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The role of co-occurrences on conceptual tokening: Accessing object concepts by their category labels

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Abstract

It is often said that we know the meaning of a word by the company it keeps. But what happens when the “company” is an object? How does the rate of co-occurrence between a word (bark) and a picture (dog) influence how fast the concept is accessed? We investigated this question by modeling data from three sources: (1) norming data obtained from a dataset of 78,000 features to a set of pictures; (2) accuracy and response time data from a picture-word masked congruency task with stimuli presented for 60 and 200 milliseconds; and (3) cosine-similarities between an object (dog) and lexical items labeling superordinate (animal), high-salient (bark), and low-salient (fur) properties of the referent object using word2vec. Results show a superordinate effect: words labeling object categories were most affected by cosine similarity. Our results suggest that the co-occurrence between an object and a superordinate label facilitate object concept tokening.