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International cross-validation of sentence intelligibility tests

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In audiology it is desirable to obtain similar results across sites when measuring in similar conditions also on an international scale. This aim is quite challenging with regard to speech intelligibility tests since different languages may highly influence comparability.

The European project HearCom (Hearing in the communication society, FP6–004171) tries to establish minimum quality requirements for speech intelligibility tests in order to reach highest comparability across European countries.

Within a multi-centre study sentence intelligibility was determined in different conditions: So-called everyday sentences (or Plomp type sentences) were used to determine binaural SRT in quiet (SRT: speech reception threshold, i.e. speech presentation level or signal-to-noise ratio that yields 50% intelligibility), monaural SRT in non-modulated speech shaped icra1 noise and in modulated speech shaped icra5-250 noise (modulations simulate one interfering talker). Syntactically fixed but semantically non predictive sentences ("Matrix test sentences") were used to determine binaural aspects of speech intelligibility like intelligibility level difference (ILD) and binaural intelligibility level difference (BILD). The measurements were performed both with normal-hearing and with hearing-impaired subjects in four different countries (Germany, Netherlands, Sweden, and UK) under comparable conditions. This contribution will present the inter-language cross-validation analysis of reference data for the particular sentence tests as well as the inter-language analysis of the multi-centre study results.

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