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Development of a speech in noise test (Matrix)

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A closed speech in noise test has been developed recently in Dutch. Sentences are formed by concatenating five words (Name, Verb, Numeral, Adject, Noun), as proposed by Hagerman, 1982, Scand Audiol. 11:79-87, and Wagener et al., 2003. Int J Audiol. 42:10-7.

Subjects have to reproduce

the played sentence, by selecting 1 option out of 10 possibilities for each category. The material was optimised following two iterations. Firstly, the intelligibility of words was equalized by a maximum of +/- 3 dB (resulting in increment of the psychometric curve of 1%/dB). Secondly, the intelligibility of sentences was optimised by equalizing the intelligibility in terms of SRT (resulting in an increment of the slope of the psychometric curve of 0.5%/dB). In the final stage, evaluation measurements for 45 normal hearing subjects indicated a high similarity between different lists and showed to be independent of being conducted in the Netherlands or in Flanders. Finally, the consistency of the SRT was assessed by seven normal hearing subjects, showing a benefit (learning effect) of 2.5 dB after the first 2 tests. The average test-retest variance of the first two measurements for each subject was 0.8 dB (including a small learning effect). The average variance of the consecutive 6 measurements for each subject was 0.5 dB. In addition, the outcome of open and closed sentence tests will be compared.

