

Hearing, Perception, and Language in Clinical and Typical Populations

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Abstract

The IUPUI Signature Center for Advanced Studies in Hearing, Perception, and Language is a multidisciplinary, multidepartmental, multischool center dedicated to the integration of knowledge and methodologies from different disciplines to study speech perception and production, music perception and production, language, and cognition in clinical populations across the lifespan. Examples of ongoing research include the assessment of adult cochlear implant users' perception of pitch; pediatric cochlear implant users' speech intelligibility, prosody, and vocal music production; infants' perception of auditory labels for visual objects; and breast cancer survivors' perception of musical patterns following chemotherapy.

In one study, we documented differences in hearing and music cognition between breast cancer survivors who received adjuvant cancer treatment and healthy age- and education-matched controls. Participants were 29 female breast cancer survivors and 29 healthy controls. All participants received an audiometric test to assess hearing and *The Montreal Battery for Evaluation of Amusia*, which assesses such perceptual areas as melodic organization, temporal organization, and melodic memory. Results showed a moderate negative correlation between hearing and melodic organization scores across all subjects. For music cognition variables, effect-size analyses of melodic organization tasks (contour, intervals, tonality) suggested that healthy controls scored better than breast cancer survivors, although not significantly.

The Center for Advanced Studies in Hearing, Perception, and Language continues to apply both standard and innovative analysis methodology to address cognitive issues of relevance to both clinical and typical populations.