In aging research, it is common to compare two groups, young adults and elderly persons. One might ask, for example, whether speech perception in a noisy background is more difficult for elderly persons because of age-related changes in cognition, central processing, memory deficit, depression, or a host of other factors known to be affected by aging.

A persistent problem complicating such research designs, however, is the fact that elderly persons have poorer hearing in the high-frequency region than young adults. If they do not score as well on a test of speech recognition, it may be due simply to their poorer high-frequency sensitivity. Sorting out the central from the peripheral effects can be exceedingly difficult.

There are three possible solutions to this dilemma. One is to insist that all research participants, both young and old, have absolutely equivalent normal high-frequency sensitivity. The problem with this approach is that it is not easy to find elderly persons with the high-frequency hearing of the average 21 year old. A second approach is to let the high-frequency losses in the elderly group fall where they may and then form a younger group with the same average audiometric contour. The problem with this approach is that few young adults with sensorineural loss share the audiometric shapes typical of presbyacusis.

A third approach is to create matching audiometric contours in the two groups by asking all participants to listen in the presence of a high-pass masking noise. The spectrum of the noise can be easily shaped for each individual participant such that the average masked thresholds of both groups are virtually identical. This third approach has been employed less often than the first two, primarily because of fear that the high-pass masking noise might shift thresholds below the pass band, more in one group than in the other.

To put this apprehension to rest, authors Pamela Souza, Kelly Tremblay, and Kumiko Boike compared thresholds in quiet and in seven high-pass masking conditions in two groups, six young adults in the 19- to 33-year age range and six elderly persons in the 60- to 74-year range. Results are summarized in their paper "Effects of Decreased Audibility Produced by High-Pass Maskers in Younger and Older Adults" in this issue of JAAA. Reassuringly, threshold shifts produced by the maskers in the frequency region below the pass band of the noise were not different in the two groups. Thus, investigators may use this method of equating the high-frequency sensitivity of different age groups without fear of substantial confounding by the masking noise itself.

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