

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/260834531>

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

Conference Paper · January 2014

CITATION

1

READS

29

5 authors, including:



Tom Giraud

Technological University of Troyes

15 PUBLICATIONS 6 CITATIONS

SEE PROFILE



Virginie Demulier

French National Centre for Scientific Resea...

16 PUBLICATIONS 24 CITATIONS

SEE PROFILE



Brice Isableu

Université Paris-Sud 11

54 PUBLICATIONS 753 CITATIONS

SEE PROFILE



Jean-Claude Martin

Computer Sciences Laboratory for Mechani...

202 PUBLICATIONS 1,781 CITATIONS

SEE PROFILE

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

Tom Giraud
LIMSI-CNRS
Orsay, France
tom.giraud@limsi.fr

Virginie Demulier
LIMSI-CNRS
Orsay, France
virginie.demulier@limsi.fr

Florian Focone
LIMSI-CNRS
Orsay, France
florian.focone@limsi.fr

Brice Isableu
CIAMS, Université Paris-Sud
Orsay, France
brice.isableu@u-psud.fr

Jean Claude Martin
LIMSI-CNRS
Orsay, France
martin@limsi.fr

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).

- App, B., McIntosh, D. N., Reed, C. L., & Hertenstein, M. J. (2011). Nonverbal channel use in communication of emotion: how may depend on why. *Emotion (Washington, D.C.)*, *11*(3), 603–617. doi:10.1037/a0023164
- de Gelder, B. (2013) From Body Perception to Action Preparation: A Distributed Neural System for Viewing Bodily Expressions of Emotion. In "People watching: Social, Perceptual, and Neurophysiological Studies of Body Perception. Edited by K.L. Johnson and M. Shiffrar. Oxford University Press. pp 350 - 368.
- Gross, M. M., Crane, E. A., & Fredrickson, B. L. (2010). Methodology for Assessing Bodily Expression of Emotion. *Journal of Nonverbal Behavior*, *34*(4), 223–248. doi:10.1007/s10919-010-0094-x
- Ouss, L., Carton, S., Jouvent, R., & Widloêcher, D. (n.d.). Traduction et validation de l'échelle d'émotions différentielle d'Izard : exploration de la qualification verbale des émotions. *L' Encéphale*, *16*(6), 453–458.
- Plaisant, O., Courtois, R., Réveillère, C., Mendelsohn, G. A., & John, O. P. (2010). Validation par analyse factorielle du Big Five Inventory français (BFI-Fr). Analyse convergente avec le NEO-PI-R. *Annales Médico-psychologiques, revue psychiatrique*, *168*(2), 97–106. doi:10.1016/j.amp.2009.09.003
- Spielberger, C. D., Bruchon-Schweitzer, M., & Paulhan, I. (1993). *Inventaire d'anxiété état-trait forme Y (STAI-Y)*: (Vols. 1-1). Paris, France: Ed. du Centre de psychologie appliquée.