ACTION IS THE KEY TO OBSERVE THE CONCRETE-ABSTRACT CONTINUUM

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INTRODUCTION

The concrete/abstract categorization scheme (Altarriba et al., 1999) has been part of language theory for many years and has guided numerous research programs. However, there are inherent issues with categorizing words in this manner that are addressed in current work:

1. Definition and operationalization of the categories ‘concrete’ and ‘abstract’. Using perceivability could facilitate a false dichotomy.

2. Methodology that is used to place a word into one of the categories based on rating scales that produce dichotomy.
  a. Participant effects are not usually considered.
  b. Using averages on ordinal data can produce rational numbers with several decimals that are difficult to interpret.

Median Polish Analysis accounts for participant biases. Median Polish Analysis uses medians instead of means.

METHODS

Participants: 80 undergraduate students (native English speakers)
Stimuli: Nouns and verbs selected from 4 categories (see below)
Task: Rate 68 nouns and 68 verbs according to 4 scales
Procedure:
- Participant responds to each word on a 7-point scale
- Stimuli presented in PsychoPy (Peirce, 2007)
Design: Within-subjects, 4 blocks for nouns and 4 blocks for verbs. The order of blocks was pseudo-randomized.

RESULTS for Nouns

Action scale produces continuous results. Other scales produce dichotomous or stratified results.

RESULTS for Verbs

Action scale produces continuous results. Other scales produce mixed results.

REFERENCES:


Participant Effects Evaluated by Median Polish Analysis

1. All scales show a main trend among participants.
2. Because medians are resistant to outliers, unusual/peculiar perspectives are not taken into account to calculate word effects.

Words evaluated by averages

Because the mean does not have resistance to outliers, it is affected by every single data point. That makes rational numbers that are difficult to interpret on ordinal data.

Conclusions

1. Categorizing words based on an action scale reveals the continuous nature of word meaning for nouns and verbs.
2. Concreteness and imageability scales strongly dichotomized the nouns, but identified different degrees of concreteness for verbs.
3. Median Polish Analysis accounted for both median value of a word and participant effect.