

SEMINAIRE DE MAÎTRISE
ORIENTATIONS PSYCHOLOGIE COGNITIVE
ET PSYCHOLOGIE DU DEVELOPPEMENT

JEUDI 14 DECEMBRE 2017
10H15 – 11H45 / SALLE MS 130

**«A two-brain approach for understanding how empathy
contributes to distress regulation»**

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«Empathy allows us to understand and share one another's emotional experiences. Despite the developments in the study of empathy, the vast majority of empathy paradigms focus only on passive observers, carrying out artificial empathy tasks in socially deprived environments. This approach significantly limits our understanding of interactive aspects of empathy and how empathic responses affect the distress of the sufferer. We recently proposed a brain model that characterizes how empathic reactions alleviate the distress of a target. Specifically, in a dual-EEG study we show that hand-holding during pain administration increases brain-to-brain coupling in the alpha-mu band in a network that mainly involves the central regions of the pain target and the right hemisphere of the empathizer. Moreover, brain-to-brain coupling in this network was found to correlate with analgesia magnitude, indicating that brain-to-brain coupling may contribute to touch-related analgesia. Similarly, using a serial dual-fMRI approach we show that empathy related activations (anterior cingulate, insula) in the empathizer predict pain related activations in the sufferer during hand-holding. Employing this dual-brain approach may provide a highly controlled setting in which to study the neuroanatomical bases of real-life empathy and its contribution to distress regulation.»



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