

# JAAA CEU Program

Volume 30, Number 8 (September 2019)

Questions refer to Zaleski-King et al, “Bimodal Cochlear Implant Listeners’ Ability to Perceive Minimal Audible Angle Differences,” 659–671.

## Learner Outcomes:

Readers of this article should be able to:

- Summarize the literature describing bimodal access to interaural level and interaural timing difference cues.
- Discuss the limitations adversely affecting bimodal binaural integration.

## CEU Questions:

1. The literature has shown that some bimodal listeners can take advantage of interaural cues when speech sources are spatially separated, based on:
  - a. the head shadow effect
  - b. binaural summation
  - c. interaural time difference (ITD) integration
2. Many of the documented binaural benefits of bimodal stimulation have been demonstrated in:
  - a. environments providing opportunities for “dip listening” during fluctuations in noise
  - b. optimized, directly controlled laboratory conditions
  - c. in comparison to patients with bilateral hearing aids
3. As high-frequency content increases, interaural level differences (ILDs) are:
  - a. more salient
  - b. less salient
  - c. unchanged
4. Hearing aid processing produces a(n) \_\_\_\_\_ timing delay in comparison to cochlear implant (CI) processors, resulting in \_\_\_\_\_.
  - a. smaller, difficulty for computation of neural cues
  - b. larger, difficulty for computation of neural cues
  - c. equivalent, optimized binaural computation
5. A broadband stimulus was used in the study to:
  - a. optimize ILD cues
  - b. improve access to overall loudness cues
  - c. provide an opportunity for acoustic and electric stimulation overlap
6. The interdevice delay (IDD) was used in this study to represent:
  - a. the difference in delay required for lateralization of the broadband stimulus
  - b. the delay between the hearing aid (HA) and CI processors required for the listener to achieve a percept of a centered, single stimulus
  - c. the loudness difference required for equal between-ear intensity percept
7. The results of this study generally showed that:
  - a. providing ITD access to bimodal listeners can be achieved through determining the IDD
  - b. providing localization information to bimodal listeners necessitates more substantial changes to device speech-processing algorithms and fitting procedures
  - c. providing access to ILDs requires monaural listening for bimodal patients
8. The authors hypothesized the Listener B6 demonstrated greater difficulty establishing differences in loudness cues because:
  - a. this listener could not identify ITDs
  - b. this listener had the most pronounced low-frequency hearing loss in the hearing aid ear
  - c. this listener had the least experience listening bimodally
9. One limitation identified by the authors that might have contributed to the variability in interaural loudness perception:
  - a. differences in compression ratios
  - b. differences in age of participants
  - c. differences in hearing aid manufacturer/model
10. In conclusion, the high variability and the general difficulty demonstrated in tasks requiring binaural comparisons supports the idea that:
  - a. CIs best preserve ILD cues used for the head shadow effect
  - b. listeners likely extracted monaural loudness cues to complete the task
  - c. listening experience determines the ability to compute binaural cues



**JAAA CEU PROGRAM**

**WHO?** All members of the Academy receive the CE Registry as a member benefit and are eligible to participate in the JAAA CEU Program.

**WHAT?** The JAAA CEU Program offers a minimum of 1.6 CEUs (16 continuing education hours) per volume year. Individuals can submit one or all JAAA CEU assessments for scoring and CEU credit. Each JAAA assessment is worth .2 CEUs.

**WHERE?** *eAudiology.org—Your CEU Source*

Participants can complete the assessments using the eAudiology.org online submission system, which provides automatic feedback (score, correct answers) and automatic recording to the member’s CE Registry record.

**WHEN?** Volume 30 (2019) assessments will be accepted through December 31, 2019. Volume 30 submissions will be accepted by e-mail or online at eAudiology.org. Submissions are credited in the calendar year they are submitted. You may enroll in the CEU program for 2019 (Volume 30) with a payment of \$95 for the year. This will enable you to earn up to 1.6 CEUs for 2019.

Volume 29 (2018) assessments will be accepted for a separate registration fee of \$95 until December 31, 2019. You can earn up to 1.6 CEUs with this registration! To register, visit eAudiology.org. Volume 29 (2018) assessments will only be accepted via the online program.

**WHY?** Because you want convenient and cost-effective CEUs!

**HOW?** To register online, go to [www.eAudiology.org](http://www.eAudiology.org). Once you have registered, the JAAA CEU Program will be added to your dashboard, and you will be able to access the assessments from there. If submitting by mail, complete the following and send with your completed answer sheet to the address below.

Education Department, JAAA  
 American Academy of Audiology  
 11480 Commerce Park Drive, Suite 220  
 Reston, VA 20191

\_\_\_\_\_  
 Name

\_\_\_\_\_  
 Address

\_\_\_\_\_  
 City State Zip Code

\_\_\_\_\_  
 Telephone Member No.

\_\_\_\_\_  
 E-mail Address

\_\_\_\_\_ Please enroll me in the Volume 30 (2019) JAAA CEU Program. I am enclosing \$95 for the year.

\_\_\_\_\_ I am currently enrolled in the Volume 30 (2019) JAAA CEU Program.

\_\_\_\_\_ Please enroll me in the Volume 29 (2018) JAAA CEU Program. I am enclosing \$95 for the year.

\_\_\_\_\_ I am currently enrolled in the Volume 28 (2017) JAAA CEU Program.

**TOTAL AMOUNT ENCLOSED:**

\_\_\_\_\_

**METHOD OF PAYMENT:**

Check # \_\_\_\_\_

Made payable to:  
 American Academy of Audiology, Inc.

- Credit Card
- Visa
  - MasterCard
  - American Express
  - Discover

Credit Card # \_\_\_\_\_  
 Exp. Date \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

**TIER 1 CREDIT (For ABA certificants)**



Tier 1 credit is available in this issue of JAAA. In order to receive Tier 1 credit for this assessment, you must score 80% or better. The credits will appear on your Academy transcript as Tier 1.

Please check here if you are seeking Tier 1 credit.

This document was downloaded for personal use only. Unauthorized distribution is strictly prohibited.