

To baby brains, language is language, whether signed or spoken

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Baby brains are hungry for language. New parents are urged to talk to their babies to help their minds develop properly. Now, a group of UConn researchers have shown that "talking" doesn't just mean

speech—sign language exposure is equally as nourishing.

"We find [early exposure](#) to [language](#), whether signed or spoken, supports the development of typical cognitive skills," says Corina Goodwin, a psycholinguist at UConn. The finding, reported online on October 11 in *Child Development*, may seem obvious to most people but has been contentiously debated in the scientific community.

Deaf children born to hearing parents often have [developmental delays](#). Research has convincingly linked such delays to inadequate language exposure early in life, and so pediatricians and audiologists often push hard for parents to surgically implant hearing technology in deaf babies. But that approach assumes that sound equals language. It's based on research that looks only at [deaf children](#) raised in families that only use spoken language. Almost none study the cognitive development of deaf children raised with [sign language](#).

The UConn researchers have changed that. They recruited 123 children between three and seven years old. There were 46 children with typical hearing, and 77 were deaf or hard of hearing. Of the deaf or hard-of-hearing participants in the study, 26 had been exposed to American Sign Language, or ASL, from birth by a deaf parent, while the others had been exposed to language only later on in toddlerhood: 28 to ASL and 23 to spoken English. The researchers asked the parents of the children to answer questions rating the children's executive functioning. Executive functioning refers to how people monitor their own behavior, choose how to react, and plan to reach their goals. The questions were from a set often used to evaluate [attention deficit disorder](#) and other executive function disturbances in children, and evaluate issues such as whether a child can follow two step directions such as "go upstairs and get your shoes", or whether the child has emotional outbursts.

The results showed no difference between kids exposed to language at

birth, whether that language was spoken or signed. But children who had delayed exposure to language did tend to have more trouble with executive functioning.

"We've shown that the delays that have been observed in previous studies are not about their deafness, it's about having early access to language," says Marie Coppola, a psychologist at UConn and co-author of the study.

The research is part of Coppola's larger project looking at how age of first exposure to spoken and signed language affects executive functioning and math skills in deaf and hard-of-hearing children. Goodwin is also working on a project investigating the influence of ASL on the spoken English development of children learning both languages.

More information: Corina Goodwin et al, Language not auditory experience is related to parent-reported executive functioning in preschool-aged deaf and hard-of-hearing children, *Child Development* (2021). [DOI: 10.1111/cdev.13677](https://doi.org/10.1111/cdev.13677)

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