

JAAA CEU Program

Volume 31, Number 5 (May 2020)

Questions refer to Tamati et al, "High- and Low-Performing Adult Cochlear Implant Users on High-Variability Sentence Recognition: Differences in Auditory Spectral Resolution and Neurocognitive Functioning," 324–335.

Learner Outcomes

Readers of this article should be able to:

- Understand that both auditory sensitivity and neurocognitive skills contribute to speech-recognition differences among postlingually deafened adult cochlear implant (CI) users.
- Consider that auditory spectral resolution may play the most important and limiting role for low-performing CI users.

CEU Questions

1. Which factor is not associated with differences in spectral resolution and speech recognition in postlingually deafened adult CI users?
 - A. Patient's residual hearing
 - B. Patient's gender
 - C. Patient's duration of deafness
2. What is meant by "top-down" processing in the context of CI users?
 - A. The capacity of individual CI users to make use of neurocognitive processes and language knowledge to understand the degraded sensory information
 - B. Differences in sensory input related to the CI device
 - C. Effects of adverse listening conditions on CI users
3. Compared to high-performing CI users, low-performing CI users are more susceptible to:
 - A. Sources of signal degradation, including noise and speech variability
 - B. Practice effects associated with repeated assessments
 - C. Hard-device failures
4. The Perceptually Robust English Sentence Test Open-set (PRESTO) materials have been shown to:
 - A. Be less challenging to recognize than sentence materials with lower talker variability
 - B. Minimize talker variability by incorporating fewer talkers, genders, and regional accents
 - C. Yield large individual differences in performance related to several neurocognitive skills
5. Results from this study showed that the high-performing and low-performing CI groups were primarily discriminated by which scores?
 - A. Spectral-Temporally Modulated Ripple Test (SMRT)
 - B. California Verbal Learning Test, Version II (CVLT)
 - C. Test of Word Reading Efficiency, Version 2 (TOWRE)
6. In the cohort of CI users in this study, which variable was most predictive of the CI users' performance on PRESTO?
 - A. Verbal learning and memory
 - B. Lexical/phonological processing speed
 - C. Auditory spectral resolution
7. Neurocognitive abilities also contributed to discriminating between high- and low-performing CI groups, as evidenced by results on which assessment of nonverbal reasoning?
 - A. TOWRE
 - B. Raven's Progressive Matrices Test
 - C. CVLT
8. Overall results suggest that:
 - A. Only auditory spectral resolution contributes to discriminating between high- and low-performing CI groups
 - B. Only neurocognitive skills contribute to discriminating between high- and low-performing CI groups
 - C. Both neurocognitive functioning and auditory spectral resolution contribute to discriminating between high- and low-performing CI groups
9. With reduced sensory input, listeners tend to use perceptual strategies relying on:
 - A. "top-down" processing
 - B. "bottom-up" processing
 - C. Guesswork
10. The ability to engage neurocognitive resources to compensate for a degraded signal is likely to be:
 - A. Reduced for CI users with the best spectral resolution
 - B. Reduced for CI users with poor spectral resolution
 - C. Not related to a CI user's spectral resolution



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