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Binaural broadband loudness summation in the hearing-impaired population and potential implications for hearing aid fitting strategies

Previous studies reported large individual differences in loudness of binaural broadband sounds in hearing-impaired listeners after narrowband loudness was normalized. This binaural broadband loudness summation (BBLs) might be connected to substantial fine-tuning necessary for some hearing aid users to provide acceptable loudness. We present two studies assessing the distribution of BBLs in the hearing-impaired population, and the potential implications for hearing aid fitting strategies.

First, standard audiological diagnostic parameters and BBLs values were measured for 180 hearing-impaired participants. An ongoing follow-up study is comparing the preference and audiological performance between a standard audiogram-based hearing aid fitting procedure and trueLOUDNESS, which employs a measurement of the BBLs.

The BBLs of the hearing-impaired participants was, on average, 13 dB higher and showed a higher individual variance relative to a normal-hearing reference group. About 40% of participants showed values beyond the normal-hearing range. First audiological outcomes with the different fitting strategies will be discussed.