

Research highlights

Facial color is processed in the left hemisphere of the brain.

The face is the most important three dimensional object for humans to facilitate social interaction by conveying information and emotion. Cognitive neuroscience research during the past 20 years has showed brain activity directly resulting from face processing—known as the N170 component of event-related potential (ERP).

Previous research showed that the N170 is modulated by structural or configural information of a face such as shape or layout of facial parts). However, it is still not clear how facial color affects the face-selective brain activity N170 although many behavioral studies have shown facial color to play an important role in the perception of age, gender, health status, and attractiveness.

Here Shigeki Nakauchi and colleagues at Toyohashi University of Technology report that N170 was sensitively modulated by facial color information.

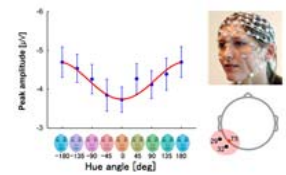
ERPs were recorded while subjects viewed face images (ten Asian faces) at eight different hue angles, which were generated by rotating the original facial color distribution around the white point.

The N170 component was found to be selectively modulated by differences in facial color and the modulation was only observed in the left posterior temporal site, even though face selectivity by N170 has been said to be dominant in the right hemisphere so far.

The results imply that facial color is processed differently from configural information of the face. Furthermore, the study showed the possibility that facial color information, which not only indicates a typical or an atypical face, may provide cues to the recognition of health conditions during the initial stage of face detection.

Reference:

- Authors: Kae Nakajima, Tetsuto Minami and Shigeki Nakauchi.
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Modulation of the left hemisphere of the brain by facial color



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