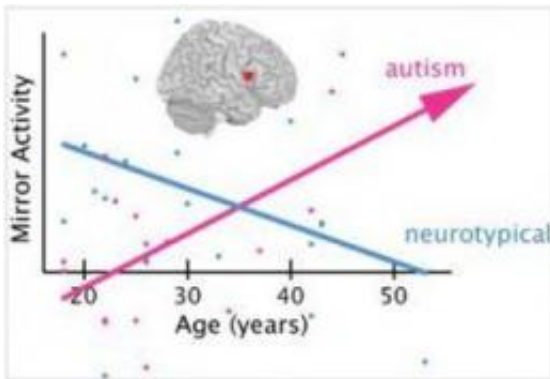


The mirror neuron system in autism: Broken or just slowly developing?

May 3 2011



This graph shows the relationship between age and mirror activity for a normal brain and one with autism. Credit: Elsevier

Developmental abnormalities in the mirror neuron system may contribute to social deficits in autism.

The [mirror neuron system](#) is a [brain circuit](#) that enables us to better understand and anticipate the actions of others. These circuits activate in similar ways when we perform actions or watch other people perform the same actions.

Now, a new study published in [Biological Psychiatry](#) reports that the mirror system in individuals with [autism](#) is not actually broken, but simply delayed.

Dr. Christian Keysers, lead author on the project, detailed their findings, "While most of us have their strongest mirror activity while they are young, autistic individuals seem to have a weak mirror system in their youth, but their mirror activity increases with age, is normal by about age 30 and unusually high thereafter."

This increase in function of mirror neuron systems may be related to increased capacity for social function or responsiveness to rehabilitative treatments among individuals with autism.

"The finding of late developing circuit functions could be very important. One wonders whether the recent breakthroughs in the genetics of autism could help to identify causes for the developmental delays. This type of bridge might help to identify novel treatment mechanisms for autism," said Dr. John Krystal, Editor of *Biological Psychiatry*.

One of the next steps in this line of research will be for researchers to examine how individuals with autism accomplish this improvement over time, and how therapeutic interventions targeting the same mechanism can help to support this important process.

More information: The article is "Age-Related Increase in Inferior Frontal Gyrus Activity and Social Functioning in Autism Spectrum Disorder" by Jojanneke A. Bastiaansen, et al. The article appears in *Biological Psychiatry*, Volume 69, Number 9 (May 1, 2011)

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