Concurrent OLSA: A paradigm to measure shared attention effects on speech perception in multi-talker situations

*Jan Heeren\(^1,2\), Theresa Nüsse\(^3,2\), Matthias Latzel\(^4\), Inga Holube\(^3,2\), Volker Hohmann\(^5,2\), Michael Schulte\(^6,2\)

\(^1\)Hörtech gGmbH, Oldenburg, Deutschland
\(^2\)Exzellenzcluster Hearing4All, Oldenburg, Deutschland
\(^3\)Jade Hochschule, Institut für Hörtechnik und Audiologie, Oldenburg, Deutschland
\(^4\)Phonak AG, Stäfa, Schweiz
\(^5\)Universität Oldenburg, Oldenburg, Deutschland
\(^6\)Hörzentrum Oldenburg GmbH, Oldenburg, Deutschland

A major challenge in cocktail-party situations is to focus on a certain talker and to attend the wider conversation at the same time, and particularly not to miss if you are getting addressed. As difficulties can arise even under positive SNR conditions and perfectly pronounced speech, measures are needed that take spatial attention effects into account. Therefore, a paradigm has been developed that allows for a comparison of speech intelligibility between focused attention and shared attention under the same listening conditions. Three talkers (male 1 at -60°, female at 0°, male 2 at 60°) alternately speak sentences of the Oldenburg Sentence Test (OLSA, Wagener et al., 1999). Each talker sometimes starts a sentence with the name "Kerstin", which means calling the participant. In this scenario, participants perform three tasks. First task is to localize the "Kerstin" calls, second task is to understand and repeat speech from ONE talker, third task is to understand and repeat speech from changing target talkers (each "Kerstin" call indicates a target change). Results show a decrease in speech perception for the shared attention task (third task) of around 20 %, while the participants are able to perform the first two tasks perfectly.