Are Some More Equal Than Others?

The interlist equivalence of speech audiometric materials is a topic guaranteed to roll many eyeballs upward. You can probably think of several dozen issues more likely to strike fire in the hearts and minds of audiologists. But in this “age of outcome measures,” it is vitally important that a test of speech recognition, either in quiet or in the presence of background competition, yield the same score no matter which list of materials is used.

A common approach to the problem of interlist equivalence is to construct several lists, administer them all to a group of young adults with normal hearing, and retain for further clinical use only those lists that yielded fairly similar average scores across the group. In order to keep persons with normal hearing from scoring at ceiling, it is not unusual to render the listening task more difficult by low-pass filtering the speech stimuli. The tacit assumption is that equivalent lists, established in this fashion, will remain equivalent when applied to clinical populations.

In this issue of JAAA, investigators Rachel McArdle, of the Bay Pines VA Medical Center, and Richard Wilson, of the James H. Quillen VA Medical Center, report results of a study in which they tested this assumption forthrightly. They administered 18 QuickSIN™ sentence lists to 24 young adults with normal hearing and to 72 elderly listeners with typical presbyacusic sensorineural hearing loss. Results showed that, not unexpectedly, the 18 lists were reasonably equivalent for the young adults with normal hearing. But in the elderly group with hearing loss, 4 of the 18 lists were either above or below the critical range for equivalence. Moreover, in order to derive a group of lists that were truly homogenous for the elderly group, the authors had to eliminate 9 of the 18 lists.

These findings dramatically illustrate the fact that elderly people with presbyacusic hearing loss are not a homogenous group. Given the same audiometric contours, some do better on some lists and worse on others. The performance of each individual is not necessarily predicted by delivering low-pass filtered speech to young adults with normal hearing. As an obvious corollary, interlist equivalence of speech testing materials needs to be established on a sample of the population for which the test is intended, rather than on that popular group, young adults with normal hearing.

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