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# EVALUATION OF SINGING VOICE HANDICAP INDEX (M-SVHI) AMONG CARNATIC AND HINDUSTANI SINGERS IN KERALA

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**ABSTRACT**

Singing is a high demanding vocal activity. Singers exposed to Carnatic and Hindustani styles are prone to sustained vocal load that may lead to voice handicap. The present study aimed to assess the singing voice handicap among Carnatic and Hindustani singers, which includes 20 Carnatic and 20 Hindustani singers aged 25-55 years in Kerala using M-SVHI. The results suggest a statistically significant difference in M-SVHI scores between the two groups with Carnatic singers reporting a higher mean score (110.55) compared to Hindustani singers (84.15, $p < 0.001$) although both groups exceeded the cut-off score of 30. Carnatic singers perceived greater difficulty across physical, functional and emotional domains likely because their music style demands more rigid and precise vocal control. While Hindustani singers scored lower because of the differences in technique and practice habits. Therefore, the study highlights the need for regular screening, vocal hygiene education and style-specific vocal health programs for both groups to maintain long term vocal health.

**KEYWORDS:** Singing voice handicap index (S-VHI), voice, Carnatic singers and Hindustani singers.

## INTRODUCTION

Human voice serves not only as our primary means of communication but also as a vital instrument in music. Singing involves prolonged, disciplined voice use, good breath control, clear enunciation and smooth shifts in pitch. As a result, singers are the most vocally demanding group among all professional voice users (PVUs) (Devadas, Chandgal &Maruthy, 2018). Singers use their voices professionally so they're very sensitive to vocal problems. Koufman & Issacson (1991) categorized singers as level 1: Elite Vocal Performers, a group of PVUs in whom even minor vocal difficulty leads to restrictions in their professional work.

Indian classical music is among the oldest musical traditions in the world with a wide range of genres influenced by different cultures, traditions and regions. It includes both Hindustani and Carnatic vocal styles both of which require rigorous training to master the fundamental elements: pitch (shruthi), notes (swara), melody (raaga) and rhythm (taala). The main differences between Hindustani and Carnatic music are based on their geographical origin: Hindustani music is more prevalent in the northern and central regions of India whereas Carnatic music is mainly seen in the southern regions.

Each musical style has its own distinctive instruments and performance techniques however, Carnatic and Hindustani classical music share common instruments such as the sitar, veena and tabla. Carnatic music prominently includes instruments such as the violin, mridangam and ghatam while Hindustani music gives more emphasis on the sarod, tabla and sitar. The overall structure and musical framework also differ considerably between the two musical styles. Carnatic musical style adopts a more structured and pattern-based approach to melody and rhythm whereas Hindustani musical style

gives more emphasis on improvisation to enhanced creativity and flexibility. The vocal health of both Carnatic and Hindustani singers has not been adequately studied especially in Kerala. Therefore, to systematically assess these vocal difficulties, a validated tool such as the SVHI can be used.

SVHI was developed and validated as a questionnaire for evaluating how voice disorders affect singer's own perception of their vocal abilities across the following domains like physical, social, emotional and economic (Cohen, Jacobson, Garrett, Noordzij, Stewart, Attia, Ossoff & Cleveland, 2007). It is a clinically robust instrument which can identify singing specific difficulties and it addresses not only just physical symptoms but also the emotional and social effects of voice problems. The SVHI has been widely used and validated in multiple languages worldwide highlighting its importance in the assessment of vocal health. In India, it has also been translated and adapted into regional languages to ensure cultural and linguistic relevance including the Kannada version (Gunjawate, Aithal, Guddattu, & Bellur, 2017a) and Malayalam version (Sudarsanan & Kumaraswamy,2025).

Many studies have highlighted the prevalence of vocal pathologies among classical singers which was notably seen in Achey, He and Akst (2016) which evaluated the vocal habits and handicaps in conservatory classical singing students and found a moderate level of vocal handicap (a score of 12 on the SVHI-10).The results suggests that the classical singers are at risk of dysphonia and just the use of basic vocal hygiene techniques is not sufficient for the prevention of vocal pathologies.

Gunjawate et al (2017) adapted and validated the Kannada version of the SVHI in a sample of 106 Indian classical singers including 22 who reported voice problems. The study showed that the Kannada SVHI was a valid and reliable self-report measure for identifying singing related voice difficulties and singers with voice problems had significantly different scores from those without.

Renk, Sulica, Grossman, Georges and Murry (2017) analysed VHI-10 and SVHI-10 scores from 50 singers and found that SVHI-10 scores (mean 20.4) were significantly higher than VHI-10 scores (mean 12.1) with no significant gender differences and concluded that singers experience greater voice-related problems specifically in singing, highlighting the need for a singing - specific tool like SVHI-10 to properly assess their voice handicap.

Gunjawate, Aithal & Bellur (2019) adapted and validated the English SVHI-10 into Kannada. A total of 115 singers (90 without voice problems and 25 with voice problems) completed the Kannada SVHI-10 and showed excellent internal consistency and test-retest reliability. Singers with voice problems reported significantly higher voice handicap than those without ($p< 0.001$) with an optimal cutoff of 9.5 confirming that the scale effectively identify the self-perceived singing voice handicap in singers.

Sobol, Sielska-Badurek and Osuch-Wójcikiewicz (2020) established the normative range for SVHI by reviewing available evidence to establish normative values for the SVHI since no standard diagnostic protocols for singing voice assessment were available. Based on eight studies involving 729 healthy individuals, the mean normative SVHI score was 20.35 with a confidential range of 10.6 to 30.1.

Žaja, Milošević, Jozić, Butković and Ries (2023) assessed singing voice handicap via Croatian SVHI-36 in 69 professional and 41 amateur classical singers. SVHI scores varied significantly by self-rated problem severity ($P <0.001$). Amateurs reported more voice breaks ($P=0.009$) and loud singing issues ($P=0.020$) but less worry about financial loss from voice problems ($P=0.022$). Most had mild problems, amateurs need technique training and professionals need work - rest balance.

Gomes, Moreti and Behlau (2024) assessed vocal risk in professional classical singers by examining their own views on voice quality, singing problems and tiredness. In 52 choir singers most rated their voices as good. Problem scores (VHI-10) were low, Classical singing handicap index (CSHI) was minimal and vocal fatigue was near the cut off range. Singers who used their voice to teach in class or had past voice problems or underwent therapy felt more tired. In general, they exhibited minimal voice handicap but fatigue showed up more when they used their voice a lot.

## NEED OF THE STUDY

Indian classical music includes Carnatic and Hindustani styles both of which are vocally demanding and require extensive training but they differ in their techniques and artistic expression**.** Despite the vocal load among them, there is limited research comparing voice problems among them especially in the Indian context. A validated, culturally relevant singing-specific tool such as the M-SVHI enables precise assessment of self-perceived voice handicap in Indian classical singers. Since there is a gap in understanding voice problems across different singing styles. Thus, the present study aims to evaluate singing voice handicap among Carnatic and Hindustani singers using the M-SVHI.

## METHODOLOGY

**Aim:** The aim of the study was to compare M-SVHI scores among Carnatic and Hindustani singers in Kerala and identify which group experienced a greater voice handicap.

**Subjects:** A total of 40 classical singers in the age range of 25 to 55 years were randomly selected and further

divided into 20 Carnatic singers and 20 Hindustani singers.

**Inclusion criteria**

- Native Malayalam speaking individuals.
- Singers with at least two years of experience.
- Participants should be aged between 25-55 years.

**Exclusion criteria:**

- Singers less than two years of experience.
- Individuals with voice complaints, who have undergone laryngeal surgery or any major voice treatment.
- Participants who are not fluent in Malayalam.

**Statistical Analysis**

The data was analysed using Mann-Whitney U test to understand the differences in the vocal handicap scores of Carnatic and Hindustani singers. All the analysis was done using SPSS version 27.0 software.

**RESULT**

The aim of the study was to compare M-SVHI scores among Carnatic and Hindustani singers in Kerala and identify which group experienced a greater voice handicap and the data was statistically analysed and the results are discussed below.

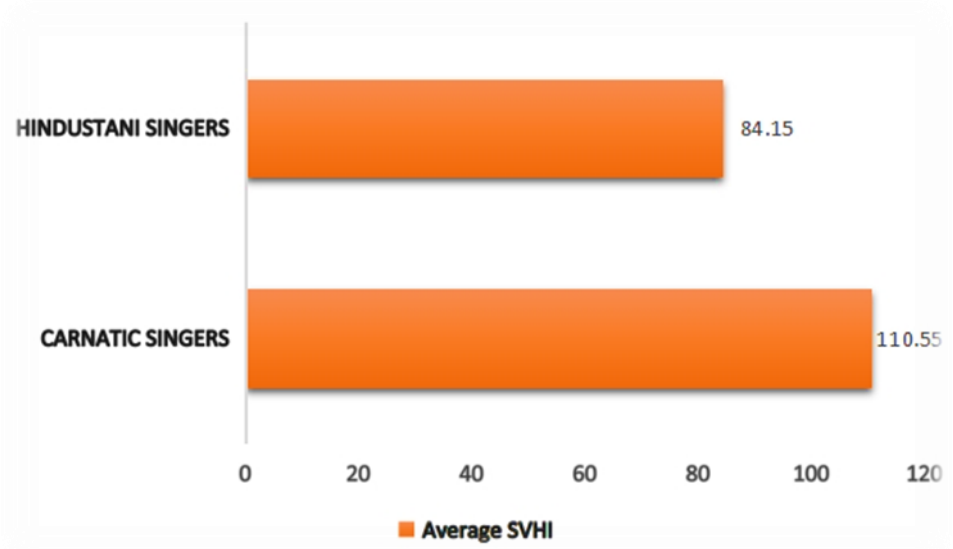


**Figure 1: Shows the average M-SVHI scores for Hindustani and Carnatic singers.**

From figure 1 it can be inferred that the Carnatic singers had a much higher mean M-SVHI score (110.55) than Hindustani singers (84.15) indicating that both groups have poor mean scores relative to the normative values of 10.6 to 30.1. Carnatic singers also reported more problems with their singing voice in physical, functional and emotional aspects than Hindustani singers.

**Table 1: Shows the comparison of M-SVHI score in Carnatic and Hindustani singers.**

| | Group | Mean | Standard Deviation | Test Statistic | p-value | Significance |
|---|---|---|---|---|---|---|
| SVHI | CARNATIC | 110.55 | 4.524 | -5.414 | <0.001 | S |
| | HINDUSTANI | 84.15 | 6.93 | | | |

S= significance

Table 1 suggest that the Carnatic singers and Hindustani singers shows a significant difference in their M-SVHI scores and Carnatic singers reported a higher level of singing voice handicap than Hindustani singers.

**DISCUSSION**

The present study showed statistically significant difference in M-SVHI scores between Carnatic and Hindustani singers with Carnatic singers reporting higher voice handicap (mean = 110.55) than Hindustani singers (mean = 84.15, $p < 0.001$). This indicates that on average Carnatic singers perceive greater difficulties related to their singing voice across physical, functional and emotional domains. It is because Carnatic singers require more precise and sustained vocal control which increases perceived vocal effort. Whereas the Hindustani singers reported significantly less voice handicap on M-SVHI compared to Carnatic singers even though both groups are professional singers. It is due to their differences in practice patterns, performance schedules and vocal hygiene habits, Hindustani singers show less voice handicap compared to Carnatic singers. Therefore, the results suggest the need for targeted screening, preventive vocal hygiene education and vocal training more among Carnatic singers as they report high vocal handicap compared to that of Hindustani singers. Hence,

the present study aligns with Sudarsanan and Kumaraswamy (2025) who investigated singing voice handicap among bhajan singers (semi-classical style) and found that voice handicap increased with age.

## SUMMARY AND CONCLUSION

Carnatic and Hindustani singers are classical vocalists with different musical traditions and training styles but both are at risk of voice problems due to the high vocal demands of professional singing. So, the present study aimed to evaluate the singing voice handicap among Carnatic singers and Hindustani singers using M-SVHI questionnaire by comparing their M-SVHI scores to understand the severity of voice handicap among them. The results show a significant difference in the voice handicap among the two groups with Carnatic singers showing the highest singing voice handicap compared to Hindustani singers. These findings emphasize the need for regular screening, good vocal hygiene practices, voice care and style - specific voice health programs for both Hindustani and Carnatic singers.

## LIMITATIONS

- Limited Sample size.
- Selection of subjects were random.
- Comparison with other styles of music was not included.

## FUTURE DIRECTION

- Comparison of between Carnatic singers and Hindustani singers with other musical style.
- Similar study can be done in different state of India to understand the regional differences.
- Large sample of subjects can be included.

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