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Measuring cross-linguistic intelligibility in the Germanic, Romance and Slavic language groups

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Abstract

We administered six functional intelligibility tests, i.e., spoken and written versions of (i) an isolated word recognition test, (ii) a cloze test at the sentence level and (iii) a picture-to-text matching task at the paragraph level. The scores on these functional tests were compared with each other and with intersubjective measures obtained for the same materials through opinion testing, i.e., estimated and perceived intelligibility). The native language of the speakers and listeners belonged to one of three groups of European language families, i.e., Germanic (Danish, Dutch, English, German, Swedish, yielding 20 within-family pairs of different speaker and listener languages), Romance (French, Italian, Portuguese, Romanian, Spanish, yielding 20 language pairs) and Slavic (Bulgarian, Croatian, Czech, Polish, Slovak, Slovene, i.e., 30 pairs). Results from 13,566 participants were analyzed for the 70 within-family combinations of speaker and listener languages. The word recognition test and the cloze test revealed similar patterns of intelligibility but correlated poorly with the picture-to-text matching scores. Both measures of judged intelligibility (estimated and perceived) correlated highly with one another and with the functional test scores, especially those of the cloze test. We conclude that lay listeners are able to judge the intelligibility of a non-native test language from within their own language family. Moreover, participants understood written language better than the spoken forms. Advantages and disadvantages of the various intelligibility measures we used are discussed. We conclude that the written cloze procedure which we developed is the optimal cross-language intelligibility test in the European language area.

Key words

Intelligibility testing, functional language tests, cloze test, judged intelligibility, estimated intelligibility, perceived intelligibility

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