

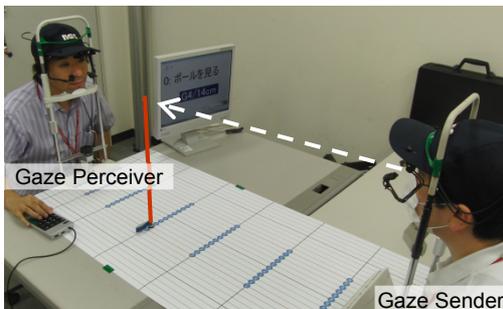
You may feel your eyes meet with others ~Determining factors related to the eye-contact perception area~

Abstract

Even though people may feel they are making eye-contact with others, nevertheless the eyes of others are not actually gazing at their eyes. For example, people mistakenly believe that eye-contact is established when a partner is gazing at their nose. We found that eye-contact perception not only depends on the partner's physical eye direction but also such psychological factors as **Individual social anxiety** and situational factors, including **partner's gender**. We expect to apply our findings to video communication systems, where users sometimes feel difficulty to hold their eye-contacts, so that users can naturally use eye-contact. Our findings may also reduce gaze phobia by elucidating why people focus on the gazes of others.

Purpose Gaze perception is related to social anxiety (individual trait) and partner's gender (situational trait). We examined their relation to deepen our understanding of communication by eyes.

Method

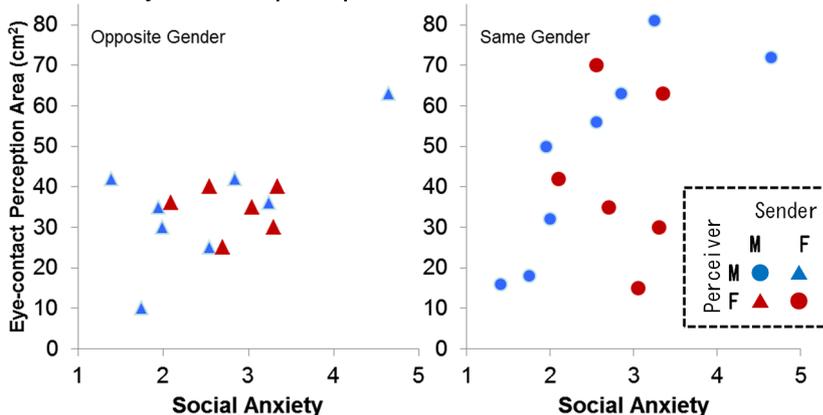


Eye-contact perception area are the points where gaze perceivers answered: "Sender might be gazing at me." Nevertheless **the sender is actually gazing at the pole**.

- A pole was placed in front of the perceiver. For each trial, pole positions were changed by 20 x 20 points 2 cm around center of perceiver's eyes.
- Sender gazed at **pole** or **perceiver's eyes**.
- Perceiver answers to which the Sender is gazing.

Results

Both social anxiety and partner gender affected eye-contact perception area.

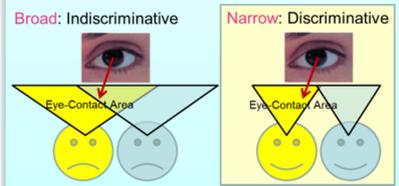


Social Anxiety is an individual trait that indicates discomfort from gazes of others. It was measured with questionnaires.

Same two persons of both gender engaged in entire experiment as a gaze sender to investigate partner's situational traits.

Effective perception area may depend on situation.

- (1) Over-sense for risk aversion, e.g., escape from enemies, social interaction (social anxiety)
- (2) Restrict for avoiding interference, e.g., discrimination of attention.



Related work

[1] M. Matsuda, M. Honma, R. Ishii, S. Kumano, K. Otsuka, J. Yamato, "An Exploratory study of sexual difference of volume of Eye-contact perception: Effects of participants' social anxiety and sex of the peer," *IEICE Technical Report*, Vol. 112, No. 1, pp. 77-82, 2013. (in Japanese)

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