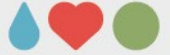# Using APA style for scientific communication
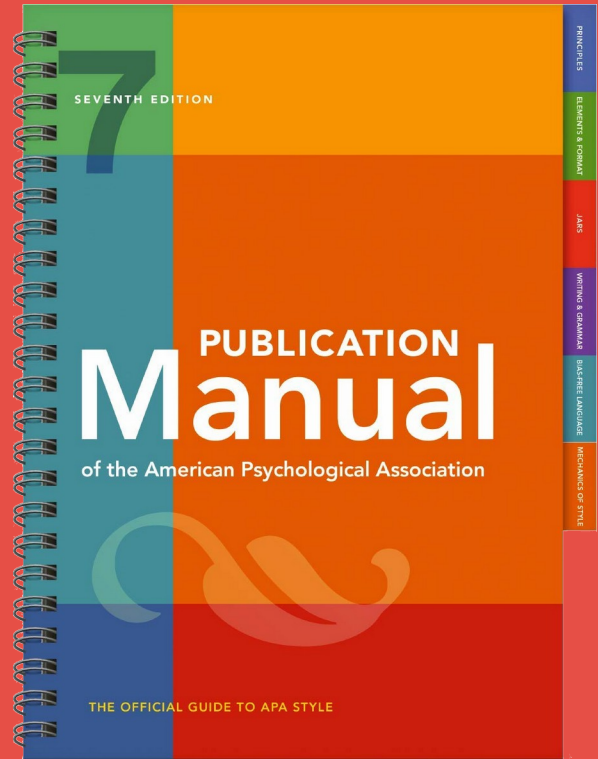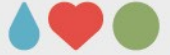## (Session 2)

Sebastian Jentschke

Overview

- Why publishing? Why a rule system?

- Structure

- Language use

- Mechanics of style: punctuation, abbreviations, parentheses, etc.

- Figures and tables – some practical hints

- Referencing

- Publication process

- Ethical issues (authorship, consent, plagiarism)

Displaying results
Chapter 7

SEVENTH EDITION

PUBLICATION

Manual

of the American Psychological Association

PRINCIPLES

ELEMENTS & FORMAT

JARS

WRITING & GRAMMAR

BIAS-FREE LANGUAGE

MECHANICS OF STYLE

THE OFFICIAL GUIDE TO APA STYLE

Displaying results: Purpose

- exploration: find out what your data mean
- communication: tell others what your data mean (main purpose in publications)
- calculation: displays that allow estimations / statistics
- decoration: attract attention of your readers
- compression: summarize several results
- storage: documentation for later use
- meta-analysis: study details → tables

Displaying results: General rules

- **"Design data displays with your reader in mind" and assume you are the reader**
- rule of thumb: present up to three numbers in a sentence, four to 20 numbers in a table, and more than 20 numbers as graph
- present items to be compared next to each other (and same scale)
- keep free of irrelevant material and consistent with text
- include all necessary information: notes, labels
- labels: clear which element they refer to
- avoid novel abbreviations + explain all abbreviations
- number consecutively (Table 1, 2, …; Figure 1, 2, …)
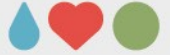
Displaying results: General rules

Table/Figure 1

Table/Figure Title

here comes the
actual table / figure

Note. General note for the Table/Figure

ᵃ Specific note (applies to specific conditions)

* Significance note (only if required)

Table/Figure Number – bold
(**T**able/**F**igure start with capital)

Table/Figure Title – italic,
using Title Case Heading

Table/Figure Notes – regular

Displaying results: General rules

Displaying results: Tables

| Number | → | **Table 1** |

| Title | → | *Error Rates of Older and Younger Groups* |

Headings	→	Younger / Older
Column spanner	→
Table spanner	→

Table 1

Error Rates of Older and Younger Groups

Difficulty	Younger			Older		
	M	*SD*	*n*	*M*	*SD*	*n*
Low[a]	.05	.08	12	.14	.15	18
Moderate[b]	.05	.07	15	.17	.15	12
High	.11*	.10	16	.26	.21	14

Note. This table has notes, the first of which is a general note.

[a]Specific note about "Low," which follows a general note. [b]Notes can continue in same block of text, and flow Left-Right and Top-Bottom.

p < .05. [probability notes come last]

Headings → Younger ... Older
Column spanner →
Table spanner →
Body →
Cell → .11*
Notes →
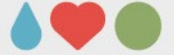
Displaying results: Titles

- Too general: Relation between College Majors and Performance

- Too detailed: Mean Performance Scores on Test A, Test, B, and Test C of Students With Psychology, Physics, English, and Engineering Majors
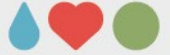
- Good: Mean IQ Scores of Students With Different College Majors

Displaying results: Notes

- **general note**: information related to the whole table; copyright notice (if req.); ends with explanations of abbreviations / symbols
- **specific note**: refers to a particular column, row, or cell. Indicated by superscript letter (e.g., a, b, c).
- **probability note**: indicates how asterisks and other symbols are used in the table to indicate p values.

- Note. Factor loadings greater than .45 are shown in boldface. From [or Adapted from ...] "Title of Article," by A. N. Author and C. O. Author, year, Title of Journal, Volume, p. xx. Copyright [year] by Name of Copyright Holder. Reprinted [or Adapted] with permission. M = match process; N = non-match process.

  [a] N = 25. [b] One participant did not complete the trials.

  * p < .05. ** p < .01. *** p < .001.

Displaying results: Tables

Should...

- be concise and only include essential content

- be logically ordered and easy to grasp

- be designed to show a specific "meaning" → cols. of factor steps of interest next to each other

- have a brief but clear and explanatory title

- be designed in a familiar way ("standardization")

- be integral to the text, but interpretable in isolation

- be consistent with other tables (design, labelling)

Displaying results: Table checklist

- is it really necessary?
- right number of values (up to three → text, more than 20 → graph)
- does every column / row have a head (name / description)?
- is the title brief and explanatory?
- are all abbreviations explained?
- are notes in the correct order (general – specific - probability)?
- is the table referred to in the text?
- are all comparable tables consistent?
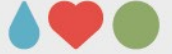- (permission from copyright holder?)
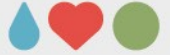
Displaying results: Figures

Types for different kind of information

- graphs: relationship between quantitative variables

- charts: process information (flow charts, path model)

- drawings: pictorial information

- photographs: direct visual representation

- maps: spatial information

Displaying results: Figures
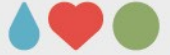
Figure 3
Scatter plots of age against MD for all tracts of interest. Linear regression lines and associated standard errors are shown for each gender. The splenium subplot uses a different y-axis to the others due to its much greater variability across individuals.

Individual data point

Regression line

Legend

Caption
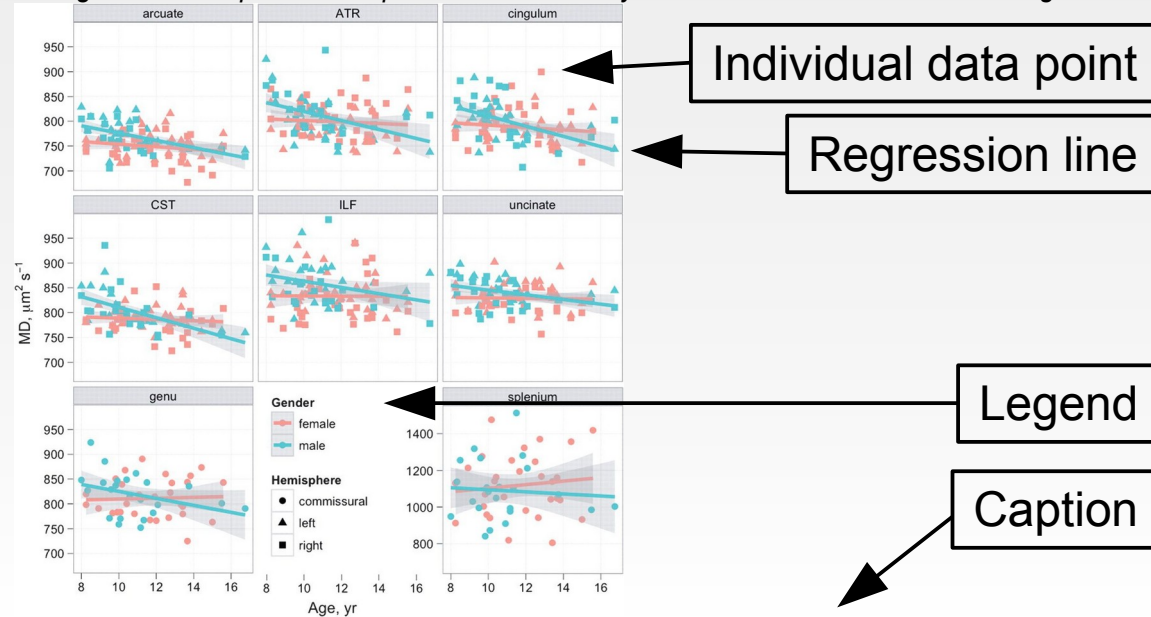
Example figure, showing **graphs**

Clayden, J. D., Jentschke, S., Muñoz, M., Cooper, J. M., Chadwick, M. J., Banks, T., Clark, C. A., & Vargha-Khadem, F. (2012). Normative development of white matter tracts: Similarities and differences in relation to age, gender, and intelligence. *Cerebral Cortex, 22*(8), 1738–1747. https://doi.org/10.1093/cercor/bhr243

Displaying results: Figures

Figure 3
The Mafa flutes consist of two functional components, a resonance body made out of forged iron and a mouthpiece crafted from a mixtu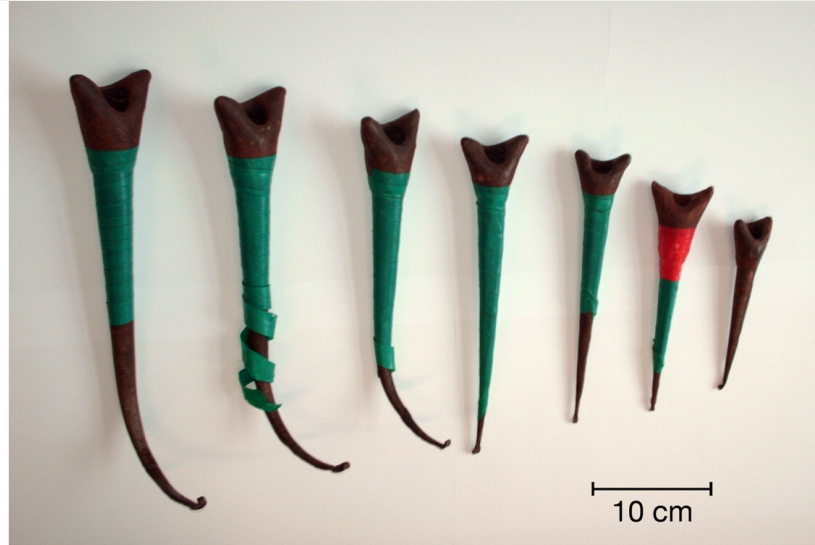re of clay and wax. The flute is an open tube which is blown like a bottle, and has a small hole at its bottom end with which the degree to which the tube is opened or closed can be controlled. The depicted set of Mafa flutes is "refined" with a rubber band.
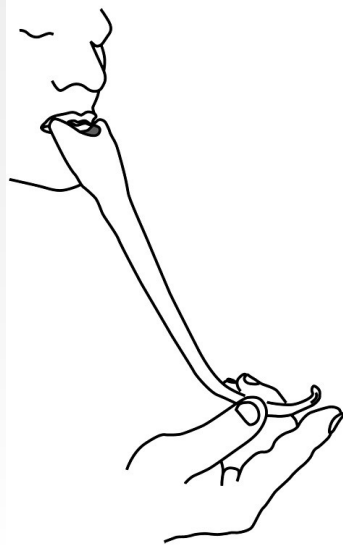
Example figure, combining a **drawing** (left) and a **photo-graph** (right)

10 cm

Fritz, T. H., Jentschke, S., Gosselin, N., Sammler, D., Peretz, I., Turner, R., Friederici, A. D., & Koelsch, S. (2009). Universal recognition of three basic emotions in music. *Current Biology, 19*(7), 573–576. https://doi.org/10.1016/j.cub.2009.02.058
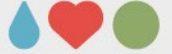
Displaying results: Figures

Figure 2
Baseline hypothetical structural equation model for the perception of safety (latent variables with their indicators).
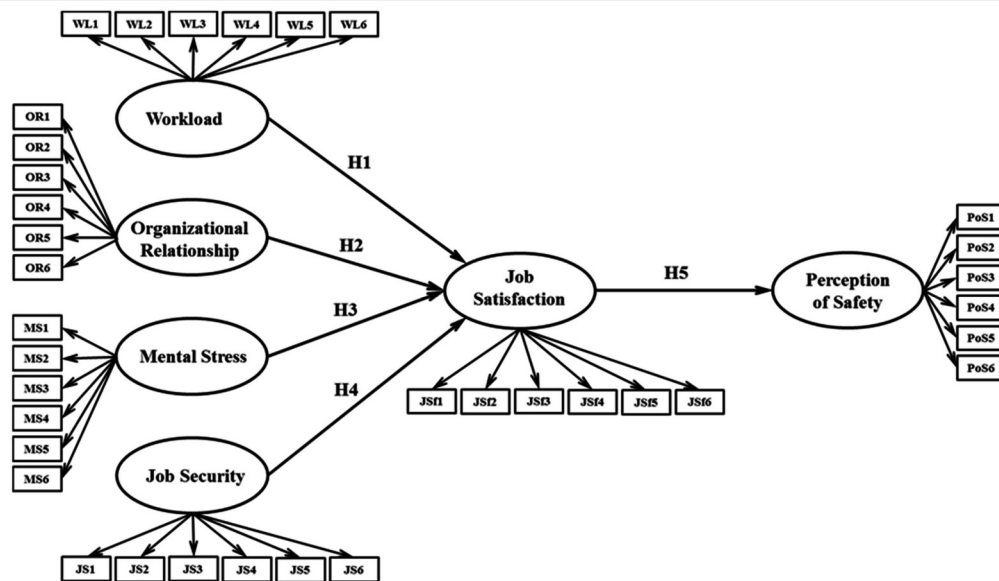
Example figure, showing a **chart**

Necessary?
Yes: it gives a sense of the structure that is more difficult to convey by text.

Idrees, M. D., Hafeez, M., & Kim, J.-Y. (2017). Workers' Age and the Impact of Psychological Factors on the Perception of Safety at Construction Sites. *Sustainability, 9*(5), 745. https://doi.org/10.3390/su9050745

Results: Figure checklist

- is the figure required and is it free of unnecessary material?

- is it simple and clear?
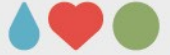
- is the caption descriptive of the content?

- are all elements clearly labeled (legend)?

- is the figure mentioned / related to in the text?

- are all comparable figures consistent?

- is the resolution sufficient for reproduction?

- is it in an acceptable file format (journal/publisher)?

- (permission from copyright holder?)

Some practical hints

in the APA manual:

- ***checklists to ensure completeness (Chapter 3)***
  https://apastyle.apa.org/jars/

- ***example tables and figures (Ch. 7)***
  https://apastyle.apa.org/style-grammar-guidelines/tables-figures/sample-tables
  https://apastyle.apa.org/style-grammar-guidelines/tables-figures/sample-figures
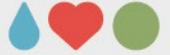
some general instructions into graphics:

Wickham, H. (2010). A layered grammar of graphics. *Journal of Computational and Graphical Statistics, 19*(1), 3–28. https://doi.org/10.1198/jcgs.2009.07098

https://r4ds.had.co.nz/ (chapter 3 and 28)

https://www.r-graph-gallery.com/

Some practical hints

- consider colour / BW graphics (some journals, esp. those in print, charge for color figures); use BW if there is no advantage of color

- think about how to distinguish your groups / conditions (i.e., always use the same / similar colours / pattern for your experimental groups or conditions)

- are there «natural» colours for groups / conditions (i.e. colours that are typically associated with the group)?

- be consistent with your colour scheme / use of pattern

Some practical hints for using software to help when preparing manuscripts

Software you currently use

Word processor:

Microsoft Office (offline)	29 respondenter	62 %	
Microsoft Office365 (online)	17 respondenter	36 %	
Google Docs		0 %	
LibreOffice	1 respondenter	2 %	
LaTeX		0 %	

Software you currently use

Reference management:

None	36 respondenter	**77 %**	
EndNote X9	7 respondenter	15 %	
EndNote Online	1 respondenter	2 %	
Mendeley		0 %	
Zotero	1 respondenter	2 %	
Intet svar	2 respondenter	4 %	
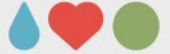
Software that may be helpful

Open-source software: has a license that grants users the rights to use, study, change, and distribute the software and its source code to anyone and for any purpose → free of charge

- sustainability: try to use (and invest in learning about software) that you can continue to use without paying

- large companies might change their business model at short notice (e.g., Office [pay once] → Office365 [pay every month])

- closed source: black box (no idea what goes on inside)

- keep control of your data: often you "pay" with data
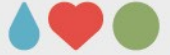
- vendor lock-in

Software that may be helpful

Software for statistics and working with graphics:

- SPSS vs. jamovi (*jamovi.org*) or JASP (*jasp-stats.org*)

- creating graphics in Google Sheets

- Inkscape (*inkscape.org*) and vector-based graphics
  (.svg, .eps, .wmf, .pdf? – *! Office doesn't import them →*
  convert to bitmap, e.g. .png)
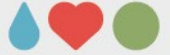 GIMP (*gimp.org*) and bitmap-based graphics

Software that may be helpful

Software for reference management, literature databases:

- EndNote vs. Zotero (*www.zotero.org*) or
  Mendeley (*www.mendeley.com*)
  zoteroBib (*zbib.org*) for quick-and-dirty

- quality of meta-data: Oria or Google Scholar vs. PubMed or PsychInfo

- inserting references in Google Docs

Summary

- why scientific findings should be published and why there are standards for scientific presentation
- how a scientific report in psychology should look like
- how to write in a scientific style
- how to present your results – some practical hints
- how to refer appropriately to the work of others
- how to write your own papers and theses
- how the publication process works and how to deal with ethical issues (authorship, plagiarism, etc.)
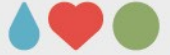
How / where can you get help?

- https://apastyle.apa.org/; https://apastyle.apa.org/jars
- https://www.unit.no/tjenester/norsk-apa-referansestil
- examples in the **APA manual**
  sample papers (pp. 50 – 67)
  https://apastyle.apa.org/style-grammar-guidelines/paper-format/sample-papers
  table checklist and examples (pp. 207; 210 – 223)
  https://apastyle.apa.org/style-grammar-guidelines/tables-figures/sample-tables
  figure checklist and examples (pp. 232; 234 – 250)
  https://apastyle.apa.org/style-grammar-guidelines/tables-figures/sample-figures
  reference overview and examples (pp. 313 – 352)
  https://apastyle.apa.org/style-grammar-guidelines/references/examples

Literature

American Psychological Association (Ed.). (2020). *Publication manual of the American Psychological Association* **(7th ed.). American Psychological Association. https://doi.org/10.1037/0000165-000**
Chapters 1 (pp. 3-26), 2 (pp. 29-67), 3 (pp. 71-108), 4 (pp. 111-127), 8 (pp. 253-278), and 9 (pp. 281-309) are mandatory. This book is a reference work and is relevant for term papers, theses, research, etc.

Sternberg, R. J. (Ed.) (2018). Guide to publishing in psychology journals (2nd ed.). Cambridge University Press. https://doi.org/10.1017/9781108304443
Many practical tips on how to write empirical papers and literature reviews.

Rosnow, R. L., & Rosnow, M. (2011). Writing papers in psychology (9th ed.). Cengage Learning.
A good book for students writing term papers in APA-style.

Bem, D. J. (1995). Writing a review article for Psychological Bulletin. *Psychological Bulletin, 118*, 172-177. https://doi.org/10.1037/0033-2909.118.2.172
Entertaining introduction to the art of article / review writing

Thank you very much for your attention!

Some comments on Microsoft

Some comments on Microsoft

Microsoft Word

This document can't be opened for editing in a browser because one or more sections are protected. To edit, download a copy of the document and use the desktop version of Microsoft Word

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Sorry, we don't support that kind of file. We can only insert .jpg, .jpeg, .png, .jfif, .gif, .bmp, .tif, and .tiff files.

Your feedback helps Microsoft improve Word.
Give feedback to Microsoft

OK

ANOVA - len

	Sum of Squares	df	Mean Square	F	p	η²
supp	205	1	205.4	15.57	< .001	0.059
dose	2426	2	1213.2	92.00	< .001	0.703
supp ✳ dose	108	2	54.2	4.11	0.022	0.031
Residuals	712	54	13.2			

ANOVA - len

	Sum of Squares	df	Mean Square	F	p	η²
Overall model	2740.10	5	548.02	41.56	< .001	
supp	205.35	1	205.35	15.57	< .001	0.06
dose	2426.43	2	1213.22	92.00	< .001	0.70
supp ✳ dose	108.32	2	54.16	4.11	0.022	0.03
Residuals	712.11	54	13.19			