

MOMENTARY FLUCTUATIONS IN PREPOTENT RESPONSE INHIBITION PREDICT EMOTIONAL REACTIVITY AT THE WITHIN-INDIVIDUAL LEVEL

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Associations between disturbances in cognitive control and maladaptive emotion regulation are extensively explored at the between-individual level, however, it is still an open question whether this relationship can also be found within individuals. In this study, we tested the assumption that momentary within-person fluctuation in cognitive control performance (working memory updating and response inhibition) predicts the intensity of emotional reactivity in everyday life. An experience sampling study was conducted (8 two-hourly prompts daily for max. 28 days) where participants were asked to repeatedly perform short N-back and Go/No-go tasks every day. Unpleasantness of a recent significant event and negative affective states were also measured, whose statistical relationship refers to emotional reactivity. Our nested dataset contained 959 observations from 114 individuals ($N_{\text{Females}} = 88$, $Median_{\text{Age}} = 45$, $SD_{\text{Age}} = 12.86$) from the general population. We tested within-person effects of N-back and Go/No-go performance on emotional reactivity using multilevel models. Our statistical analyses revealed that Go/No-go performance moderated the within-person association between perceived stress and negative affective tone: when momentary response inhibition was better than an individual's average, they demonstrated lower emotional reactivity. However, we did not find significant associations between N-back performance and emotional reactivity. These results imply that within-person fluctuations in response inhibition predict the intensity of emotional response to perceived stress. This conclusion is in line with previous within- and between-person findings showing that decreased inhibitory control is associated with maladaptive emotion regulation strategies and reduced self-regulation.