

Babies prefer human voices

The brains of 4-month-old babies show a preferential response to human voices compared to environmental sounds. The results of a joint study conducted by a researcher from HES-SO Valais-Wallis affiliated with The Sense affirm this. These findings shed new light on the innate social nature of human beings.

Voice is the most important sound for humans, providing information about the speaker's identity, gender, age, and emotional state. It is also the basis of our communication through language and other non-linguistic cues.

Adults have a specific area of the brain that responds preferentially to voices over other sounds. This observation suggests an evolutionary origin of this brain region, which appears crucial for social interaction beyond language.

Professor Olivier Collignon (affiliated researcher at The Sense and visiting Professor at the School of Health Sciences - HES-SO Valais-Wallis) and Roberta Calce (UC Louvain) questioned the existence of such a brain region (preferring voices to any other sound) in young children. In other words, they sought to answer the question: do humans develop a brain circuit for vocal selectivity through prolonged experience, or are infants pre-wired to process voices differently?

The child, a social being by nature

In concrete terms, the research teams investigated whether the brains of 4-month-old infants showed a preference for voices over other environmental sounds. Infants participating in the study listened to a variety of vocal and non-vocal sounds while wearing an electroencephalographic system recording their brain activity.

The results, published in the prestigious scientific journal *Current Biology*, are unequivocal: 4-month-old infants already have a selective brain response to voices. These findings shed new light on the development of voice processing, showing neural selectivity that could promote interest in these crucial sounds from early in life and potentially contribute to the social development of the child.

Additionally, in the context of this experiment, scientists developed a new paradigm called "rapid periodic auditory stimulation," allowing them to record a very robust brain response in young infants in just a few minutes. The team believes that this technique will become an important tool for studying auditory development beyond voice processing.

Reference

Roberta P. Calce, Diane Rekow, Francesca M. Barbero, Anna Kiseleva, Siddharth Talwar, Arnaud Leleu, Olivier Collignon, Voice categorization in the four-month-old human brain, *Current Biology*, 2023, ISSN 0960-9822, <https://www.sciencedirect.com/science/article/pii/S0960982223015920?via%3Dihub>

About The Sense

The Sense Innovation and Research Center creates and disseminates knowledge about the senses and human behavior for the benefit of society. [The Sense](#) federates applied, fundamental and clinical research to improve the performance or clinical outcomes of sensory function. This inter-institutional initiative is the result of collaboration between the HES-SO Valais-Wallis, the Lausanne University Hospital (CHUV), and the University of Lausanne (UNIL).

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