

Personality shapes the way our brains react to eye contact

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Credit: Rice University

Eye contact plays a crucial role when people initiate interaction with other people. If people look each other in the eye, they automatically send a signal that their attention is focused on the other person. If the other person happens to look back, the two will be in eye contact, and a channel for interaction is opened. Eye contact is thus a powerful social signal, which is known to increase our physiological arousal.

Previous research has suggested that eye contact triggers patterns of brain activity associated with approach motivation, whereas seeing another person with his or her gaze averted triggers brain activity associated with avoidance motivation. This indicates that another person's attention is something important and desirable. However, many people find it discomforting and may even experience high levels of anxiety when they are the focus of someone's gaze.

Researchers at the University of Tartu in Estonia and the University of Tampere in Finland set out to study what lies underneath these individual psychological differences. Does [personality](#) modulate how a person reacts to eye contact? Can this difference be measured by brain activity?

"In order to test this hypothesis, we conducted an experiment where the participants' [electrical brain activity](#) was recorded while they were looking at another person who was either making eye contact or had her gaze averted to the side. We had assessed the participants' personality with a personality test in advance", Researcher Helen Uusberg explains.

The results showed that personality does indeed modulate the way one's brain reacts to attention from another individual. The eye contact triggered approach-associated brain activity patterns in those participants who scored low on Neuroticism, the personality dimension related to anxiety and self-consciousness. However, if the participant scored high on this personality dimension, the eye contact triggered more avoidance-associated [brain activity](#) patterns. The high-scoring participants also

wanted to look at the other person with a direct gaze for shorter periods of time and experienced more pleasant feelings when they faced a person with an averted gaze.

"Our findings indicate that people do not only feel different when they are the centre of attention but that their brain reactions also differ. For some, eye contact tunes the brain into a mode that increases the likelihood of initiating an interaction with other people. For others, the effect of [eye contact](#) may decrease this likelihood", Professor Jari Hietanen explains.

More information: Uusberg, H., Allik, J., & Hietanen, J. K. (2015). Eye contact reveals a relationship between Neuroticism and anterior EEG asymmetry. *Neuropsychologia*, 73, 161-168. [DOI: 10.1016/j.neuropsychologia.2015.05.008](#)

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