

'The eyes have it' -- Autism research yields surprising results

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Autistic children are able to interpret the mental state of others by looking at their eyes, contrary to previous research, a new University of Nottingham study has found.

In findings that contradict previous studies, psychologists found that autistic children can 'read' a stranger's mental state based on that person's eyes. Autistic children have long been thought to be poor at interpreting people's mental states based on facial expressions, especially expressions around the eyes.

Some researchers believe that this lack of ability could be central to the social problems experienced by autistic children and adults.

But the latest findings cast doubt on this hypothesis. A study at The University of Nottingham found that autistic children were able to interpret mental states when looking at animated facial expressions. The findings also suggest that the use of moving images, rather than conventional still pictures, gives a much more accurate measure of the abilities of autistic children.

Researchers hope that by increasing understanding of autism, their findings may ultimately help in the teaching and treatment of people with the condition.

Published in the latest issue of the journal *Child Development*, the study was led by Dr Elisa Back. Her co-researchers were Professor Peter

Mitchell and Dr Danielle Ropar of the School of Psychology at The University of Nottingham.

Dr Back said: "Previous findings show that children and adolescents with autism may have difficulty reading mental states from facial expressions but our results suggest that this is not due to an inability to interpret information from the eyes.

"Surprisingly, autistic children seemed particularly reliant on the eyes and also the mouth when making mentalistic inferences.

"The conclusions of previous research are largely based on methods that present static photographs to participants. Our study indicates that a more accurate measure of the abilities of those with autism can be obtained through the use of sophisticated digital imaging techniques with animated facial expressions."

The study compared two groups of autistic children, one group aged 10–14 and one aged 11–15, with two control groups of non-autistic children. They underwent a series of tests to see whether they could gauge the mental state of a stranger by looking at different parts of the face.

Researchers conducted two experiments in which the participants looked at a series of facial expressions on a laptop screen. In the facial images used, the eyes and mouth were either 'freeze-framed' in a neutral expression, or animated and expressive. By showing a sequence of different combinations, they were able to gauge which aspects of the face were used by the autistic children to 'read' someone's mental state — and how successful they were.

In the second experiment, the 18 autistic children involved were as successful as non-autistic children in interpreting mental states, whether

they saw the eyes in isolation or in the context of the whole face. This indicates that autistic children do, in fact, make use of information from the eyes — a finding that contradicts prior studies.

An estimated 588,000 people have autism in the UK, according to the National Autistic Society. A mental health survey by the Office for National Statistics found the prevalence of children and young people anywhere on the autistic spectrum is 0.9 per cent — almost one in every 100.

Source: University of Nottingham

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