

New hope for Autistic children who never learn to speak

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An Autistica consultation published this month found that 24% of children with autism were non-verbal or minimally verbal, and it is known that these problems can persist into adulthood. Professionals have long attempted to support the development of language in these children but with mixed outcomes. An estimated 600,000 people in the UK and 70 million worldwide have autism, a neuro-developmental condition which is life-long.

Today, scientists at the University of Birmingham publish a paper in *Frontiers in Neuroscience* showing that while not all of the current interventions used are effective, there is real hope for progress by using interventions based on understanding natural [language development](#) and the role of motor and "motor mirroring" behaviour in toddlers.

The researchers, led by Dr Joe McCleery, who is supported by [autism](#) research charity Autistica, examined over 200 published papers and more than 60 different intervention studies, and found that:

- Motor behaviours, such as banging toys and copying [gestures](#) or [facial expressions](#) ("mirroring"), play a key role in the learning of language.
- Children with autism show specific [motor impairments](#), and less "mirroring" [brain activity](#), particularly in relation to strangers in whom they show very little interest. This finding may hold the key to language problems overall.

- Despite extensive use of sign language training to improve speech and communication skills in non-verbal children with autism, there is very little evidence that it makes a positive impact, potentially due to the impairments in motor behaviours and mirroring.
- Picture exchange training can lead to improvements in speech. Here, children gradually learn to "ask" for things by exchanging pictures. This may work well because it does not depend on complex motor skills or mirroring.
- Play-based approaches which employ explicit [teaching strategies](#) and are developmentally based are particularly successful.
- New studies involving a focus on motor skills alongside speech and language intervention are showing promising preliminary results. This is exciting because these interventions utilise our new understanding of the role of motor behaviours in the development of speech and social interaction.

With the support of Autistica, the UK's leading [autism research](#) charity, Dr McCleery's team have now embarked on new work which builds on these findings to design interventions which specifically target the aspects of development where there are deficits in non-verbal autistic children.

Dr McCleery says: "We feel that the field is approaching a turning point, with potentially dramatic breakthroughs to come in both our understanding of communication difficulties in people with autism, and the potential ways we can intervene to make a real difference for those children who are having difficulties learning to speak."

Christine Swabey, CEO of Autistica, says: "80% of the parents in our recent consultation wanted interventions straight after diagnosis. Dr McCleery's work shows how critical it is for all intervention to be evidence-based, and that the best approaches are based on a real

understanding of the development of difficulties in autism. We are proud to be supporting the next steps in this vital research which will improve the quality of life for people with autism."

Alison Hardy, whose son Alfie is six, says: "As a parent of an autistic child, who is non-verbal, I feel quite vulnerable. People are always saying "try this, it worked wonders for us". But you can't try everything. We need a proper, scientific evidence base for what works and what does not. Then we can focus our time and our effort, with some confidence that we have a chance of helping our children. The publication of this research is an exciting step in giving us that confidence, it is great that Autistica is supporting this vital work."

More information: Motor Development and Motor Resonance Difficulties in Autism: Relevance to Early Intervention for Language and Communication Skills, Joseph P. McCleery, Natasha A. Elliott, Dimitrios S. Sampanis and Chrysi A. Stefanidou, *Frontiers in Neuroscience*, [doi: 10.3389/fnint.2013.00030](https://doi.org/10.3389/fnint.2013.00030)

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