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## EMOTIONAL DISTRACTION: CONTEXTUAL MODULATION OF ATTENTIONAL CAPTURE

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**Grant 287/20**

**Background:** Previous research has demonstrated that repeated exposure to events (visual distractors) that are clearly irrelevant leads to more efficient filtering of those events. Whether top-down or contextual factors can modulate the filtering of emotional distractors is a matter of debate. The current project extends this line of research by investigating how novelty affects electrocortical responses to emotional distractors.

**Aims:** The primary aim of the present project was to investigate whether and how contextual factors affects emotional processing by using behavioural and neural measures that could inform about the stages in which the filtering mechanisms of task-irrelevant visual stimuli operate. Several studies have shown that repeated exposure with clearly irrelevant events leads to more efficient filtering of those events. One type of repeated exposure is simply when the same stimulus is repeated several times. It is well known that, after several repetitions, attentional capture prompted by emotional distractors is strongly attenuated (experiment 1). On the other hand, another way of becoming experienced with distractors is to vary the frequency of their occurrence (experiment 2).

**Method:** In two experiments, we investigated the effects of stimulus repetition and distractor frequency on the processing of task-irrelevant novel stimuli, as reflected in both behavioral interference and neural activity (alpha ERD and Late Positive Potential; LPP), while participants were engaged in an orientation discrimination task.

**Results:** The findings demonstrated that the filtering mechanisms regulating emotional interference can be attenuated through a non-strategic learning mechanism mediated by (1) mere stimulus repetition and (2) the frequency of distractors occurrence. In both cases, however, neural measures of emotional processing (alpha-ERD and LPP) remained unaltered, suggesting that our perceptual system serves the adaptive function of identifying potential threats or rewards and, eventually, reacting appropriately.

**Conclusions:** Our data suggest that emotional information is continuously evaluated, and this process seems mandatory and occurs even when emotional stimuli are task-irrelevant, regardless of the context in which these stimuli are presented. The current project might have important implications for the current society, where people are constantly bombarded by information that could ultimately cause psychological stress, a recently named technostress condition.

**Keywords:** Distraction, Emotion, Orienting response

### **Publications:**

Ferrari, V., Canturi, F., & Codispoti, M. (2022). Stimulus novelty and emotionality interact in the processing of visual distractors. *Biological Psychology*, 167, 108238. <https://doi.org/10.1016/j.biopsycho.2021.108238>

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