

Acoustic cue distributions affect infants' discrimination of speech sound categories

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Abstract

Research on attention to cues in speech perception has shown that some cues are processed more or less independently from others, and that this integrality may be affected by language exposure and development. However, most of the research on attention to cues in segmental discrimination has been carried out on adults and children, rather than infants. This paper presents an experiment that assesses the role of distribution of cues on infants' discrimination abilities. English-learning 5-month-olds were exposed to a Polish contrast between alveo-palatal and retroflex sibilant fricatives in one of three conditions varying in the distribution of acoustic cues. In the first condition, cues were independent from each other with all combinations of acoustic cue values being presented equally frequently ("Flat" distribution). In the second condition, some acoustic cue values were more frequent reflecting two categories ("Two-peaks" distribution). Finally, in the third condition again some values co-occurred but this time the co-occurrences suggested four categories ("Four-peaks" distribution). All infants were tested on stimuli which varied on a single cue. Results suggest that cue distribution affects infants' ability to discriminate sounds on the basis of limited cues.