

Infant Adaptations to Diverse Language Environments

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Infants adapt to the external world by sampling it. The more variable the environment, the more sampling (exploration) is required. Infants who regularly hear two or more languages are likely to be exposed to more varied language input than infants who regularly hear one language. These 'bilingual' infants may also receive less input from each language. Given these exogenous sampling constraints, how do bilingual infants keep pace with their monolingual peers? We propose that they do so by placing more weight on gathering information (exploring) and rapidly orienting towards speakers (because visual input facilitates language learning). In support of this proposal, it had been found that infants raised in bilingual homes switch attention between visual stimuli faster and more frequently than infants raised in monolingual homes (D'Souza et al., 2020). But this may have been due to some effect of trial and/or non-language (e.g., cultural) difference. To rule this out and obtain a more in-depth understanding of infant adaptations to bilingual environments, we have analysed within-trial moment-by-moment eye-tracking data and investigated whether attention switching is associated with a continuous measure of language experience. We found that infants whose language environment was dominated by English switched attention between visual stimuli less frequently, $\chi^2(5) = 53.90$, $p < .001$. Crucially, these infants fixated more on novel over familiar stimuli (as expected, based on the infant literature), whereas infants from more diverse language environments continuously switched attention between visual stimuli, irrespective of whether the stimulus was familiar or novel, placing more weight on gathering information (exploring) than prior expectations. Since the study was carried out in a laboratory setting, we are also investigating how infants explore their natural environment. Pilot data from this ongoing naturalistic and interactionist study will also be presented, alongside a computational model that explains and predicts empirical data.