

## **The Swedish hearing in noise test for children, HINT-C**

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**Background:** Speech audiometry in noise can be a useful tool for diagnostics and for evaluation of hearing aids. Since the ability to recognise speech in noise gradually improves during childhood, it is necessary to have evaluated speech materials and reference data for children of different ages.

**Aim:** The aim of this study was to develop and evaluate a Swedish version of the Hearing In Noise Test for Children (HINT-C).

**Method:** In the first part, the Swedish HINT material for adults was evaluated in children (n=112) of different ages (6-11 years), in three fixed signal-to-noise ratios (-4, -1, +2). Lists including sentences not reaching 50% recognition at +2 dB SNR were excluded and the rest constituted the HINT-C. In the second part, HINT-C was evaluated in children (n=28) and adults (n=9) using an adaptive procedure to determine the SNR for 50% correctly repeated sentences.

**Results:** Eight out of 24 tested adult HINT lists did not reach the inclusion criteria. The remaining 16 lists formed the Swedish HINT-C which was evaluated in children 6–11 years old. A regression analysis showed that the predicted SNR threshold (dB) was  $0.495 - 0.365 * \text{age (years + months/12)}$  and the children reached the mean adult score at an age of 10.5 years.

**Discussion:** A Swedish version of HINT-C was developed and evaluated in children six years and older. In agreement with previous studies, the results show an improvement of speech recognition in noise during childhood.