Logical and Auditory Inference Making: Performance in the HINT in normally-hearing and hearing-impaired listeners

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Everyday information processing depends on the quality of the information that is picked up by the senses, either via an incoming signal or from memory. In today´s information society we often encounter situations where inferences are drawn based on uncertain information due to noisy or ambiguous sensory stimuli. The present study aimed to investigate differences between two measures of inference making; auditory inference making in speech-shaped noise and visual logical inference making, and their relation to performance in HINT. We will present results from two different groups participating in the longitudinal N200 project (Rönnberg et al. 2016); a group with age-appropriate normal hearing (NH) individuals, and a group of age-matched hearing-impaired (HI) individuals using hearing aids. The results indicate that logical inference making predicts a portion of the variance in the HINT, while auditory inference making does not significantly predict performance in the HINT. Better ear pure tone average (4) and group predict how you perform in the HINT, and together with logical inference making and auditory inference making, these variables predict 43% of the variance in the HINT. These results point to a conclusion that inference making ability may be important when measuring speech in noise performance using an open set speech material with semantic context.

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References: Rönnberg, J., Lunner, T […] & Stenfelt, S. (2016). Hearing impairment, cognition and speech understanding: exploratory factor analyses of a comprehensive test battery for a group of hearing aid users, the n200 study. *Int J Audiol*, DOI: 10.1080/14992027.2016.1219775.

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