MODULATION OF PERCEPTUAL PROCESSING BY THE AFFECTIVE MEANING OF FACES: AN ERP (EVENT-RELATED POTENTIALS) STUDY

Berenice Valdés-Conroy
Luis Aguado *
Teresa Dieguez Risco
Sonia Rodriguez
F.J. Román

Universidad Complutense de Madrid
Spain

Using an associative learning task we studied how facial expression and acquired emotional value modulate the face-specific N170, an event-related potential (ERP) characteristic of visual perception of faces. Participants had to learn and associate the identity and expression (angry, happy or neutral) in a series of neutral-expressive pairs of faces. Our results show modulation of the N170 over occipito-temporal sites due to facial expression (happy and angry vs neutral). Furthermore, this modulation was also sensitive to expressive value (happy vs angry). Modulation of the N170 was also observed by the identity of faces, depending on the associated expression. It was also observed an attenuation of the N170 response to angry faces after repetition of exposures. Similar results were obtained at fronto-central locations within the N170 time window for both expressive and neutral associated faces. These results show the effect of both intrinsic and acquired affective meaning of faces on early perceptual face processing and have important implications for current theories on face processing and the relationship between emotion and cognition.