

## Anger processing in traumatic brain injury: physiological reactivity and subjective appraisal

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Emotional deficits are amongst the most prevalent and persistent consequences after a moderate to severe traumatic brain injury (TBI). Among these, anger and irritability compromise the socio-professional reintegration and quality of life. However, the origin of disturbed anger experience in TBI patients is yet to be defined. Focusing on underlying mechanisms of emotion should allow to better understand the causes of anger issues. According to the Component Process Model of emotion (Scherer, 1999), emotion results from the combination of physiological arousal and subjective appraisal. Traumatic brain injury has been associated with (1) reduced cardiovascular responses, specifically in heart rate variability, which refers to the variation between heartbeats and is known as an index of emotional regulation and (2) abnormal subjective feeling, leading to overreact to negative events. This study aims to assess these two emotional components in patients with TBI in comparison to healthy subjects, in order to examine the degree to which physiological reactivity predict subjective feeling of anger. Participants are asked to read scenarios that result in unpleasant outcomes (Epps & Kendall, 1995) and they have to rate how angry they would be in that situation. Scenarios differ according to the character's actions: benign, ambiguous or hostile. Heart rate variability is recorded using electrocardiography and across four sessions: baseline, benign, ambiguous and hostile condition. We hypothesized that, in TBI patients, higher levels of subjective feeling of anger will be associated with reduced heart rate variability across the scenario's conditions. Testing are currently in progress and results will be presented at the conference. Our results would allow to determine whether targeting physiological reactivity could be useful for treatment of anger issues following TBI.