



Effect Of Mind Sound Resonance Technique (MSRT) On State And Global Self-Esteem In Children With Physical Disabilities : An Exploratory Study

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Abstract

Children with physical disabilities often experience psychosocial challenges, including reduced self-esteem and adaptive functioning. Evidence on yoga-based behavioral interventions for enhancing self-concept in this population remains limited. This study investigated the effects of Mind Sound Resonance Technique (MSRT), a yoga-based meditative practice incorporating mantra chanting and internal resonance, on self-esteem in physically disabled children. Forty-five participants aged 9–18 years were recruited from a special school, of whom 30 completed a one-month intervention (30 minutes/day, six days/week). Self-esteem was assessed using the Rosenberg Self-Esteem Scale (RSES) and State Self-Esteem Scale (SSES) before and after the intervention. Paired sample t-tests revealed a significant improvement in SSES scores ($p < 0.05$), indicating enhanced state self-esteem, while changes in RSES were not statistically significant, though trends suggested improvement. The findings indicate that MSRT may positively influence situational self-perception, emotional regulation, and confidence. These results support the potential role of yoga-based meditative interventions as accessible, non-pharmacological strategies for promoting psychological well-being among children with physical disabilities. Further controlled studies with larger samples are warranted.

Keywords: *Mind Sound Resonance Technique (MSRT), Yoga-based meditation, Self-esteem, State self-esteem, Physical disability, Children, Psychosocial intervention.*



Introduction

Children with physical disabilities may experience difficulties in mobility, participation, and social interaction, which can shape emotional adjustment and self-perception. Earlier work has cautioned that disability should not automatically be assumed to determine psychological development, yet self-concept and self-esteem remain important concerns in this population.^{1,2} A review of the literature on children with physical disabilities found mixed findings, but also highlighted that psychosocial factors such as stigma and social participation play an important role in self-esteem³. In adolescents with physical disability, perceived stigma has been shown to correlate negatively with self-esteem and positively with social phobia, suggesting that social environment and acceptance are closely linked to psychological well-being. Research on body image and disability further indicates that physical limitations may be associated with body image concerns and self-worth issues, although findings are not uniform across studies. Self-esteem is widely recognized as a key psychological resource in childhood and adolescence because it contributes to resilience, social adaptation, and mental health.

Yoga-based interventions have gained increasing attention as holistic, non-pharmacological approaches for enhancing physical, cognitive, and emotional well-being in children. Recent integrative reviews indicate that yoga interventions can significantly improve emotional regulation, cognitive functioning, and behavioral control among children and adolescents with diverse developmental and mental health conditions⁴. Additionally, randomized trials have demonstrated that yoga-based practices enhance mindfulness and self-esteem, which in turn mediate improvements in emotional and behavioral outcomes⁵. Yoga has also been conceptualized as an empowering tool for individuals with disabilities, promoting confidence, independence, and psychosocial well-being⁶.

Mind Sound Resonance Technique (MSRT) is a yoga-based relaxation practice that combines mantra chanting, internal resonance, and meditative awareness⁷. Recent studies indicate that MSRT may reduce anxiety and psychological distress and improve cognitive and emotional outcomes in healthy and clinical populations⁸. However, evidence on its use in physically disabled children remains limited. Therefore, the present study examined whether a brief MSRT intervention could improve self-esteem in physically disabled children.

Study Design and Setting

This study employed a single-group pre-post experimental design to evaluate the effects of Mind Sound Resonance Technique (MSRT) on self-esteem in children with physical disabilities. The study was conducted over a period of one month (June–July 2023) in a special school for children with disabilities in Gujarat, India.

Participants

A total of 45 children with non-progressive physical disabilities, aged 9–18 years (mean $\pm$ SD: 14 $\pm$ 2.5 years), were initially recruited. Participants were selected based on their ability to understand



and follow instructions. Children with severe illness, cognitive impairment preventing participation, or irregular attendance (<60% sessions) were excluded. After attrition, 30 participants completed the study and were included in the final analysis. The characteristics of the participants are given in Table1.

Table1: Characteristics of the Participants. Values are presented as mean and SD.

Participants	Intervention Group
	(n=30)
Age (Years)	14 ± 2.54
Gender	
Male (n=36)	14.30±2.47
Female (n=4)	12±2.30
Height (cm)	138.4±10.32
Weight (kg)	34.8±8.75
BMI mass index (kg/m ²)	18.2 ± 2.83 (mild thinness)

Ethical Considerations

The study protocol was approved by the Institutional Ethics Committee of the University and registered with the Clinical Trial Registry of India (CTRI/2018/01/011314). Written informed consent was obtained from parents or guardians prior to participation. Permission was also secured from the school administration. Parents were encouraged to remain present during sessions to facilitate participation and adherence.

Outcome Measures

Self-esteem was assessed using two standardized and widely validated psychometric instruments administered before and after the intervention: Rosenberg Self-Esteem Scale (RSES): The RSES, developed by Morris Rosenberg (1965), is a 10-item self-report measure designed to assess global self-esteem. Each item is rated on a 4-point Likert scale ranging from strongly agree to strongly disagree. Five items are positively worded and five are negatively worded (reverse scored). Total scores range from 10 to 40, with higher scores indicating greater self-esteem. The RSES has demonstrated high internal consistency (Cronbach's α 0.85–0.92) and strong construct validity across diverse populations⁹.

State Self-Esteem Scale (SSES): The SSES developed by Todd F. Heatherton and Janet Polivy (1991), is a 20-item instrument designed to measure situational (state) self-esteem. It assesses three domains: performance, social, and appearance self-esteem. Items are rated on a 5-point Likert scale ranging from not at all to extremely. Several items are reverse scored. Higher scores indicate higher levels of state self-esteem. The SSES is sensitive to short-term psychological changes and has



demonstrated good reliability and validity in experimental and clinical settings¹⁰.

Both scales were administered in a structured format with assistance provided when necessary to ensure comprehension. Standard scoring procedures were followed as per the respective scale manuals.

Intervention

Participants underwent a standardized MSRT intervention for 30 minutes per session, six days per week, for one month. Sessions were conducted in the morning (9:30 AM) in a quiet environment.

MSRT is a guided yogic meditation practiced in a supine position with eyes closed, incorporating mantra chanting, internal sound resonance, and relaxation. The structured protocol is given in Table 2.

Table 2. Components and sequence of the MSRT yoga module administered to physically disabled children.

S. No.	Practice Component	Description of Practice	Duration / Rounds
1	Opening Prayer	<i>Maha Mrityunjaya</i> Mantra (guided chanting to initiate relaxation and focus)	1–2 minutes
2	A–U–M Chanting (Loud)	Chanting of “A”, “U”, “M”, and combined “AUM” with awareness of body resonance	3 rounds
3	A–U–M Chanting (Mental)	Internal (silent) repetition of “A”, “U”, “M”, and “AUM” with resonance awareness	3 rounds
4	<i>Maha Mrityunjaya</i> Mantra (Loud)	Vocal chanting with attention to vibratory sensations throughout the body	3 rounds
5	<i>Maha Mrityunjaya</i> Mantra (Mental)	Silent repetition with awareness of internal resonance (Anahata phase)	3 rounds
6	<i>Om</i> Chanting (Mental)	Silent chanting of “Om” focusing on internal sound vibration	9 rounds
7	<i>Ajapa-Japa</i> (Om to Silence)	Effortless mental repetition of “Om” gradually dissolving into silence	9 rounds
8	Deep Silence	Awareness of stillness and internal quietude	3–5 minutes
9	Resolve (<i>Sankalpa</i>)	Positive affirmation or intention setting	1 minute
10	Closing Prayer	Concluding chant to complete the session	1–2 minutes

The total duration of each session was approximately 30 minutes, practiced six days per week for one month under supervision.

Data analysis

Data were analyzed using SPSS version 21.0 (IBM Corp., USA). Descriptive statistics were expressed as mean $\pm$ standard deviation (SD). Normality of data distribution was assessed prior to analysis.

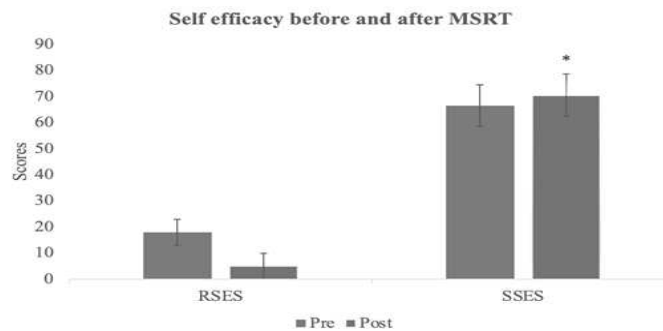
Pre–post differences in self-esteem scores were evaluated using the paired sample t-test. A two-tailed significance level of $p < 0.05$ was considered statistically significant. Reliability of the scales in

the study sample was assessed using Cronbach's alpha.

Results

A total of 45 children with physical disabilities were initially enrolled in the study. Of these, 30 participants (66.7%) completed the intervention and were included in the final analysis. The mean age of participants was 14 ± 2.54 years. The baseline demographic and anthropometric characteristics are presented in Table 1. Pre-post changes in self-esteem were assessed using the Rosenberg Self-Esteem Scale (RSES) and the State Self-Esteem Scale (SSES). A statistically significant improvement was observed in SSES scores following the one-month MSRT intervention. The paired sample t-test revealed a significant increase in post-intervention scores compared to baseline ($t = 2.30$, $df = 29$, $p < 0.05$). The 95% confidence interval for the mean difference ranged from "7.49 to "0.44, indicating a meaningful enhancement in state self-esteem. No statistically significant change was observed in RSES scores after the intervention ($t = 0.49$, $df = 29$, $p > 0.05$).

Figure 1. Graphical representation of mean values $\pm$ SD of the Rosenberg self-esteem Scale (RSES) and State self-esteem Scale (SSES) before and after MSRT practice.



However, descriptive analysis indicated a trend toward improvement in global self-esteem following MSRT practice. The graphical presentation of the results are given in Figure 1.

The internal consistency of the scales in the present sample was assessed using Cronbach's alpha. The SSES demonstrated moderate reliability ($\alpha = 0.51$), while the RSES showed acceptable reliability ($\alpha = 0.56$) in this population.

Overall, the results indicate that MSRT practice significantly improved state self-esteem, reflecting enhanced situational self-perception and emotional regulation. Although changes in global self-esteem were not statistically significant, the observed trend suggests potential benefits with longer or more intensive interventions.

Discussion

This study found that one month of MSRT significantly improved state self-esteem in children with physical disabilities, while global self-esteem showed a positive but non-significant trend. This



pattern suggests that MSRT may be more effective for short-term, situation-sensitive self-evaluation than for stable trait-like self-worth, which typically requires longer and more intensive intervention¹¹.

The findings are consistent with Self-Determination Theory, which proposes that well-being depends on satisfaction of autonomy, competence, and relatedness¹². For children with physical disabilities, daily practice of a structured yet internally guided technique such as MSRT may support autonomy through self-directed awareness, competence through mastery of chanting and attention regulation, and relatedness through shared group practice¹³. In this way, MSRT may indirectly enhance self-esteem by meeting basic psychological needs linked to healthy motivation and adjustment⁷.

From a neurovisceral integration perspective, MSRT may also improve emotional regulation by strengthening top-down control over autonomic and limbic activity^{13,14}. Mantra-based meditation and relaxation practices have been associated with parasympathetic predominance, improved autonomic balance, and limbic deactivation, which may reduce negative self-referential processing and promote emotional stability¹⁴. The observed rise in state self-esteem may therefore reflect improved momentary regulation of affect and cognition.

These results align with prior studies showing beneficial effects of yoga-based practices on self-esteem, emotional well-being, and adaptive functioning in school-aged children and in populations with disabilities⁴. However, most previous work has examined broader yoga modules rather than MSRT alone, so this study adds preliminary evidence for a focused, sound-based meditative intervention¹⁵.

Several limitations should be noted. The single-group pre-post design limits causal inference, the sample was small, and attrition reduced statistical power. The intervention period may have been too brief to affect global self-esteem, and the absence of physiological measures limited mechanistic interpretation. The modest internal consistency of the scales in this sample also suggests caution in interpretation.

Overall, MSRT appears to be a feasible, low-cost, and potentially useful supportive intervention for enhancing state self-esteem in children with physical disabilities. Larger randomized controlled trials with longer follow-up and multimodal outcomes are needed to confirm these preliminary findings.

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