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8-10 months old infants extract non-adjacent dependencies from segmental information

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Abstract

Infants have been shown to be particularly adept at extracting so-called non-adjacent dependencies (NADs) from auditory linguistic input (for a review, cf. Mueller, Milne, & Männel, 2018). Mueller, Friederici & Männel (2012) showed that 3-4 month-olds readily learn arbitrary associations between specific non-adjacent syllables from an artificial language (e.g. fikato) and related this ability to individual differences in pitch processing. Here, we addressed the question whether syllables are the building block NAD learning operates on, or whether smaller segmental units also allow for such structural generalizations (Nespor, Peña, & Mehler, 2003). In an oddball paradigm, 8-10-months-olds showed a differential ERP response to standard (e.g. bokäwu, liwase) and deviant (e.g. sogäle, kisüru) exemplars of an exclusively vowel-based NAD, and to an intensity manipulation. Implications of successful rule generalization from this smaller segmental unit and its relation to auditory sensory processing are discussed.