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Authors

de Souza, Sydelle
Vegner, Ivan
Doumas, Leonidas A. A.
[et al.](#)

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What can MINERVA2 tell us about 'killing hope'? Investigating L2 Collocational Processing with a Memory Model

Sydelle de Souza

University of Edinburgh, Edinburgh, Midlothian, United Kingdom

Ivan Vegner

University of Edinburgh, Edinburgh, United Kingdom

Leonidas A. A. Doulas

University of Edinburgh, Edinburgh, United Kingdom

Francis Mollica

University of Edinburgh, Edinburgh, United Kingdom

Abstract

Collocations are semi-productive word combinations with one word used literally and one other figuratively, characterized by an arbitrary restriction on substitution (kill hope, #murder hope). They are notoriously difficult for L2 speakers to acquire, yet there is no processing model specific to collocations. The present study attempts to explain trends in L2 collocational processing as memory retrieval. Modifying MINERVA2, a frequency-based memory model, we simulate reaction times and compare them to data from 99 L1 and 230 L2 (L1 Portuguese) English speakers involving free combinations (eat cake, 'comer bolos'), congruent (read minds, 'ler mentes') and incongruent collocations (kick habits, no equivalent translation in Portuguese), and nonsense baselines (#read cakes). Under the assumptions that the L2 lexicon develops conditioned on the L1 and that the L2 lexicon is sensitive to L1 frequencies, we report that MINERVA2 can predict processing trends in both L1 and L2 collocational processing.