

Effects of speaking style and context On young listener's word recognition

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Previous research has found that listener-oriented speaking adaptations such as Clear Speech (directed at e.g. listeners with hearing issues, non-native speakers, or in noisy environments) improves intelligibility for adults (Smiljanic & Bradlow, 2009); and that Infant Directed Speech (IDS) aids perception and development for children (Cooper & Aslin, 1994). While both speaking styles share features such as slower speaking rate and enhanced pitch accents, it is not known whether listener-oriented speaking styles generally enhance intelligibility, or if only IDS (arguably due to enhanced positive affect) is beneficial to young children. This study investigates how clarity of the speech signal interacts with availability of contextual cues for younger listeners.

In two word-recognition experiments, participants heard sentences in Conversational, IDS, and Clear speech, while viewing a target picture matching the last word of the auditory stimulus paired with a distractor. In Experiment 1, 4-year-olds heard sentences with high- versus low-predictability semantic context (*He pointed at the cheese* vs. *Mice like to eat cheese*). In Experiment 2, 3-year-olds heard only semantically-neutral phrases (*Look at the cheese*). Four-year-olds benefited from contextual cues within each speaking style; and from both listener-oriented styles even in the absence of contextual cues. Three-year-olds showed only benefits from IDS but not Clear speech; they did not yet benefit from adult-directed listener-oriented acoustic enhancements. The findings (LMERs) suggest that compared to adults in previous studies, children rely on bottom-up processing more heavily for word recognition, especially in low-context sentences.