

# How different shades of emotion may affect automatic and voluntary attentional processes: a study with the Emotional Flicker Task

Monday, September 23, 2024 4:50 PM (10 minutes)

## Introduction:

Individuals exhibit higher attentional allocation toward threatening than neutral information. Nevertheless, a source of variability could be related to both the specific emotion elicited and the attentional process involved. This study aimed to investigate the impact of different emotionally activating negative stimuli on the automatic and voluntary attentional processes.

## Methods:

Ninety-six participants completed an Emotional-Flicker Task with negative (covid-related; non-covid-related) and neutral scenes. The task allowed for the assessment of changes in the central (CI) or marginal (MI) interest areas of the scene, enabling the examination of both automatic and voluntary orienting of attention respectively. Response times for change detection were compared.

## Results:

A within-subject ANOVA on Type of Change (CI; MI) x Valence (Covid, Non-Covid, Neutral) reported a significant interaction ( $F_{2,192}=176.6$ ;  $p<0.0001$ ). A different pattern of change detection in COVID-related stimuli emerged. Generally, changes in COVID-related scenes were detected slower, but interestingly, while for neutral and non-covid stimuli CI changes were faster detected than MI, a reverse pattern emerged for COVID-related stimuli.

## Conclusions:

Our results provide insights into how different shades of negative emotions influence attentional processes. The anxiety generated by COVID-related stimuli appears to interfere with automatic but not voluntary attention. This could be due to the activation of cognitive representations of the pandemic that are involved in the top-down processing of the scene. Conversely, the threatening nature of non-covid scenes would activate an automatic response typical of fear (fight or flight), resulting in a fast detection in the automatic phase of the attention process

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