



# International Journal of Alternative And Complementary Medicine

Content Available at: [www.saap.org.in](http://www.saap.org.in)

Online ISSN: 2583-1305

## Research Article

### Emotional impact of four specific ragas of carnatic music

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#### Abstract

Carnatic music has immense therapeutic potential that has clearly been documented in many studies. Ragas are considered the backbone of Carnatic music. Each raga is unique in its ability to have a distinct emotional effect on the mind, thus evoking different rasas or emotions like cheerfulness, sadness, romance, peace, strength/courage, anger, devotion, and passion. The overarching goal of this study was to understand the impact of four specific ragas namely Bilahari, Shankarabaranam, Kaanada and Vakulabharanam as perceived by individuals who had very little or no knowledge of Carnatic music. 18 Participants were asked to listen to pre-recorded audio files of these ragas and record the personal emotional effect elicited by each raga. The objective of this study was developed based on the results of our previously published pilot study aimed at understanding the psychological effect of twelve different Carnatic ragas, including the four abovementioned ragas, on women respondents experiencing anxiety, depression, stress and negativity. It indicated that Kaanada and Vakulabharanam incite calmness to the listener, while Bilahari and Shankarabaranam were deemed to provide a cheerful/optimistic and positive effect on most participants. The ultimate purpose of this series of studies is to deploy suitable Carnatic ragas in a therapeutic manner for healthy individuals as well as those with special health challenges.

**Keywords:** Indian Music therapy, Carnatic music, emotions, Raga therapy, GEMS scale in music therapy, Indian raga emotions.



#### Article Info

Received: 04-07-2021

Revised: 15-07-2021

Accepted: 17-09-2021

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## Introduction

The profound influence of ragas of Indian classical music on human emotions has been well documented from the Vedic period. Bharatha's Natya Shastra elaborated on Indian music and the corresponding *Rasa* in a separate chapter altogether.

After 14th century AD, Carnatic and Hindustani music branched out from the banyan of Indian Classical Music. Classification of Carnatic music based on the Raga system is a fool-proof method that covers all permutation/combination of *swara sthanas*. Corresponding emotions of each parent or *Janya raga* that can be evoked are also innumerable.

This study aims to evaluate the emotional impact of specific ragas of the Carnatic music namely, *Bilahari*, *Shankarabaranam*, *Khanada* and *Vakulabharanam* based on the listener's responses. The Pilot study of this effort was published as part of the earlier research titled "Impact of Music Therapy on the Emotional Well-Being of Women with Marital Disharmony".

## Review of Literature

Human body vibrates and can resonate to external sound naturally. Such sound perceptions when converted become different emotions resulting in multi-sensory reactions and body movements. Musical notes are sounds of known dimension that can produce pleasant and positive effects in humans [1].

*Ragam* Ananda Bhairavi when provided as part of therapeutic music in postoperative pain management has resulted in reduction in analgesic requirement by 50 % in three days [2].

Hindolam, Todi and Kalyani were selected based on the timing of music therapy for traumatic brain injury (TBI) patients. Ten such participants listened to this raga therapy thrice a day for 7 days. This therapeutic music played a crucial role in improving the vital parameters namely, respiratory rate, heart rate and systolic blood pressure of all the participants [3].

Another study has been conducted to evaluate different emotional responses associated with different types of renditions of Hindustani music, namely, *Alaap* and *Gat* with twelve *ragas*. Tilak Kamod, Hamsadwani, Desh, Yemen, Raga Shree, Jog, Marwa, Lalit, Malkauns, Shree, Basant Mukharee and Miyan ki todi were the ragas selected. *Alaap* of a *raga* is expected to set the mood of the *raga* and the *gat* will enhance the perception of that *raga*. Results of this study, indicated that ragas are capable of evoking different responses ranging from happy, calm to tense and sad states. It is also universally accepted that *ragas* generate a calming effect. Anger is the least emotion felt while listening to Indian *ragas* [4].

*Ragas* are said to evoke one or more of emotions like sadness, romance, peace, strength, courage, anger,

devotion, longing, passion and the like. Expression of the *raga-rasa* aspect is part and parcel of the Indian classical music. A study investigating the variations in emotional experience during the different phases of *raga* elaboration found that emotional variations within certain ragas were often larger than between ragas. Twenty untrained individuals listened to Indian *ragas* and showed increased overall alpha, delta and theta power in eyes-closed rest condition. Music listening can be linked to meditative states. Listening to ragas like Desi-Todi, has resulted in decrease in systolic and diastolic blood pressure, in addition to reducing stress, anxiety and depression. Listeners experience feelings of life satisfaction, hope and optimism [5].

Recommendation of music based on emotion is an active research area. Each raga in Carnatic music emphasizes on a particular emotion. Study of emotions on South Indian music selecting ragas like, Ananda Bhairavi, Atana, Hamsadwani, Kedaragowla, Kalyani and Nadanamakriya has been conducted. *Navarasa* based on the Bharatha's Natya shastra were identified. Five different tunes were played on violin for one minute selecting from various *krithis*. Uniform tempo was maintained. 750 responses were analyzed from 48 Indian participants. Plots of Ananda Bhairavi, Kalyani, Atana and Hamsadwani were found similar. Kedaragowla and Nadanamakriya plot were unique. Ananda Bhairavi differs from Kalyani with respect to the relative height of peaks between them. It has been concluded that *raga* has properties of a tune which results in perception of melody and evokes emotions. It can help in mood-based music recommendation systems [6].

Relation between properties of Carnatic *ragas* and emotions of Christian devotional songs have been explored. A study on *ragas* Natabhairavi, Shankarabaranam and Hamsadwani has indicated that they provide good emotions meant to

- greet with pleasure and hospitality,
- aid prayers, personal devotion and meditation,
- acts of self-surrender and oblation,
- to receive or accept with satisfaction,
- to meet, receive or acknowledge in a worshiped way,
- accompany and solemnize the communion of the faithful,
- to join in the procession without distraction of worship aids, to quote a few [7].

Emotional responses can be categorized into fast and slow or reflexive and cognitive behavior respectively. Emotions can be positive or negative which will further direct to avoid or follow a particular course of action. Emotional well-being is a healthy state of emotions or feelings in humans. A holistic healthy state depends on physical, emotional, social, economic and philosophical well-being. Marital issues, family conflicts, and work-related stress are some of the known issues that impact the psychological state across all sections of the society. Rasanubhava through music is an experience that has a psychological

basis. A sample of ten urban middle-aged female participants who had one or more personal issues stated above, have rated that therapeutic music gives them an experience of calmness or serenity. They also rated that music helps in relieving their stress and tension. Total of 12 ragas including Khanada, Shankarabaranam, Vakulabharanam were some of the ragas played for the participants [8].

**Need For This Study**

The earlier study of twelve ragas which included Bilahari, Shankarabaranam, Kaanada and Vakulabharanam conducted by the author involved female participants of particular strata of the society. Study of four popular ragas Bilahari, Shankarabaranam, Kaanada and Vakulabharanam has not been undertaken so far. These ragas are frequently heard and sung/played in south Indian families.

A dedicated study to understand the emotional impact of specific carnatic music ragas will help in therapeutic deployment of music for healthy as well as specially abled children and adults. Hence this study was taken up under the initiative of Meera Center for Music Therapy Education and Research.

**Experimental Study**

Flute and Veena were selected for rendering of the four ragas namely, Bilahari, Shankarabaranam, Kaanada and Vakulabharanam. All the four ragas in both the instruments were provided as pre-recorded audio files for equal duration of five minutes each.

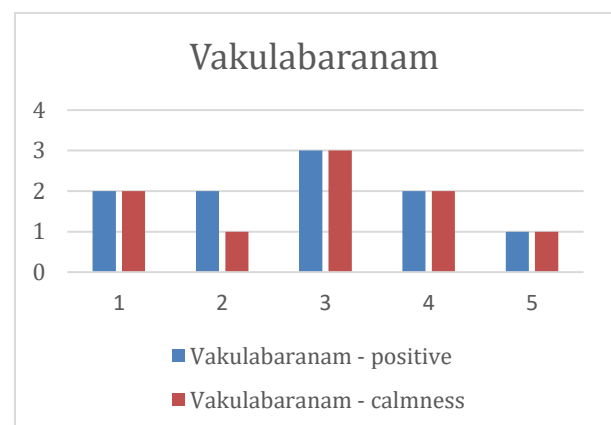
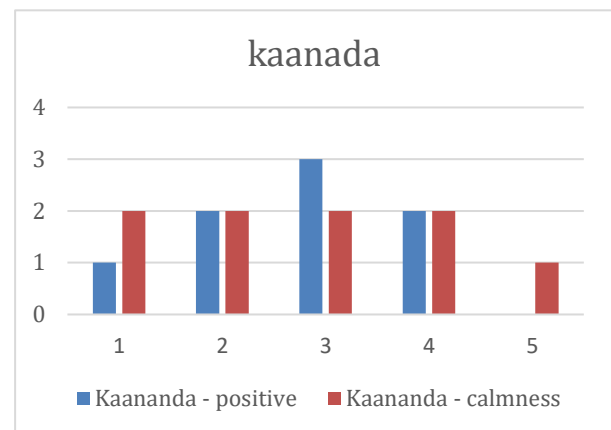
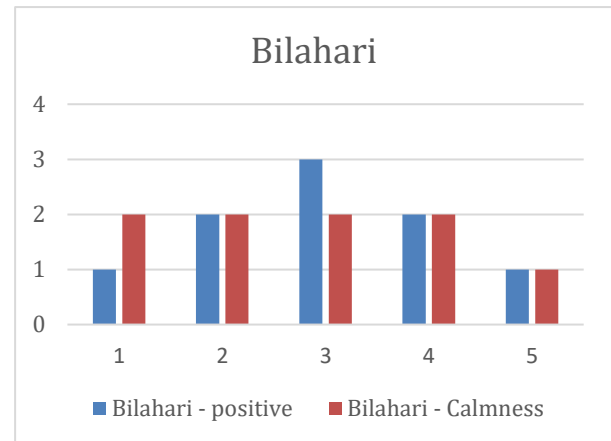
Eighteen participants were requested to participate. All participants were Indian citizens. No distinction was made between those who are aware of Carnatic music and others. Subjects were allocated at random; hence gender wise classification has not been included.

Based on the Geneva Emotional Music Scale (GEMS), Wonder, Transcendence, Tenderness, Nostalgia, Peacefulness, Power, Joyful activation, Tension, and Sadness were identified as the different emotional states for participant response.

Audio files of the recording were provided on the website of Meera Center for Music Therapy Education and Research. The participants could play and listen to the audio files at their convenience but were asked to complete those in a single sitting.

At the end of each audio clip, participant rated their emotional feedback as per the GEMS scale mentioned above. Rating of the feedback was immediately after listening to the music.

These emotions were then mapped above to two categories namely, positivity and calmness. This result of this mapping is provided in a diagrammatic manner as follows.



Raga mood evaluation	LIKERT SCALE RATING of 18 participants				
	1	2	3	4	5
Bilahari - positive	1	2	3	2	1
Bilahari - Calmness	2	2	2	2	1
Shankarabharanam - positive	1	2	2	2	1
Shankarabharanam - calmness	2	2	2	2	1
Khanada - positive	1	2	3	2	0
Khananda - calmness	2	2	2	2	1
Vakulabharanam - positive	2	2	3	2	1
Vakulabharanam - calmness	2	1	3	2	1

### Analysis

Regardless of the musical instrument played, Bilahari was found to incite calmness uniformly while it also evoked positive feelings to some extent (mid-range). Shankarabharanam gave a sense of calmness in a uniform manner, unlike Bilahari which is more skewed to the center. Shankarabharanam was also rated to give rise to positivity by some participants in a more uniform manner than Bilahari. Khanada was rated to evoke calmness more than Bilahari, but it is identical to Shankarabharanam, and It has been rated to elicit positive emotions than Shankarabharanam and Bilahari marginally. Vakulabharanam is rated as more or less positive and calm to many, and more uniformly rated than all the other three ragas.

### Discussion

Bilahari, Shankarabharanam, Khanada and Vakulabharanam are popular *ragas* rendered frequently in Carnatic music concerts. They are sung and listened in most of the south Indian families regularly. The emotional impact of these ragas in the mind of the listeners is crucial.

#### Bilahari.

Bilahari is a Janya raga from the 29<sup>th</sup> *mela raga* Shankarabharanam. It is a *Audava Sampoorna raga* with rare use of *bhashanga swara* Kaishiki Nishada. This *raga* is used for *Bhakthi rasa* used both in *krithis* and *mano dharm* singing. This *ragam* is often rendered as one the main rendition in Carnatic music concerts confirming the importance of its melody.

#### Shankarabharanam

This ancient *ragam* exists from the pre historic period and known as Dheera Shankarabharanam is a *sampoorna raga* in the 72 *melakartha* system. With major scales for all its notes, this *ragam* has been used to create majestic presentations.

#### Khanada

A *Janya raga* of 22<sup>nd</sup> *melakartha* Kharaharapriya, *Shadava Sampoorna* is its structure is also a *vakra* and *bhashanga raga*. It is highly *gamaka* oriented *ragam* used in *kalphita*

and *manodharma sangeetham*. It is very frequently sung in Carnatic concerts and other genre of music deploying the carnatic style of music e.g, film songs with Carnatic tunes.

#### Vakulabharanam

Compared to the earlier *ragams*, Vakulabharanam is less frequently heard in Carnatic music concerts. It is the 14<sup>th</sup> *melakartha sampoorna raga*. With *shuddha swaras* predominately (other than Nishada), the *raga* has the ability to trigger a distinct emotion in one and all. Krithis in these ragas are innumerable. Indicative list of popular krithis in these ragas are,

Comp oser	Bilahari	Shankara baranam	Kaan ada	Vakulabh aranam
Thygar aja	Dorakuna, Naa Jeeva, Kanu kontini	Manasu Swathdhin a,Swara raga	Sukhi evvao, Shri Narad a	Yee ramuni
Muthu swami Dikshit har	Sri Balasumb ramanya ya, Ekadhant am	Sri kamalamb a, Dakshina murthe	Palay amam	Prasanna venkatesa
Shyam a Shastri	Maharajni maam pahi	Saroja dhala, Devi Mina netri		
Swathi Thirunal	Aradhaya mi	Devi Jagatjanani , Indumukhi	Maa mava sadha, Devan aki pati	

There are countless devotional, film and folk songs in all these four ragas in the all the south Indian languages. Usage of these four ragas is very frequent. Scientific analysis of the emotional impact that these ragas are crucial for effective deployment. With eighteen participants from different walks of life, rating their immediate emotional response on listening to these four ragas will provide a listener's perspective.

### Conclusion

From the results of the above study, Khanada and Vakulabharanam are suitable to be used for therapeutic sessions intending to achieve calmness in the listener. In case of specially challenged children like Cerebral palsy, Autism, ragas like Bilahari and Shankarabharanam can be beneficial.

### Limitation Of The Study

Sample size must be increased in the subsequent studies of impact of ragas on human emotions. More popular / frequently listened ragas must be included.

**Implication**

Bilahari, Shankarabharanam, Khanada and Vakulabharanam are popular *ragas* with many songs from different genre of music in India. These melodies are frequently heard in south Indian families. Scientific analysis of the emotional impact of these *ragas* will help in appropriate use and deployment from a therapeutic perspective.

measurement. *Emotion*, 8(4), 494–521.  
<https://doi.org/10.1037/1528-3542.8.4.494>.

**References**

1. Therapeutic aspects and science behind raga chikitsa [Internet]. Recentscientific.com. [cited 2021 Jun 22]. Available from: <http://recentscientific.com/therapeutic-aspects-and-science-behind-raga-chikitsa>
2. Kumar TS, Muthuraman M, Krishnakumar R. Effect of the raga Ananda bhairavi in post-operative pain relief management. *Indian J Surg*. 2014;76(5):363–70.
3. Agrawal A, Reddy B, Phanisree P, Priyanka M, Kavitha D, Indira S, et al. Effect of music therapy in patients with moderate-to-severe traumatic brain injury. *J Datta Meghe Inst Med Sci Univ*. 2017;12(1):51.
4. Mathur A, Vijayakumar SH, Chakrabarti B, Singh NC. Emotional responses to Hindustani raga music: the role of musical structure. *Front Psychol*. 2015;6:513.
5. Hegde S. Music therapy for mental disorder and mental health: the untapped potential of Indian classical music. *BJPsych Int*. 2017;14(2):31–3.
6. Koduri GK, Indurkha B. A behavioral study of emotions in south indian classical music and its implications in music recommendation systems. In: *Proceedings of the 2010 ACM workshop on Social, adaptive and personalized multimedia interaction and access - SAPMIA '10*. New York, New York, USA: ACM Press; 2010. p. 55–60.
7. Victor Devadoss A, Aseervatham S. A Comparative Study between Properties of Carnatic Raagas and Emotions of Devotional Songs Using Bidirectional Associative Memories (BAM). *Int J Eng Res Technol (Ahmedabad)* [Internet]. 2013 [cited 2021 Jun 22];2(6). Available from: <https://www.ijert.org/a-comparative-study-between-properties-of-carnatic-raagas-and-emotions-of-devotional-songs-using-bidirectional-associative-memories-bam>
8. Researchgate.net. [cited 2021 Jun 22]. Available from: [https://www.researchgate.net/publication/340502319\\_Impact\\_of\\_Music\\_Therapy\\_on\\_the\\_Emoional\\_Well-Being\\_of\\_Women\\_with\\_Marital\\_Disharmony](https://www.researchgate.net/publication/340502319_Impact_of_Music_Therapy_on_the_Emoional_Well-Being_of_Women_with_Marital_Disharmony)
9. Zentner, M., Grandjean, D., & Scherer, K. R. (2008). Emotions evoked by the sound of music: Characterization, classification, and