

Autistic children can interpret mental states when facial expressions are animated

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Autistic children have long been thought to have difficulty 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 these children. Now a new study finds that autistic children are able to interpret mental states when looking at animated facial expressions.

The study, conducted by researchers at the University of Nottingham, is published in the March-April 2007 issue of the journal *Child Development*.

Researchers edited images so that different parts of the face (eyes and mouth) remained static and neutral. This technique, known as "freezing," created seamless facial images that allowed the researchers to explore the importance of certain regions of the face in identifying mental states.

In one experiment, 18 autistic children ages 10 to 14 were able to attribute a range of mental states to dynamic and static facial expressions, but they did not perform as well as non-autistic children. The autistic children were better at recognizing mental states when the eyes and mouth conveyed information than when these facial features were static and neutral.

In a second experiment, 18 autistic children ages 11 to 15 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.

"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," said Elisa Back, formerly of the University of

Nottingham and now a Research Fellow at the University of Birmingham and the study's lead author. "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," Back continued. "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."

Source: Society for Research in Child Development

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