The Neural Mechanisms Underlying the Other Race Effect for Expression Perception

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It is said that the Other Race Effect (ORE) might contribute to racial discrimination. Since the Face Inversion Effect (FIE) is related to configurational processing, investigating it helps to better understand ORE. In this project, ORE and FIE were tested in East Asian and Caucasian participants that had been living in Asia for less than 3 months (N=52). Participants were given Behavior Response tests while their brainwaves were recorded with EEG hats. Participants were presented with 384 stimuli depicting images of faces which were one of two possible races, two possible orientations, and seven possible expressions and were then asked to identify the displayed expressions. ANOVA, t-test, ERPs and topography were used to analyze and examine ORE and FIE. Both behavioral and ERP evidence showed that East Asians exhibited the greatest ORE for “fear” while for Caucasians ORE was more pronounced for “surprise”. Caucasians showed FIE for both Asian and Caucasian faces, suggesting a holistic face processing even for other race faces. And thus, they have higher accuracy on expression identification. East Asians showed FIE only for East Asian faces, suggesting a shift toward analytic processing strategy when encountering faces from other races. ORE appeared after P170 component, while FIE already appeared in N100. The interactions between ORE and FIE were mostly located in frontal lobe, and their distribution was more evenly in East Asian brains. Furthermore, since ORE appeared to be an acquired behavior, if people encounter more individuals of different races, it is possible that both ORE and the negative impacts of racism could be reduced.

Awards Won:
Third Award of $1,000
American Psychological Association: Third Award of $500