

# Emotional Intelligence and hot and cool cognitive control ability

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Emotional intelligence (EI) is the ability to perceive, use, understand, and regulate emotions. The EI construct has been organized following three main approaches: performance-based ability model, a self-report mixed model, and a self-report ability model. EI appears to be beneficial to the performance of “hot” (i.e., emotionally laden) cognitive tasks when using performance-based ability models but not when using self-report EI models. The aim of the present study is to analyze the relationship between the three models of EI and cognitive control ability during the performance of hot and “cool” (i.e., non-emotionally laden) “go/no-go” tasks. 187 undergraduate students participated in the experimental design. They completed the three EI tests of interest as well as go/no-go tasks; the stimuli used for the hot and cool cognitive task were faces and geometric figures, respectively. Results show that individuals with higher EI, measured through the performance-based ability test, perform better on a hot cognitive control task. Specifically, we provide evidence for negative associations between the “managing” branch of EI measured through the performance-based ability test of EI and the cognitive control index of the hot go/no-go task; when using the self-report EI instruments, no consistent findings were achieved. The study found no such results with the cool task. Findings in terms of the validity and different implications of the different EI models are discussed.

**Keywords:** emotional intelligence, cognitive control, go/no-go tasks, hot tasks, cool tasks