

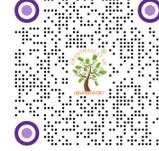


Original Article

COGNITIVE LINGUISTICS AND NEUROPSYCHOLOGICAL DIMENSIONS OF THE SHIVA TANDAVA STOTRA

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ABSTRACT

The Shiva Tandava Stotra, attributed to Ravana, is one of the most rhythmically and phonetically complex hymns in Sanskrit literature. This manuscript explores the chant from the perspective of Cognitive linguistics, Gestalt psychology, and theories of linguistic perception. The central argument advanced here is that a chant of such linguistic and rhythmic complexity serves as a high-load cognitive training tool, engaging the phonological loop of working memory, augmenting vocal-based sensorimotor pathways, and strengthening neural networks involved in learning and memory. Evidence from recent neuroimaging studies on Vedic pandits, controlled chanting interventions, and psycholinguistic models of rhythm and working memory are integrated to support the thesis. We conclude that the Shiva Tandava Stotra exemplifies how traditional Sanskrit texts can be understood as cognitive technologies that enhance memory, focus, and embodied linguistic learning.

Keywords: Cognitive, Linguistics, Shiva Tandava Stotra

INTRODUCTION

The chanting of Sanskrit hymns has long been regarded not merely as a devotional exercise but as a cognitive, linguistic, and performative discipline. The Shiva Tandava Stotra is characterized by dense consonantal clusters, rapid phonetic alternations, and chandas structure, making it both a challenge and a training tool for the human cognitive-linguistic system. The present study explores the Śiva Tāṇḍava Stotra as a natural laboratory for investigating the interaction between language, memory, rhythm, and sensorimotor control.

The cognitive sciences have increasingly turned toward religious and artistic practices to understand how humans train memory and perception outside formal educational settings [McCauley and Lawson \(2002\)](#), [Hartzell \(2018\)](#). Chanting provides an especially rich case, as it integrates phonological, rhythmic, semantic, and motor dimensions. Recent advances in working memory theory [Baddeley \(1992\)](#), [Baddeley \(2000\)](#), cognitive load theory [Sweller \(1988\)](#), [Paas et al. \(2003\)](#), and sensorimotor learning [Shadmehr and Wise \(2005\)](#), [Dayan and Cohen \(2011\)](#) offer conceptual tools for understanding how complex chants function as both linguistic artifacts and cognitive training regimes.

Recent studies on chanting and mantra recitation suggest positive effects on attention regulation, stress reduction, and memory performance [Bernardi et al. \(2001\)](#), [Harne and Hiwale \(2018\)](#). Theoretical models propose that such practices augment sensorimotor integration, wherein auditory feedback and vocal motor commands interact to refine neural pathways [Shadmehr and Wise \(2005\)](#).

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Thus, the Stotra is comparable to musical training [Wan and Schlaug \(2010\)](#), which has been shown to enlarge auditory and motor cortical regions, improve working memory, and enhance executive control. The overlap suggests that complex chanting may offer similar neurocognitive benefits, positioning it as a traditional analogue to modern cognitive training interventions.

COGNITIVE LOAD REDUCTION THROUGH CHANDAS

Although phonological density increases intrinsic load, chandas structure provides a powerful scaffolding mechanism. The Rhythmic regularity of chant reduces extraneous cognitive load by chunking syllables into predictable temporal units [Miller \(1956\)](#). The Gestalt grouping ensures perception of the chant as a holistic rhythmic form rather than fragmented syllables. Prosodic entrainment aligns articulatory and auditory systems, improving fluency and reducing error rates. This illustrates a balancing act: Sanskrit poetry simultaneously amplifies challenge and provides rhythm-based scaffolding, pushing the learner's cognitive system toward optimal load conditions [Paas et al. \(2003\)](#).

CHANTING AS A PATHWAY TO COGNITIVE FLOW

Extended practice of the Stotra can lead to flow states [Csikszentmihalyi \(1990\)](#), where cognitive challenge is balanced by skill. Practitioners report experiences of timelessness, heightened attention, and affective uplift. These states arise when working memory is maximally engaged without being overwhelmed—precisely the balance cultivated by the Stotra's combination of phonological difficulty and rhythmic scaffolding.

Thus, chanting functions as both cognitive training and affective regulation, aligning with findings that rhythmic vocalizations reduce stress and increase parasympathetic activity [Bernardi et al. \(2001\)](#).

COMPARATIVE IMPLICATIONS FOR LEARNING AND THERAPY

The principles uncovered here have broader applications:

- **Language learning:** Chanting could train phonological awareness and working memory in second-language acquisition.
- **Rehabilitation:** Rhythmic chanting may aid in speech therapy for aphasia or stuttering, similar to melodic intonation therapy.
- **Education:** Structured chanting can cultivate attention and memory in classroom contexts, especially for children.

The Śiva Tāṇḍava exemplifies how traditional cultural practices can inform evidence-based cognitive interventions, bridging ancient pedagogy with modern neuroscience.

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