

## **Facilitation of object recognition: An effect of contextual cueing**

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Implicit contextual cueing refers to a top-down mechanism in which visual search is facilitated by learned contextual features. In the current study we aim to investigate the mechanisms underlying object based implicit contextual cueing by studying eye movements. A visual search task was used in which participants ( $n = 16$ ) had to locate a target object (abstract line drawing with an opening) among a number of distractors (closed abstract line drawing). In half of the trials the set of objects presented was repeated (Repeated trials), whereas in the other trials a new set of objects was used (New trials). The location of the objects was randomly defined and the objects in the Repeated and New trials were repeated the same number of times. Eye movements were recorded with an iViewX High-speed Eye-Tracker. Subjects located the target faster in the Repeated trials as compared with New trials ( $p < 0.001$ ), indicating that the sets of objects were memorized and search was facilitated. Shorter fixation durations were found for the repeated trials than for the new trials [ $t(20) = 3.6, p < 0.01$ ]. Furthermore, the Time from Last Fixation until Button Press (TLFBP) was significantly shorter in the repeated than in the new trials [ $t(20) = 4.6, p = 0.001$ ]. No effect was found for the Number of Fixations and the Saccade Amplitude. This indicates that object recognition is facilitated when object information is used as contextual cue.