The emotional Stroop effect: Cognitive, emotional, and physiological aspects

Results:

We examined how interference by emotional stimuli on a cognitive task was related to a) explicit affective ratings, b) electromyographic recordings of facial expressions, and c) skin conductance measures of arousal. We used a method of evaluative conditioning where initially neutral stimuli were repeatedly paired with negative or neutral images to manipulate their emotional connotation. The conditioned stimuli were then used in an Emotional Stroop task where participants named the colour in which the stimuli were presented. Participants high in anxiety were generally slower at naming the colour of negatively-conditioned stimuli, suggesting that the emotional connotation of these words interfered with the primary cognitive task. In different experiment, we compared supraliminal and subliminal presentation of the stimuli. An important finding was that emotional connotation acquired subliminally produced Stroop interference if the stimuli were presented subliminally, but not supraliminally. However, physiological measures of emotional reactions were sensitive to affective connotation even when cognitive measures were not, especially in highly anxious participants. For instance, anxious participants displayed elevated skin conductance to the subliminal presentation of negatively conditioned stimuli even when they were not explicitly aware of these stimuli. Another important finding was that micro facial expressions of emotion in reaction to the presentation of the emotional stimuli was a better predictor of Stroop interference than explicit affective ratings of these stimuli. The data from these experiments suggest that there are complex dissociations between implicit and explicit components of emotional processing.

Published work:

Conference presentations:


Journal articles:


Book chapter:

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