
Psychophysiological effect of facial emotion on a face-name associative task: do women and men differ?

Johanna Stern^{*†1} and Nicole Fiori^{*1}

¹Laboratoire Vision-Action-Cognition (VAC) – Université Paris Descartes – 71 Av Edouard Vaillant
92774 Boulogne-Billancourt, France

Abstract

This preliminary experiment deals with the psychophysiological effect of emotion on cognitive tasks such as face-name associations processing. We also investigate gender differences since previous studies have demonstrated a sexual dimorphism in autonomic activity. 12 young adults (7 females, 5 males) participated. After an encoding phase where participants saw 24 faces associated to names, they were told to decide in the retrieval phase whether the presented associations were correct or not. In the encoding phase, faces could express neutrality, happiness or anger. In order to test the effect on recognition of the emotion seen in encoding, all faces were neutral in the retrieval phase. Autonomic responses – galvanic skin response (GSR) – were recorded during encoding and retrieval phases. The recording methodology respected the guideline of the Society of Psychophysiological Research (Fowles, Christie, Edelberg, Grings, & Venables, 1981). Amplitude and latency were calculated. Firstly, during the encoding phase, preliminary results show a significant interaction on GSR's amplitude between subject's gender, face's gender and facial expression. Secondly, during the retrieval phase, while all faces are neutral, analyses show a significant effect of the facial expression – seen during the encoding – on GSR's latency: associations made up of neutral faces in encoding phase lead subsequently to longer latencies during the retrieval phase than associations made up of emotional faces – happy or angry. Although subjects sample needs to be completed, these different results are discussed in light with bioevolutionary theories of emotion and gender, and somatic markers hypothesis.

*Speaker

†Corresponding author: stern.joh@gmail.com