

## **ERP evidence for distinctions in processing semantic associative and a valence relationships**

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“Semantic priming” denotes the faster response to “target” words preceded by “prime” words that are semantically associated than to target words preceded by prime words that are semantically unassociated. Affective priming denotes the faster response to emotional words preceded by words of the same versus opposite emotional valence. A large event-related potential (ERP) literature suggests that semantic priming results in facilitated semantic processing, reflected by an attenuation of the N400 to targets preceded by associated (vs. unassociated) primes. The ERP signatures of affective priming, however, have been more mixed, and most studies have not fully controlled for semantic association. We carried out two ERP studies that fully crossed semantic (associated vs. unassociated) and affective (same valence vs. opposite valence) relationships between prime and target (SOA: 250ms). In Experiment 1, participants judged whether each word pair was semantically related or unrelated, and in Experiment 2, a separate set of participants judged whether each word pair had the same (or opposite) valence. In both experiments, we saw clear N400 effects of semantic priming, as anticipated. However, we saw no effects of affective priming on either the N400 or the late positivity ERP components. Moreover, the effects of semantic priming on emotional and neutral words were similar. These results provide evidence that the neural mechanisms engaged in computing semantic relationships are distinct and independent from those engaged in computing valence relationships.