

NEWS

# ‘Theory of mind’ does not fade with age among autistic adults

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13 NOVEMBER 2020

Autistic people’s ability to understand another person’s thinking does not diminish with age, as it does for non-autistic people, a new study shows<sup>1</sup>.

Researchers evaluated ‘**theory of mind**’— or the ability to infer someone’s mental state — in autistic and non-autistic adults. Many autistic people **struggle with this cognitive skill**, research has shown.

In the new study, younger non-autistic people demonstrated greater theory of mind than both younger autistic people and older autistic and non-autistic people. Older and younger autistic people, though, were largely similar.

“Our results show that there seems to be no significant decline in understanding others’ minds with age in autism,” says study investigator **Esra Z?vral? Yasar**, assistant professor of psychology at the Social Sciences University of Ankara in Turkey.

The findings also suggest that the brains of autistic people do not age in the same way as those of non-autistic people, she says, at least with regard to some functions. The work was published in October in *Autism Research*.

“This paper is a well-designed experimental investigation,” says **Uta Frith**, emeritus professor of cognitive development at University College London in the United Kingdom, who was not involved in the work. “Any paper that reports on older people with autism is welcome, because we are so ignorant about cognitive changes that come with age.”

## Identifying thoughts:

Yarar and her colleagues recruited four groups: 29 autistic and 20 non-autistic people aged 18 to 50, and 29 autistic and 19 non-autistic people older than 50.

Participants completed a 20-item questionnaire to assess their ability to identify their own emotions, as well as a 28-item questionnaire to assess their powers of empathy.

Four additional tests explored different aspects of theory of mind. Participants were asked to identify another person's thoughts or feelings by looking at a photograph of the person's eyes; to explain interactions between animated triangles in videos; to explain the motivations of two characters in a video and what they themselves might do in that same situation; and to put five pictures in order to tell a coherent story and then explain the story.

Researchers scored these tasks not just on accuracy but also on how the participants described the thoughts and emotions at play in each scenario. From that, they devised a composite score of each participant's theory-of-mind performance.

The composite score is a major strength of the study, says **Hilde Geurts**, professor of clinical neuropsychology at the University of Amsterdam in the Netherlands, who was not involved in this work. "It's more about an underlying construct that you are measuring, and not just the individual task, because people can have a problem with a specific task."

Overall, autistic participants scored lower in measures of theory of mind and empathy, and higher in a measure of alexithymia — difficulty naming and reflecting on one's own emotions — than non-autistic participants. Parsing the groups by age showed that these measures change over time in non-autistic participants but not in their autistic peers.

## **Mental calisthenics:**

The results are not definitive because of the small number of participants, Geurts says, but they do replicate some of her previous work, suggesting the research is on the right track<sup>2</sup>.

The new study was also not set up to explain why autistic and non-autistic people differ in this way, but Yarar and her colleagues propose two explanations: differences in brain maturation or in building cognitive skills over time.

"Autistic people often say that working out what others think is like doing mental arithmetic, so maybe a lifetime of this sort of compensation equips them well to offset the effects of aging," Yarar says.

"This is one possibility," Frith says. "Another possibility is that the performance on [theory of mind] tests is governed by different underlying processes in the two groups."

Theory of mind may look the same in action in autistic and non-autistic people, but the root strategies could differ significantly, Geurts says. Whereas non-autistic people may implicitly understand someone else's state of mind, by way of strategies they find difficult to explain, autistic people may have to learn explicit strategies to intuit another person's thoughts.

"If you didn't use the implicit [strategy] in the first place, it won't show a decline," Geurts says.

To follow up, Yarar and her colleagues are investigating the relationship between psychiatric health and quality of life in older adults with autism.

**REFERENCES:**

1. Yarar E.Z. *et al. Autism Res.* Epub ahead of print (2020) [PubMed](#)
2. Lever A.G. and H.M. Geurts *Autism Res.* **9**, 666-676 (2016) [PubMed](#)