

Transient first-hand aversive experiences modulate the appraisal of other people's facial expressions. Theoretical perspective of embodied processes in mindfulness and compassion

Lia Antico, Eugénie Cataldo, Corrado Corradi-Dell'Acqua

Theory of Pain Laboratory, Department of Psychology, Faculty of Psychology and Educational Sciences, University of Geneva, Geneva, Switzerland

Mindfulness-based interventions (MBI) are based on the awareness that one's body is a primary teacher of wisdom and insight. The crucial role of the body is also highlighted by the embodiment models that focus on the interactions between bodily, cognitive, and affective processes. These models point that even the understanding of others' affective states might be grounded in bodily interactions, by simulating a representation of the same state in the observer and promoting a compassionate behaviour. However, it remains unclear whether the information shared between self and others is modality-specific, or rather codes for supramodal dimensions of unpleasantness, arousal and salience, common to qualitatively-different experiences. Here, we investigated whether the appraisal of facial expressions of pain and disgust are biased by prior exposure to first-hand experience of the same states. 30 volunteers were subjected to thermal painful and olfactory disgusting events carefully matched for unpleasantness, and subsequently were asked to classify faces showing pain, disgust, surprise and neutral expressions. We found that participants were more sensitive (i.e. faster and more accurate) to facial traits of pain following thermal stimuli, and to facial traits of disgust following olfactory stimuli. In addition, physiological data showed that disgusting faces elicited enhanced electrodermal activity after olfactory (vs. thermal) stimulation, whereas pain faces induced enhanced cardiac response after thermal (vs. olfactory) stimulation. Overall, our data suggest that modality-specific features of first-hand pain and disgust influence the evaluation of others' affective states, and do not underlie a supramodal coding related to unpleasantness. Based on the role of the body in MBI and on the theoretical and empirical evidence underlining the body connection in cognitive and affective processes, we argue that embodied models might be a useful perspective for research on working mechanisms related to MBI and compassion.