

From Faces to Feelings: Exploring Emotional Contagion and Empathic Accuracy through the Enfacement Illusion

Authors : Ilenia Lanni, Claudia Del Gatto, Allegra Indraccolo, Riccardo Brunetti

Abstract : Empathy represents a multifaceted construct encompassing affective and cognitive components. Among these, empathic accuracy—defined as the ability to accurately infer another person's emotions or mental state—plays a pivotal role in fostering empathetic understanding. Emotional contagion, the automatic process through which individuals mimic and synchronize facial expressions, vocalizations, and postures, is considered a foundational mechanism for empathy. This embodied simulation enables shared emotional experiences and facilitates the recognition of others' emotional states, forming the basis of empathic accuracy. Facial mimicry, an integral part of emotional contagion, creates a physical and emotional resonance with others, underscoring its potential role in enhancing empathic understanding. Building on these findings, the present study explores how manipulating emotional contagion through the enfacement illusion impacts empathic accuracy, particularly in the recognition of complex emotional expressions. The enfacement illusion was implemented as a visuo-tactile multisensory manipulation, during which participants experienced synchronous and spatially congruent tactile stimulation on their own face while observing the same stimulation being applied to another person's face. This manipulation enhances facial mimicry, which is hypothesized to play a key role in improving empathic accuracy. Following the enfacement illusion, participants completed a modified version of the Diagnostic Analysis of Nonverbal Accuracy-Form 2 (DANVA2-AF). The task included 48 images of adult faces expressing happiness, sadness, or morphed emotions blending neutral with happiness or sadness to increase recognition difficulty. These images featured both familiar and unfamiliar faces, with familiar faces belonging to the actors involved in the prior visuo-tactile stimulation. Participants were required to identify the target's emotional state as either "happy" or "sad," with response accuracy and reaction times recorded. Results from this study indicate that emotional contagion, as manipulated through the enfacement illusion, significantly enhances empathic accuracy, particularly for the recognition of happiness. Participants demonstrated greater accuracy and faster response times in identifying happiness when viewing familiar faces compared to unfamiliar ones. These findings suggest that the enfacement illusion strengthens emotional resonance and facilitates the processing of positive emotions, which are inherently more likely to be shared and mimicked. Conversely, for the recognition of sadness, an opposite but non-significant trend was observed. Specifically, participants were slightly faster at recognizing sadness in unfamiliar faces compared to familiar ones. This pattern suggests potential differences in how positive and negative emotions are processed within the context of facial mimicry and emotional contagion, warranting further investigation. These results provide insights into the role of facial mimicry in emotional contagion and its selective impact on empathic accuracy. This study highlights how the enfacement illusion can precisely modulate the recognition of specific emotions, offering a deeper understanding of the mechanisms underlying empathy.

Keywords : empathy, emotional contagion, enfacement illusion, emotion recognition

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