Why soft cotton is closer than mellow yellow: Perceptual distance predicts semantic priming effects independent of linguistic associations

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Abstract: Related words/concepts prime one another, but the notion of semantic relatedness is notoriously difficult to pin down and may be due to linguistic association (reflecting the likelihood of two words appearing in shared/similar contexts) and/or true semantic overlap (reflecting how similar two words are in conceptual representation). In the present work, we propose a novel measure of semantic relatedness, perceptual distance, which represents the overlap in modality-specific perceptual experience of the words' referent concepts. We contrasted LSA scores as a measure of linguistic association, with perceptual distance as a measure of semantic overlap, in predicting semantic priming effects in both lexical decision and naming tasks. Results showed that perceptual distance best predicted semantic priming effects at 1200ms ISI, and LSA at 200ms ISI, supporting previous findings that simulation effects emerge later than linguistic effects in conceptual processing. Perceptual distance therefore represents an effective measure of semantic relatedness that is independent of lexical associations, and demonstrates true semantic priming that is separable from associative priming.