VIEWPOINT

Eye contact is aversive for some adults with autism

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One clue that a child may have autism is that she does not make eye contact with others. This feature appears in the **first six months of life**, leading some researchers to consider differences in gaze pattern a potential early marker for autism.

One theory holds that people with autism perceive eye contact during social interactions as unimportant: In other words, they are indifferent to it. Alternatively, they may avoid eye contact because it is uncomfortable or aversive.

Many autism therapies encourage children and adults to make eye contact. To determine whether this is the right approach, it is important to understand whether clinicians are teaching people with

autism to pay attention to something that doesn't interest them or forcing them to do something that makes them uncomfortable.

Studies in young children support the first hypothesis of eye contact: **an indifference to gaze**. Toddlers with autism spend less time looking at the eyes of an actor in a video than do typical children or those with developmental delay. But the children with autism do not actively shift their gaze away from the actor's eyes or resist looking at the actor's eyes when prompted to do so[1].

Anecdotes from teens and adults with autism paint a more complex picture. These individuals say they do not understand the need to make eye contact — or that eye contact is unpleasant.

We have studied this topic for six years. Based on our research and clinical experience, we believe that these findings are not contradictory. An early lack of interest in eye contact may cause children with autism to miss out on social cues, leading to low social motivation and interest down the road. Feeling obligated to make eye contact when you are not motivated to do so is unpleasant, and this may cause some adults with autism to actively avoid eye contact.

Learned behavior:

A 2010 study supports our theory. The researchers measured **gaze in adults** with and without autism as they viewed faces with happy, fearful and neutral expressions. Between the face presentations, a cross appeared on the screen in different positions to direct the participants to focus on a particular area.

The researchers found that people in the autism group showed both a decreased preference for looking at eyes and active avoidance of the eyes when the cross cued them to look at the eyes[2]. But there was variability across the group: Individuals with autism who spent more time looking at the eye region of faces performed better on emotion-recognition tasks than did those who focused on other facial features. They also have better social skills as measured by the **Autism Diagnostic Interview-Revised**.

This finding jibes with informal observations in our clinic that individuals with autism who are interested in being social, and able to engage in social give-and-take, tend to make eye contact.

We have used **eye-tracking** technology to examine whether adults with autism have low social motivation, which could contribute to both indifference and an aversion to eye contact[3]. We looked at 58 people with autism, 37 with developmental delay and 66 controls, all between the ages of 2 and 35. (The data from 37 of the individuals with autism and 26 of the typically developing individuals aged 5 to 17 is published; that from the younger and older individuals is still unpublished.)

We asked the participants to look at a screen showing two videos simultaneously: One depicted

social scenes — children playing — and the other showed non-social scenes consisting of moving objects. We found that people with autism spent less time looking at the social videos than the other participants did.

Looking forward:

Our findings suggest that individuals with autism are less interested in social material than either controls or people with developmental delay, regardless of age.

We believe our results reflect low social motivation, which might contribute to eye contact being uncomfortable in adulthood. We plan to explore this possible sequence of events by combining measures of social interest, such as our paradigm, with measures of gaze to the eye region of faces.

It is possible that the experience of eye contact varies across the autism population. Autism is heterogeneous, so some individuals with autism may be indifferent to eye contact, whereas others may experience it as unpleasant.

Showing that indifference to eye contact in toddlerhood gives way to both indifference and discomfort in adulthood requires longitudinal studies. We especially need studies that explore the experiences of adolescents transitioning into adulthood, and those of older adults. Adolescents **face unique social challenges** as they enter post-secondary education and gear up for job interviews.

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