

Autistic people find it harder to identify anger in facial expressions, new study shows

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Autistic people's ability to accurately identify facial expressions is affected by the speed at which the expression is produced and its intensity, according to new research at the University of Birmingham.

In particular, [autistic people](#) tend to be less able to accurately identify anger from [facial expressions](#) produced at a normal 'real world' [speed](#).

The researchers also found that for people with a related disorder, alexithymia, all expressions appeared more intensely emotional.

The question of how people with autism recognize and relate to [emotional expression](#) has been debated by scientists for more than three decades and it's only in the past 10 years that the relationship between autism and alexithymia has been explored.

This new study, published in the *Journal of Autism and Developmental Disorders*, uses new techniques to explore the different impacts of autism and alexithymia on a person's ability to accurately gauge the emotions suggested by different facial expressions.

Connor Keating, a Ph.D. researcher in the University of Birmingham's School of Psychology and Centre for Human Brain Health, is lead author of the study. He says: "We identified that autistic people had a specific difficulty recognizing anger which we are starting to think may relate to differences in the way autistic and non-autistic people produce these expressions. If this is true, it may not be accurate to talk about autistic people as having an 'impairment' or 'deficit' in recognizing emotion—it's more that autistic and non-autistic faces may be speaking a different language when it comes to conveying emotion."

In the study, 29 non-autistic and 31 autistic participants were asked to identify emotions from a series of moving images made up of dots representing the key dynamic points of a facial expression—a little bit like the dots used to translate human movement into CGI animation. The images were displayed at a range of emotional intensities by varying the amount of movement in each expression, and at a variety of speeds.

The team found that both autistic and non-autistic participants had similar recognition capabilities at different speeds and intensities across all the emotions shown, except for one particular aspect—the autistic

group were less able to identify angry expressions produced at normal speed and intensity. These represented the sorts of angry expressions that might be encountered in everyday life.

"When we looked at how well participants could recognize angry expressions, we found that it was definitely [autistic traits](#) that contribute, but not alexithymic traits," explained Connor. "That suggests recognizing anger is a difficulty that's specific to autism."

A key trait that the team found was specific to participants with alexithymia was a tendency to perceive the expressions to be intensely emotional. Interestingly though, people with alexithymia were more likely to give higher correct and incorrect emotion ratings to the expressions. To give an example, those with alexithymia would rate a happy expression as more intensely happy and more intensely angry and sad than someone without alexithymia.

Connor explains: "One idea is that people with [alexithymia](#) are less able to gauge the [intensity](#) of [emotional](#) expressions and are more likely to get confused about which emotion is being presented."

He adds: "Everyone will know or meet somebody with autism at some point in their lives. By better understanding how people with [autism](#) perceive and understand the world we can start to develop training and other interventions for both autistic and non-autistic people to overcome some of the barriers to interacting successfully."

More information: Connor T. Keating et al, Differences Between Autistic and Non-Autistic Adults in the Recognition of Anger from Facial Motion Remain after Controlling for Alexithymia, *Journal of Autism and Developmental Disorders* (2021). [DOI: 10.1007/s10803-021-05083-9](#)

Connor Tom Keating et al, Facial Expression Production and Recognition in Autism Spectrum Disorders, *Child and Adolescent Psychiatric Clinics of North America* (2020). DOI: [10.1016/j.chc.2020.02.006](https://doi.org/10.1016/j.chc.2020.02.006)

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