
Emotion and action observation in the teenage brain

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Abstract

Emotion recognition from facial expressions continues to improve during late childhood and adolescence (review in Herba and Phillips, 2004). How the ability to perceive emotion from other social signals develops remains largely unexplored, however. We argue that body cues are at least as important as facial cues to convey affective meaning, in particular during the transition between childhood and adulthood when social interactions are remodelled. In this symposium I will present longitudinal and cross-sectional behavioural and brain imaging data that reveal the developmental trajectory of emotion processing not only from facial expressions but also from non-communicative hand and body movements. We show that the ability to accurately recognize basic emotions follows a curvilinear development, with rapid improvement until about 10 years of age followed by a small dip, reaching adult level only in the mid-teenage years. This is delayed when point-light displays are used as stimuli, indicating that children rely more on form information. Using functional magnetic resonance imaging we observe that the activity in some brain networks (including amygdala, supramarginal gyrus and inferior frontal gyrus) during passive exposure to such emotionally laden stimuli follows a similar cubic developmental trajectory, while other brain regions (including temporal regions and premotor regions) undergo more linear changes with age. Further, I will explore the effects personality traits -such as empathy or resistance to peer influence- or formal experience in dance or drama have on interindividual differences in the ability to recognize emotion from body cues, and on brain activity.

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