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Faces in the mind: Featural and configural face representations in perception and imagery

Numerous studies have suggested that faces are processed differently than other object classes. A common differentiation is that faces are said to be processed on the basis of configural information, while objects are processed more part-based.

In the presented studies the role of configural and featural information was separately investigated using scrambled and blurred faces. By means of scrambling a face loses its configural information, whereas when sufficiently blurred, featural information is hampered.

Using such stimuli in behavioural and brain-imaging (fMRI) studies I could show that faces are processed on the basis of both configural and featural information. In fact, in novel faces featural information plays a dominant role. In the course of familiarisation configural information becomes more and more important. These findings are interpreted in favour of a dual-mode view, where featural and configural information is processed following two distinct neural pathways. In a further experiment the role of configural and featural representations in mental imagery were investigated. Based on these results I suggest that configural and featural face representations can be activated bottom-up and top-down, however mental visual imagery of faces seems to activate predominantly featural representations. All findings are discussed and integrated in a new model of face perception.