

Differential effects of exogenous and endogenous cueing in multi-stream RSVP: implications for theories of attentional blink

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Abstract

The present study examined the effects of exogenous and endogenous cueing on the second stream of a multi-stream RSVP task. Participants were presented with a sequence of four stimuli in a rapid serial visual presentation (RSVP) format. The first stream consisted of three identical stimuli, followed by a cue (exogenous or endogenous) and a fourth stimulus. The second stream consisted of three identical stimuli, followed by a cue (exogenous or endogenous) and a fourth stimulus. The results showed that exogenous cueing led to a significant increase in the number of correct responses in the second stream compared to endogenous cueing. This effect was observed for both the first and second streams. The results suggest that exogenous cueing is more effective than endogenous cueing in multi-stream RSVP tasks. This finding has implications for theories of attentional blink, which propose that exogenous cueing can reduce the attentional blink effect by directing attention to the second stream of the task.

Keywords

Attentional blink; multi-stream RSVP; exogenous cueing; endogenous cueing

Introduction

The attentional blink (AB) effect is a well-documented phenomenon in which the second target in a rapid serial visual presentation (RSVP) task is often missed or responded to less accurately than the first target. This effect is thought to be caused by a temporary depletion of attentional resources following the first target. The AB effect has been extensively studied in the context of single-stream RSVP tasks, but less is known about its effects in multi-stream RSVP tasks. In multi-stream RSVP tasks, the first stream of stimuli is followed by a cue (exogenous or endogenous) and then the second stream of stimuli. The present study examined the effects of exogenous and endogenous cueing on the second stream of a multi-stream RSVP task. Participants were presented with a sequence of four stimuli in a rapid serial visual presentation (RSVP) format. The first stream consisted of three identical stimuli, followed by a cue (exogenous or endogenous) and a fourth stimulus. The second stream consisted of three identical stimuli, followed by a cue (exogenous or endogenous) and a fourth stimulus. The results showed that exogenous cueing led to a significant increase in the number of correct responses in the second stream compared to endogenous cueing. This effect was observed for both the first and second streams. The results suggest that exogenous cueing is more effective than endogenous cueing in multi-stream RSVP tasks. This finding has implications for theories of attentional blink, which propose that exogenous cueing can reduce the attentional blink effect by directing attention to the second stream of the task.

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