

# A protocol for studying the impact of positive vs. negative emotions on a predefined sequence of full-body movements.

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Body postures and movements are often used to communicate emotions (App et al., 2011). However, studies focusing on whole body affective signals are scarce (De Gelder, 2013). Indeed, the generation and quantification of emotionally expressive body movements remains methodologically complex (Gross et al., 2010). To overcome previous research issues – effect of emotion distinguishable from task characteristics, emotional context ecologically valid and multicomponent evaluation of the elicited emotions – we propose in the present paper a fitness task as a basis for a new protocol for eliciting bodily expressions of emotion. After the realization of a predefined movement sequence (1 minute) in a neutral context, participants (n = 33) reproduced this sequence under two valenced conditions. In the positive condition, the participants received a gift and watched a 1:30 minute mash-up of funny videos before starting the recording. In the negative condition, an experimenter made the participants believe that the video of their movements were remotely displayed in a lecture hall in front of hundreds of students. Participants' movements were collected with a full body motion capture system. To assess the emotional state of the participants, we combined physiological measures (DEA) and self-reports (DES, Ouss et al., 1990).

Results shows a significant increase of the tonic response of DEA scores between the neutral - positive conditions and the neutral - negative conditions. The DES report for the happiness scale reveals a significant increase between the negative - positive conditions and a tendency between the neutral and positive conditions. It also reveals a significant increase of the surprise scale between the positive - negative conditions and the neutral and negative conditions. These results validate our protocol since it enables to induce different valenced states during the generation of a predefined movement sequence. Moderation effects of personality measures are discussed (Big Five, Plaisant et al., 2010 and Stai Trait, Spielberger et al., 1993).

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