

The Role of Motor Selection History in Value-Driven Attentional Capture

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Abstract

Recent studies revealed the reward history effect, where task-irrelevant stimuli would draw attention if they were previously selected or reward-related. In these studies, stimuli are often associated with reward through repeated selection. Even though evidences support that both reward relation and repeated selection can attract attention on their own, it is unclear how these two interact to contribute to subsequent attentional biases. In the current study, target colours were associated with reward values while target orientations were associated with go or no go in a search task. After that, participants perform a go/no-go flanker task in which previous targets served as flankers. One of the flankers were uniquely coloured, and the colour could be neutral or reflect previously learnt reward values. The flanker orientations represented go or no go in the previous task, thus could be either compatible or incompatible with the current go/no-go requirement. Results showed no significant effect for different values represented by the flanker colours. This null effect of reward history posed difficulty in interpreting other data. Design considerations that might be critical for the presence of the reward history effect were discussed.

Keywords: reward history, selection history, go/no-go