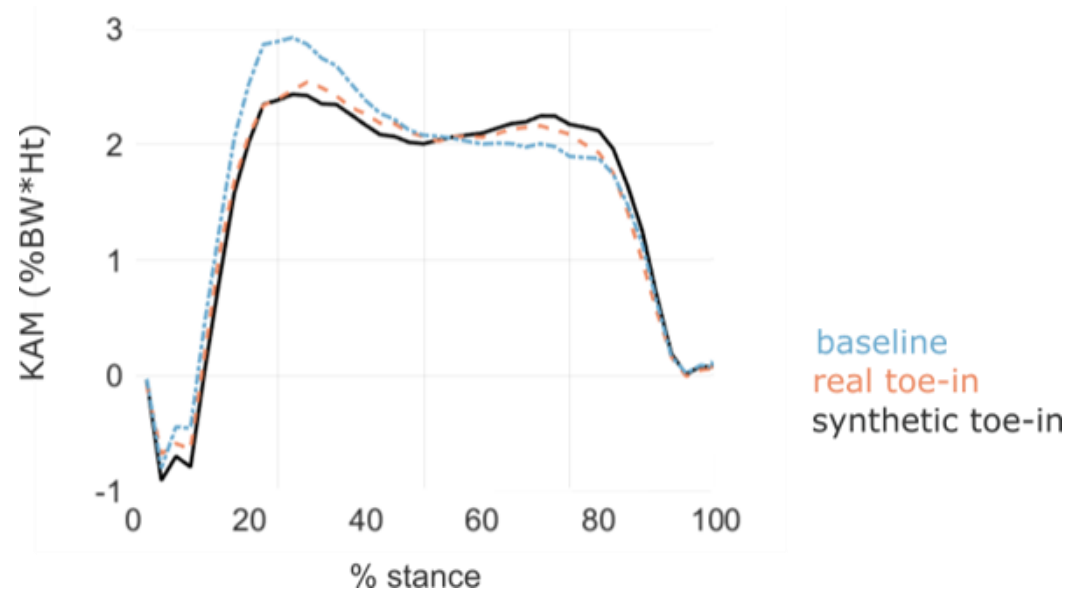


Fantastic Figures and Where to Find Them

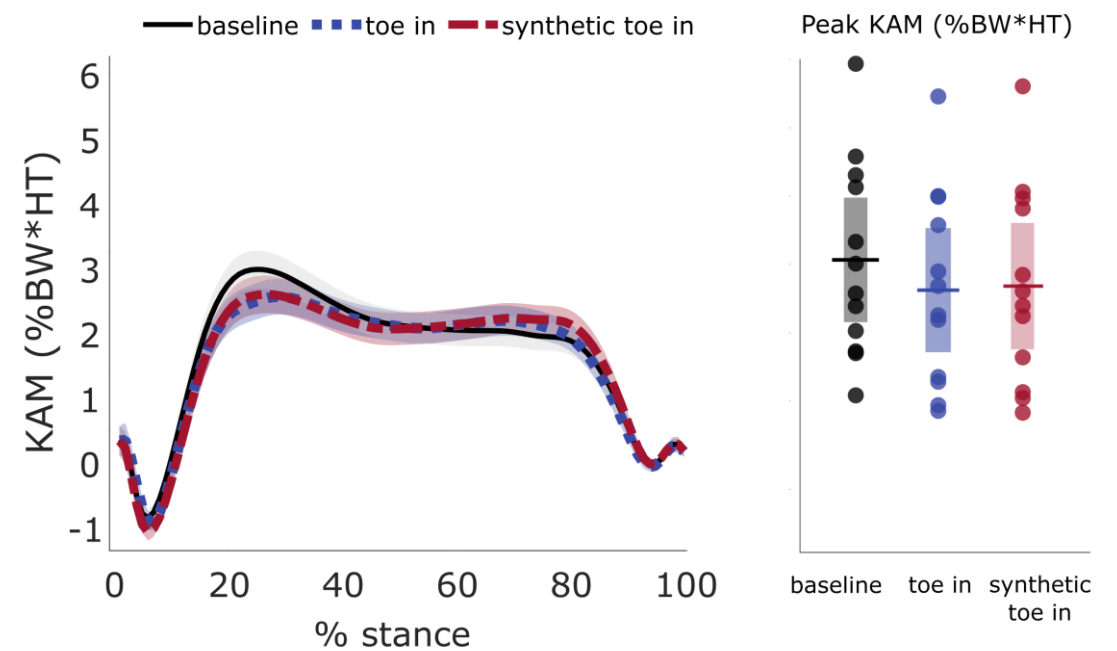
To get started:

1. Download Inkscape
2. Go to
github.com/nrokh/FiguresDemo2022

Why do good figures matter?



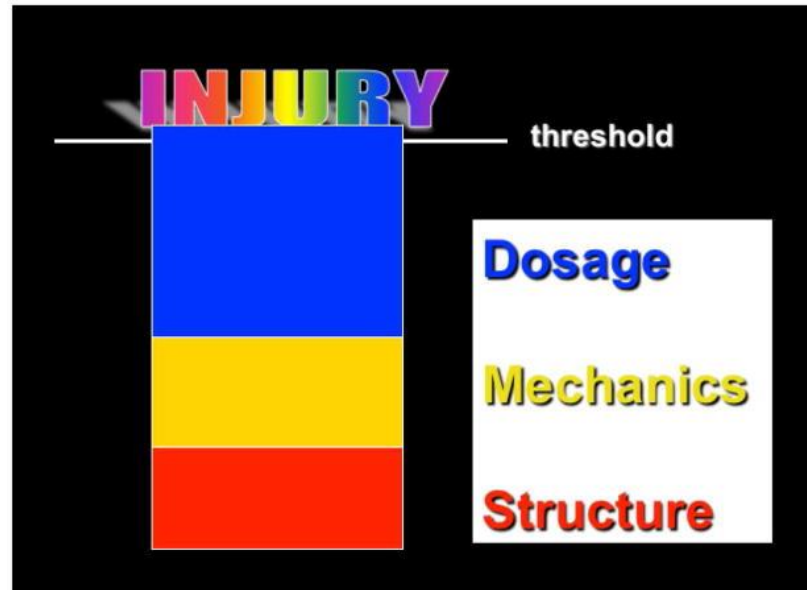
Qualifying exam



The same content, published

Why do good figures matter?

- Give your work the honor of being immortalized beautifully
- Makes your reader trust you and **your conclusions**
- More trust -> more **engagement** with your work



Semiotics: the study of signs, symbols, meaning



/r/MildlyInteresting

- A sign is something that communicates meaning or significance
- Introduce the reader to your conventions: the stylistic choices that will be consistent throughout
 - Semiotics: red=hot; blue=cold tap
 - What do dashed vs solid lines mean? What are transparent dots vs solid dots?

Essentials and Examples

Image resolution: low-hanging fruit

- Export at high-resolution
- Work with lossless formats:
 - PNG is fine
 - TIF is likely required for submissions
 - SVG is for vectors
 - **NEVER JPEG**
- Take photos in RAW so you can edit them fully

Image resolution: low-hanging fruit



7.5 dots per inch (dpi)
93 × 52 pixels



75 dpi
934 × 525 pixels

Font size: check for readability

Papers

- Figure font should not be *much* smaller than body font size
- Check how it looks embedded in your document

Posters

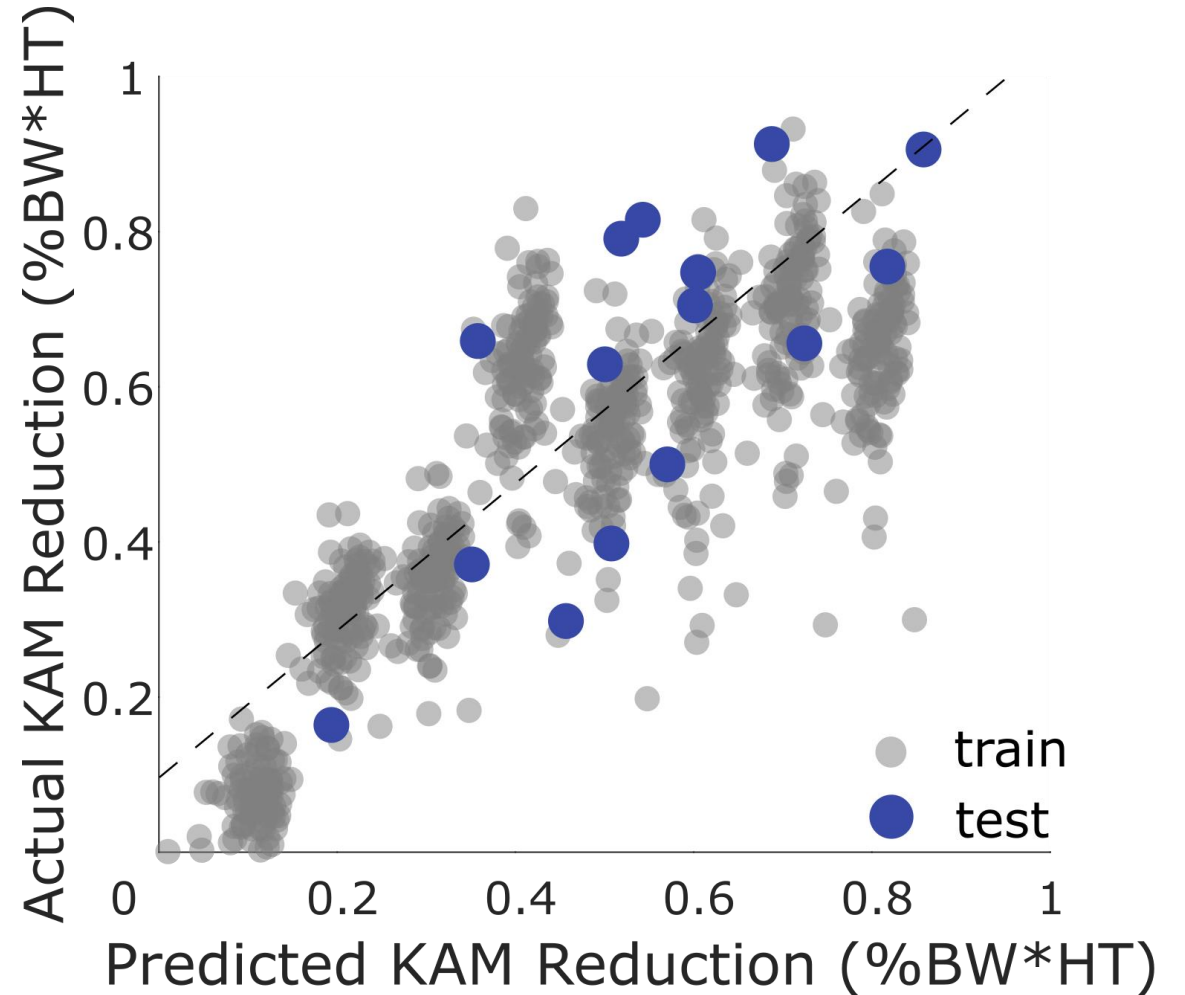
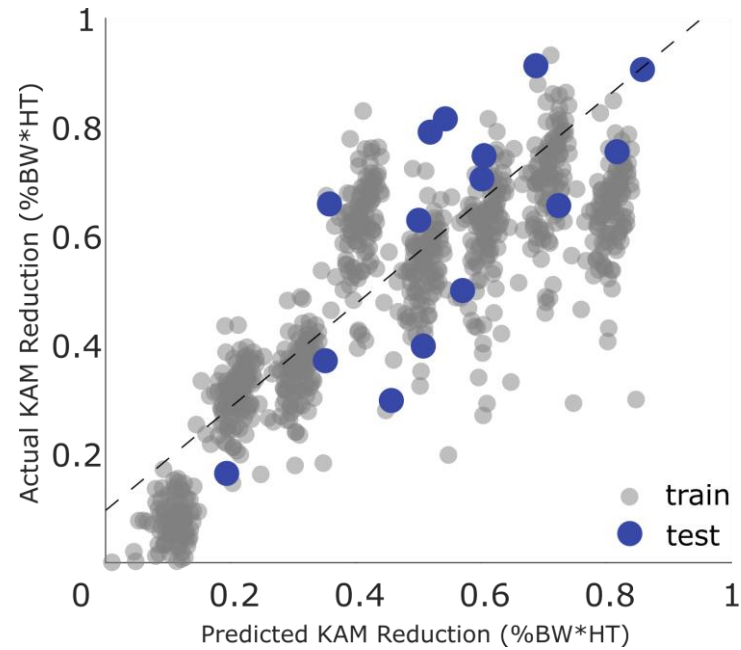
- Readable at several distances/levels of engagement

Presentations

- Usually need to increase size
- Don't just copy-paste paper figures into a talk

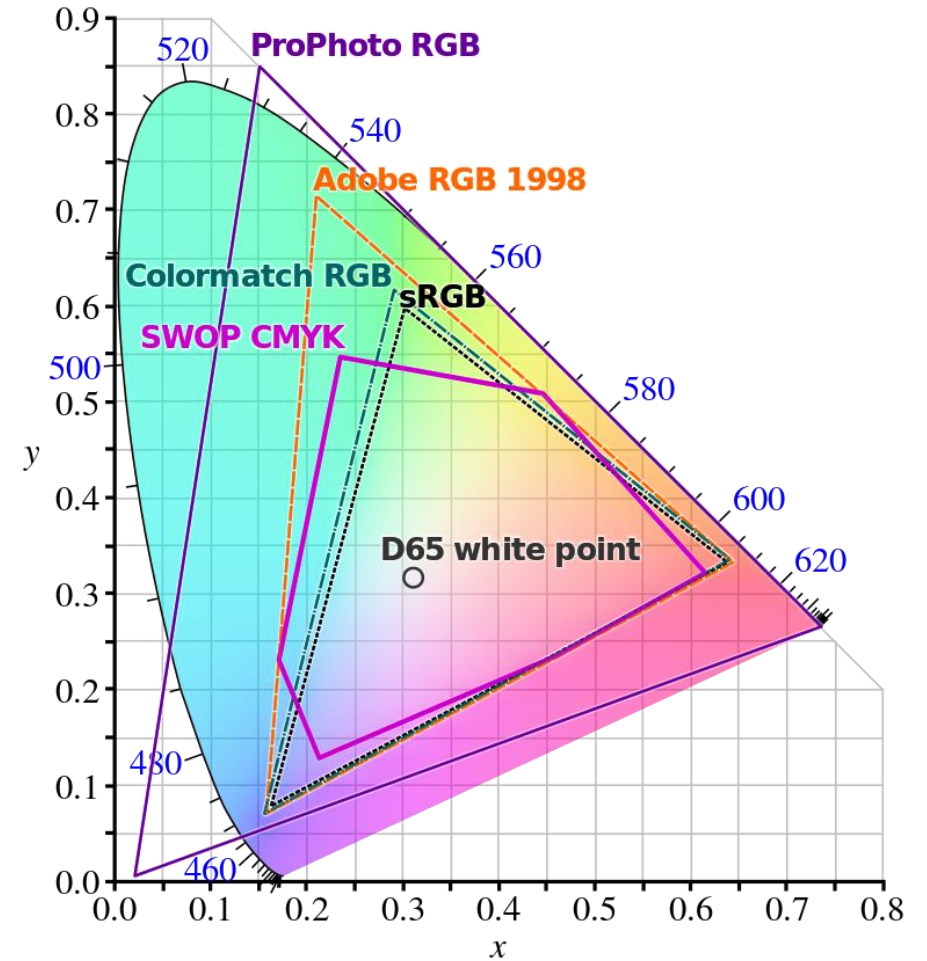
Save your figures in an editable format!

Font size: check for readability



Color choice: picking your paper palette

- Muted or desaturated appears more professional
- Consider color vision deficiency
 - 1 in 12 men and 1 in 200 women
 - Browser extensions or sites
- Printing in black and white?
- Spend some time picking your color palette
 - coolers.co



Chromaticity diagram: color models can differ across gamuts (e.g. RGB vs CMYK)

Press the spacebar to generate color palettes!



View



Export



Save

**33658A**

Queen Blue

86BBD8

Dark Sky Blue

2F4858

Charcoal

F6AE2D

Honey Yellow

F26419

Orange Red

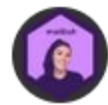
YOUR
BRAND
HERE

Advertise on Coolors

Promote your brand to passionate
creative professionals all over the
world. [Try It Out!](#)

HIDE

A great Twitter thread on colors and packages:



Moriah Taylor (she/her)
@moriah_taylor58



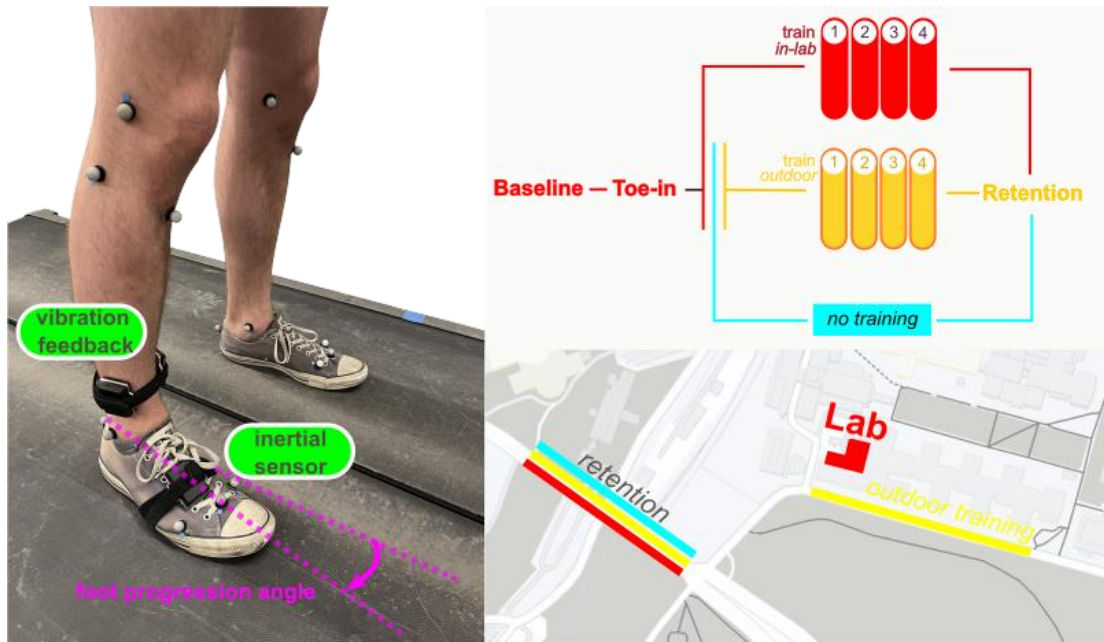
Having trouble picking a color palette for your [#Rstats](#) visualization? Well here's a MEGA thread about all the ways you can choose a palette! 🧵 [1/22]

7:27 PM · May 20, 2021 · Twitter Web App

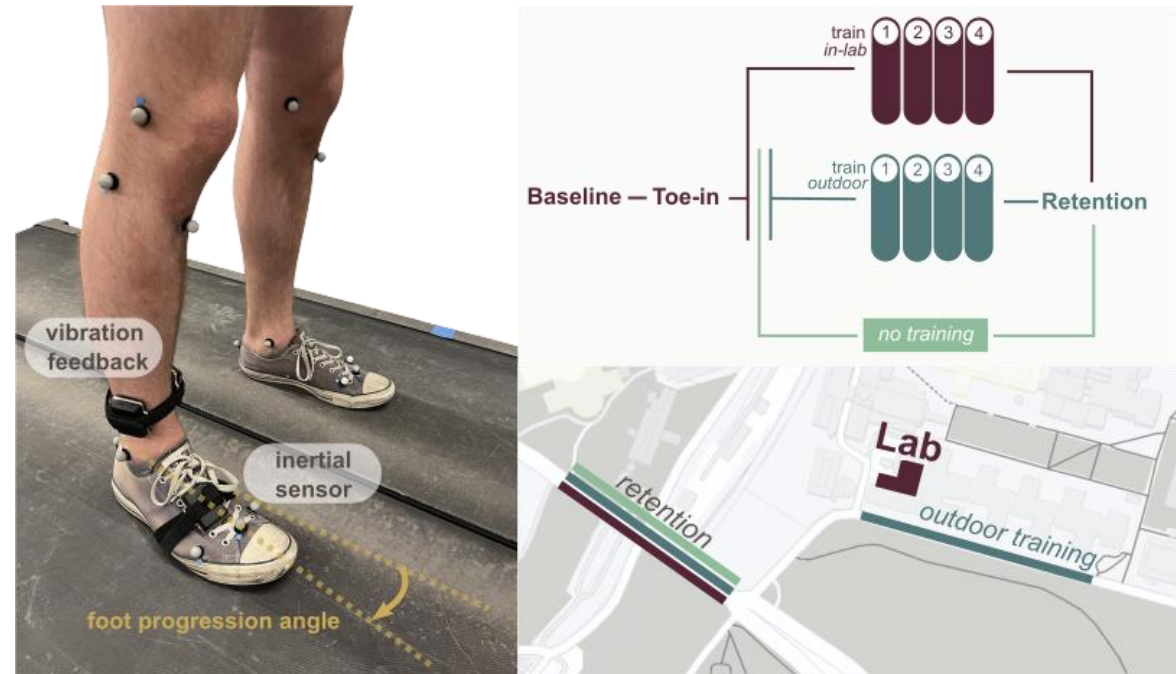
880 Retweets 140 Quote Tweets 3,762 Likes

https://twitter.com/moriah_taylor58/status/1395431000977649665

Color choice: picking your paper palette



Just painful to look at



Much better

Ink to Content ratio: keep it small

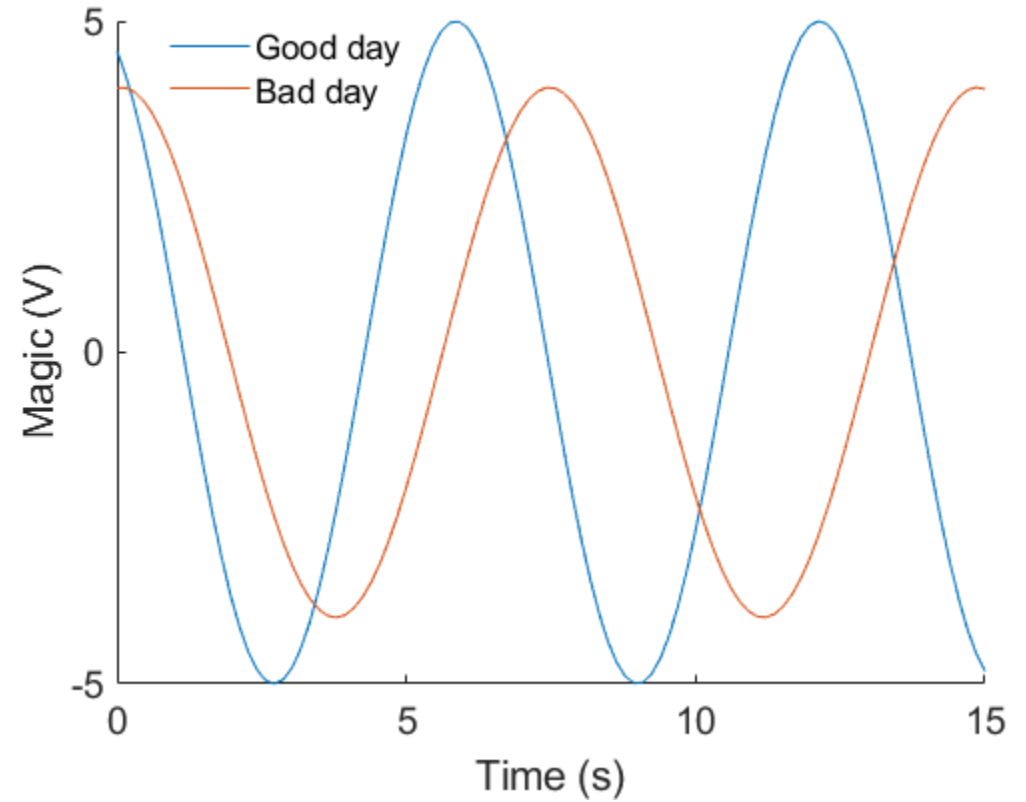
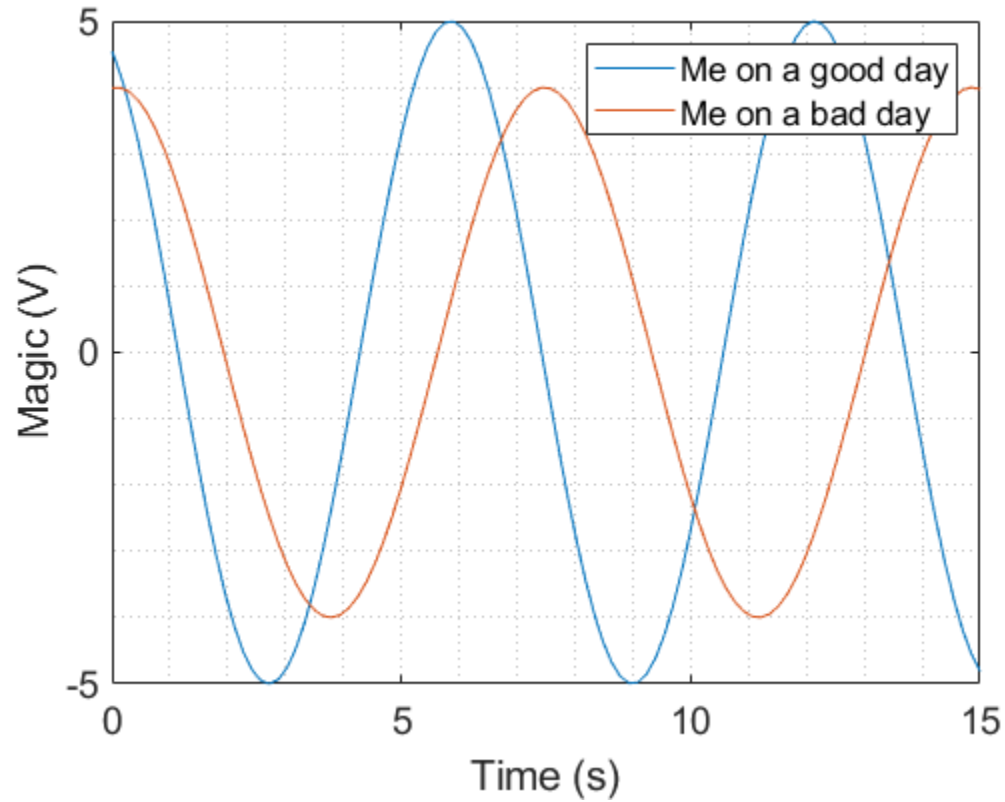
“Ink” means:

- Boxes, lines, grids
- Unnecessary or redundant labels or text
- Bounding boxes around legends

Content:

- Your hard work!

Ink to Content ratio: keep it small



Maximize clarity and consistency

Consistency:

- Color palette
- Font throughout
- Same signaling elements (reiteration)

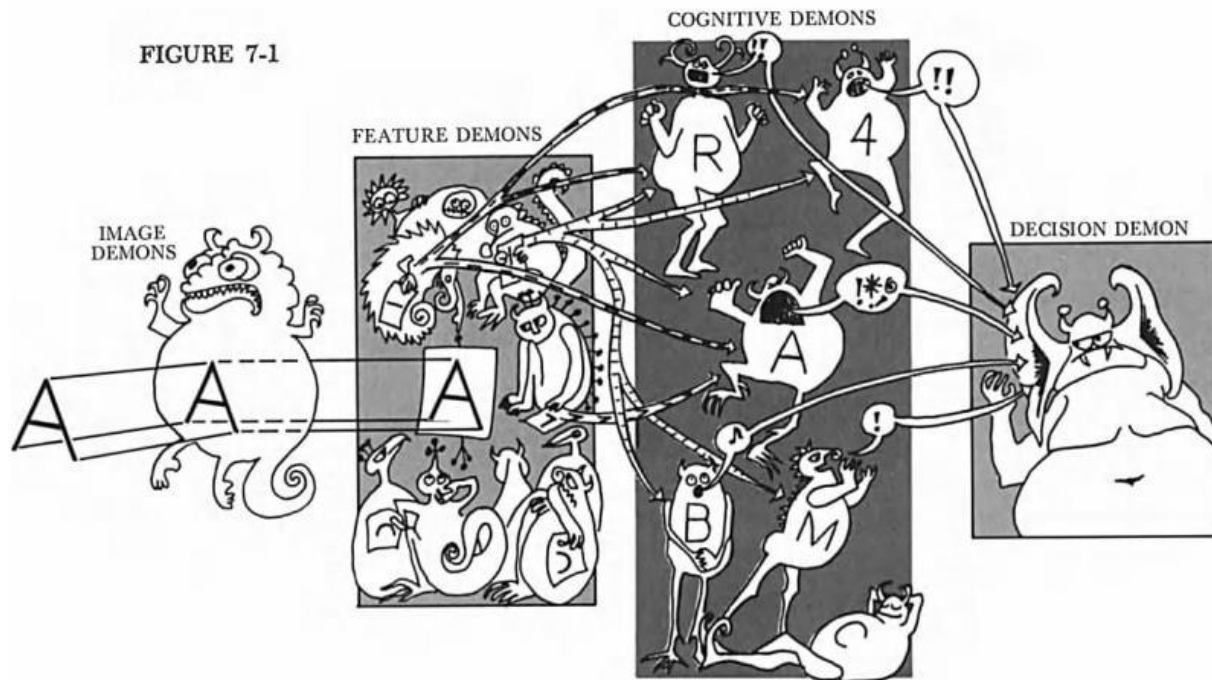


Clarity:

- Pick the best visualization for your data
- If visualizing averages, “show the dots on the plots”



Get inspiration from diverse sources



Human Information Processing (Norman and Lindsay)

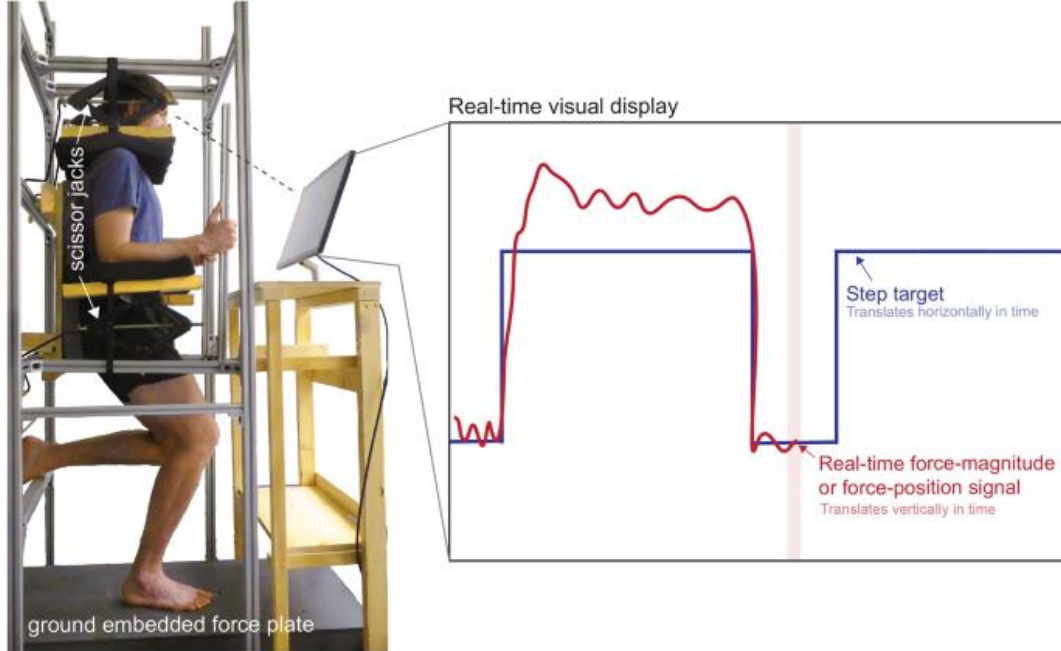


Popular Mechanics 1977

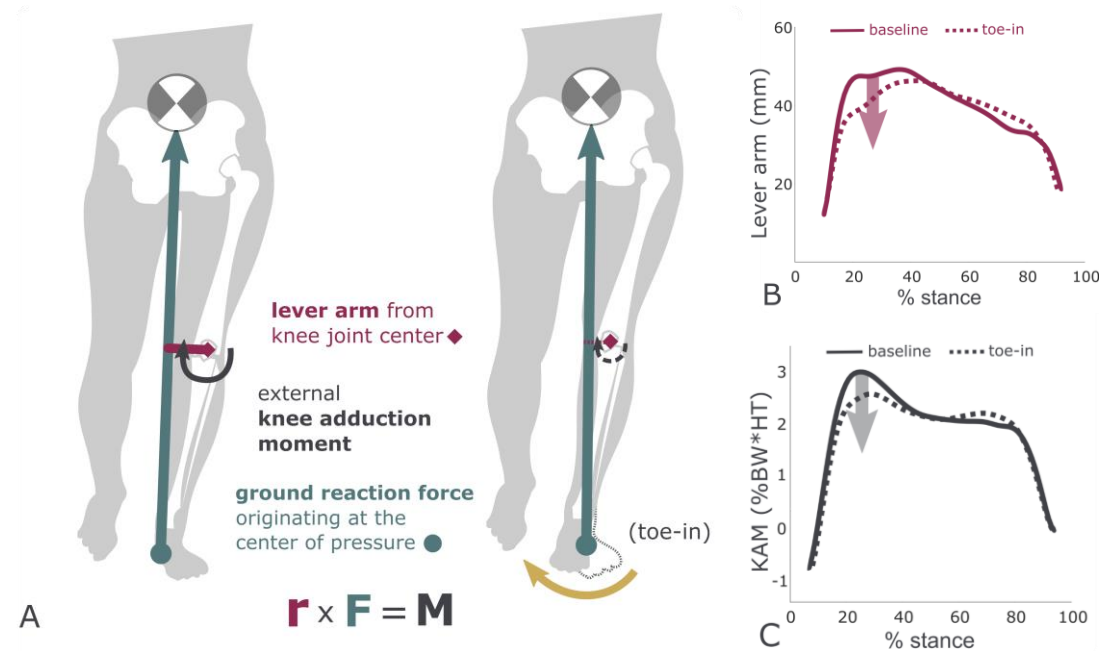
Hybrid Figures



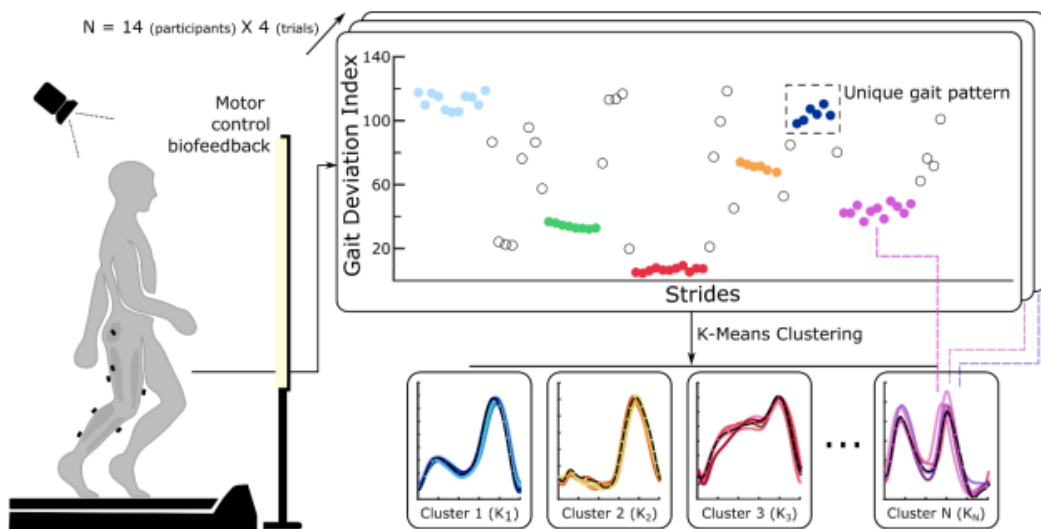
Is it a horse? Is it a bird? Is it an illustration? Is it a plot?



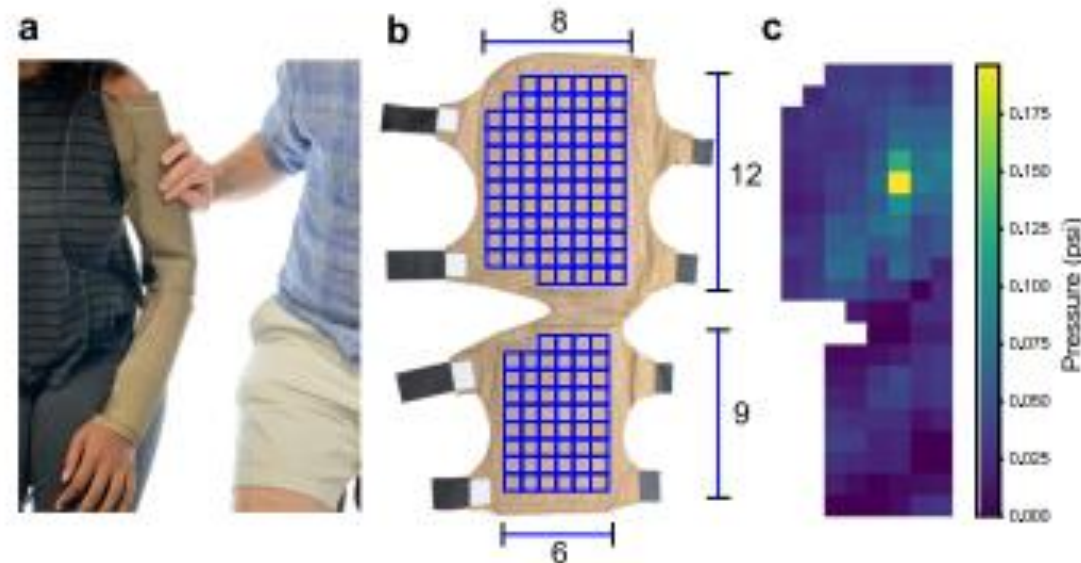
Kudzia 2022



Rokhmanova 2022



Spomer 2022



Salvato 2021

Hybrid figures

- Concept/experimental setup AND a result/data
- Can be effective as a first figure
 - visual equivalent of the last paragraph of the introduction section
 - (in this paper we...)
 - If it's the first thing the reader sees, make it a crowd-pleaser
- Best of both worlds between methods and results

To Inkscape!