Topic: R for Healthcare Dataviz

R Tricks for SAS Users

Welcome to Today's Lecture!

Today's Lecture

- SAS users and people in healthcare analytics are always looking to improve the clarity of their visualizations ("figures")

- Customization is important but hard in most programs

- Charts must be accurate

- What if you want to someday use a static visualization in a dashboard?

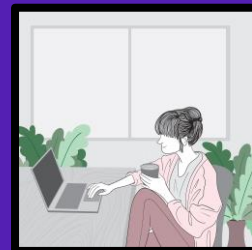- I have solved a lot of dataviz problems in R

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Why R for Journal Figures?

- There are two main approaches to graphing in R: 1) using "base R", or 2) using package ggplot2

- Base R is good for "quickies" (e.g., getting a quick look at a variable's distribution) but less customizable.

- ggplot2 plots are eminently customizable

- Many other R graphing packages rely on ggplot2

- This lecture will talk about the ggplot2 approach

Today's Resources

Using ggplot2 to make journal-ready plots

Blog post about using hexadecimal colors (custom color palette): https://buff.ly/3ehoiW6

Blog post about adding error bars: https://buff.ly/3esitFA

GitHub Files: https://buff.ly/3TcL2pg
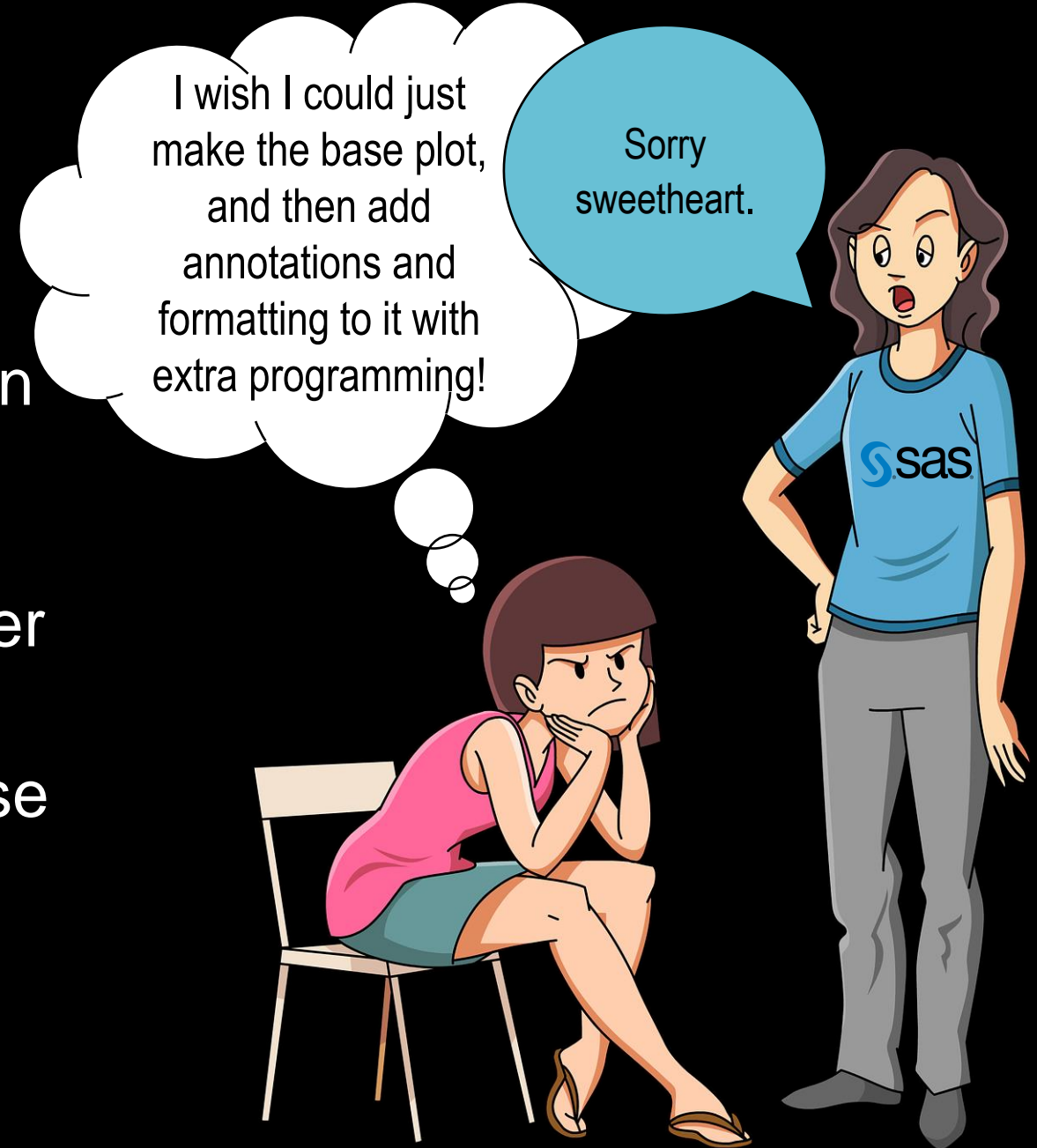README links to several videos

Why ggplot2?

- RGUI vs. RStudio – You can transition to a dashboard later!

- ggplot2 lets you do whatever you want!

- Line of code makes the base plot

- Add lines of code to add formatting

I wish I could just make the base plot, and then add annotations and formatting to it with extra programming!

Sorry sweetheart.

Some Features of (or Tips About?) ggplot2

- You need to calculate the values you want to graph and make a "plot dataframe".

  - Think: One graphable value per row. (See SAS? We still need you!)

- It is not hard to construct a dataframe from scratch

- The order you put commands down in ggplot2 in will change how they execute, and how the plot comes out. (SAS users know all about this!)

- You can save ggplot2 results as objects (p <-) and continue to apply ggplot2 code to them (but this can get confusing)

- Code readability counts – there is a lot of nesting going on in ggplot2 plots

- "Themes" can be applied at the end of the ggplot2 plot to give it a certain look

- ggsave allows you to export the plot in a certain format and dimensions (great for journals!)

Questions?

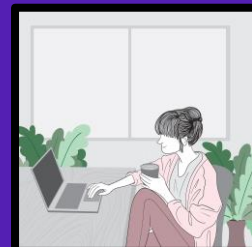**Facilitator:** Monika M. Wahi, MPH, CPH

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