRT, consistently practiced for 10 days, would reduce state anxiety, levels of stress, increase quality of sleep, and scores regarding mindfulness. We also hypothesized that the magnitude of the effects of MSRT on the measures studied will be greater in spiritually and/or religiously inclined individuals [14].

## **Methods**

UC Santa Barbara's research pool as well as Yoga Bharati's outreach efforts via digital marketing were used to recruit participants. One-hundred and eighty participants within the age range of 18-70 years old applied for the online research study. 130 participants were recruited within the United States and 50 participants were recruited within India. The selection criteria for participants included individuals who perceive an experience of high levels of stress. Both genders were equally considered for the study. Informed consent was obtained. Exclusion criteria contained anyone on any medications for chronic illnesses, anyone on tranquilizers, anyone who gets good sleep, and anyone who have been doing MSRT, any yoga, or any relaxation or mindfulness practice in the last three months.

## **MSRT Steps**

Participants listen to the peace chant (Maha mrutyunjaya mantra) once. Participants then make a positive affirmation (sankalpa) such as "I'm full of love", "I'm full of forgiveness", "I'm free of anger", etc.

- Participants chant the syllables "A" "U" "M" and "AUM" 4 times out loud (ahata).
- Participants chant the syllables within their mind, not out loud (anahata).
- Participants listen to the peace chant (Maha mrutyunjaya mantra) 3 times.
- Participants then spend time in silence and are encouraged to recollect the sound
- of "om" nine times within their mind (anahata).
- After nine times of "om" within their minds, participants are encouraged to stay in
- silence.
- Within this silence, participants recollect their positive affirmation (sankalpa) nine times.

Prior to administering the intervention, participants were given a pre-assessment which contained questions about their spiritual/religious background and rate of practice, questions about their personal life, and general background information, using qualtrics as the data-collection platform. A pre-test containing the Perceived Stress Scale (Cohen, 1983), Spielberger's State-Anxiety Inventory (STAI), Sleep Rating

Questionnaire (SRQ), and The Five Facet Mindfulness Questionnaire (FFMQ) was administered 24-hours prior to the start of the intervention.

The practice was sent to participants each morning at 9 AM local time and were encouraged to practice MSRT following the pre-recorded video link uploaded on YouTube and hosted on Qualtrics between 6 PM - 10 PM each day. After the last session, participants completed a post-test to assess any changes in measures of perceived stress, state anxiety, quality of sleep, and mindfulness.

## Results

Out of 130 participants, 65 participants completed the study. Upon applying the exclusion criteria, 47 participants' (10 men and 37 women) data was used for statistical analysis. The mean age of participants was 43.07 years old.

For the statistical analysis of the pre- and post-data SPSS and Excel was used. Both UC Santa Barbara's team and Yoga Bharati's team completed the statistical analysis for the data collected both in the United States and in India. This paper was written jointly by UC Santa Barbara's team and Yoga Bharati's research team.

Initial results showed no statistically significant difference in any of the questionnaires as a whole. However, within the Karolinska Sleep Questionnaire, four specific questions showed a significant improvement:

- Difficulties falling asleep ( $M = 2.089$ ,  $SD = 1.42$ ;  $t(44) = 3.0$ ,  $p = 0.004$ ).
- Insufficient amount of sleep ( $M = 2.178$ ,  $SD = 0.1.29$ ;  $t(44) = 2.0$ ,  $p = 0.05$ )
- Feeling exhausted when waking up ( $M = 1.689$ ,  $SD = 1.39$ ;  $t(44) = 2.8$ ,  $p = 0.008$ )
- Sleepiness during work ( $M = 1.33$ ,  $SD = 1.10$ ;  $t(44) = 2.8$ ,  $p = 0.008$ )

Although the results did not show statistical significance, the testimonials go to show that MSRT was clearly a relaxing experience for the participants. Among people who said MSRT was relaxing experience, they also commented saying "their awareness improved", "I was able to understand myself better", "I was afraid of quietude and now I began liking quietness", "I experienced high vibrations in the body".

Among people who said MSRT was a relaxing experience, they commented- "I am more aware", "I was able to understand myself better", "I was afraid of quietude and now I began liking quietness", "I experienced high vibrations in the body" and "my sleep quota reduced and relaxed", "This intervention definitely helped me learn how to calm my mind and body at least to some extent every day. I noticed that the relaxation we so strive for can become a habit. This experience will definitely inform my yoga/meditation pursuits in the future".

## Discussion

The KSQ showed that there are some questions which showed related statistically significant improvements in aspect of sleep. In addition, the testimonials provided by the participants were overwhelmingly positive. Further studies must be done to remove some of the discovered confounds. There is promising future research studying specifically on various aspects of sleep alone, rather than including anxiety, stress, and mindfulness as well to create a more pointed study on the effects of Mind Sound Resonance technique on sleep. There were some issues with the study which can be addressed in a subsequent research project. The researchers could not ensure that the participants practiced daily. The researchers were unable to ensure that participants actually followed along with all aspects of the intervention. Feedback from participants indicated that several questions used in the questionnaires were misunderstood due to the confusing nature of the questions. Besides from the pitfalls of the study, some suggestions for a future study could help in strengthening the study itself. Implementing a 6-week intervention rather than 10-day intervention could have a more significant impact on participants. It is also important to have a large subject pool when conducting research online.

## Conclusion

While none of the results showed statistically significant improvements in mindfulness, anxiety, and mindfulness, there was an improvement in some sleep-related questions. There is promising future research studying specifically on various aspects of

sleep alone, rather than including anxiety, stress, and mindfulness as well to create a more pointed study on the effects of Mind Sound Resonance technique on sleep.

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