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# Valence-specific relevance-modulated performance in a two-choice detection task: A mental imagery study.

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## Abstract

The aim of this study was to build a personalized emotional induction paradigm using mental imagery, in order to investigate the effect of relevance modulations on the performance of a two-choice detection task. In a first phase, 28 participants evaluated pictures representing various emotional themes so as to determine which theme evoked the most emotion for them. Their ratings were used to select a pair of positive, one of negative and one of neutral scenarios, for each participant. A pair of scenarios was made of a same situation that differed in terms of relevance (relevant VS very-relevant). Relevance was defined by the effects that the situation could have on participants (moderate effects VS strong effects). In the second phase, participants were presented with the personalized induction scenarios to mentally imagine for twenty seconds. Immediately thereafter, they performed a two-choice detection task. Eventually, participants evaluated their mental images on valence, relevance, arousal and quality. Results showed a valence-specific relevance modulation of performance, reaction times being faster for relevant than for very-relevant positive scenarios, and slower for relevant than for very-relevant negative scenarios. These patterns also differed from the one found for neutral scenarios, since reaction times did not differ between relevant and very-relevant neutral scenarios. Results for relevant scenarios were discussed in terms of valence-specific attention modulation (i.e., focused attention for negative stimuli and broadened attention for positive stimuli), whereas results for very-relevant scenarios were discussed in terms of valence-specific action tendencies (i.e., approach versus avoidance), both effects being mediated by relevance.

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