
Lateralization of Emotions: Evidence from Pupil Size Measurement

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Abstract

The way our brain process emotional stimuli has been studied intensively. One of the main questions that is still under debate is the laterality of valence processing. We used pupil size as a measurement of mental effort. Participants discriminated between positive and negative facial expressions. They were asked to respond with their right hand for positive and with their left hand for negative facial expressions, or vice versa. Participants used regular hand position (Experiment 1) or hands crossed (Experiment 2). In both experiments, pupil size was larger when participants had to respond to positive stimuli with their left hand and to negative with their right hand, compared with the opposite mapping (regardless to their hands' position). Our results are in accordance with the valence hypothesis, which postulates that processing positive stimuli involve the left hemisphere and processing negative stimuli involve the right hemisphere.

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