## Contextual Characteristics of Concrete and Abstract Words

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**Take-Home Message**

In comparing concrete and abstract words, Distributional Semantics is not completely in line with Grounding Theories of cognition.

- √ concrete words
- ✗ abstract words

We show that:

- Distributionally similar words have a similar range of concreteness scores (Study 1)
- Target and context words share similar concreteness scores both at type (Study 2) and token level (Study 3)
- Concrete targets have more variable contexts (concreteness) than abstract targets (Study 3)

### Concrete vs. Abstract Words

**Grounded Theory of Cognition**: Both concrete and abstract words should co-occur with concrete words:
- Concrete: grounded in the sensory motor system
- Abstract: mapped to concrete concepts

**Distributional Hypothesis**: Represent the meaning of a word in terms of its linguistic context.
- Targets as vectors of co-occurrences
- Cognitively plausible representation

### Study 1: Concreteness in Distributionally Similar Words

Do distributionally similar words have also similar concreteness scores?

### Study 2: Concreteness of Context Words - Type Level

What is the nature of the contexts of concrete and abstract words?

### Study 3: Concreteness of Context Words - Token Level

What is the nature of the contexts of concrete and abstract words when considering their frequency?

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**Materials**

- 9,241 target nouns
- 9,241 context nouns (dimensions)
- Measures:
  - Co-occurrences: ENCOW14A corpus with symmetric window ±20
  - Concreteness scores: 1 - 5 (Brysbaert et al., 2014)

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Increasing concreteness of target → increasing concreteness of the nearest neighbours (NNs)

Increasing concreteness of target → increasing concreteness of their context

Concrete words → mainly concrete contexts

Abstract words → mainly abstract contexts

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**Distributionally similar words**

**Grounding Theories of Cognition**

**Concrete targets**

**Abstract words**

**Abstract words**

**Concrete targets**

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