In my editorial in the April 2009 issue of JAAA I noted the interesting study, “Speech Recognition and Temporal Processing in Middle-Aged Women,” by Karen S. Helfer and Megan Vargo of the University of Massachusetts Amherst and the University of Pittsburgh, respectively. The authors show that, in comparison with a young group, middle-aged women demonstrated apparent aging effects on speech recognition in the presence of a speech masker, on temporal resolution, and on self-perceived handicap in difficult listening situations, yet the pure-tone audiometric levels of the two groups across the frequency range from 2000 to 4000 Hz differed by only 3.4 dB. The importance of this finding relates to the persistent problem of comparing the performance of young adults with normal hearing to elderly persons where high-frequency sensorineural loss is prevalent. If age-related auditory changes can be demonstrated in an age range where high-frequency sensitivity is still reasonably well preserved, an effective method for studying auditory aging might be to eschew the traditional elderly group (usually defined as greater than 60–65 years) and to focus on comparisons between young and middle-aged participants.

In this issue of JAAA, authors Ilse J.A. Wambacq, Janet Koehnke, Joan Besing, Laurie L. Romei, AnnMarie DePierro, and David Cooper, of Montclair State University, present data complementing the results of Helfer and Vargo. In their paper, “Processing Interaural Cues in Sound Segregation by Young and Middle-Aged Brains,” Wambacq et al show that age-related loss in the ability to exploit an interaural phase difference (IPD) as a cue to sound stream segregation is already evident in middle-aged persons. The authors compared two groups: (1) 10 young adults in the 21–35 year age range, and (2) 11 middle-aged adults in the 48–57 year age range. A key point is that, in all participants of both groups, audiometric thresholds were equal to or less than 20 dB HL in both ears at all frequencies from 250 to 8000 Hz.

The authors purposely chose a middle-aged rather than a conventional elderly group specifically to avoid the problem of sorting out the confounding effect of peripheral hearing loss in the older group, yet a robust aging effect was demonstrated on the event-related potential (ERP) in response to a 180° change in the interaural phase of the second harmonic of a complex tone. This finding has, of course, significant implications for the problem of separating to-be-attended speech signals from not-to-be-attended speech or noise competition in real life listening, a problem often linked to the listening complaints of elderly persons.

If robust effects like these of Wambacq et al and Helfer and Vargo can be confirmed on other auditory tasks, we may be seeing the beginning of a paradigm shift in research on auditory aging. The study by Wambacq et al reveals an auditory effect reflecting the inexorable march of auditory aging before the effects were evident to the middle-aged participants. These findings suggest that, in comparing young and elderly groups, limiting the upper age range of the elderly group to participants below the age of 60 years can yield auditory aging effects while avoiding the long-standing problems of peripheral hearing loss and the substantial cognitive changes associated with elderly participants in their genuinely senior years.

James Jerger
Editor-in-Chief

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