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Vocabulary Size is Correlated with Non-Native Tone Sensitivity In English Learning Infants

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Abstract: In many languages, tone (i.e., pitch patterns) is part of the phonological system; two words with the same sequences of segments can differ only in tone. Tone does not distinguish word meanings in English, so English-learning infants can ignore tone when learning words, but do they? We examined the encoding of tonal detail in word learning by monolingual English-learning 14- and 17-month-olds. Infants were habituated to a novel word with a Mandarin tone (/ká/) paired with a novel object. Test trials alternated between the same pairing (Same), and the same object paired with the word with a different tone (/kà/, Switch). Longer looks to the unfamiliar mapping indicate infants noticed the switch and attended to tone contrasts. Overall, neither age group discriminated the tone contrast; however, infants with larger vocabularies looked longer to the novel mapping ($r=.32$, $p=.007$), suggesting a common underlying mechanism between general word learning and tone sensitivity.