

Perception of emotional body expressions depends on concurrent involvement in social interaction

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Abstract

Many theories about perception of emotions from body movements hypothesize a joint activation of brain structures involved in emotion perception and motor execution during social interaction (Wolpert, 1995; Wicker, 2003). This implies that bodily emotions should be perceived as more expressive when observers are involved in social motor behavior. **METHODS:** To test this hypothesis, participants judged the emotional expressiveness of an avatar (shown on an HMD) that reacted to their own motor behavior, comparing these judgments with the ones for simple observation without motor involvements within a balanced design. Expressiveness of the movements (5 angry and 5 fearful examples) was controlled by morphing (5 steps), using a probabilistic generative model (Wang, 2008), optimizing morphing levels individually for each actor. **RESULTS:** Emotional expressiveness of the stimuli was rated higher when the participants is involved in the action, as compared to pure observation ($F(1,17) = 8.701$ and $p \leq 0.01$, $N = 20$). This effect was particularly prominent for anger expressions. **CONCLUSION:** Consistent with theories about embodied perception of emotion, the involvement in social motor tasks seems to increase perceived expressiveness of bodily emotions.

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