The full title is a sentence

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**Running title:** *This is the running title*

**Open data:** The stimuli, experimental data, and analysis code of this study are publicly available for download from <https://osf.io/abcde> under a CC BY-NC 4.0 license.

**Word count:** 1592 (including all words)

# ABSTRACT

The abstract goes here. Check the journal requirements for abstract length. Typically, the shorter the better. So even if the maximum word limit for abstracts is 250 words, an abstract of 200 words is just fine. Avoid paragraphs within an abstract: the entire story should ideally be one consistent whole. Do not start the abstract immediately with the experiment design (I’ve seen abstract that start with “We investigated...”). Instead, describe the theoretical important of the study, like: “Humans are capable of ABC. However, whether they can also do XYZ remains unclear. This is important if we are to understand human speech perception. Therefore, we tested...”. Also check with the journal whether they require additional sections after the abstract, such as a Significance Statement or Highlights.

*Keywords*: speech perception; prosody; gesture; intelligibility; audiovisual integration.

# INTRODUCTION

This is the first paragraph of the Introduction. It has two sentences and ends with a Zotero citation (Bosker & Peeters, 2021).

This is the second paragraph of the Introduction.

# EXPERIMENT 1

Experiment 1 targeted a particular effect of interest. Experiment 1 was modelled after some previous paper, attempting to replicate the effect in a new participant sample.

## **Method**

### *Participants*

# participants were recruited from the # participant pool. # participants (# females, # males; mean age = #, range = #-#) were assigned to the # Group and the other # to the # Group (# females, # males; mean age = #, range = #-#). Participants in all experiments reported in this study gave informed consent as approved by the Ethics Committee of the Social Sciences department of Radboud University (project code: #).

### *Materials and design*

This section describes how the stimuli were recorded and manipulated. Example stimuli are graphically presented in a figure, leaving a white line between this sentence and the figure (see **Figure 1**).

 

**Figure 1. Example stimuli from Experiment 1.** Captions have a title in bold, followed by further details. Figure captions go below the figure. The longer the caption, the better. Ideally, readers should be able to understand the study design and outcomes by scanning the figures and captions alone. Also make sure to explain all details seen in the figure, such as color coding, line types, etc.

This sentence continues after the figure, leaving a white line between the caption and this text. There is also data presented in a table (see **Table 1**).

**Table 1. Examples of target words, response, and TSR scores.** Table captions also have a title in bold followed by more details. Table captions go above the table itself. Tables themselves are center-aligned following APA guidelines. There are no visible boundaries, except for a horizontal line between header and first row, and below the last row. Number the rows if you need to refer to individual rows in the text. Write out abbreviations in full. TSR = Token Sort Ratio.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Target word** | **Response** | **TSR** |
| 1. | test | test | 100 |
| 2. | test | word | 0 |
| 3. | test | 42 | 0 |

***Procedure***

This section describes the experimental procedure. And it also has a table (see **Table 2**).

**Table 2. The same data as in the previous table.** Table captions also have a title in bold followed by more details. Table captions go above the table itself. Tables themselves are center-aligned following APA guidelines. There are no visible boundaries, except for a horizontal line between header and first row, and below the last row. Number the rows if you need to refer to individual rows in the text. Write out abbreviations in full. TSR = Token Sort Ratio.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Target word** | **Response** | **TSR** |
| 1. | test | test | 100 |
| 2. | test | word | 0 |
| 3. | test | 42 | 0 |

## **Results**

Missing responses due to time-out were excluded from analysis (*n =* 10; <1%). Participants’ responses were visualized by calculating proportions of /s/ responses (see **Figure 2**).



**Figure 2. My factor of interest, manipulated in Experiment 1, influences speech perception.** Use a caption title that forms a full sentence with a verb, describing the main outcome. Also include which experiment this figure belongs to, for readers who lost track of which figure went with which experiment. Ideally, readers should be able to understand the study design and outcomes by scanning the figures and captions alone. Include descriptive statements to take readers by the hand, such as “Condition 1 (blue) showed a higher proportion of /s/ responses (red) compared to Condition 2, suggesting that my factor of interest biased perception towards /s/”. Make sure to explain all details seen in the figure, such as color coding, line types, etc. Make sure your color coding is still visible when printed in black and white and that it is legible for color-blind readers. Also use large font sizes. Next to the png or jpg images in the manuscript itself, make sure to submit vector-based image formats when submitting the paper such as pdf or eps to avoid pixelated images. Error bars enclose 1.96 x SE on either side; that is, the 95% confidence intervals over the entire dataset.

Data were statistically analyzed using a Generalized Linear Mixed Model (GLMM; Quené & Van den Bergh, 2008) with a logistic linking function as implemented in the lme4 library (version 1.1-30; Bates et al., 2015) in R (version 4.2.1; R Core Team, 2022). The binomial dependent variable was participants’ categorization of the test stimulus as either /s/ (coded as 1) or /f/ (coded as 0). Fixed effects were Continuum Step (continuous predictor; *z*-scored using the function scale() in R to improve model fitting), Condition (categorical predictor using deviance coding; my first condition coded as -0.5 and my second condition coded as +0.5), Group (categorical predictor using deviance coding; Group 1 coded as -0.5 and Group 2 coded as +0.5), and all interactions. The model also included Participant as a random factor, with by-participant random slopes for Continuum Step and Condition.

The model showed a significant effect of Continuum Step (*β* = -1.123, *SE* = 0.123, *z =* -9.123, *p <* 0.001), indicating that higher continuum steps led to lower proportions of /s/ responses. And then describe the other outcomes of the model.

## **Interim summary**

It can be helpful to have interim summaries after every individual experiment. This allows you to summarize Experiment 1, but also to introduce Experiment 2.

# EXPERIMENT 2

Experiment 2 was identical to Experiment 1, except that something was changed. If this change influences participants’ behavior, this would have an important theoretical implication.

## **Method**

### *Participants*

# participants were recruited from the # participant pool. # participants (# females, # males; mean age = #, range = #-#) were assigned to the # Group and the other # to the # Group (# females, # males; mean age = #, range = #-#).

### *Materials and design*

Describe the stimuli for Experiment 2 here.

***Procedure***

And its procedure here.

## **Results**

Missing responses due to time-out were excluded from analysis (*n =* 5; <1%). Categorization data from the test stimuli were visualized like this (see **Figure 3**).



**Figure 3. Another factor of interest, manipulated in Experiment 2, influences speech perception.** Include all details about the figure and its implications in a long caption.

Data were statistically analyzed by another GLMM with a logistic linking function. The binomial dependent variable was something.

We observed a significant effect of My Factor (*β* = -1.296, *SE* = 0.165, *z =* -7.840, *p <* 0.001), indicating that my factor influenced speech perception. Extending this model with the predictor Meaningless Data did not improve model fit (χ2(1) = 0.41, *p* = 0.52), as tested with log-likelihood model comparison using the anova() function in R.

## **Interim summary**

The results from Experiment 2 demonstrated another critical fact about life, the universe, and everything.

# GENERAL DISCUSSION

This study demonstrated that speech perception is a fascinating aspect of human behavior. And here is another sentence.

Use the last paragraph of the General Discussion to summarize the take-away messages from the paper. The final sentence is often the hardest as ideally the paper should end with a ‘bang’. Last words that involve something like ‘Future research will...’ I find really cheesy.

# DATA AVAILABILITY STATEMENT

The stimuli, experimental data, and analysis code of this study are publicly available for download from <https://osf.io/abcde> under a CC BY-NC 4.0 license.

# ACKNOWLEDGEMENTS

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# REFERENCES

Bates, D., Maechler, M., Bolker, B., & Walker, S. (2015). Fitting linear mixed-effects models using lme4. *Journal of Statistical Software*, *67*, 1–48. https://doi.org/doi:10.18637/jss.v067.i01

Bosker, H. R., & Peeters, D. (2021). Beat gestures influence which speech sounds you hear. *Proceedings of the Royal Society B*, *288*(1943), 1–9. https://doi.org/10.1098/rspb.2020.2419

Quené, H., & Van den Bergh, H. (2008). Examples of mixed-effects modeling with crossed random effects and with binomial data. *Journal of Memory and Language*, *59*, 413–425.

R Core Team. (2022). R: A Language and Environment for Statistical Computing [computer program]. *R Foundation for Statistical Computing, Vienna, Austria*. https://www.R-project.org/

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