

EMOTIONAL BODY POSTURES AFFECT INHIBITORY CONTROL ONLY WHEN TASK-RELEVANT

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Objectives:

A classical theoretical frame to interpret motor reactions to emotional stimuli is that such stimuli, particularly those threat-related, are processed preferentially, i.e., they are capable of capturing and grabbing attention automatically. Research has recently challenged this view, showing that the task relevance of facial emotional stimuli is crucial to having a reliable behavioral effect (Mancini et al. 2022; Mirabella et al 2022). This work aims to assess the generalizability of this evidence to emotional body postures.

Materials:

We used 12 pictures displaying the bodies of four actors (two females) enacting fearful, happy, and neutral postures with blurred faces on a black background taken from Mazzone et al. (2022). In all pictures, individuals performed meaningful actions so that both emotional and neutral images illustrated biological movements. Neutral body actions included the pantomime of wearing a sock, kicking a ball, and jogging. To have a set of stimuli enabling us to run a control task, we colored stimuli's t-shirts in beige and lilac.

Methods:

We compared the performance of 36 right-handed participants in two different versions of a Go/No-go task. In the emotional task, participants were required to withhold their responses at the display of emotional body postures (fearful or happy) and to move at the presentation of neutral postures. Differently, in the control task, the same images were shown, but participants had to respond according to the color of the actor/actress's t-shirt, disregarding the emotional content.

Results:

We found that participants made more commission errors (instances in which they moved even though the No-go signal was presented) for happy than fearful body postures in the emotional task. However, this difference disappeared in the control task, where the rate of commission errors did not differ across happy, fearful and neutral body postures.

Discussion

We showed that emotional body postures impact inhibitory control only when task-relevant for the first time. This finding parallels our previous results on facial emotions (Mancini et al., 2022), indicating the generalizability of such a phenomenon.

Conclusions

Our research supports the notion that the effects of stimuli laden with emotional significance depend critically on their context-related evaluation, as theorized by the appraisal theories of emotions. By stating this, we do not deny the possibility that behavioral reactions to emotional stimuli could be rapid and automatic in a situation of real danger for our survival. However, in most of our lives, we do not face such extreme events.

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- References:** Mirabella, G., Grassi, M., Mezzarobba, S. & Bernardis, P. Angry and happy expressions affect forward gait initiation only when task relevant. *Emotion* (2022). doi: 10.1037/emo0001112. Epub ahead of print
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