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Bilingualism as a natural therapy for autistic children

An international team led by UNIGE demonstrates that the characteristics of bilingualism allow autistic children to compensate for certain fundamental deficits.

PRESS RELEASE

Geneva | June 3rd, 2021

Affecting more than one in a hundred children, autism spectrum disorder is one of the most common neurodevelopmental disorders. It has a particular impact on social interaction, including difficulties in understanding other people's perspectives, beliefs, desires and emotions, known as 'theory of mind'. Bilingual families with an autistic child often tend – and are sometimes encouraged – to forego the use of one of the home languages, so as not to further complicate the development of their child's communicative skills. A researcher from the University of Geneva (UNIGE, Switzerland), in collaboration with the Universities of Thessaly (Greece) and Cambridge (Great-Britain), has shown that bilingualism allows autistic children to partially compensate for deficits in theory of mind and executive functions, which are at the root of many of their challenges. These results can be read in the journal *Autism Research*.

Diagnosed in early childhood, autism spectrum disorder has a particular impact on a child's social and communicative abilities. "It is a spectrum, which is why the intensity of the symptoms varies greatly", explains Stéphanie Durrleman, a researcher in the Department of Linguistics at the UNIGE Faculty of Arts and co-author of the study. "But what children with autism have in common is that they have difficulties putting themselves in the place of their interlocutor, focusing on the latter's point of view and thus disengaging their attention from their own perspective." Autism therefore affects not only everything that has to do with the theory of mind – understanding the beliefs, emotions, intentions and desires of others – but also often executive functions, including attentional abilities.

Could benefits of bilingualism be applied to children with autism?

Studies on bilingualism have shown that children without autism who use several languages have increased theory of mind and executive function skills compared to monolingual children. "Bilingualism therefore seems to bring benefits precisely where the autistic child has difficulties", says Stéphanie Durrleman. "We therefore wondered whether bilingual autistic children manage to mitigate the difficulties of their neurodevelopmental disorder by using two languages every day."

To test this hypothesis, the researchers from the universities of Geneva, Thessaly and Cambridge followed 103 autistic children aged 6 to 15, 43 of whom were bilingual. "In order to observe the real effects of bilingualism on their socio-communicative skills, we grouped them according to their age, gender and the intensity of their autistic disorder", explains Eleni Peristeri, researcher at the Faculty of Medicine of the University of Thessaly and co-author of the study. The participants then performed various tasks to assess their theory of mind and executive function skills. The bilinguals quickly distinguished themselves



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Stéphanie Durrleman, lecturer at the Department of Linguistics of the Faculty of Arts of the UNIGE.

High resolution pictures



Eleni Peristeri, researcher at the Faculty of Medicine of the University of Thessaly.

by scoring higher than their monolingual peers. “On tasks relating to theory of mind, i.e. their ability to understand another person’s behaviour by putting themselves in their place, the bilingual children gave 76% correct answers, compared with 57% for the monolingual children”, notes the Greek researcher. The same is true for executive functions: the score for correct responses in bilinguals is twice that of monolinguals. But why are the differences so clear?

“Bilingualism requires the child to work first on skills directly related to theory of mind, i.e. he or she must constantly be concerned with the knowledge of others: Does the person I am speaking to speak Greek or Albanian? In what language should I talk to him or her? Then, in a second phase, the child uses his executive functions by focusing his attention on one language, while inhibiting the second”, explains Eleni Peristeri. This is a real gymnastics for the brain, which acts precisely on the deficits linked to the autistic disorder.

Encouraging bilingualism instead of giving it up

“From our evaluations, we can clearly see that bilingualism is very beneficial for children with autism spectrum disorders”, enthuses Stéphanie Durrleman. In order to certify that the socio-economic level in which the participants grew up did not play a role in the results, this was also recorded and it turned out that the bilingual children were mostly in a lower socio-economic environment than the monolinguals. “We can therefore affirm that benefits in theory of mind and executive functions emerge in bilinguals, even when there is a socio-economic disadvantage”, says the Geneva researcher.

These findings are important for the care of children diagnosed with autism. “Indeed, as this neurodevelopmental disorder often affects language acquisition, bilingual families tend to give up the use of one of the two languages, so as not to exacerbate the learning process. However, it is now clear that far from putting autistic children in difficulty bilingualism can, on the contrary, help these children to overcome several aspects of their disorder, serving as a kind of natural therapy”, concludes Stéphanie Durrleman.

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DOI: [10.1002/aur.2542](https://doi.org/10.1002/aur.2542)

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