Abstract

It remains unclear how memory load affects attentional processes in visual search (VS). No effects, as well as beneficial and detrimental effects of memory load, have been found in this type of task. The main goal of the present research was to explore whether memory load has a modulating effect on VS by means of a different attentional set induced by the order of trials (mixed vs. blocked) and by the time presentation of visual display (long vs. short). In Experiment 1, we randomized the order of type of trial (5, 10 and 15 items presented in the display) while it remained constant (10 items) in Experiments 2A and 2B. In the later experiments, we also changed time presentation of visual display (3000 vs. 1300 ms, respectively). Results showed no differential effects of memory load in Experiments 1 and 2A, but they showed up in Experiment 2B: RTs were longer in the attentional task for trials under high memory load conditions. Although our hypothesis of the attentional set is supported by the results, other theoretical implications are also worth discussing in order to better understand how memory load may modulate attentional processes in VS.