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Long-term effects of valence, concreteness, and arousal on lexical reproduction

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Abstract

Emotional factors like valence, concreteness, and arousal have been shown to influence lexical processing, in that they exhibit non-neutrality, positivity, and negativity biases, respectively (e.g. Kuperman et al. 2014, *J. Exp. Psych.*; Pauligk et al. 2019, *Scientific Reports*). Since even weak cognitive biases can yield strong tendencies on a larger time scale, we investigate diachronic long-term effects of these factors on the reproductive success of English words. We operationalize reproductive success by means of diachronic growth, age-of-acquisition and prevalence of words. By combining emotional norms (Warriner et al. 2013, *Beh. Res. Meth.*; Kuperman et al. 2012, *Beh. Res. Meth.*) with historical language data (COHA; controlling for semantic shift), we show that long-term effects of valence and concreteness largely mimic cognitive short-term biases. However, arousal, quite surprisingly, exhibits a clearly positive effect on lexical reproduction. We attribute this reversed effect to (i) interactions among emotional factors and (ii) social effects.