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Hearing two languages in womb puts babies on bilingual path

Study by UBC psychologists finds language acquisition takes root before birth, months before infants understand their first word

BY THANDI FLETCHER

Babies who hear two languages while in the womb are already well on the path to bilingualism, suggests a new study by Canadian researchers.

The study, carried out by psychological scientists at the University of British Columbia, found language acquisition takes root even before birth, months before babies begin to even understand or speak their first word.

"Babies are listening to language very, very early in life," said Janet Werker, co-author of the study and a psychology professor.

The study examined newborns with bilingual mothers who spoke both languages regularly during pregnancy. They found not only are bilingual babies interested in hearing both their native languages, but they can also tell the two languages apart.

"This gives them a leg up at getting started at bilingual language acquisition," said Werker.

The study involved two experiments with two groups of mother-newborn pairs: The mothers of one group had spoken only English while pregnant, while the others spoke both English and Tagalog, a language spoken in the

Philippines.

During the first experiment, newborns heard 10 minutes of speech that alternated every minute between English and Tagalog. But the researchers needed a method to determine the babies' response to different languages.

"If you want to ask questions of newborn babies, they don't answer them very well," Werker laughed.

She said, however, that the sucking reflex of a newborn baby is very well developed at birth and can be used to determine interest in a stimulus.

Taking advantage of this, scientists connected a pacifier to

activity. The computer counted the number of strong sucks per minute when each baby heard either language. On average, monolingual English babies gave more strong sucks per minute when hearing English, while bilingual babies gave the same number of sucks upon hearing both languages.

Realizing the bilingual babies could have shown equal interest in both languages simply because they didn't know the difference, the researchers devised a second experiment to determine if the babies were able to tell the languages apart.

The infants heard sentences

until they lost interest. Then they either heard sentences spoken in the other language or sentences spoken in the same language, but by a different person.

The result found babies sucked more when they heard the language change, but not with a different person speaking the same language, suggesting they are able to tell the difference between two languages from early stages in life.

Werker said many bilingual parents are concerned that if they speak two languages their children are going to be language-delayed or confused —

but this research refutes that

"The take-home message for parents is, if you're a monolingual speaker, your baby is going to be prepared at birth to have a leg-up on learning that language. And if you're a bilingual speaker, your baby is going to be equally prepared to start learning two languages," she said.

"We encourage parents to enjoy talking to their babies because babies enjoy listening."

The study, also co-authored by Krista Byers-Heinlein and Tracey Burns, will be published in the March edition of the journal *Psychological Science*.

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