Darstellung der zusammenfassenden Statistik

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Inhaltsverzeichnis

# Heutige Ziele

This week we will learn how to…

## 0.1 Lust auf mehr?

* Section 30 ([Visualising relationsips](https://r4ds.hadley.nz/data-visualize.html#visualizing-relationships)) in Wickham et al. (o. J.)
* Ch. 4 ([Representing summary statistics](https://psyteachr.github.io/introdataviz/representing-summary-statistics.html)) in Nordmann et al. (2022)

# 1. Bericht feedback

## 1.1 Mentimeter 1

Go to menti.com and enter the code 1643 4313, or scan the QR code:

|  |
| --- |
|  |

## 1.2 Mentimeter 2

Go to menti.com and enter the code 4154 0840, or scan the QR code:

|  |
| --- |
|  |

# 2. Einrichtung

pacman::p\_load(tidyverse,  
 here,  
 knitr)

# 3. Review: Bericht 2

library(introdataviz)

df\_biondo <- read\_csv(here("daten", "Biondo\_etal\_2021\_bericht2.csv")) %>%   
 janitor::clean\_names()

df\_biondo\_long <-   
 df\_biondo %>%   
 pivot\_longer(  
 cols = c(first\_pass, regression\_path, total\_time),  
 names\_to = "measure",  
 values\_to = "time"  
 ) %>%   
 relocate(measure, time, .after=gramm)

## 3.1 Producing a summary table

* try to reproduce [Tabelle 1](#tbl-biondo)

df\_biondo %>%   
 drop\_na() %>%   
 filter(region == "verb", adverb\_time != "none") %>%   
 summarise(N = n(),  
 mean = mean(total\_time),  
 sd = sd(total\_time),  
 .by = c(region, adverb\_time,verb\_tense)) %>%   
 arrange(region, adverb\_time) %>%   
 kable(col.names = c(  
 "Region", "Adverb time", "Verb tense", "N", "Mean total reading time", "SD"  
 ))

Tabelle 1: Summary table from (**biondo\_yesterday\_2022?**)

| Region | Adverb time | Verb tense | N | Mean total reading time | SD |
| --- | --- | --- | --- | --- | --- |
| verb | Future | Future | 948 | 602.7521 | 411.5918 |
| verb | Future | Past | 945 | 628.4836 | 423.4241 |
| verb | Past | Past | 953 | 556.7817 | 366.4723 |
| verb | Past | Future | 949 | 642.0242 | 433.0259 |

## 3.2 Re-constructing a plot

* what is needed in order to reproduce this plot?
  + which variable(s) are mapped along the axes?
  + what variable(s) are in the legend?

|  |
| --- |
| Abbildung 1: A split-violin boxplot |

# 4. Output formats

* recall that Quarto can output various file formats
* Documents
  + html
  + PDF
  + MS Word
* Slides
  + html slides
  + PowerPoint slides
  + Beamer (LaTeX)

# 5. Documents

## 5.1 MS Word

* let’s try first creating an MS Word document

1. change format: to docx

title: "Datenvisualisierung 2"  
subtitle: "Darstellung der zusammenfassenden Statistik"  
author: "Daniela Palleschi"  
date: "`r Sys.Date()`"  
format:  
 docx:  
 toc: true  
 number-sections: true

1. Render and inspect

# 6. Slides

* slides are delineated with a hashtag #
  + whereas this would start a new heading in a document, it would start a new slides in a presentation

## 6.1 revealjs

* let’s try first creating a HTML slides with revealjs

1. change format: to revealjs

title: "Datenvisualisierung 2"  
subtitle: "Darstellung der zusammenfassenden Statistik"  
author: "Daniela Palleschi"  
date: "`r Sys.Date()`"  
format:  
 revealjs:  
 toc: true  
 number-sections: true

1. Render and inspect

## 6.2 PowerPoint

* let’s try first creating a HTML slides with PowerPoint

1. change format: to pptx

title: "Datenvisualisierung 2"  
subtitle: "Darstellung der zusammenfassenden Statistik"  
author: "Daniela Palleschi"  
date: "`r Sys.Date()`"  
format:  
 pptx:  
 toc: true  
 number-sections: true

1. Render and inspect

# Session Info

Hergestellt mit R version 4.3.0 (2023-04-21) (Already Tomorrow) und RStudioversion 2023.3.0.386 (Cherry Blossom).

print(sessionInfo(),locale = F)

R version 4.3.0 (2023-04-21)  
Platform: aarch64-apple-darwin20 (64-bit)  
Running under: macOS Ventura 13.2.1  
  
Matrix products: default  
BLAS: /Library/Frameworks/R.framework/Versions/4.3-arm64/Resources/lib/libRblas.0.dylib   
LAPACK: /Library/Frameworks/R.framework/Versions/4.3-arm64/Resources/lib/libRlapack.dylib; LAPACK version 3.11.0  
  
attached base packages:  
[1] stats graphics grDevices utils datasets methods base   
  
other attached packages:  
 [1] introdataviz\_0.0.0.9003 knitr\_1.43 here\_1.0.1   
 [4] lubridate\_1.9.2 forcats\_1.0.0 stringr\_1.5.0   
 [7] dplyr\_1.1.2 purrr\_1.0.1 readr\_2.1.4   
[10] tidyr\_1.3.0 tibble\_3.2.1 ggplot2\_3.4.2   
[13] tidyverse\_2.0.0 magick\_2.7.4   
  
loaded via a namespace (and not attached):  
 [1] utf8\_1.2.3 generics\_0.1.3 stringi\_1.7.12 hms\_1.1.3   
 [5] digest\_0.6.31 magrittr\_2.0.3 evaluate\_0.21 grid\_4.3.0   
 [9] timechange\_0.2.0 fastmap\_1.1.1 plyr\_1.8.8 rprojroot\_2.0.3   
[13] jsonlite\_1.8.5 fansi\_1.0.4 scales\_1.2.1 cli\_3.6.1   
[17] crayon\_1.5.2 rlang\_1.1.1 bit64\_4.0.5 munsell\_0.5.0   
[21] withr\_2.5.0 yaml\_2.3.7 parallel\_4.3.0 tools\_4.3.0   
[25] tzdb\_0.4.0 colorspace\_2.1-0 pacman\_0.5.1 vctrs\_0.6.3   
[29] R6\_2.5.1 lifecycle\_1.0.3 snakecase\_0.11.0 bit\_4.0.5   
[33] vroom\_1.6.3 janitor\_2.2.0 pkgconfig\_2.0.3 pillar\_1.9.0   
[37] gtable\_0.3.3 glue\_1.6.2 Rcpp\_1.0.10 xfun\_0.39   
[41] tidyselect\_1.2.0 rstudioapi\_0.14 farver\_2.1.1 htmltools\_0.5.5   
[45] labeling\_0.4.2 rmarkdown\_2.22 compiler\_4.3.0

# Literaturverzeichnis

Nordmann, E., McAleer, P., Toivo, W., Paterson, H., & DeBruine, L. M. (2022). Data Visualization Using R for Researchers Who Do Not Use R. *Advances in Methods and Practices in Psychological Science*, *5*(2), 251524592210746. <https://doi.org/10.1177/25152459221074654>

Wickham, H., Çetinkaya-Rundel, M., & Grolemund, G. (o. J.). *R for Data Science* (2. Aufl.). <https://r4ds.hadley.nz/>