

**Perceiving Tonality in South Indian Classical Melodies by Indian and Western Musicians
and Nonmusicians**

Rachna Raman and W. Jay Dowling

The University of Texas at Dallas

Abstract

We examined the differences between musicians' and nonmusicians' perception of tonality in familiar and unfamiliar melodies. Previous investigations show that: (a) with familiar music listeners use culture-specific and psychophysical cues, whereas with unfamiliar music they use psychophysical cues and schematic knowledge imported from their own culture; (b) listeners access their mental representations of the hierarchy of notes in musical scales of their culture when listening to familiar and unfamiliar melodies. Indian and western musicians and nonmusicians rated brief South Indian classical excerpts in four modes (rāgams) using Toiviainen and Krumhansl's (2003) concurrent probe-tone technique. Indian and western musicians' responses were similar on rāgams resembling western modes but differed with rāgams unfamiliar to westerners. Our findings supported previous research and identified three types of cues that musicians used: 1) culture-specific cues—theoretical knowledge of the rāgams and familiarity with the excerpts in the study—employed by Indian musicians, 2) psychophysical cues—note duration and frequency of note occurrence—employed by all musicians, and 3) transference of western schematic knowledge by western musicians. Nonmusicians' responses differed from the musicians'; their partial use of these cues suggests that musical training facilitated performance on the binaural probe-tone task and in applying these cues.