

# Grouping in Good Continuity Can Mask a Local Target Regardless of Saliency in Visual Search

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Salient or well-grouped stimuli usually capture attention. However, our previous studies showed a masking effect by a salient collinear distractor (i.e., snake) on a local target in visual search. Meanwhile, a salient non-collinear distractor (i.e., ladder) indeed facilitates search. The main difference between snake and ladder distractors was the grouping law good continuity. Nevertheless, the grouping law similarity and the saliency of the distractor can also affect search performance. This study aimed to test whether continuity is enough to elicit the collinear masking effect. Experiment 1 made the distractor curved to remove similarity of the items on the distractor, and randomized orientation in the background to reduce saliency of the distractor. Results showed that snake distractors impaired search regardless of similarity and saliency, while ladder distractors facilitated search only when background bars were homogeneous (i.e., when the distractors are salient). Experiment 2 manipulated the orientation of the flankers of the snake distractor to test whether distractor saliency modulated the size of collinear masking. Results showed that the orthogonal flankers make the distractor most salient; however, the size of the masking effect did not correlate to the degree of saliency of the distractor. Our results suggest that items grouped in good continuity are sufficient to mask local targets in visual search, and the masking effect is irrelevant to the perceptual saliency of the distractor. Our findings implicate possible applications on camouflage.

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