

# PSYCHOLOGICAL BENEFITS OF CARNATIC MUSIC: A NARRATIVE LITERATURE REVIEW

## ABSTRACT

India's classical music is a timeless reflection of its culture, spirituality, and emotions. Among its two main traditions—Hindustani and Carnatic—Carnatic music from South India is especially known for its detailed melodic structures (ragas), rhythmic patterns (talas), and deep emotional expression through voice. Each raga is believed to bring out a particular feeling or *rasa* such as happiness, peace, devotion, or compassion. Even when performed on instruments, Carnatic music retains its soulful quality and emotional depth, creating a sense of connection between sound, mind, and heart. In recent years, there has been growing interest in understanding how this traditional art form supports emotional and mental well-being. As people seek more holistic and natural ways to maintain health, music is being recognized as a gentle, non-medical approach that is both meaningful and accessible. This paper reviews existing studies on the effects of Carnatic music on psychological well-being. Research shows that listening to or performing ragas like Bilahari, Shankarabharanam, Kannada, and Vakulabharanam can lift mood, calm the mind, and improve focus, memory, and sleep. People of all ages—from children to adults, including those facing emotional challenges—have shown better emotional balance, concentration, and satisfaction in life through regular engagement with Carnatic music. Beyond emotional benefits, several studies also point to its physical effects. Certain ragas have been found to slow heart rate, relax the body, and lower stress hormones, suggesting that music can naturally calm the nervous system. Singing, listening, or moving rhythmically to music also helps individuals become more mindful, expressive, and socially connected, all of which are essential for a healthy state of mind. Although the available research is still limited and more extensive studies are needed, the findings so far highlight the power of Carnatic music as a culturally rooted and cost-effective way to promote emotional and psychological well-being. Blending such traditional practices with modern approaches to mental health can offer a more balanced and human-centered path toward overall wellness. This review highlights how music can play a positive role in improving mental health and emotional well-being. It suggests that music may offer a gentle and effective alternative to medication, which often has side effects. By exploring existing research, this paper adds to the growing understanding of how music can be used as a safe and supportive approach to mental health care.

***KEY WORDS:** Carnatic-based music therapy, music therapy, psychological well-being, ragas, mental health, emotional regulation, cognitive function, experimental study, cross-population research.*

## INTRODUCTION

The connection between music and mental health is well known, with studies consistently showing how deeply music affects emotional, cognitive, and psychological well-being. Music has the power to stir emotions, lift or calm the mood, strengthen memory, and offer comfort and healing. Because of these qualities, it has become an important tool in promoting mental health and emotional balance. From a psychological point of view, music therapy is widely used to help individuals cope with various mental health concerns such as anxiety, depression, and post-traumatic stress disorder (PTSD). It allows people to express feelings that are often difficult to put into words, offering a safe and creative outlet for emotional release and recovery. In India, music has always been more than entertainment—it is a part of cultural and spiritual life. Among its rich traditions, Carnatic music from South India holds a special place for its depth and emotional expression. Its detailed melodic patterns and rhythmic cycles are believed to promote relaxation, sharpen focus, and enhance emotional strength. Whether through listening, singing, or instrumental performance, Carnatic music continues to be valued for its ability to calm the mind, support inner peace, and nurture resilience in everyday life.

Health is commonly understood as a state of physical and emotional well-being, where the body functions normally and is free from illness or distress. Mental health, as described by the World Health Organization (WHO, 2022), is a state of well-being that allows individuals to handle stress, recognize their abilities, learn effectively, work productively, and contribute positively to their community. It influences how people think, feel, and behave in their daily lives. Across the world, mental health concerns are becoming increasingly common. According to WHO (2023), one in eight people globally experiences anxiety or depression. In India, the National Mental Health Survey (2016) found that about 5.1% of the population is affected by mental health disorders. However, a large number of individuals still go without proper care due to social stigma, lack of awareness, limited mental health professionals, and financial difficulties. The same survey also revealed a treatment gap of 80.4%, highlighting how many people in need are unable to access the support and treatment required for their well-being.

Common treatments for mental disorders include medication, counseling, cognitive behavioral therapy (CBT), and psychosocial support services such as rehabilitation, supported employment, and peer support. While these approaches are often effective, many medications can cause side effects like nausea, dizziness, weight gain, and dependency. For instance, prolonged use of anxiolytics such as Valium may lead to depression, memory problems, or changes in personality (Better Health Channel, 2025). Because of these limitations, there is a growing interest in alternative therapeutic methods that focus on overall well-being and natural healing. Practices such as yoga, meditation, expressive arts therapy, Ayurveda, and music therapy have gained attention for their ability to reduce stress, promote relaxation, and support emotional balance

(Patel et al., 2020). These approaches offer gentle, holistic ways to complement traditional treatments and enhance mental health without the adverse effects often associated with medication.

Music has held an important place in Indian culture for centuries. The roots of ancient Indian musical heritage (n.d.) can be traced to classical texts such as the *Natyashastra* and the *Samaveda*, which include some of the earliest references to musical chants and devotional hymns. Over time, Indian music developed into two main traditions: *Margi Sangeet* (temple-based classical music) and *Deshi Sangeet* (folk music). During the medieval period, Hindustani classical music emerged in northern India under Persian and Mughal influences, while Carnatic music evolved independently in the southern regions. Great composers and musicians such as Tyagaraja, Amir Khusrau, and Tansen played vital roles in defining musical styles and structures. In the 20th century, renowned artists like Ravi Shankar and Ali Akbar Khan brought Indian classical music to the global stage, fostering cultural exchange and international recognition of India's rich musical tradition.

Music therapy, as defined by the American Music Therapy Association (2005), is a clinical practice that uses music to achieve therapeutic goals under the guidance of a qualified professional. It may include activities such as listening, singing, composing, improvising, or playing musical instruments. Magill-Levreault (1993) showed that music therapy can help reduce emotional distress and physical pain in individuals with chronic illnesses by engaging cognitive, emotional, and sensory processes. In a similar way, Croom (2014) found that participating in music supports emotional well-being by increasing positive feelings, strengthening social connections, and fostering a sense of purpose and personal achievement. Research by Talamini et al. (2022) also highlighted that music influences both memory and emotional processing, suggesting that it can encourage emotional expression and deepen self-awareness.

More recent studies reinforce music therapy's therapeutic benefits. Mao (2022) found that music therapy in workplace wellness programs reduced stress, increased job satisfaction, and improved teamwork and creativity. Arnold et al. (2024) highlighted that music affects pain perception through neurological and psychological pathways, suggesting that music therapy may reduce opioid dependence in pain management. During the COVID-19 pandemic, Cabedo-Mas et al. (2021) observed that many individuals relied on music to cope with emotional distress and maintain social connection, demonstrating music's role as a psychological support mechanism during crises (Deka, Tiwari, & Tripathi, 2022).

Carnatic music, a classical music system of South India, plays a significant role in India's cultural and spiritual traditions. Unlike Hindustani music, Carnatic compositions emphasize vocal expression even in instrumental performance. The music is structured around ragas (melodic frameworks) and talas (rhythmic cycles). Ragas are believed to evoke specific emotional states in

listeners. For instance, morning ragas such as Bhoopalam promote calmness, while evening ragas like Hamir Kalyani evoke warmth and introspection. Carnatic music is deeply tied to devotional themes, often performed in temples and during religious rituals. Prominent composers such as Tyagaraja, Muthuswami Dikshitar, and Shyama Shastri shaped the tradition with works expressing spiritual devotion and emotional depth.

Music may not be sufficient to heal mental illness on its own, but it can serve as a complementary therapy that enhances emotional resilience, reduces stress, and improves overall well-being. Its accessibility, cultural relevance, and emotional impact make it a valuable asset in mental health care. As awareness grows and stigma reduces, integrating traditional musical practices with modern therapeutic approaches offers promising avenues for holistic mental health treatment. This review shows how Carnatic music can support mental health and emotional well-being. It suggests that music could be a gentle and effective alternative to medication, which can sometimes cause side effects. By bringing together existing research, this paper helps the scientific community understand how music can be used as a safe and supportive tool, encourages collaboration across different fields, and highlights the potential of culturally rooted, non-drug approaches to mental health.

## AIM OF THE STUDY

The aim of this study is to explore and synthesize existing evidence on the psychological impact of Carnatic music.

## OBJECTIVES

The objectives of the study are:

1. To understand the principles of Carnatic music and their potential therapeutic applications;
2. To review the existing empirical evidence on the effects of Carnatic music on psychological states such as mood, anxiety and focus;
3. To evaluate the effectiveness and limitations of existing interventions using Carnatic music in therapeutic contexts; and
4. To suggest culturally adaptive evidence-based future research in music therapy.

## HYPOTHESIS

There will be significant positive impact on psychological well-being, emotional regulation,

cognitive and physiological balance while reduction in stress, anxiety and depression, with the use of Carnatic music in therapy.

## METHODOLOGY

The study uses a narrative review approach, drawing on existing literature and secondary data to explore the impact of Carnatic music on psychological well-being. The goal was to synthesize and interpret findings from different studies that examined Carnatic music as a therapeutic tool, highlighting its effects on mental health, emotional balance, and overall well-being, as well as identifying key patterns and research gaps. A systematic search was conducted across databases such as Google Scholar, PubMed, ResearchGate, Academia.edu, and ScientificResearchJournal.com, using keywords like “Carnatic-based music therapy,” “impact of Carnatic music on psychological well-being,” and “psychological effects of Carnatic music.” The search included studies published between 2010 and 2025, covering both clinical and non-clinical populations. From 173 initially identified papers, 15 studies were selected for the final review based on their relevance, quality, and focus on the use of Carnatic music in therapeutic contexts.

The inclusion criteria consisted of studies that:

1. Specifically explored Carnatic music and its psychological, emotional, or cognitive effects.
2. Involved participants aged 5 to 80 years.
3. Used measurable tools to assess variables such as mood, attention, memory, or emotion regulation.
4. Only empirical, conceptual, or case-based studies published in English were considered.

The exclusion criteria were:

1. Studies focusing solely on other forms of Indian classical music, such as Hindustani or Odissi.
2. Papers with unclear research methods or incomplete data.
3. Non-peer-reviewed articles, duplicate publications, and review papers without original findings.

The final set of 15 studies included a variety of designs such as experimental, cross-sectional, and case-based approaches. Interventions ranged from passive listening to ragas like Bilahari and Shankarabharanam to active participation through singing, chanting, or instrumental performances. These studies were conducted in schools, hospitals, rehabilitation centers, and community settings, measuring outcomes such as emotional well-being, anxiety, memory, and physiological responses like heart rate variability. The findings collectively highlight the potential of Carnatic music to enhance mental health and underscore the need for more systematic, large-scale research in this emerging therapeutic field.

## KEY FINDINGS

The review shows that certain Carnatic ragas, such as Bilahari, Shankarabharanam, and Kannada, have a soothing effect on emotions by promoting calmness, happiness, and reducing anxiety. The studies also point to cognitive benefits, especially in children, who demonstrated improved attention, memory, and academic performance. Physiological findings revealed better heart rate variability, suggesting that Carnatic music helps the body relax and manage stress more effectively. The therapy proved helpful for various groups, including caregivers, children, older adults, and individuals with depression or schizophrenia. Regular and long-term training in Carnatic music was linked to sharper cognitive abilities and greater brain volume among older adults, indicating its potential to support brain health. However, research in this area is still limited, as most academic attention has been given to Hindustani and Odissi music traditions.

## Result and DISCUSSION

1. The present review aimed to bring together existing research on the therapeutic potential of Carnatic music in enhancing psychological well-being. By analyzing studies conducted across different populations and settings, it sought to understand how Carnatic music—deeply rooted in cultural and spiritual traditions—affects mental health, cognition, and emotional regulation. The discussion combines insights from previous research, emphasizing both the psychological processes involved in music therapy and the distinctive qualities of Carnatic music that contribute to its healing effects. It also explores recurring research methods, highlights practical applications in clinical settings, and points out directions for future studies. The therapeutic power of Carnatic ragas can be understood through their ability to influence autonomic balance and emotional regulation. The tonal frequencies and rhythmic variations

appear to affect brainwave patterns, promoting relaxation and improving mood. The blending of ancient Indian classical traditions with modern psychological research has opened a promising path in the field of music therapy. The reviewed studies offer a broad understanding of how Carnatic music—a rich, raga-based South Indian classical system—interacts with human physiology, cognition, emotions, and psychological well-being across various groups. The discussion expands on these findings while also identifying research patterns, clinical implications, and areas for future exploration:

### **1. Emotional and Affective Responses**

Several studies from the reviewed literature highlight the emotional impact of specific ragas. Ravi and Govindaraj (2021) explored emotional responses to four ragas—Bilahari, Shankarabharanam, Kannada, and Vakulabharanam—and found that participants reported feelings of calmness with the latter two and happiness with the former. However, because the study relied on self-reported data and did not include physiological measures, the strength of the conclusions is somewhat limited. Similarly, Sriram and Kamathenu (2025) used the PANAS scale to examine the effects of an integrated blend of ragas and found a significant increase in positive emotions compared to a control group. Nonetheless, their study had some limitations, including baseline selection bias and a single-session design. Together, these findings indicate that different raga structures can evoke distinct emotional responses, supporting the therapeutic potential of Carnatic music in psychological well-being.

### **2. Physiological and Neurobiological Mechanisms**

Studies indicate that in Carnatic music, the arrangement of notes, subtle pitch variations, tempo, and rhythm can strongly influence the emotions experienced by listeners (Ravi & Govindaraj, 2021; Krishna et al., 2022). For instance, the ragas Bilahari and Vakulabharanam tend to evoke feelings of calmness, while Shankarabharanam and Kannada are associated with happiness and cheerfulness (Ravi & Govindaraj, 2021). These emotional responses are supported by physiological evidence. Rao's (2013) study on heart rate variability (HRV) in healthy adults found that listening to Carnatic ragas increased parasympathetic activity, as reflected in HRV indicators such as HF and SDNN, suggesting that these ragas can promote relaxation and help maintain autonomic balance. Further, theoretical work by Varadarajan et al. (2022) links Carnatic music's elements—such as rhythm, tala, and pitch—to biological processes like cortisol regulation, autonomic modulation, and brainwave synchronization. Together, these findings suggest that Carnatic music not only influences emotions but also engages underlying physiological and neurobiological mechanisms. However, while these theoretical connections are promising, more empirical research—especially using neuroimaging and biochemical analysis—is needed to fully understand how these mechanisms operate in humans.

### **3. Clinical Applications: Depression, Anxiety, and Sleep**

A considerable part of the existing research examines Carnatic music as a supportive therapy for clinical populations. Priyadarshini (2017) conducted a randomized controlled trial that showed individuals with mild depression experienced reduced symptoms and improved self-esteem after participating in Carnatic Music Therapy (CMT). In a related study with Rohini (2015), she found that combining music therapy with pranayama led to greater resilience and lower levels of depression. These results are consistent with the findings of Krishna et al. (2022), who reported that raga Bilahari-based therapy helped caregivers of cancer patients by reducing anxiety, physical tension, and sleep-related issues. The frequent use of Bilahari in therapeutic settings may point to its unique emotional quality—energizing yet calming—but this idea still needs to be tested in larger and more controlled studies. These clinical findings are especially important in the context of India's growing mental health challenges, where culturally grounded, non-drug approaches like Carnatic music therapy could provide affordable and meaningful support alongside conventional treatments. Nonetheless, several methodological concerns remain, including small sample sizes, lack of blinding, limited long-term follow-up, and the absence of standardized music therapy protocols.

### **4. Cognitive and Developmental Enhancements**

Beyond its influence on mood, several studies have also examined the cognitive benefits of Carnatic music. Raja and Bhalla (2020) observed notable improvements in mathematics performance among children who received Carnatic music training, suggesting that rhythmic and melodic engagement may strengthen working memory and numerical reasoning. Similarly, Shravani and Pant (2023) found that daily singing sessions improved selective attention, digit span, and mindfulness in school-aged children. While these results are encouraging, most of the research is based on short-term and small-scale studies, indicating the need for larger randomized trials with detailed neurocognitive assessments to confirm these findings. Another significant contribution comes from Ghosh et al. (2024), who conducted a neuroimaging-based study comparing older adults with and without long-term Carnatic music training. Their findings revealed that trained individuals performed better on cognitive tasks and showed greater gray matter volume in brain regions linked to visuospatial and executive functions. These results highlight the potential of Carnatic music in supporting healthy cognitive aging—an area of growing interest in geriatric psychology.

### **5. Geriatric and Institutional Settings**

A newer area of exploration in Carnatic music therapy is its application in elderly care, especially among those living in institutional settings. Choolayil and Putran's (2020) mixed-method study with residents of an old-age home found that six months of daily music sessions led to reduced depression and improved overall well-being. Participants also reported feeling more socially connected, emotionally expressive, and spiritually fulfilled. The inclusion of

personal narratives in the study highlights that the benefits of music extend beyond clinical symptom relief, contributing to a more holistic sense of wellness and quality of life among the elderly.

## **6. Unique and Individualized Approaches**

The reviewed literature also presents conceptual frameworks that emphasize the need for personalization in music therapy. Sridhar et al. (2022) proposed a diagnostic-prescriptive model in which specific ragas, talas, and tempos are customized to match an individual's physiological and emotional needs. Although innovative, this model remains theoretical and has yet to be supported by empirical evidence. Likewise, Janaswamy and Vasudev (2022) explored the cognitive benefits of *Manodharmam*—the improvisational aspect of Carnatic music—suggesting that it may enhance executive control and memory. These concepts expand the potential applications of Carnatic music in therapeutic contexts but require further research and empirical validation to be effectively implemented.

While research on the use of Carnatic music in therapy is encouraging, it has several clear limitations. Many of the existing studies were conducted with small groups of participants and, in some cases, without proper control groups. Most of them relied on participants' self-reported experiences rather than using medical or brain-based tools to measure actual changes. The way music was applied also varied widely—different *ragas*, session durations, and formats—which makes it difficult to compare findings or apply them consistently in real-world settings. Another limitation is that only a few studies have focused specifically on Carnatic music, while other classical forms such as Hindustani and Odissi have received more attention. Moreover, since most of this research has been carried out in India, the findings should be understood within their cultural context and may not fully represent global populations. Looking ahead, there is a need for larger, long-term studies that use both scientific measures and participant feedback to better understand how Carnatic music influences mental health and emotional well-being. With advances in technology—such as mobile applications, wearable devices, and digital tools for tracking mood and stress—Carnatic music has the potential to become a more accessible, personalized, and culturally meaningful approach to supporting psychological and physical health.

## CONCLUSION

Carnatic music therapy shows great promise in supporting mental health by helping individuals feel calmer, more centered, and emotionally balanced. The review highlights that specific ragas can reduce stress, ease anxiety, and improve memory and mood. Yet, compared to other classical forms like Hindustani or Odissi, Carnatic music has not received equal research attention. Its deeply emotional and structured nature offers a unique opportunity for culturally rooted healing practices. The findings suggest that with more inclusive, large-scale, and experimental research involving diverse groups—such as students, working professionals, and people facing mental health challenges—Carnatic music could be better understood and applied in therapy. Future studies using tools like EEG or heart rate tracking could also help uncover how ragas influence the mind and body. With the right research and collaboration between psychologists and musicians, Carnatic music in therapy could evolve into a meaningful, evidence-based approach to emotional and psychological well-being.

This study has a few important limitations to the study. Most of the available research on Carnatic music based therapy has been carried out with small groups of participants and, in some cases, without proper control groups. This makes it difficult to draw broad conclusions from the results. The present review also covered studies from the past fifteen years, a period during which the use of music as therapy has continued to develop and change. Because this review focused mainly on the psychological effects of Carnatic music, its influence on physical or neurological processes was not examined in detail. In addition, since most of the studies were conducted in India, the findings should be seen within their cultural setting and may not fully apply to other populations.

Future research should therefore include larger and more diverse samples, use clear and consistent methods, and explore both psychological and physiological aspects of Carnatic music. Further work could also examine the impact of Carnatic music when used as active, passive, or improvised therapy across different areas of psychology.

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