

The Role of Visual Attention in Preference Formation: Urgency Promotes Affective Disengagement

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(選好形成における視覚的注意の役割: 時間的制約は感情的注意の解放を促進する)

区 分 : 甲

論 文 内 容 の 要 旨

Preference formation is the process of making decisions in the sense of like and dislike. Previous research has characterized the important role for spatial and affective pre-cues in the control of visual attention, less is known about the impact of pre-cues on preference formation. A recent study found the gaze cascade phenomenon suggesting that the gaze serves both to enhance and express “liking” during value-based decision-making. In order to elucidate the role of visual attention in preference formation, we investigated the cueing effect on evaluative decision-making (i.e., preference).

The dissertation contains of two main parts. In part 1, a behavioral experiment was carried out to examine the preference for food images. The experiment in this part is designed not only for investigating the effect of cueing on preference, but also building a practical paradigm for the eye-tracking experiment. In this part, different natures of digital images (dot or face-logos) were used as attentional or emotional cue in a two-alternative forced choice (2AFC) preferential task. Four sessions that combined two kinds of cues and two different stimulus onset asynchrony (SOA) were conducted for all subjects to test and verify both the “facilitative” and “inhibitory” cueing effect on preference. As a result, we found an effect from cue on preference, under several specific conditions. In part 2, based on the experiment and result in the first part, we designed four eye-tracking experiments in which participants were asked to select their preferred geometric figures, by varying types of cue (i.e., face-cueing or food-cueing), and time constrains (i.e., deadline or self-paced). Furthermore, we raised and compared two opposing hypotheses (i.e., gradual commitment versus information integration hypothesis) regarding the mechanism in between attention and preference formation in this part. Across all the experiments, we found subjects were more likely to choose the uncued targets with a negative cue under urgency. moreover, the response time for choosing uncued images were faster than that in choosing cued images in deadline experiment. It suggested that the pre-cue had been effective, in a way consistent with the inhibition of return (IOR) phenomenon, in preference formation. In addition, the result of gaze pattern showed that subjects directed their gaze towards the cue after the cue was showing, and then their eyes tend to drift back and go back even to the uncued side, which demonstrated again the phenomenon of IOR. Taken together, the data pattern provided support for the information-integration

hypothesis, particularly under urgency.

In conclusion, this thesis provides the solid evidences of how the pre-cue and urgency affects the preferential decision-making. The results suggested that when tasked with a speeded preference choice, subjects showed affective disengagement following pre-cues that carried a negative association. The interesting data inspire promising future works that provide further investigation of the underlying mechanism of attention in preference.