

## The results/statistics section

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## Set-up

- Some studies require that you convince different groups of different things, or that you had groups complete different tasks.... If there is any pre-requisite, you first want to show that this happened
  - Example: if you want to see whether practice/improvement on one skill generalizes to another domain, you first need to show that the practice helped in the original area
- This information comes before the main results.

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## Example

- “Prior to the analysis, response norms were generated for all 144 pictures, indicating how many subjects gave each possible name...”
  - (for a study looking at variability in naming, or how many people gave the dominant label to a picture (this was a pre-test to ascertain what was the typical answer... e.g., do most people call this a bicycle or a bike...)

Brown, AS & Mitchell, DB (1991). *Journal of Gerontology: Psychological Sciences*, 45(6), P332-339.

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## Repeat from methods

- Some readers skip the methods.
- So you need to remind the reader in a sentence or two of what you actually did (what you measured/analyzed)

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## Example

- “For each participant and block (i.e., orientation x distance combination), we computed the mean estimate across the three repetitions of each angle. This was done separately for the two tasks.
- “The data were analyzed using a four-way analysis of variance (ANOVA) with repeated measures. The dependent variable was the estimated angle and the independent variables were the task, the viewing distance, the viewing orientation, and the presented angles. Full compensation for distance or orientation should express itself in nonsignificant main effects and interactions of the variables.”

Bereby-Meyer, Y., Liessner, D., & Meyer, J. (1999). *Perception & Psychophysics*, 61(8), 1555-1563.

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## Example 2

- “Mean listening times to the four different passages were calculated for each infant across the four blocks of trials. These data were submitted to a repeated measures analysis of variance (ANOVA) of a 2 (experience: familiar vs. unfamiliar) by 2 (word type: allophonic vs. other) design.”

Jusczyk, P.W., Holme, EA & Bauman, A. (1999). *Perception & Psychophysics*, 61(8), 1465-1476.

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### The basic data

- Either summary data (measures of central tendency and variability) for each group/condition, or individual subject data
- Data can be given in text, or in the form of tables/graphs.

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### Statistics

- Reminder of what type of design/statistics were used (if not already stated in results section)
- Listing of all effects
  - Include both significant and nonsignificant results
  - Give statistics, alpha level, means/directions
  - Also give interpretation!
- If correlation, include plot

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### ANOVAs

- Typical format is to report all main effects first, and then interactions in order (2-way, then 3-way, etc.)
- In some cases it may make more sense to talk about 1 main effect and all of its interactions together.
- Either approach is fine, as long as the presentation is complete and orderly

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## Example

- “A two-way ANOVA with the main between-subjects factor of group (familiarized with British English vs. Japanese) and the main within-subjects factor of status (new vs familiarized language during test) revealed a significant main effect of status,  $F(1,18)=5.06$ ,  $p=.037$ . Infants had significantly longer orientation times to the new language than to the familiarized one. There was no effect of group,  $F(1,18)<1$ , and no interaction between the two factors,  $F(1,18)=1.30$ ,  $p=.27$ . Thus, regardless of whether the infants were familiarized with British English or Japanese utterances, they listened significantly longer to the samples in the other language during the test phase.”

Nazzi, T., Iusczyk, P.W., & Johnson, E.K. (2000). *Journal of Memory & Language*, 43, 1-19.

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## Important point

- Even though the main results are numerical, your results section should not be - it should be in prose, complete with interpretation and explanation.

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