Ambiguous Words

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Abstract

We found some ambiugous words.

Two or three sentences explaining what the **main result** reveals in direct comparison to what was thought to be the case previously, or how the main result adds to previous knowledge.

One or two sentences to put the results into a more **general context**.

Two or three sentences to provide a **broader perspective**, readily comprehensible to a scientist in any discipline.

Keywords: ambiguity

Word count: X

Ambiguous Words

Introduction

We wanted to identify ambiguous words.

Study 1: Pilot

Methods

Participants. Workers on Amazon's Mchanical Turk (MTurk) were invted to participate in an eligibility screener worth $0.20 with the option to earn a bonus of $2.05 if they met the requirements and completed the entire study. See **Supplementary Information** for specific MTurk batch settings. The Workers clicked a hyperlink that directed them to the study. The screener task included demographic questions and one block of word ratings that included 5 instances of the word "negative" and 5 instances of the word "positive" (see Procedure below for full details). Workers were invited to complete the entire study if they indicated that they were over 18 years old, had English as their native language, had no history of psychological or neurological disorder, and correctly rated the words "positive" and "negative" as positive or negative with at least 80% accuracy. Of the 145 Workers who completed the screener, 119 met the eligibility requirements, and 103 (54.37% female, 45.63% male) chose to complete the entire study. The final sample was 3.88% Asian, 5.83% Black, 85.44% White, with a mean(sd) age of 37.16(10.60).

Material.

Stimuli.

We compiled an initial set of 59 words with two distinct definitions, one clearly positive definition and one clearly negative definition. We then identified other ambiguously-rated words, as well as clearly positve and clearly negative words, based on valence ratings from Warriner, Kuperman, and Brysbaert (2013). To ensure that all words shared similar lexical characteristics, we eliminated any words from Warriner et al. (2013) whose lexical

characteristics did not fall within the minimum and maximum values of the 59 original words' lexical characteristics. The following were generated by the Enlgish Lexicon Project (Balota et al., 2007) online word query and used for the min-max cutoffs: length, the frequency of a word as reported by the Hyperspace Analogue to Language (HAL) study (Lund & Burgess, 1996), the log of HAL frequency, number of phonemes, number of syllables, number of morphemes, lexical decision reaction time and accuracy, and naming reaction time and accuracy.

Software.

All tasks were created and presented using Gorilla Experiment Builder (Anwyl-Irvine, Massonnié, Flitton, Kirkham, & Evershed, 2019). The study was only accessible to participants using a computer (not a phone or tablet) within the United States.

Procedure.

Screener task.

Word rating rask.

Data analysis.

Results

Subjective ratings.

Reaction times.

Study 2: Comparison of words with valence bias and IPANAT

Methods

Participants.

Material.

Stimuli.

Valence Bias with Words.

Valence Bias with Faces.

Valence Bias with IAPS.

IPANAT.

Software.

Procedure.

Valence Bias Tasks.

IPANAT.

Data analysis.

Valence Bias Tasks.

IPANAT.

Results

Subjective ratings.

Valence Bias with Words.

Valence Bias with Faces.

Valence Bias with IAPS.

IPANAT.

Reaction times.

Valence Bias with Words.

Valence Bias with Faces.

Valence Bias with IAPS.

IPANAT.

Relationships between the measures.

Discussion

We did this study.

References

Anwyl-Irvine, A. L., Massonnié, J., Flitton, A., Kirkham, N., & Evershed, J. K. (2019). Gorilla in our midst: An online behavioral experiment builder. *Behav Res*. https://doi.org/10.3758/s13428-019-01237-x

Balota, D. A., Yap, M. J., Hutchison, K. A., Cortese, M. J., Kessler, B., Loftis, B., ... Treiman, R. (2007). The English Lexicon Project. *Behavior Research Methods*, *39*(3), 445–459. https://doi.org/10.3758/BF03193014

Lund, K., & Burgess, C. (1996). Producing high-dimensional semantic spaces from lexical co-occurrence. *Behavior Research Methods, Instruments, & Computers*, *28*(2), 203–208. https://doi.org/10.3758/BF03204766

Warriner, A. B., Kuperman, V., & Brysbaert, M. (2013). Norms of valence, arousal, and dominance for 13,915 English lemmas. *Behav Res*, *45*(4), 1191–1207. https://doi.org/10.3758/s13428-012-0314-x

Supplementary Information

MTurk Project Settings

The following are the settings used for the first batch on MTurk. This batch only contributed 6 respondents because the batch was published before the Gorilla task was fully functioning, and the batch expired before all HITs could be filled.

- Title: Screener: Rate words as positive or negative (WARNING: This HIT may contain adult content. Worker discretion is advised.)
- Description: Bonus available ($2.05) to those who meet eligibility. Complete short demographic questions. Use your keyboard to indicate if you think individual words are positive or negative.
- Keywords: survey, demographics, rating, rate, words
- Reward per response: $0.2
- Number of respondents: 9
- Time allotted per worker: 1 Hour
- Survey expires in: 7 Days
- Auto-approve and pay Workers in: 3 Days
- Require that Workers be Masters to do your tasks: Yes
- Specify any additional qualifications Workers must meet to work on your tasks:
  - Location is UNITED STATES (US)
  - HIT Approval Rate (%) for all Requesters' HITs greater than 95
  - Number of HITs Approved greater than 5000
- Project contains adult content: selected
- Task Visibility: Hidden - Only Workers that meet my Qualification requirements can see and preview my tasks

The same settings were used for the rest of the batches except that they did not require that Workers be Masters and the Number of HITs Approved was set to greater than

133 500, not 5000.