

Physiological reactivity and interoceptive accuracy in the emotional experience of patients with traumatic brain injury  
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Nearly 75% of patients with moderate to severe traumatic brain injury (TBI) present persistent behavioural problems (Hawthorne, Gruen, & Kaye, 2009). These disorders are mainly characterized by inappropriate social behaviours that compromise the socio-professional reintegration. There is some evidence that difficulties in recognizing emotions after TBI may underline these disorders (Spikman et al., 2013). Some authors suggested that deficits in emotional perception following TBI may stem from difficulties in experiencing emotion, which has been reported in these patients (Wearne, Osborne-Crowley, Rosenberg, Dethier, & McDonald, 2019). However, the origin of disturbed emotional experience in TBI patients need to be defined. Current models postulate that subjective emotional experience results, among others, from the perception of body changes associated to emotional appraisal. However, TBI has been associated to (1) deficits of physiological reactivity and (2) reduced interoceptive accuracy, corresponding to objective precision in detecting internal bodily sensations. Accordingly, this project aims to disentangle the role of these deficits in the decreased emotional experience of TBI patients. Secondly, we will examine whether training the physiological reactivity and the interoceptive accuracy could increase the emotional experience, and incidentally the social rehabilitation of patients with TBI.

This poster presents the experimental design of upcoming studies. Three studies will be conducted to examine successively (1) the physiological reactivity and subjective emotional responses while watching emotional films, and (2) the interoceptive accuracy, assessed with a heartbeat-detection task, before (3) to train these two processes using biofeedback. The first biofeedback training will aim to increase the heart rate variability, which refers to the variation between heartbeats, with paced breathing. The second directly targets the interoceptive accuracy using a heartbeat discrimination task followed by a feedback. Finally, the impact on the emotional skills of patients will be assessed with an emotional recognition task and a behavioural scale.

**Commenté [MR1]:** Body changes est suffisant (plutôt que bodily, bien que les deux soient ok au niveau grammatical : <https://thegrammarexchange.infopop.cc/topic/bodily-or-body-as-adjective>)

**Commenté [MR2]:** Peut-être structurer un peu différemment ?

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**Commenté [MR3]:** Attention qu'ici il y a deux concepts : 1 La réactivité corporelle (qq chose m'êmeut, mon corps répond) et 2 l'interoception (mon corps réagit et j'en prends conscience)