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Differential Weighting of Perceptual and Linguistic Factors Predicts English Noun Age-of-Acquisition

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Abstract: Age of acquisition (AoA) is a psycholinguistic variable that may prove useful toward gauging the relative weighting of phonological, semantic, and morphological factors at different phases of language acquisition. We examined a large corpus of English nouns using AoA as the outcome variable in three multivariate regressions, encompassing different age ranges (early-middle-late). Predictors included perceptual (e.g., imagery), phonological (e.g., phonological neighborhood density), and lexical (e.g., word length) factors. Different combinations of predictors accounted for significant proportions of the variance for different AoA ranges. For example, imageability and frequency are stronger predictors of early relative to late word-learning. Corpus analyses support a hybrid model of word-learning in which children differentially weight perceptual and linguistic factors over time. This statistical approach may provide independent corroboration of experimental studies in language learning.