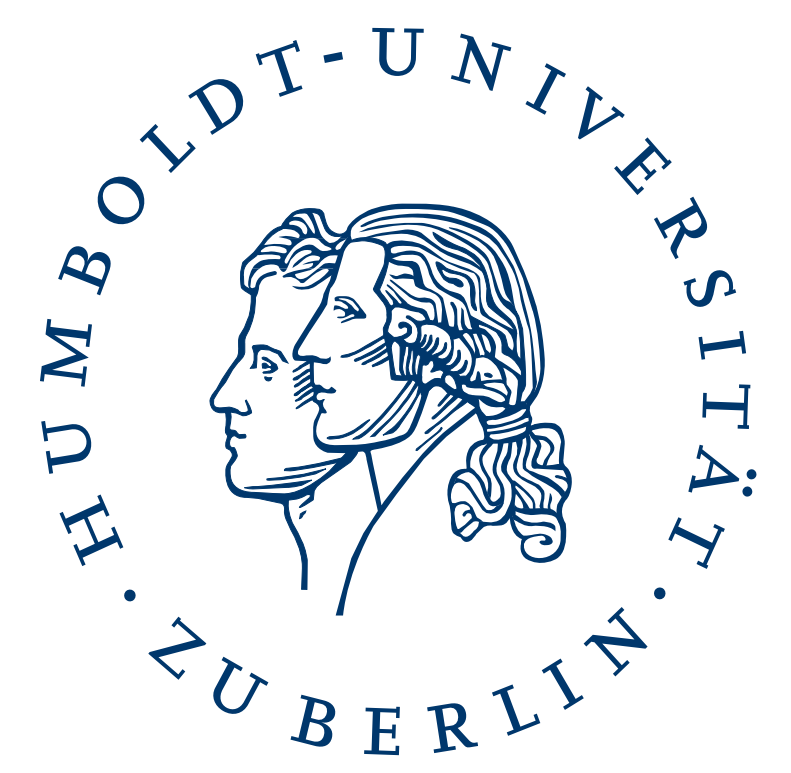


If I don't see the sadness in your face, I will not mimic it: Further evidence for the emotional mimicry as social regulator view



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Abstract

Emotional mimicry regulates social interactions, as it signals others our emotional understanding. Accordingly, we found that participants mimicked the emotions they reported to have seen in chimeric faces irrespective of the objective facial features that were present in the faces.

Introduction

Emotion communication is an integral part of social interactions. In fact, social interactions that do not involve at least some emotional exchange are hard to imagine. One important element in this process is emotional mimicry – the imitation of the emotion expressions of interaction partners (Hess & Fischer, 2013). Mimicry forms the “social glue” (Lakin et al., 2003) for interactions in that it both depends on and fosters affiliation between interaction partners (Hess & Fischer, 2013). The present study had the aim to test the prediction of the mimicry as social regulator view proposed by Hess and Fischer (2013) that people mimic what they understand about the emotion shown rather than the specific muscle movements of the expression.

For this, participants saw happy/sad chimeric faces. It is well established that the expression shown on the right side of an expressers face (in the left visual field of the observer) tends to dominate emotion ratings (Guo et al., 2012). Hence, even though participants who see chimeric faces see the same information when presented with left happy/right sad chimeras than with the reverse pairing, they should perceive the former as happy and the latter as sad. If perception drives mimicry then mimicked expressions should match ratings.

Method

Participants: A total of 35 (27 women) participants with a mean age of 27 years (SD = 4) participated individually.

Procedure: Participants saw the chimeras (see example stimuli) for 4 sec while facial mimicry was assessed. Following the presentation, participants rated the expression on a bi-directional scale ranging from -50 (Sad) to +50 (Happy). A dichotomous score was created to indicate the chosen emotion.

Facial mimicry was assessed using facial EMG at the Corrugator Supercilii (frown), Orbicularis Oculi (wrinkles around the eyes), and the Zygomaticus Major (lifting the corners of the mouth in a smile) sites. Facial activity was measured during stimuli presentation on the left side of the face using bipolar placements of 4mm Ag/AgCl miniature surface electrodes filled with Signa gel by Parker Laboratories Inc. The skin was cleansed with lemon prep peeling and 70 % alcohol. Raw EMG data were sampled with a mindware bioamplifier with a 50 Hz notch filter at 1000 Hz and band pass filtered between 30 and 300 Hz. A **positive pattern score** was calculated based on the contrast Mean(Zygomatic, Oculi)-Corrugator. A positive value indicates a smiling expressions and a negative value indicates a sad expression.



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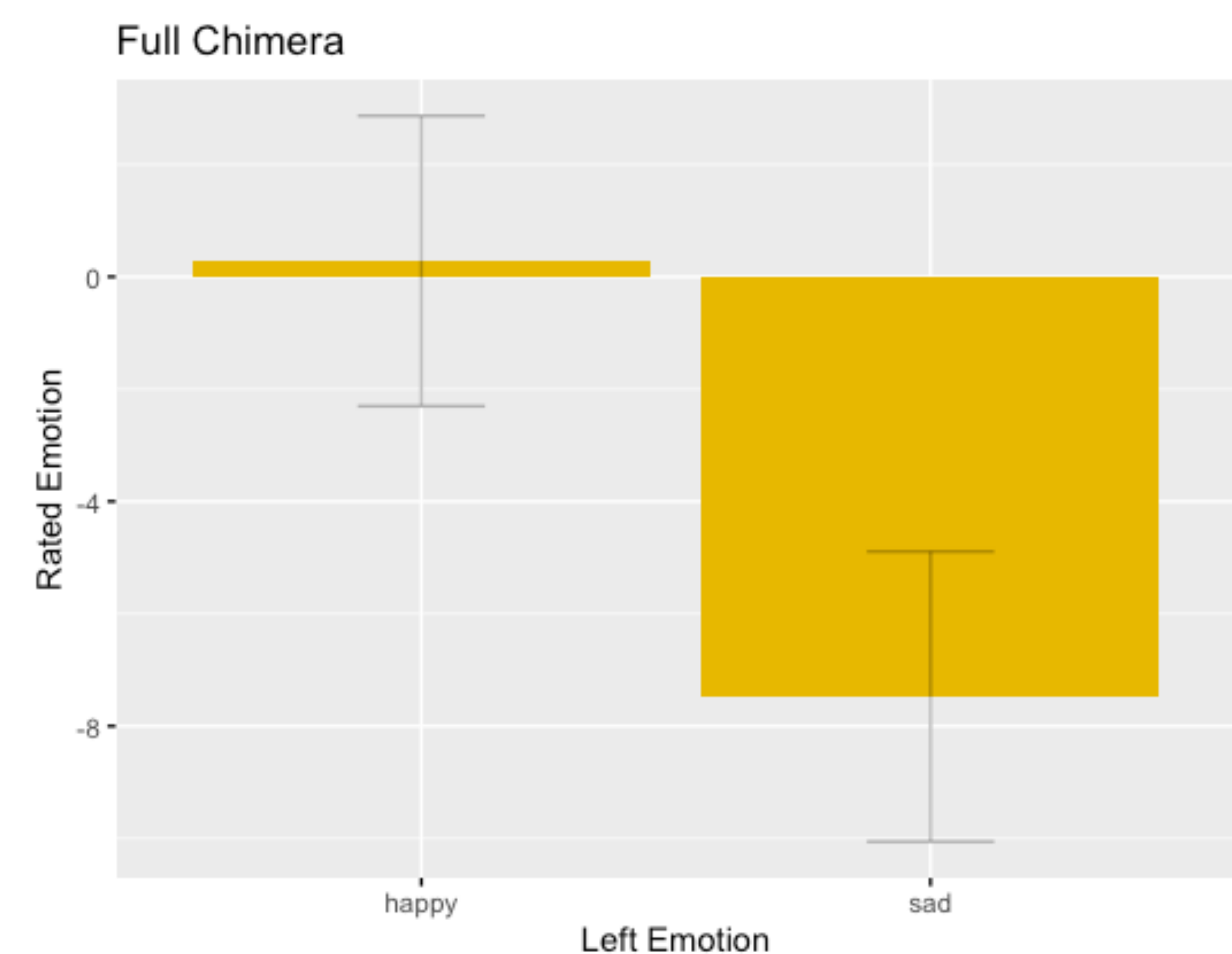


Results

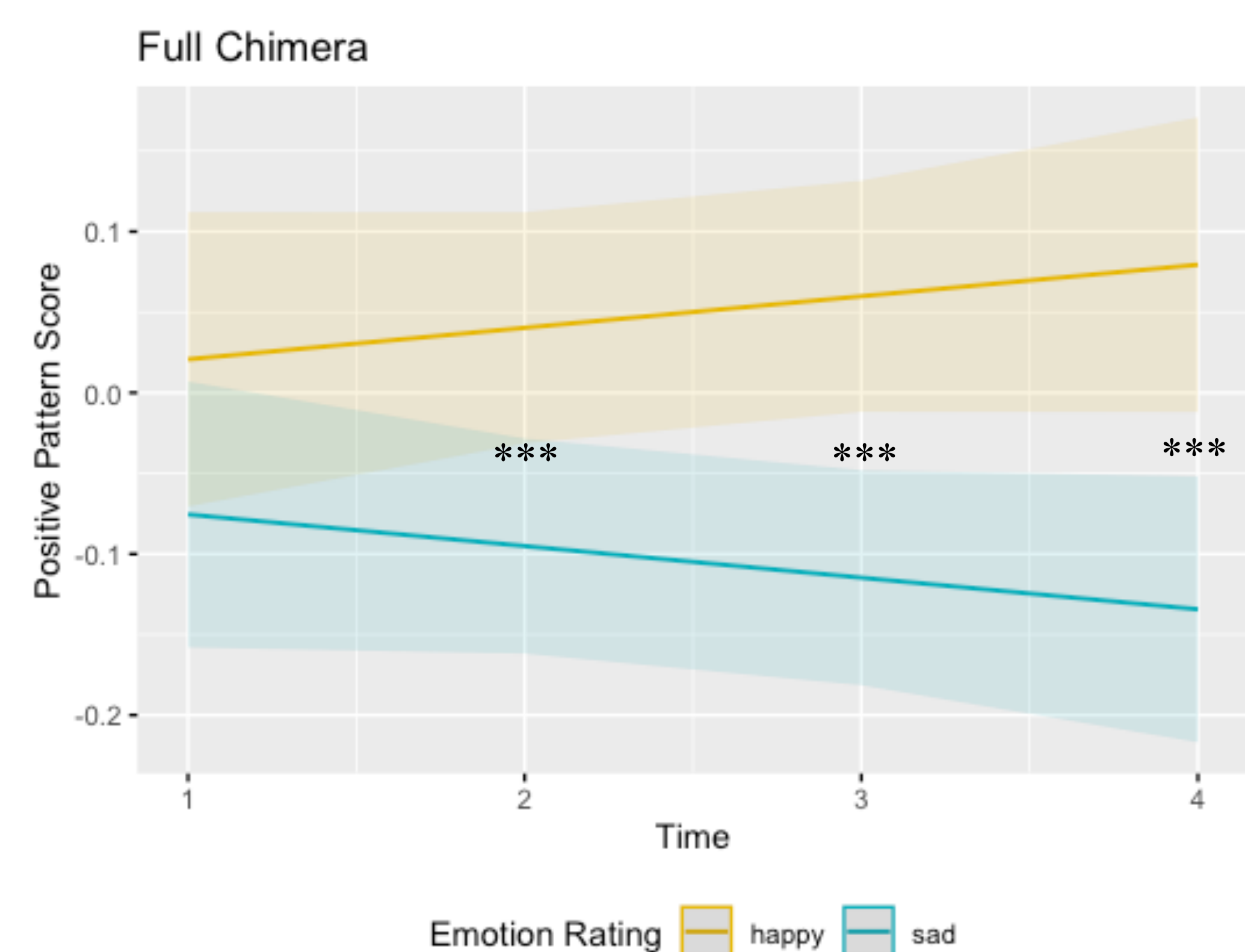
Data were analyzed via linear mixed models in r (lme4, Bates et al., 2015; and lmerTest, Kuznetsova et al., 2017).

Emotion Ratings as a function of left visual field emotion

($t_{(4170)} = 16.276, p < .001$)



Facial mimicry as a function of emotion perception



Conclusion

As predicted the emotion expression in the left visual field drove emotion perception. This effect was stronger for sadness than for happiness.

Facial mimicry followed the rated emotion. This is in line with the the mimicry as social regulator view proposed by Hess and Fischer (2013) that posits that people mimic what they understand about the emotion rather than the specific muscle movements of the expression.

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