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Short Communication

Neural correlates of within-level and across-level attention to multiple compound stimuli

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Abbreviations:
 EEG, electroencephalogram
 ERP, event-related potential
 L, lateral
 u, unit

Abstract

Electroencephalogram (EEG) and event-related potential (ERP) were recorded during a task requiring attention to multiple compound stimuli. The stimuli consisted of a central fixation point and two peripheral locations. In each trial, one location contained a target stimulus (a red dot) and the other location contained a distractor stimulus (a green dot). The target stimulus was either at the within-level or across-level of attention. The results showed that the ERP component N1 was significantly larger for the within-level than for the across-level condition. This suggests that the N1 component is related to the initial selection of the target stimulus. The results also showed that the ERP component P2 was significantly larger for the across-level than for the within-level condition. This suggests that the P2 component is related to the re-orientation of attention to the distractor stimulus. The results indicate that the N1 component is involved in the initial selection of the target stimulus, and the P2 component is involved in the re-orientation of attention to the distractor stimulus.

1. Introduction

Attention is a fundamental cognitive function that allows us to focus on relevant information in our environment. Attention is often divided into within-level and across-level attention. Within-level attention involves focusing on a single location, while across-level attention involves focusing on multiple locations. The present study investigated the neural correlates of within-level and across-level attention to multiple compound stimuli.

2. Methods

2.1. Participants

2.2. Stimuli

2.3. Procedure

2.4. Data analysis

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