New registration

Metadata

Title

words_special_replication

Description

Replication of "What makes words special? Words as unmotivated cues" (Edmiston & Lupyan 2015)

Contributors

Remove me

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Category

Project

Affiliated institutions

No affiliated institutions

License

Subjects

Psychology Social and Behavioral Sciences

Tags

No tags

Study Information

Hypotheses

From original paper - "In Experiments 1A–1B we test the hypothesis that compared to labels, environmental sounds activate category exemplars corresponding to a likely sound source even when participants are tasked with treating environmental sounds as category-level cues."

More specifically, incongruent environmental sounds will elicit longer response times in comparison to congruent environmental sounds. Verbal labels will elicit the shortest response time.

Design Plan

Study type

Experiment - A researcher randomly assigns treatments to study subjects, this includes field or lab experiments. This is also known as an intervention experiment and includes randomized controlled trials.

Blinding

No blinding is involved in this study.

Is there any additional blinding in this study?

No response

Study design

"On each trial participants heard a cue and saw a picture. We instructed participants to decide as quickly and accurately as possible if the picture they saw came from the same basic-level category as the word or sound they heard Participants were tested in individual rooms sitting approximately 2400 from a monitor such that images subtended 10 10°. Trials began with a 250 ms. fixation cross followed immediately by the auditory cue, delivered via headphones. The target image appeared centrally 1 s after the off- set of the auditory cue and remained visible until a response was made. Each participant completed 6 practice and 384 test trials. If the picture matched the auditory cue (50% of trials) participants were instructed to respond 'Yes' on a gaming controller (e.g., or "phone" followed by a picture of any phone). Otherwise, they were to press 'No' (e.g., or "phone" followed by a dog). All factors (cue type, congruence) var- ied randomly within subjects. Auditory feedback (buzz or bleep) was given after each trial."
We aim to follow the original procedure of Experiment 1A as precisely as possible. However, instead of running the trials in-person, the experiment will be conducted online using jsPsych. For this reason, the task will be slightly different such that participants will respond to trials using keyboard keys instead of a gaming controller. We will also encourage participants to wear headphones and be in a quiet area for the auditory cues during the experiment.

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Randomization

Conditions (label, congruent sound, incongruent sound) are randomized equally within each trial. Auditory and visual stimuli are presented randomly for each trial.

Sampling Plan

Existing Data

Registration prior to creation of data

Explanation of existing data

NA

Data collection procedures

Participants are recruited via Prolific (https://www.prolific.com/). Inclusion criteria is that participants must speak English and be adults 18 years or older. Participants will receive payment for their participation.

No files selected

Sample size

Our intended sample size is 108 participants. This is 2.5 times the original sample size because it was difficult to derive a traditional power analysis from the original study which used LMER as the main statistical test.

Sample size rationale

See Sample Size above

Stopping rule

We will stop when we get 108 responses.

Variables

Manipulated variables

We are replicating Experiment 1A of this study. The manipulated variables the images and auditory cues that are presented. For auditory cues participants are presented with either a verbal label (Male or Female voice), a congruent sound (a small dog barking associated with small dog image), or an incongruent sound (a small dog barking with an image of a large dog).

No files selected

Measured variables

We will measure reaction time in milliseconds for all trials for all 'yes' trials in which the auditory cue matched the image. For example a dog barking sound (small or big), or the word "dog" with an image of a dog (small or big) .

No files selected

Indices

NA

No files selected

Analysis Plan

Statistical models

We plan to run a linear mixed regression model on responses times as was performed in the original study as well as a chi-squared test to assess significance.

No files selected

Transformations

NA

Inference criteria

We will report p-values and 95% confidence intervals on response times for each condition.

Data exclusion

For our replication, we will also remove trials where response times are shorter than 250 ms or longer than 1500ms from the analysis, as was done in the original study.

Missing data

It will be excluded from the analysis.

Exploratory analysis

We do not plan to conduct exploratory analysis. We plan to replicate the exact protocol of the experiment.

Other

Other

Original Paper can be found here: Edmiston P, Lupyan G. What makes words special? Words as unmotivated cues. Cognition. 2015 Oct;143:93-100. doi: 10.1016/j.cognition.2015.06.008. Epub 2015 Jun 24. PMID: 26117488. https://pubmed.ncbi.nlm.nih.gov/26117488/