Preconscious processing of emotion in abstract but not in concrete words

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Abstract

Only recently have emotional connotations been taken into account in word processing. A recent proposal suggests that emotion is crucially related to abstract words as the ontological distinction between concrete and abstract concepts reflects the distinction between concepts primarily grounded in our sensory-motor experience (concrete) and those grounded in our internal affective states (abstract), thus suggesting a tighter link between abstract words and emotions. We assessed whether affective associations have differential effects for preconscious processing of abstract and concrete words. By using continuous flash suppression (a variant of binocular rivalry) to make stimuli invisible, we measured how long does it take for a suppressed stimulus to emerge to consciousness. Subjects responded as soon as becoming aware of the test stimulus by pressing a key to indicate whether the stimulus appeared above or below a fixation point. In Experiment 1, where concreteness was controlled but not manipulated, negative associations slowed down reaction times on the suppressed word, in comparison to strictly matched neutral and positive words. In Experiments 2 and 3, we factorially manipulated concreteness and valence (negative, neutral), finding that only negative abstract words interfered with the task, whereas negative concrete words did not. These results suggest that emotional connotation plays a pivotal role for preconscious processing of abstract, but not concrete, words. Moreover, this evidence extends previous results on preconscious processing of emotional stimuli, such as faces, for which subcortical network involvement has been demonstrated, suggesting that similar mechanisms can account for processing of emotional content of abstract words.

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