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# Suboptimal deployment of object-mediated space-based attention during a flanker task

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## Abstract

Space-based and object-based attention studies suggest these selective mechanisms can be involuntarily or voluntarily deployed. We performed two experiments exploring automatic deployment of object-mediated space-based attention. Subjects performed a modified flanker task with targets and distractors presented within the same or different object frames. If object selection occurs automatically, the flanker effect should be larger in the same condition. However, both object frame conditions produced equally large flanker effects within accuracy. Next, we manipulated the observer's sustained attentional spotlight via an inducer task to determine whether object-mediated space-based selection depends on initial spotlight size. This time, object-based effects emerged only during narrow spotlight conditions. The results from both experiments suggest the deployment of object-based attention may occur when spatial attention is initially focused narrowly, even when such selection is suboptimal. These results add to the existing literature while reconciling previous inconsistent findings of object-based selection.