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## The Effect of Positive and Negative Emotional Visual Mental Imagery on Performance of Visual Search Tasks

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### Letter to Editor

Mental imagery can be described as an ability that can be advantageous, unessential and even clinically disruptive. Recent studies on mental imagery have shown its role on a wide range of cognitive processes from visual working memory, spatial navigation verbal comprehension to creativity and moral decision making. In addition, powerful imagery can be a cause of lots of psychological disorders [1]. As an example, in depression, people have problems to make a positive future projection [2] or in bipolar disorders patients show uncontrolled and intrusive use of imagery that leads to suicidal acts [3] and plays a role on PTSD's flashbacks [4]. Imagery also can make an involuntary visual image which is the component of craving in addiction [5,6]. But as much as its role in disorder it can be helpful to treat them [1].

Mental imagery includes all five senses; but most of the research is in the visual domain. Visual imagery is like a network that involves from the frontal cortex to sensory areas. Visual imagery's function is like a weak version of afferent perception [1] and it resembles Visual Working Memory (VWM). Mental imagery and visual working memory both involve the representation and manipulation of visual information, and there is a hypothesis that they may have the same effect on visual attention [7]. Visual mental imagery happens when a visual short-term memory representation (internal stimulus) is existing but the object (external stimulus) is no longer being viewed. This experience is called "seeing with the mind's eye" [8]. Previous studies show that visual mental imagery guides attention toward imagery-matching stimuli and reduces reaction time [7].

Based on the above-mentioned points, we hypothesize that the type of information that represents imagery whether it is neutral, positive or negative has also different effects on visual search tasks. It can be examined during visual search tasks and see how the reaction time and the accuracy of response change. If we can prove that responses are affected by the type of stimuli that is represented during experiments, it can be used in mental imagery training to improve some cognitive functions and facilitate the procedure of treating psychological disorders.

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