Is there a relationship between left perceptual bias and oculomotor bias when looking at faces?

Dorine Vergilino-Perez*†[1,2], Hélène Samson[1], Karine Doré-Mazars[1,2], Christelle Lemoine[1], and Nicole Fiori[1]

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

[2]Institut Universitaire de France – Institut universitaire de France – France

Abstract

Previous studies demonstrated a left perceptual bias while looking at faces presented centrally. Participants who are required to perform a forced-choice judgment task on chimeric faces (i.e. faces composed of left and right hemi-faces differing in gender, age, emotion, etc.) use the information from the right hemi-face presented in their left visual field to take their decision. Such bias is consistent with right hemisphere dominance for face processing and has been sometimes associated with a left oculomotor bias, i.e more and longer fixations on the right hemi-face. Here, we examined whether the perceptual bias depends on the face position in the visual field, and whether it is linked to the oculomotor exploration of the face. In a series of experiments, we recorded eye movements during a gender judgment task, using chimeric faces presented centrally or parafoveally into the right, the left, the upper or the lower hemifield. Participants had to judge the gender of the face, by remaining fixated on the center of the screen or after executing up to three saccades on faces, a mask being displayed after the number of desired saccades. Preliminary results suggest that the left perceptual bias did not depend on the face position but increased with the number of saccades. We did not find a systematic left oculomotor bias, rather it depends upon the position of the face. No apparent link between oculomotor and perceptual biases was found, the left perceptual bias being not systematically coupled to saccades toward the left side of faces.

*Speaker

†Corresponding author: dorine.vergilino-perez@parisdescartes.fr