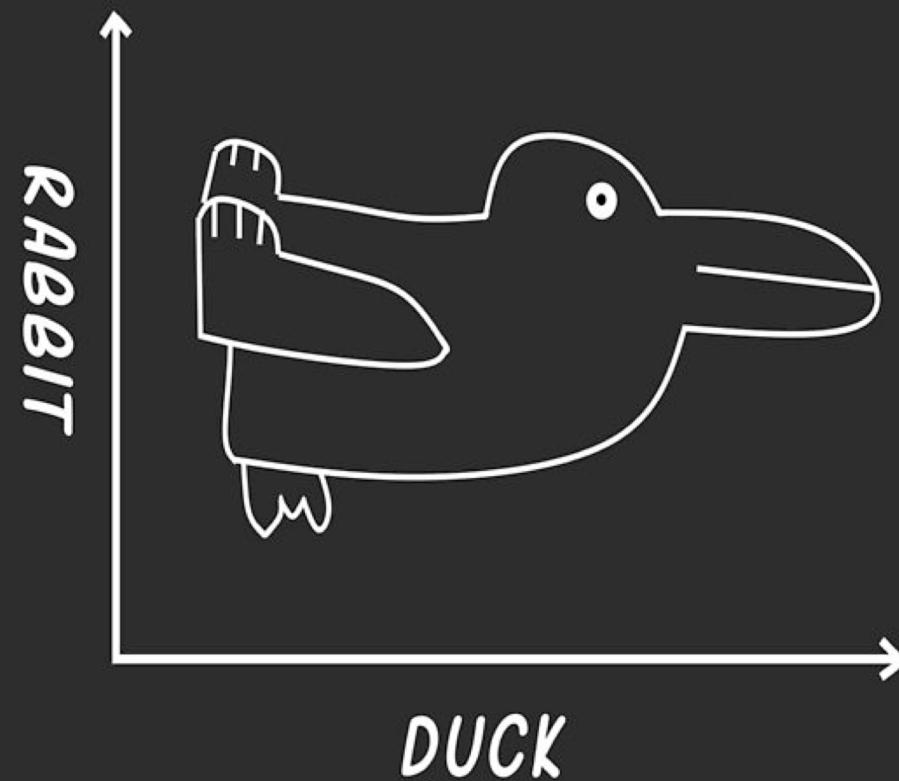




Set yourself up for (writing) success & What to do with your data?



Set yourself up for success



university of
groningen

How to become an (even) better writer?

- › Carefully read the thesis template
- › Read many academic articles!
- › Read books/blogs/websites on how to write
 - . Purdue OWL (https://owl.purdue.edu/owl/purdue_owl.html)



Thesis & Dissertation Overview

When writing a long document such as a thesis or dissertation over a sustained time period, writers may find it difficult to stay motivated and make progress. Some institutions offer "dissertation retreats" or camps for helping writers make progress. An Intensive Writing Experience (IWE) is a similar event in which a writer makes a concerted effort both to make progress on a document and to become a better writer. The writer sets aside a predetermined amount of time in order to make progress on a particular writing project, such as a dissertation. **The material here is meant to be used to conduct a Personal IWE that a writer can use when a group event such as a retreat or camp is not available.**

This section contains detailed directions for setting up a Personal IWE. We've included vidcasts and handouts useful for a potential three-day event covering a variety of writing-related topics. Writers can view the vidcasts and read through the handouts and then apply what they have learned to their own writing. We suggest starting with the handout entitled "Conducting a Personal Intensive Writing Experience (IWE)"; this will provide details for structuring time and offers a schedule for the order of topics across a multi-day event.

Purdue OWL

- [General Writing](#) ▾
- [Research and Citation](#) ▾
- [Avoiding Plagiarism](#) ▾
- [Teacher and Tutor Resources](#) ▾
- [Graduate Writing](#) ▾

[Introduction to Graduate Writing](#) ▾

[Graduate Writing Topics](#) ▾

[Graduate Writing Genres](#) ▾

[Thesis & Dissertation](#) ▾

[Thesis & Dissertation Overview](#)

[Conducting a Personal IWE](#)

[Setting Goals & Staying Motivated](#)

[Ways to Approach Revision](#)

[Genre Analysis & Reverse Outlining](#)

How to become an (even) better writer?

- › Carefully read the thesis template
- › Read many academic articles!
- › Read books/blogs/websites on how to write
 - **Purdue OWL** (https://owl.purdue.edu/owl/purdue_owl.html)
 - Guidelines for Wikipedia authors
 - Review the BSS slides and checklists
- › Try an IWE

Try an IWE (Intensive writing experience)

(see: Purdue OWL)

- › 3 days dedicated to writing
- › Helps you focus and gain momentum

1. Set a schedule that fits in your life

→ Building blocks of your schedule

- Set goals (15 minutes)
- Writing time (2 hours)
- Debriefing (15 minutes)

Example schedule

- > 9:00-9:45 am: Mini-lesson on writing
- > 9:45-10:00 am: Set goals for a two-hour writing session
- > 10:00 am-12:00 pm: Write.
- > 12:00-12:15 pm: Debrief the session—how many of your goals did you accomplish?
- > 12:15-1:15 pm: Lunch break. Get some exercise, check email, chat with family or friends.
- > 1:15-2:00 pm: Mini-lesson on writing.
- > 2:00-2:15 pm: Set goals for a two-hour writing session
- > 2:15-4:15 pm: Write.
- > 4:15-4:30 pm: Debrief the session and take a few minutes to revise tomorrow's goals.

Try an IWE (Intensive writing experience)

- › 3 days dedicated to writing
 - › Helps you focus and gain momentum
1. Set a schedule that fits in your life
 2. Choose a space to work
 3. Prepare
 - Clear your schedule & mind for these times
 - Make sure you have everything you need
 - Drinks & snacks
 - (Access to) materials
 - ...

Try an IWE (Intensive writing experience)

- > 3 days dedicated to writing
 - > Helps you focus and gain momentum
1. Set a schedule that fits in your life
 2. Choose a space to work
 3. Prepare
 4. Do it
 - . Stick to your plan for work and breaks
 - . If what you planned to write doesn't work,
write something else (or make an outline, or revise, or...)
- > *Try it with a buddy?*



How to revise your writing successfully?



How to revise your writing successfully

- › Ignore the text for at least a day, better for longer
- › Then reread (on paper? aloud?) and ask yourself:
 - Is it relevant to what I am trying to say?
 - Is it necessary?
 - Is it understandable given what I have said so far?
 - Are claims supported by references/data?
 - Does it help to convey my message to my audience?
- Do this for every section, paragraph, sentence, word, figure,...
- Important: Switch from writer-centered to reader-centered

Proofreading vs revising

- › Proofreading is more about:
 checking for language errors and flow
- › Revising is more about:
 checking and fixing the story



Your
responsibility



Your
supervisor will
help with this



Any questions about writing?



all images from www.coreyegbert.com



What to do with your data?

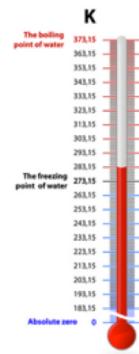
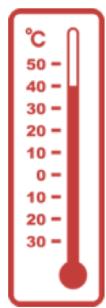
Can you answer these questions?

- › What kind of data are we talking about for your project?
- › How will you analyze it?
 - Steps
 - Type of analyses
- › How will you present it in your thesis/presentation?
→ How will your results look (ideally)?

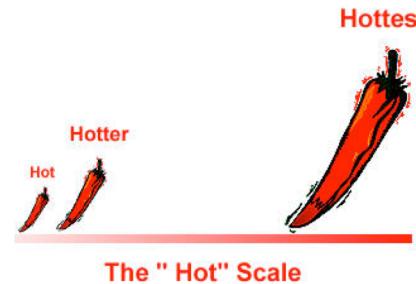
1) Raw data: What kind of data are you gathering?

- › What is the nature of the raw data?
 - Qualitative or quantitative?
 - Scale of measurement?

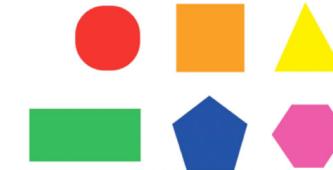
Interval or Ratio



Ordinal



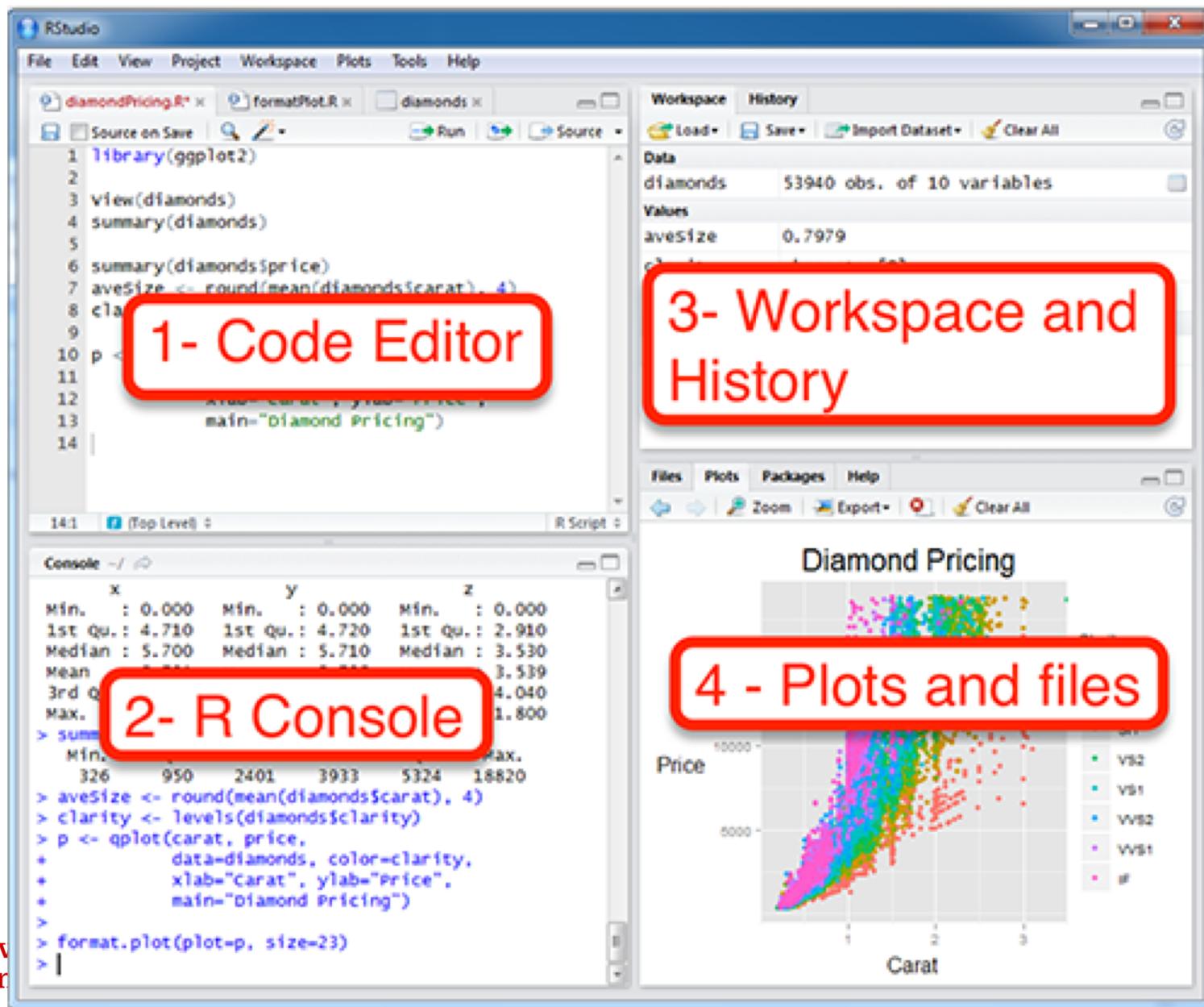
Nominal
(Categorical)



1) Raw data: What kind of data are you gathering?

- › What is the nature of the raw data?
 - Qualitative or quantitative?
 - Scale of measurement?
 - › How does the raw data look?
 - How to import the data to your analysis software?
 - What is the structure of the imported data?
 - Long vs wide vs mixed format
- what will you need for your analyses?*

R(-studio) will make your life easier



2) Preprocessing: What do you need to do with the data before you can analyze it?

- › Which variables are recorded in your raw data and which ones do you need to (re)code, calculate, etc?
- › Preprocessing
 - Restructuring: putting the data in the right format for analysis
 - re-coding (e.g. qualitative to quantitative, accuracy,...)
 - ...
- › Does your data require other (pre)processing steps?
 - artefact detection/correction
 - filtering
 - cleaning
 - normalization
 - ...

*Tip (in R):
Make separate scripts for
preprocessing and
analysis*



3) Analysis and Visualization: What is in your data?

> This consists of 2 separate parts

Exploration



The actual analysis

- > Explore and understand what is in your data
 - . Inspection
 - . Summarizing
 - Descriptive stats
- > Let's you draw conclusions about your RQ
 - . Decision rules
 - . Statistical tests
 - Inferential stats

Before you start with the actual analysis,
make sure you understand your data!



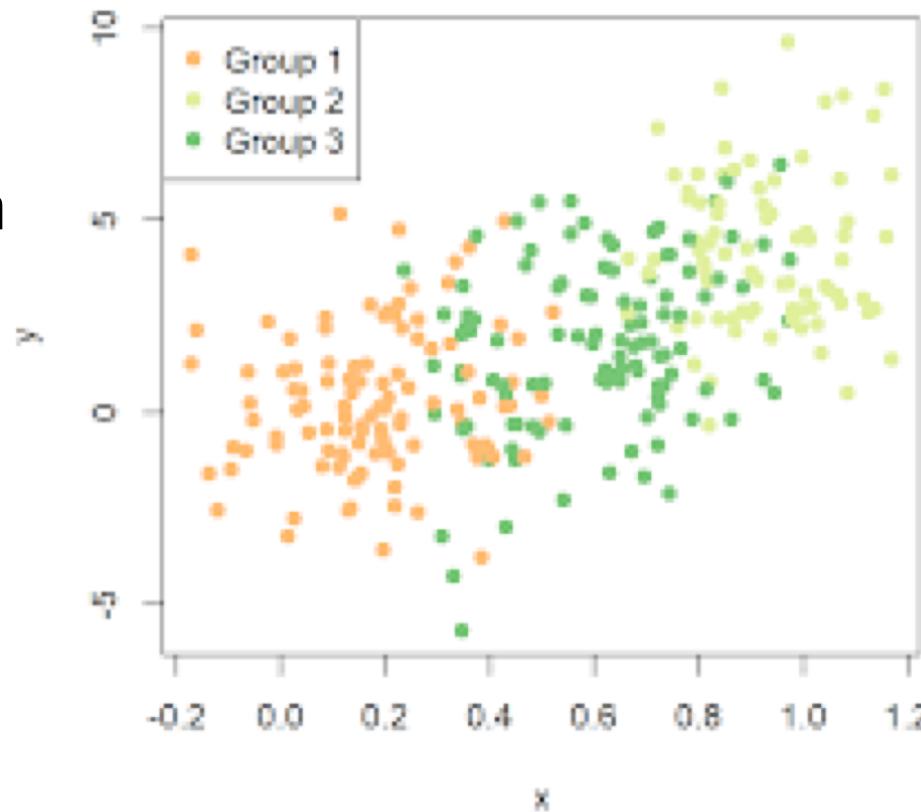
Exploration I: Inspection

- › Was the data recorded and encoded correctly?
 - › Was preprocessing successful?
 - Check counts for subjects, items, runs, ...
 - Are there (labeling) inconsistencies or errors?
 - Do the values make sense?
 - missing, unexpected, or impossible values?
 - Outliers?
- Combine this with pre-processing

Exploration II: Visualization for inspection

- › Make “quick and dirty” plots to inspect your data
 - Scatterplots (per condition)
 - Distributions (e.g. histograms, QQ plots, ...)
 - ...

Outlier detection
and removal?
-> criteria?



→ Though very important at this stage, these probably won't make it into the final thesis

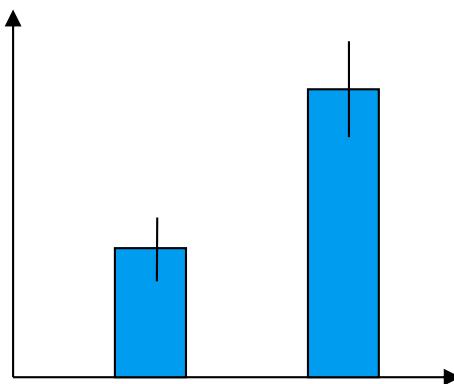


Exploration III: Summarizing your data

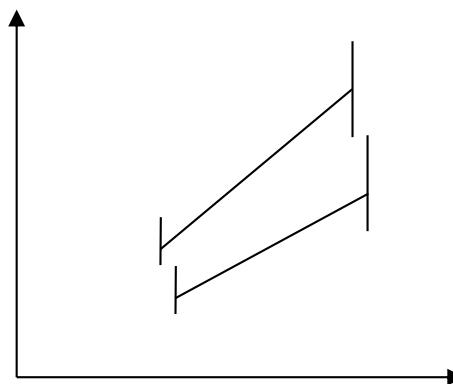
- › What is the correct way to aggregate your data?
- › Between vs within designs
 - per “test subject” and condition
- › How many times do you run your model, network, simulation?
 - What do you average across then?
- › How will you handle missing data?

The actual analysis: evaluate your results

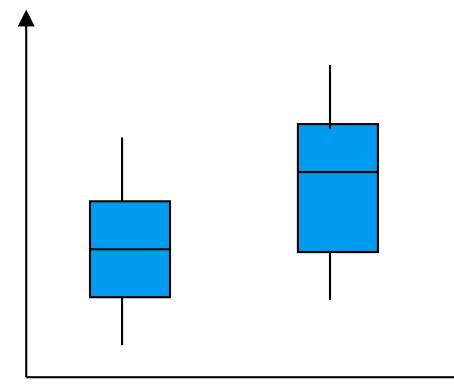
- › How do you decide the answer to your RQ, based on your data?
 - › What do you need to determine?
 - Differences, Relationships, Classification, ...
- Your ideal results graph?



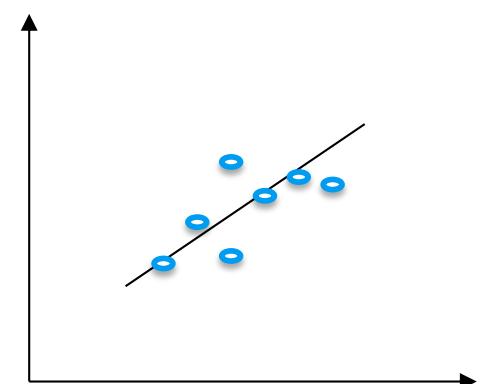
Barplot with
error bars



Lineplot with
error bars



boxplot



correlation

Example 1

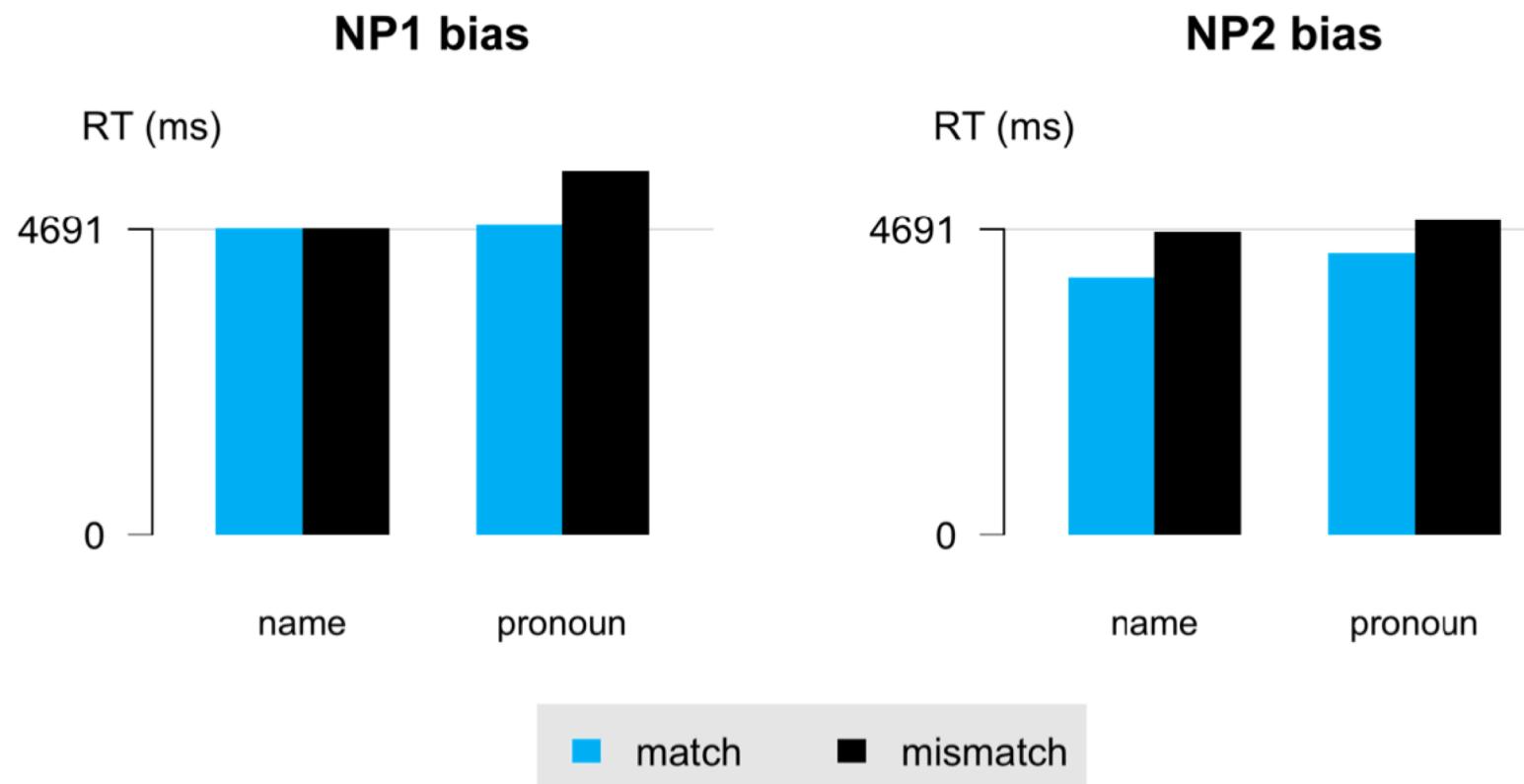
TABLE 2

Experiment 1 Reading Times in Milliseconds for Sentences and Questions (with Response Accuracy Expressed as Percentage Correct)

		Implicit Anaphor	cause	Congruency	Sentence	Question (%)
Name	NP1		Congruent	4702	1673 (98.9)	
			Incongruent	4701	1775 (93.6)	
	NP2		Congruent	3946	1677 (98.4)	
			Incongruent	4654	1732 (96.3)	
Pronoun	NP1		Congruent	4760	1902 (87.4)	
			Incongruent	5601	2317 (74.3)	
	NP2		Congruent	4327	1748 (97.4)	
			Incongruent	4837	2066 (91.1)	

From: Stewart et al (2000)

Example 1



Data from Stewart et al (2000, Table 2)

Example 2

Categorization

Time window 0–350ms

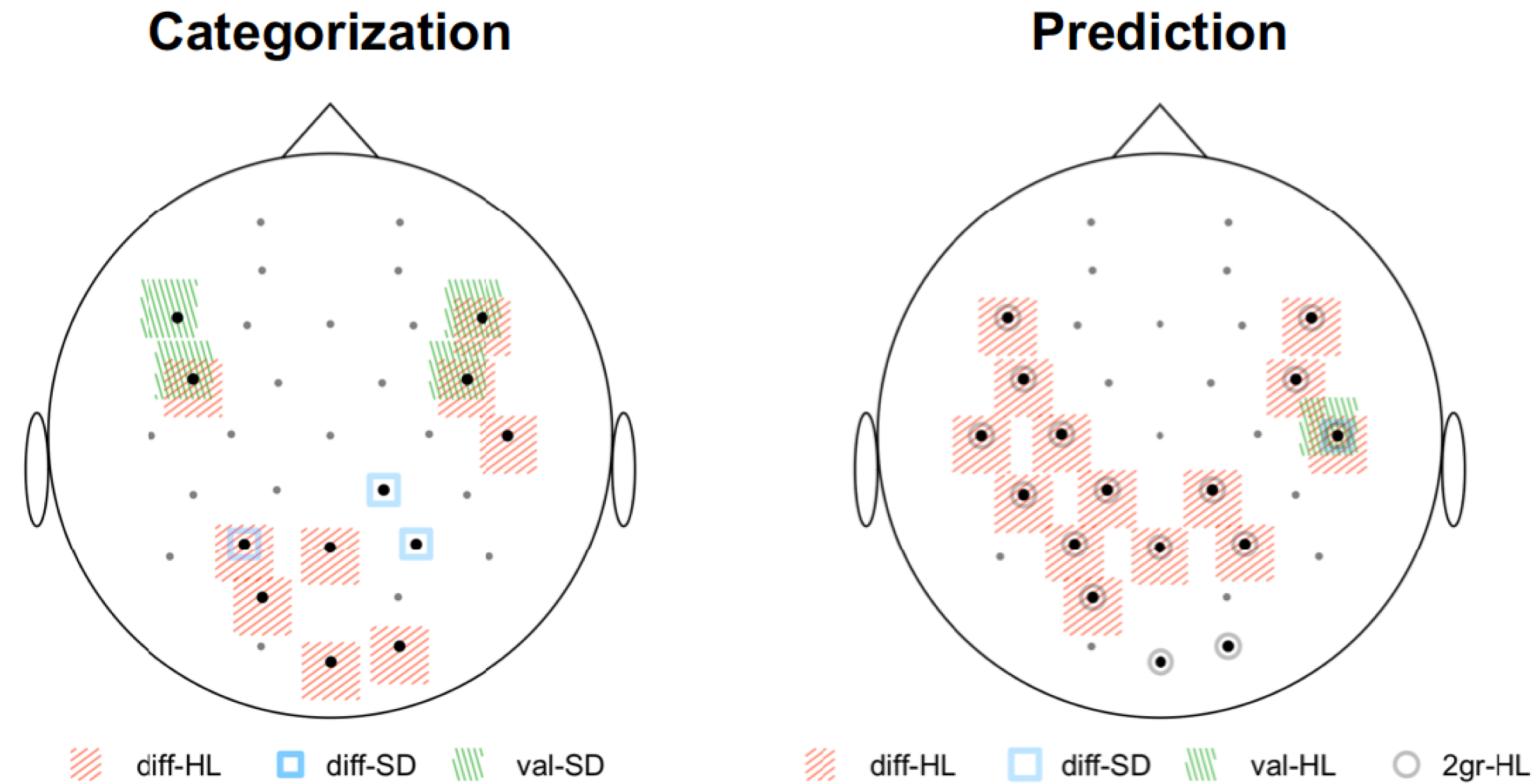
Prediction

Channel	Cat. Models			Model			
	diff-HL	diff-SD	val-SD	2gr-HL	diff-HL	diff-SD	val-HL
F7	0.55	0.67	0.88	0.88	0.79	0.56	0.78
FC5	0.61	0.62	0.89	0.87	0.78	0.61	0.83
T7	0.51	0.63	0.69	0.68	0.64	0.59	0.64
C3	0.61	0.79	0.83	0.84	0.77	0.61	0.82
CP1	0.55	0.68	0.75	0.75	0.74	0.59	0.73
CP5	0.52	0.72	0.70	0.70	0.67	0.55	0.64
P3	0.64	0.69	0.67	0.68	0.67	0.53	0.66
Pz	0.65	0.62	0.65	0.64	0.66		0.64
PO3	0.64	0.66	0.65	0.64	0.59		0.60
Oz	0.66	0.60	0.57	0.57			0.51
O2	0.65	0.62	0.63	0.60			0.55
P4	0.56	0.67	0.67	0.72	0.74	0.55	0.76
CP2	0.59	0.74	0.70	0.74	0.78	0.56	0.77
T8	0.57	0.68	0.81	0.86	0.81	0.87	0.84
FC6	0.62	0.82	0.94	0.92	0.89	0.76	0.89
F8	0.69	0.68	0.86	0.84	0.75	0.76	0.81

From: Lentz, Nixon, & van Rij (under review)



Example 2

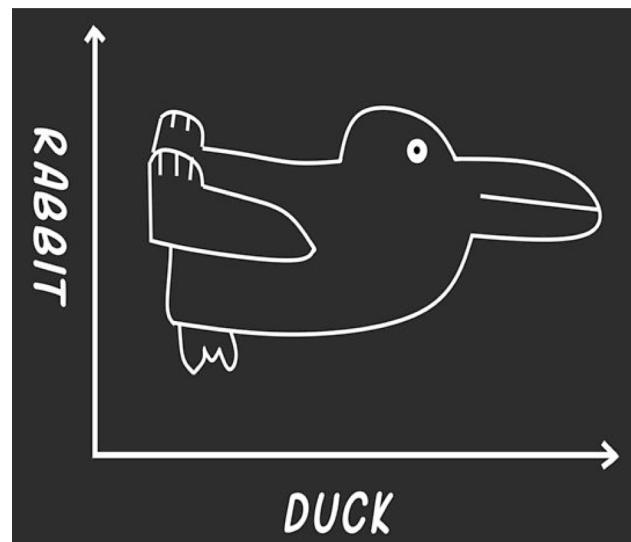


From: Lentz, Nixon, & van Rij (under review)

Graphical representation is (usually) more effective than numbers

(examples courtesy of Jacolien van Rij)

- There is often not one best choice for how to present your data.
- Think about what message you want to convey



The actual analysis: evaluate your results

- › How do you decide the answer to your RQ, based on your data?
- › What do you need to determine?
 - . Relationships, Classification, Differences, ...
- › Does it make sense for you to use statistical tests?

No



Yes

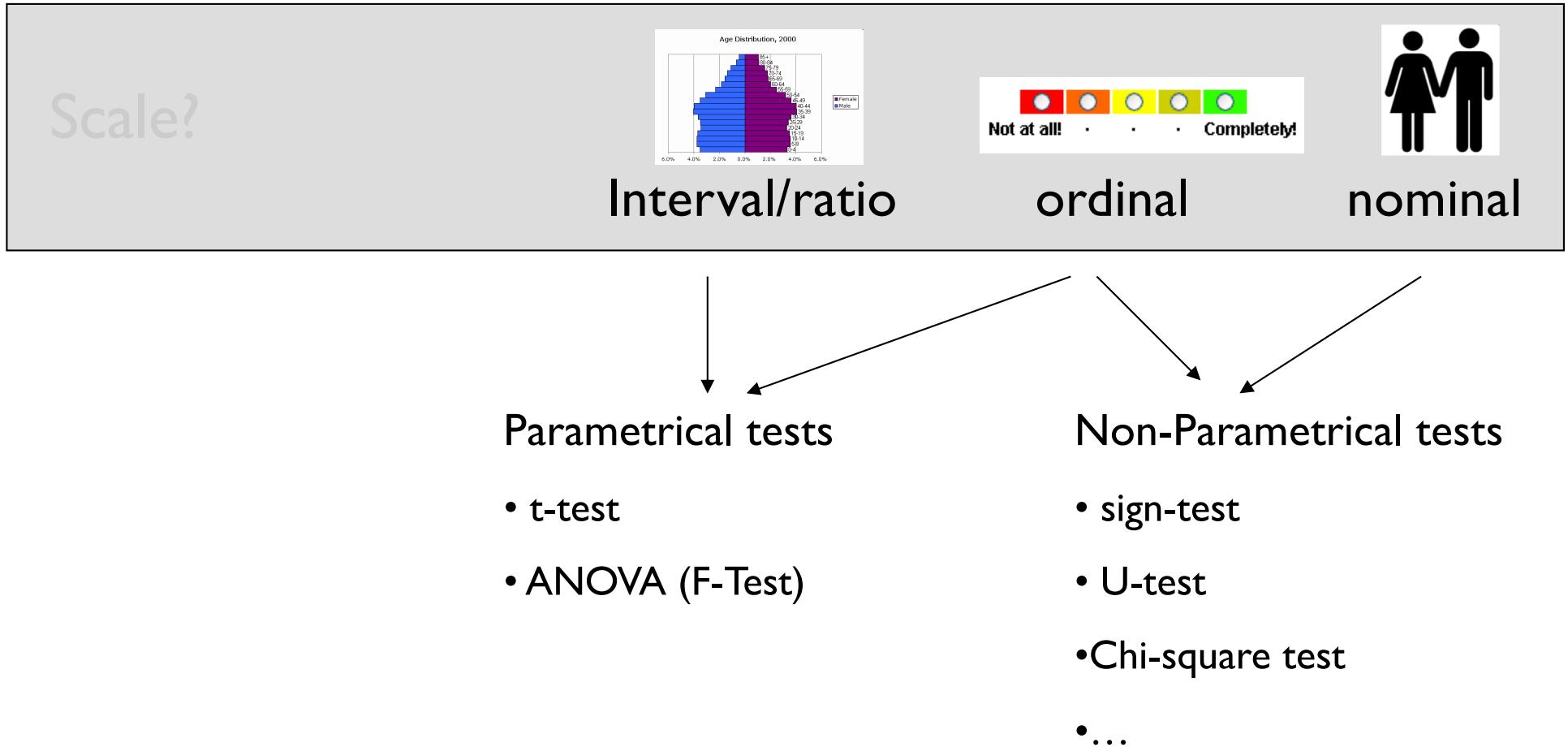


- › How will you determine the answer to your RQ?
 - . Decision rules
 - . Required level of “performance”, ...

- › Which types of statistical tests will you use?
 - . Why theses?
 - . Assumptions of the tests

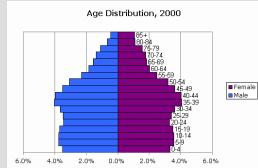


Inferential statistic – which test?



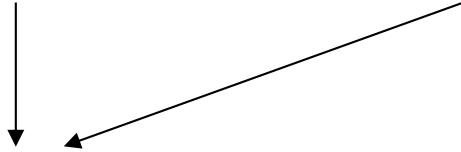
Inferential statistic – which test?

Scale?



Interval/ratio

ordinal

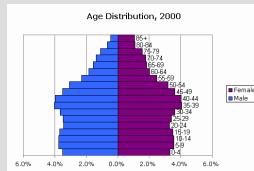


Parametrical tests

- t-test
- ANOVA (F-Test)

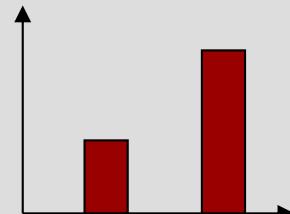
Inferential statistic – which test?

Scale?

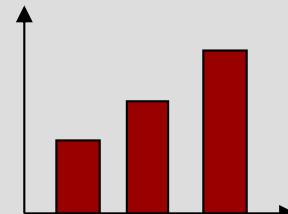


Interval/ratio

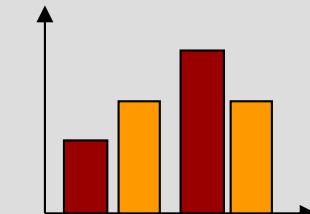
Number of conditions?



2



> 2



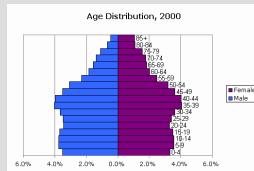
> 2

↓
t-test

↓
ANOVA (F-Test)

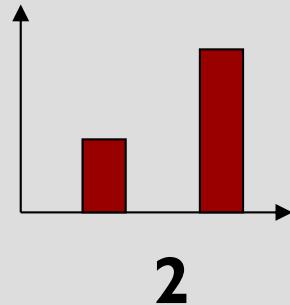
Inferential statistic – which test?

Scale?



Interval/ratio

Number of conditions?



2

Between or within subjects?

between

within

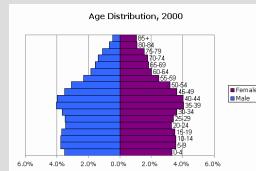
t-test

for independent

for dependent (paired)
samples

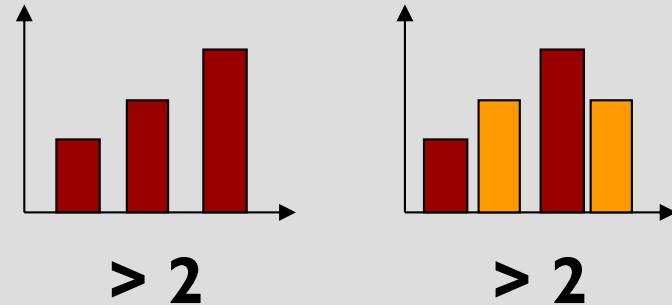
Inferential statistic – which test?

Scale?



Interval/ratio

Number of conditions?



Between or within subjects?

between

within

ANOVA

'normal'

samples

repeated measures

Next tutorial: June 2

- › The bachelor symposium

Any questions?



all images from www.coreyegbert.com