The Relationship Between Preference and Familiar-Novel Level

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Background

Evidences suggests existence of familiar preference(Maslow, 1937; Zajonc, 1968) and novel preference (Berlyne, 1970). Researchers suggested separate stimuli into more detailed categories (Park et al., 2010). In a recent study, familiarity preference was observed on human face visual stimuli but not on natural scene visual stimuli (Liao et al., 2011). Moreover, the way that researchers measuring participants' preference can also affect the result of the experiments (Liao et al., 2011). Research have shown the complexity of stimuli can affect the novelty preference observed and there is a near bell shaped curve for it (Berlyne, 1970).

The study about novel and familiar preference are important because they are important for understanding the sense of beauty and aesthetical studies. There's no study about the combination of novelty and familiarity affect preference yet.

Research Question

Whether combination of novelty and familiarity increase the preference on stimulus?

Variables

IV: Novel-familiar condition (4 conditions shown in method)

DV: Preference on stimulus (Preference rating & brain activity)

Hypothesis

Participants under the novel-familiar and familiar-novel condition have higher preference rating and are more active at anterior cingulate and left parietal cortex (Kawabata, H., & Zeki, S., 2004) than those under pure familiar and pure novel condition.

Definition

Familiarity: the number of time that a subject has been exposed to a stimulus

Novelty: a stimulus that a participant has never been exposed to

Anticipated results

The expected results were demonstrated in figure 2 to 4.

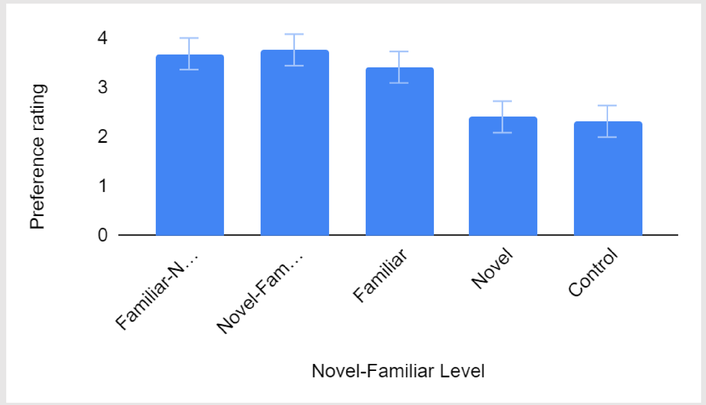

Figure 2. The anticipated result of preference rating.

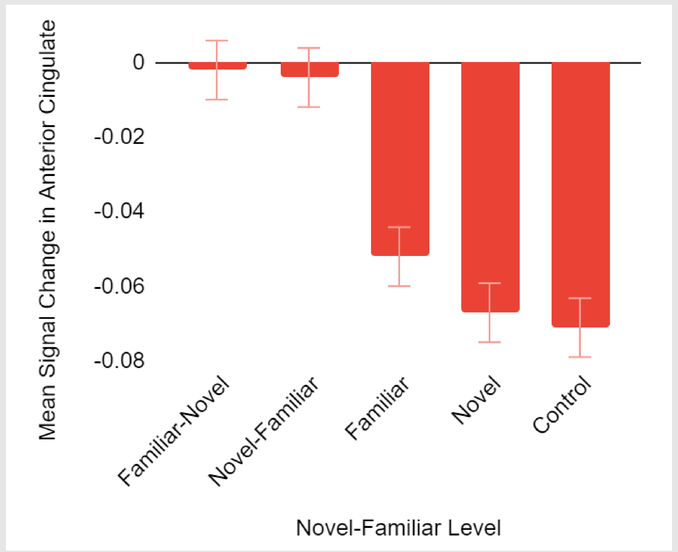

Figure 3. The anticipated result of signal change at cingulate.

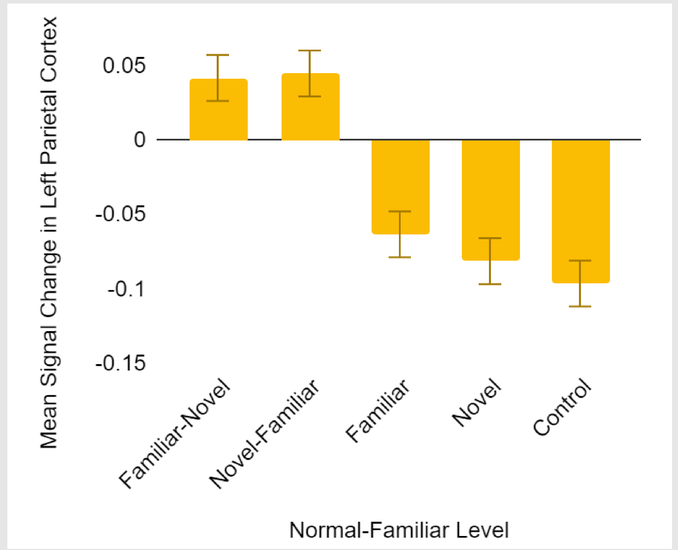

Figure 4. The anticipated result of signal change at left parietal

Method

We randomly split 200 participants to 5 groups with different familiar-novel level: novel, familiar, familiar-novel, novel-familiar, control and they will go through a familiar phase and a rating phase as shown in figure 1. Preference were measured by preference rating and fMRI scanning (later digitalized as average BOLD signal changes at anterior cingulate and left parietal cortex).

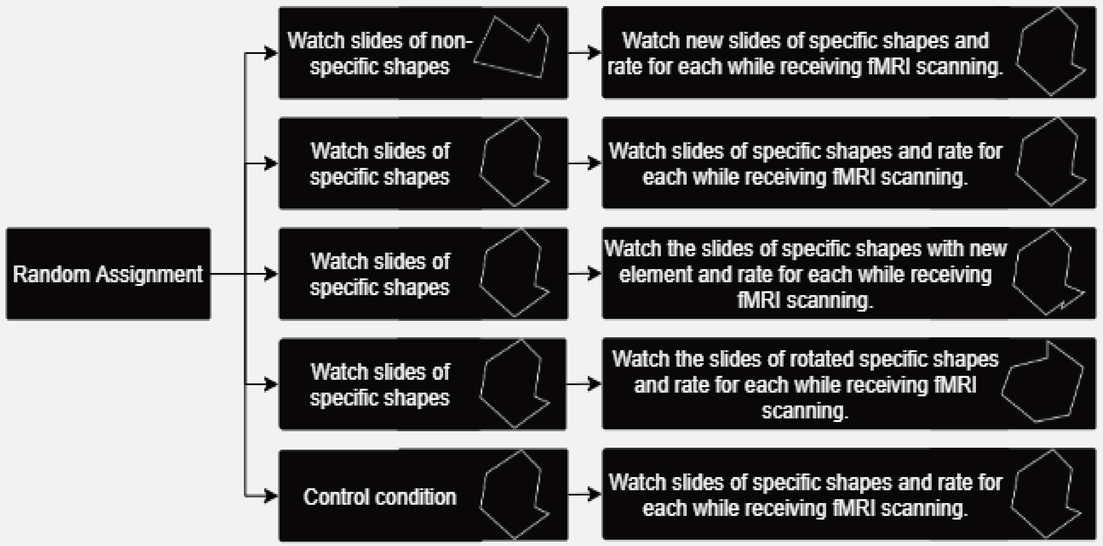

Figure 1. The experiment procedure.

Conclusion

Stimulus with both familiar and novel features are more preferred by perceiver then pure familiar, novel stimulus, and controlled stimulus. This experiment considered about the interaction of novel preference and familiar preference.

Berlyne, D.E. (1970). Novelty, complexity, and hedonic value. *Perception & Psychophysics* **8**, 279–286. https://doi-org.ezproxy.library.wisc.edu/10.3758/BF03212593
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Maslow, A. H. (1937). The influence of familiarization on preference. *Journal of Experimental Psychology*, *21*(2), 162–180. https://doi-org.ezproxy.library.wisc.edu/10.1037/h0053692
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Zajonc, R. B. (1968). Attitudinal effects of mere exposure. *Journal of Personality and Social Psychology, 9*(2, Pt.2), 1–27. https://doi.org/10.1037/h0025848