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Multilingual or not, infants learn words best when it sounds like home

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Growing up in a multilingual home has many advantages, but many parents worry that exposure to multiple languages might delay language acquisition. New research could now lay some of these multilingual myths to rest, thanks to a revealing study that shows both monolingual and bilingual infants learn a new word best from someone with a language background that matches their own.

While 1.5 year old babies are powerful word learners, they can have difficulty learning similar-sounding words (e.g., "coat" and "goat"). A string of previous studies had found unexplained differences in monolingual and bilingual children's ability to learn these types of similar-sounding words, sometimes suggesting a bilingual advantage, and other times suggesting a bilingual delay. Christopher Fennell from the University of Ottawa and Krista Byers-Heinlein from Concordia University, both in Canada, wanted to understand these differences between monolingual and bilingual word learning. They observed that these groups differ not only in how many languages they are learning, but often in whether they are raised by parents who themselves are monolingual or bilingual.

Adults raised bilingual sound subtly different to those from a monolingual environment. They posses a slight "accent" in both of their languages, so subtle that it is not usually detected by other adults. Yet, children are sometimes sensitive to differences that adults ignore. Fennell and Byers-Heinlein asked: would bilingual children learn words better from an adult bilingual and would monolingual children learn new

words best from an adult monolingual?

To answer these questions, the researchers taught 61 English monolingual and English-French bilingual 17-month-olds two similar-sounding nonsense words. Infants sat on their parents' laps in front of a television monitor, where they were taught similar-sounding words for two novel objects: a clay crown-shaped object labelled with the word "kem", and a molecule from a chemistry set labelled with the word "gem". For half the babies, the label was produced by an adult who matched their language-learning environment (e.g., monolinguals heard a monolingual, and bilinguals heard a bilingual). For the other half, the label was produced by an adult who did not match their language-learning environment (e.g., monolinguals heard a bilingual, and bilinguals heard a monolingual). To determine whether children had learned the word, researchers presented an incorrect pairing (e.g. "kem" paired with the molecule"). Babies who have learned the words should be surprised at this wrong label, and stare at the mislabelled object more than when a correct label is presented. Babies who have not learned the words should look equally the object no matter if it is correctly or an incorrectly labelled.

Both monolingual and bilingual children could learn the words, but only from a speaker that matched their language-learning environment. Bilingual babies efficiently learned the words from the bilingual speaker, but not from the monolingual speaker. Conversely, monolingual babies effectively learned the words from the monolingual speaker, but not from the bilingual speaker. In other words, there was no overall bilingual advantage or a bilingual delay, but just a difference in which speaker the babies found easier to learn words from.

To further test their hypothesis, the researchers explored whether any of the bilinguals were able learn from the monolingual speaker. They found that bilinguals who were exposed to more English in their everyday

environment were more successful at learning from the monolingual speaker than bilinguals with less English exposure. The researchers suspected the bilinguals who succeeded might be children of English-dominant parents who did not possess a bilingual accent in English (e.g., Mom grew up as an English monolingual, even if she was now bilingual).

"We found that all infants, regardless of whether they are learning one or two languages, learn words best when listening to people who sound like their primary caregivers," Fennell explains. "Monolingual infants succeeded with a monolingual speaker, bilingual infants with a bilingual speaker, but each group had difficulty with the opposite speaker."

The findings reveal that both monolingual and bilingual babies are highly tuned to their home language environments. The results contradict hypotheses that bilingual children are better able to deal with varied accents than monolinguals and that monolinguals have more solid word representations than bilinguals. All babies show similar strengths and weaknesses in their early word learning abilities.

Infants' ability to discern the subtle sound differences between words spoken by bilingual or monolingual speakers is striking. But this also makes a great deal of sense in the context of other evidence suggesting that infants' are uniquely tuned to their caregivers' voices. "Children seem to adapt to their language environments," says Byers-Heinlein. "This supports them in reaching their language milestones, no matter whether they grow up monolingual or multilingual."

Finally, these results have strong implications for other studies of bilingual infants and children, the authors say. If a researcher does not take in to account whether the speaker used in their experiment grew up monolingual or bilingual, as well as language dominance in a bilingual child's home, they could generate misleading results. They may "discover" that bilingual children have difficulty with some language

task, when, in reality, some bilingual subgroups can succeed and others struggle depending on the language stimuli used.

More information: Christopher Fennell and Krista Byers-Heinlein: "You sound like Mommy: Bilingual and monolingual infants learn words best from speakers typical of their language environments," is published in the latest issue of *International Journal of Behavioural Development* published by SAGE.

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