

provided the facial attractiveness scores for learning. Our results suggested that the DCNN that learned one's taste for facial attractiveness reconstructed similar judgments mechanisms with humans in it.

Judgments of Facial Attractiveness as A Dynamic Combination of Internal/External Parts

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Although the importance of facial attractiveness has been widely researched, how attractiveness of internal/external facial parts and whole interacts in a time course of attractiveness judgment is still unclear. In our research, visual information integration in the facial attractiveness judgment has been investigated in a series of psychological experiments in which presentation of facial images to be evaluated their attractiveness was constrained spatially and/or temporally. Attractiveness evaluation of briefly-presented facial images demonstrated that 1) contribution of the eyes to the whole facial attractiveness judgment remains high even after short exposure duration as 20 milliseconds to the face, while contribution of other facial parts changed over time, and 2) either the gaze of the face is directed to or averted from the evaluator affected the dynamic integration of facial parts information to the judgments of whole facial attractiveness. Different experiments examining the influence of external feature on the perceived facial attractiveness revealed the mutual, but not symmetrical influence between facial attractiveness and hair attractiveness. These findings together suggest the dynamic feature of facial attractiveness judgment where information from internal/external features is integrated over the time while it is affected by social cue such as gaze direction of the face.

Varieties of Attractiveness and their Brain Responses

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Over the past decade, cognitive neuroscience of attractiveness has been maturing and has found that experiencing something as attractive, such as viewing a beautiful face, engages brain's reward circuit, namely the medial orbitofrontal cortex/ventromedial prefrontal cortex (mOFC/vmPFC) and structures in the ventral striatum (VS). Interestingly, these core regions are thought to be stimulated by attractiveness regardless of their source and to encode a 'common neural currency' (Levy & Glimcher, 2012). This is not contradicting to daily experiences: we feel pleasure when we find something attractive. However, assuming that attractiveness is closely related and intertwined to pleasure, it gives rise to the question; the activation within the mOFC/vmPFC and the VS with attractiveness experience may be merely attributed to the pleasurable experience, and it is little to do with attractiveness per se. To address this question, I propose to categorise attractiveness into two types; attractiveness derived from biologically-based stimuli, such as faces, bodies, or nutritious foods (biological attractiveness), and one derived from higher cognitive processes, such as art appreciation or a person with good morality (higher-order attractiveness). The stimuli categorised in the former relate to the fulfilment of biological needs, such as mating, having sex, intake of nutrition (primary rewards), whereas, stimuli of the latter category do not require biological needs and primary rewards. Recent findings and discussions from our lab and others

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The Abstracts are provided below. Keynote talks are presented first, symposia second, and then the contributed talks and posters are listed by session.

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