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Specificity of Infant Statistical Learning

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Abstract

Sensitivity to transitional probabilities (TP) in continuous speech has been extensively documented, yet little is known about how infants represent sequences that are the output of statistical learning. Across 3 experiments we test 8-month-old English-learning infants indexical, segmental, and suprasegmental representations of newly-encountered statistically-defined words. Following familiarization with a naturally-produced Italian corpus that contained two trochaic (strong-weak) high TP (HTP) words produced by a female speaker, infants were tested on their ability to discriminate modified HTP words (Experiment 1=male voice; Experiment 2=onset consonant change); Experiment 3=iambic stress pattern), from foils. Infants demonstrated a significant familiarity preference for modified HTP words in Experiments 1 and 3, but failed to recognize consonant modified HTP words in Experiment 2. Findings demonstrate infants can generalize representations of statistically-defined words across a range of acoustic forms less relevant to word meaning in English, but not across phonemic characteristics that are core to word meaning.