

# Language learning influenced by genes

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Researchers at the University of Edinburgh have found a gene - called ROBO1 - linked to the mechanism in the brain that helps infants develop speech.

They say identifying the gene could help us explain how some aspects of language learning in infants are influenced by [genetic traits](#) rather than educational factors.

The scientists conducted a five - year study, assessing the language learning techniques of 538 families with upto five [offspring](#).

They found that one version of the ROBO1 gene greatly enhanced a core component of language learning.

The gene directs chemicals in [brain cells](#) that help infants store and translate speech sounds they hear into meaningful language.

The researchers found a significant link between the way this [gene functions](#) and the brains ability to store speech sounds for a brief period of time.

This process is an essential part of the language learning process for the very young when words are at first meaningless until associated with an object or concept.

"The infant language acquisition system is quintessentially human and yet is a complex system requiring many [brain regions](#). The discovery of

the ROBO1 gene helps to understand how speech sounds can be stored long enough to be integrated with meaning," Timothy Bates, Professor of the School of Philosophy, Psychology and Language Sciences, said.

The team believes the gene discovery may help in the understanding of speech disorders, dyslexia and short-term memory problems affecting as many as one in 10 children in the UK.

Provided by University of Edinburgh

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