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Who's happy? How long we look at happy faces is in our genes

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Though we all depend on reading people's faces, each of us sees others' faces a bit differently. Some of us may gaze deeply into another's eyes, while others seem more reserved. At one end of this spectrum people with autism spectrum conditions (ASC) look less at other people's faces, and have trouble understanding others people's feelings. New research published in BioMed Central's open-access journal *Molecular Autism* has found variations of the cannabinoid receptor (CNR1) gene that alter the amount of time people spend looking at happy faces.

The new research was led by Dr Bhismadev Chakrabarti at the University of Reading and Professor Simon Baron-Cohen at the University of Cambridge. Their earlier research had shown that polymorphisms (naturally occurring mutations) in CNR1 were associated with altered activity within the striatum (a region of the brain involved in emotion and reward behavior) in response to happy faces.

In the new study the researchers analyzed the DNA from 28 adult volunteers and tested (using a "gaze tracker") how long the volunteers looked at eyes and mouths of faces in video clips showing different emotions. The team found variations within two of the four polymorphisms in CNR1 correlated with a longer gaze at happy faces but not with faces showing disgust. Both of these genomic sites involved for happy faces were within part of the DNA which does not code for protein but instead may be involved in regulating protein production.

Dr Chakrabarti commented, "This is the first study to have shown that

how much we gaze at faces is influenced by our genetic make-up. If replicated it has profound implications for our understanding of the drive to socialize, and in turn, the atypical use of gaze in autism".

More information: Variation in the human Cannabinoid Receptor (CNR1) gene modulates gaze duration for happy faces, Bhismadev Chakrabarti and Simon Baron-Cohen, *Molecular Autism* (in press)

Provided by BioMed Central