

# Data Visualisation

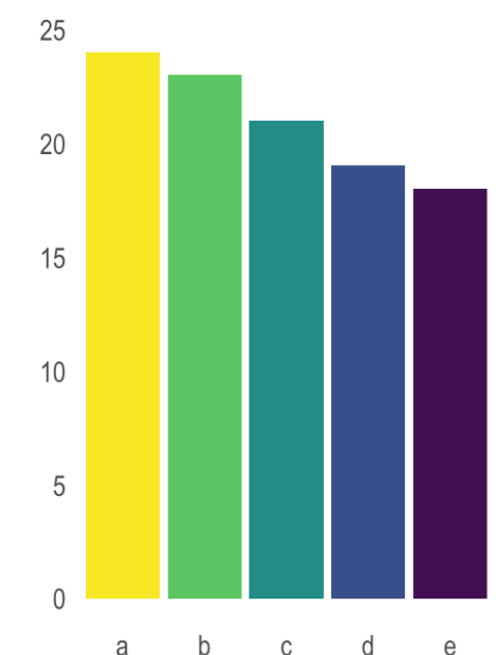
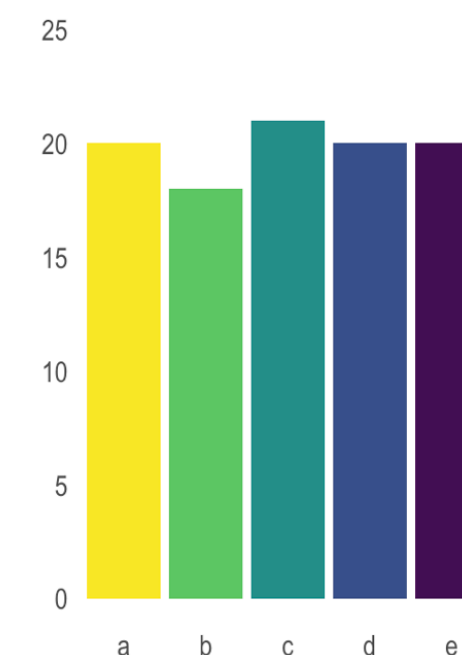
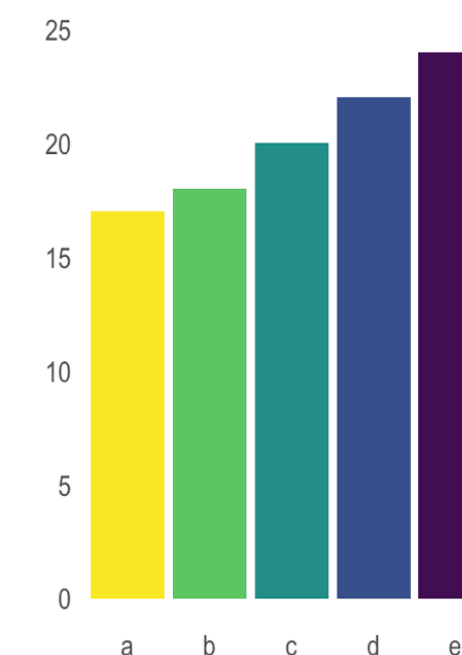
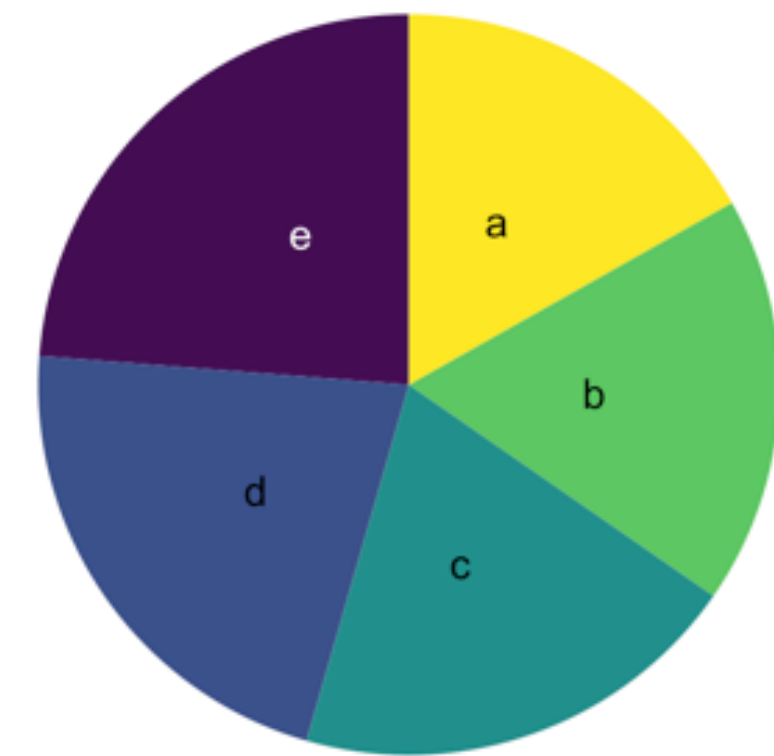
The good, the bad, and the ugly

**Pie charts: the elephant in the room**

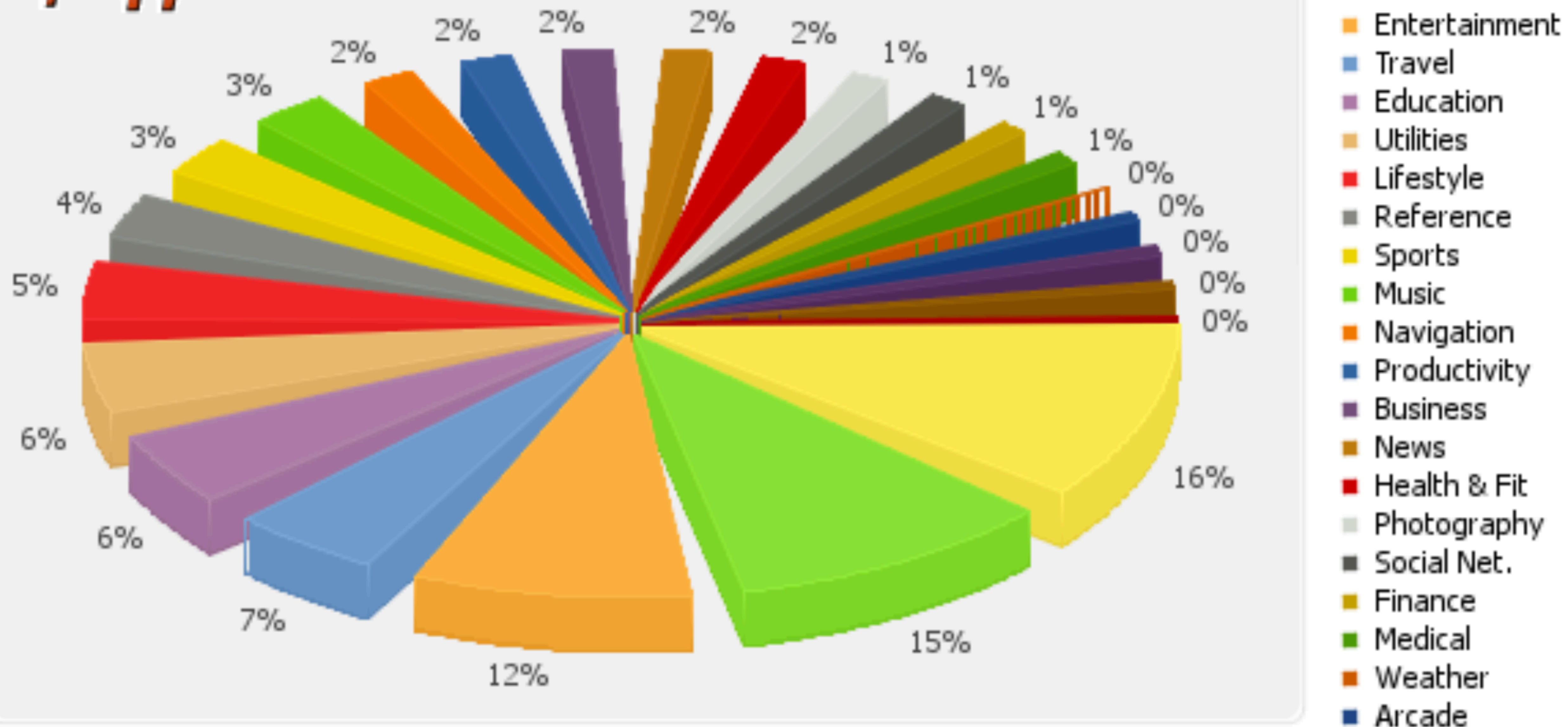
# A note on pie charts

## Why they should be absolutely banned.

- Human eye is really bad at discerning angles and translating them into values.
- Try to figure out the largest group and order the categories =>
- Not convinced? Try to figure out the changes =>
- Here is a simple bar plot alternative, you don't want to miss that in your story =>



Application Category Percentage

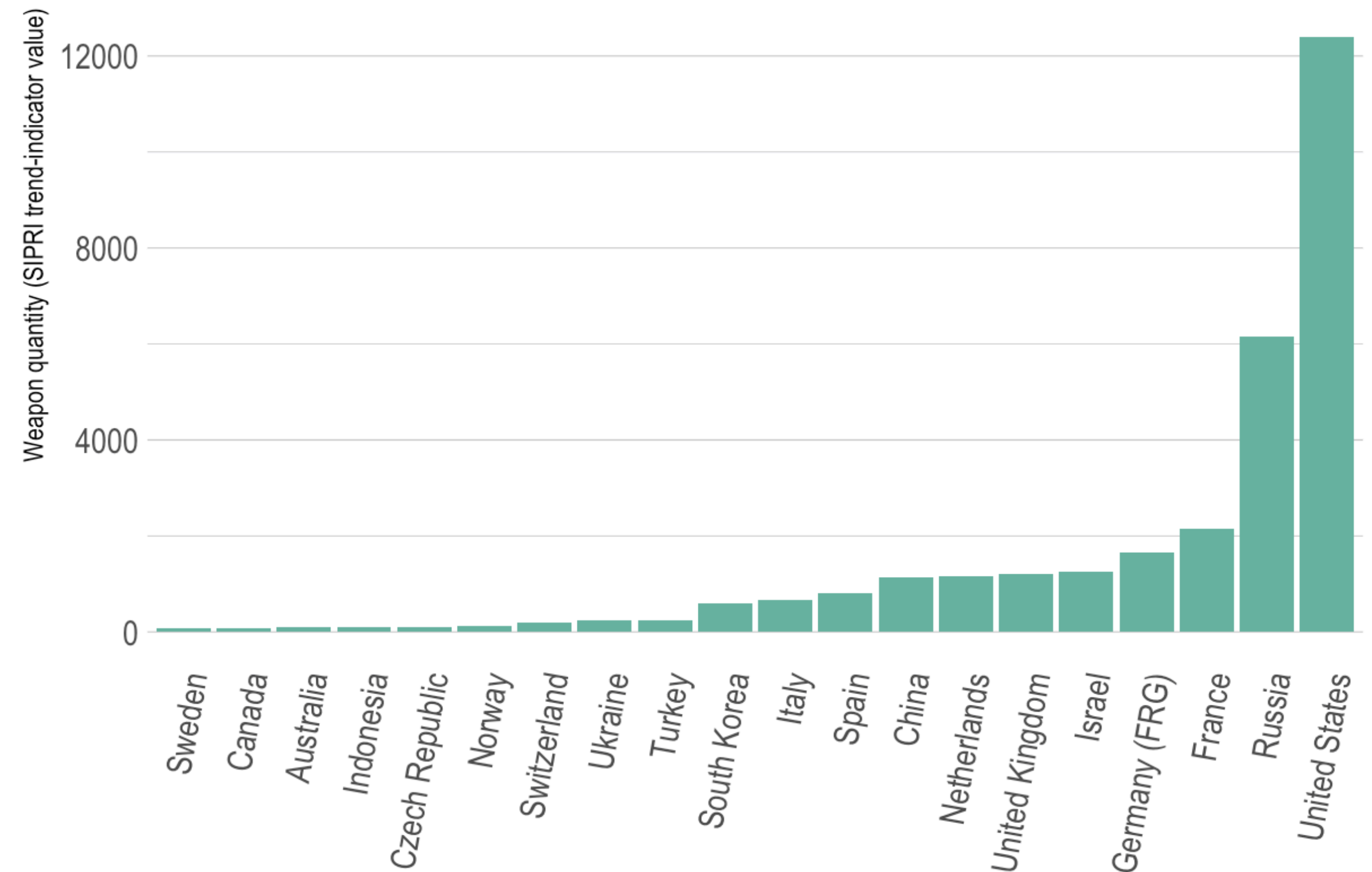


# Alternatives

# BAR PLOTS

## Simple yet effective

- One of the most famous plot
- Often considered boring, yet extremely good for the human eye (judging vertical length)
- Bar plots aren't histograms! Histograms really show one value
- Tip:  
Order the bars if categories don't have any rank
- Potential problem:  
category names are often too long





# BAR PLOTS

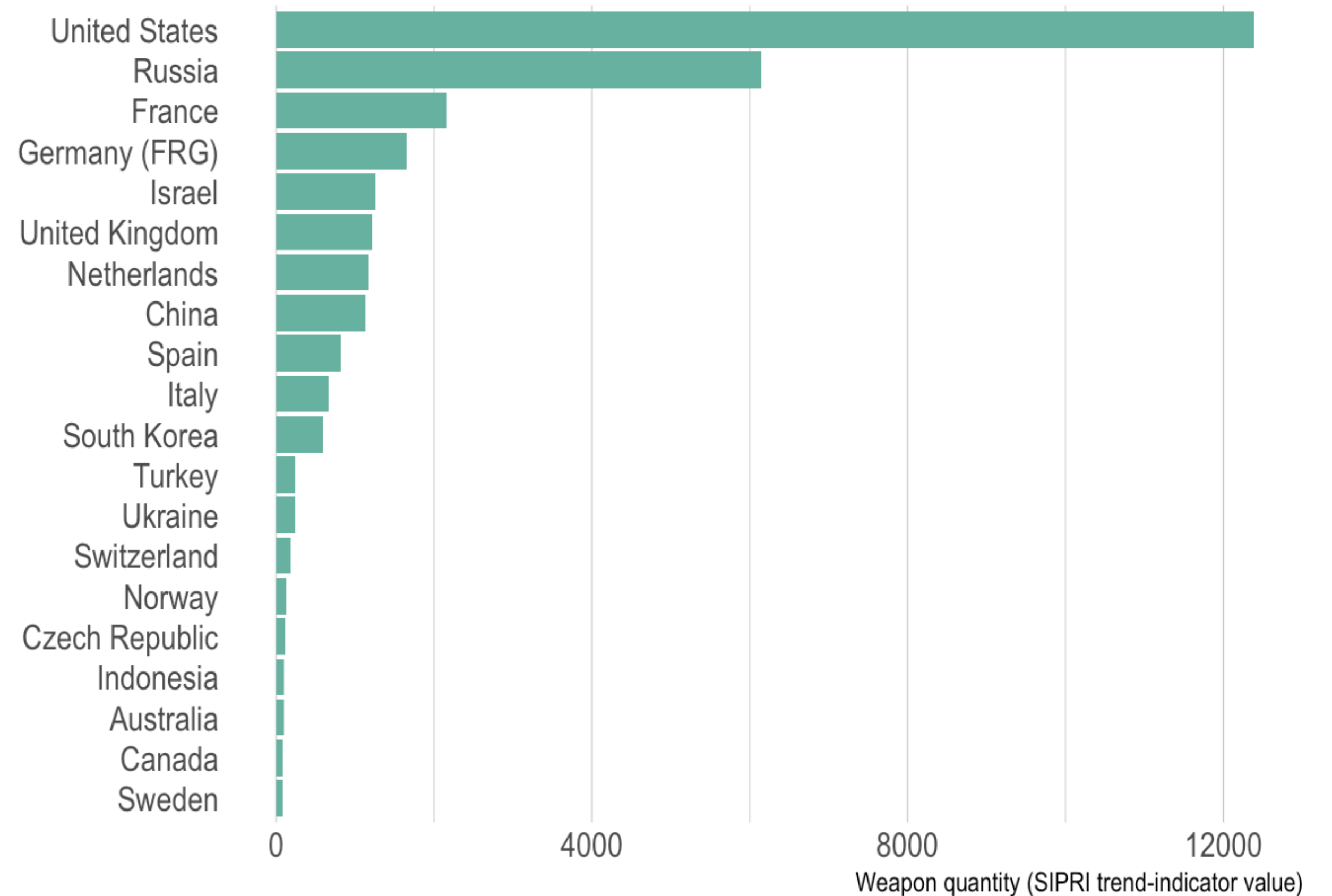
## Flipping axes

- Not recommended when categories have some sort of ranking (ordinal categories)

*ex:*

- *low, middle, high*
- *before, during, after*
- *age ranges*

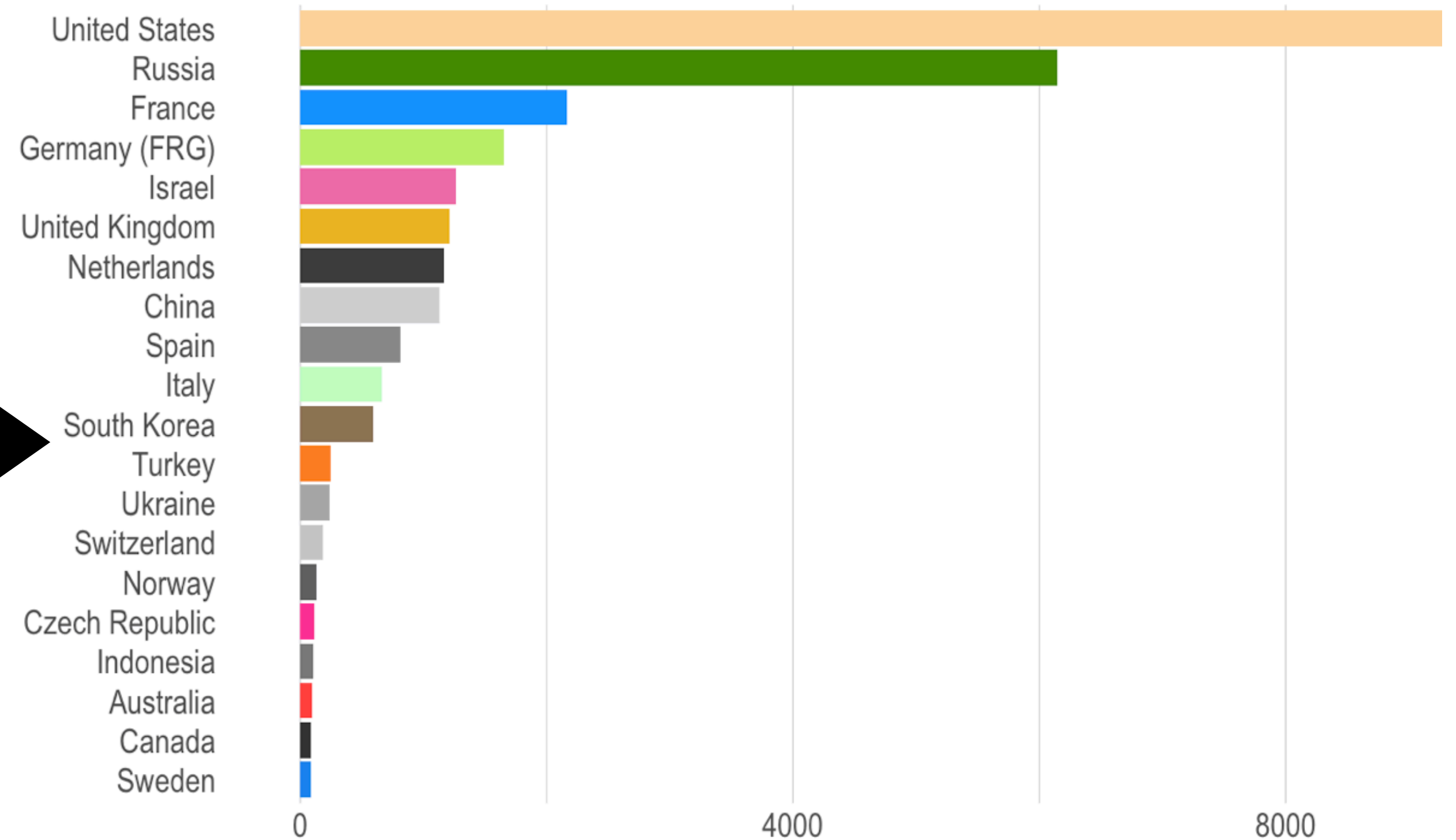
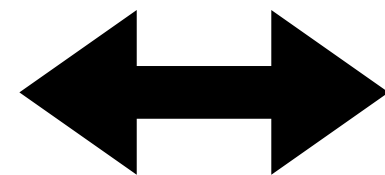
- **Do not** flip axes if time series



# BAR PLOTS

## Avoid the tuning-effect

- Add color only if it brings new information, or helps understand a point

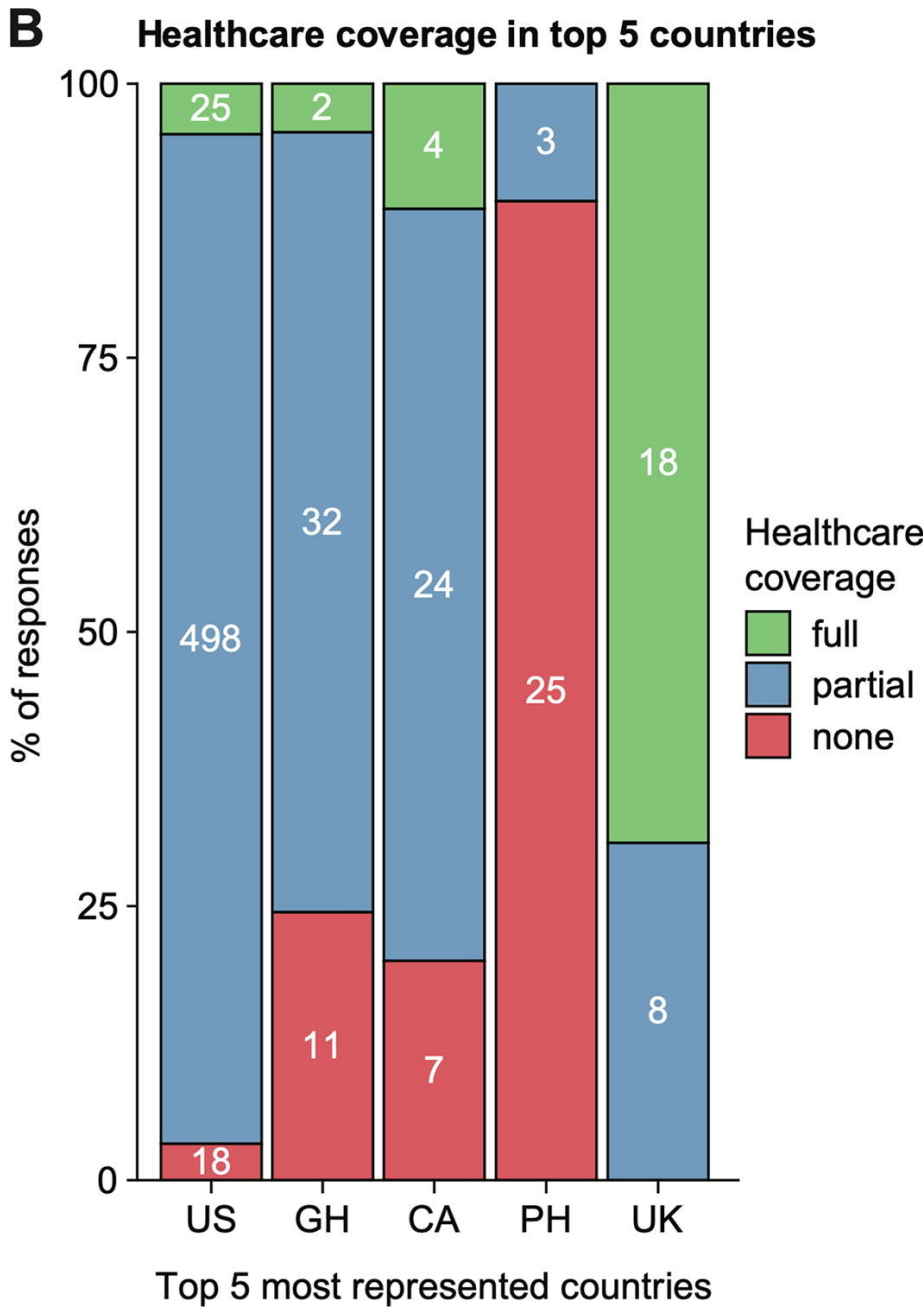
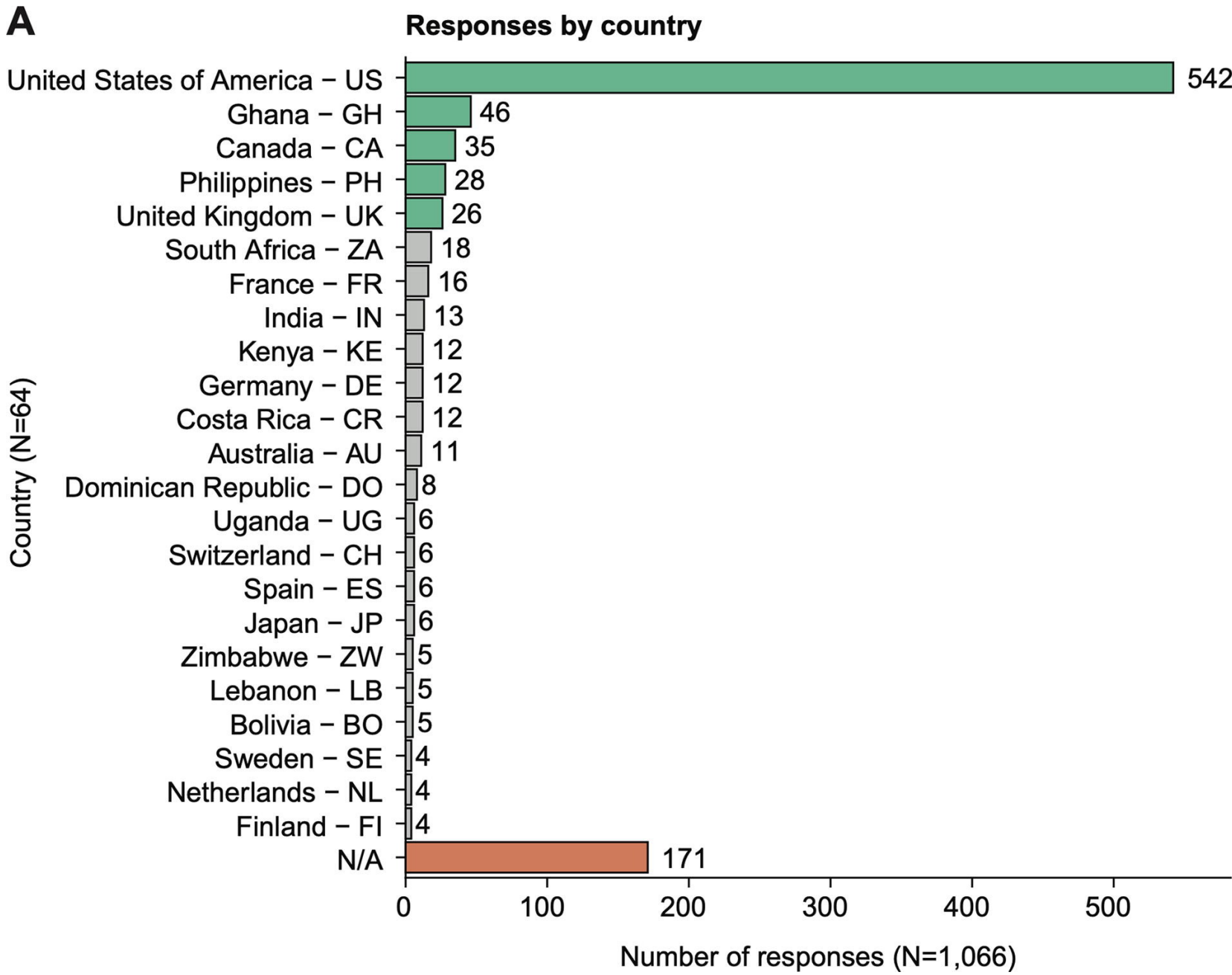




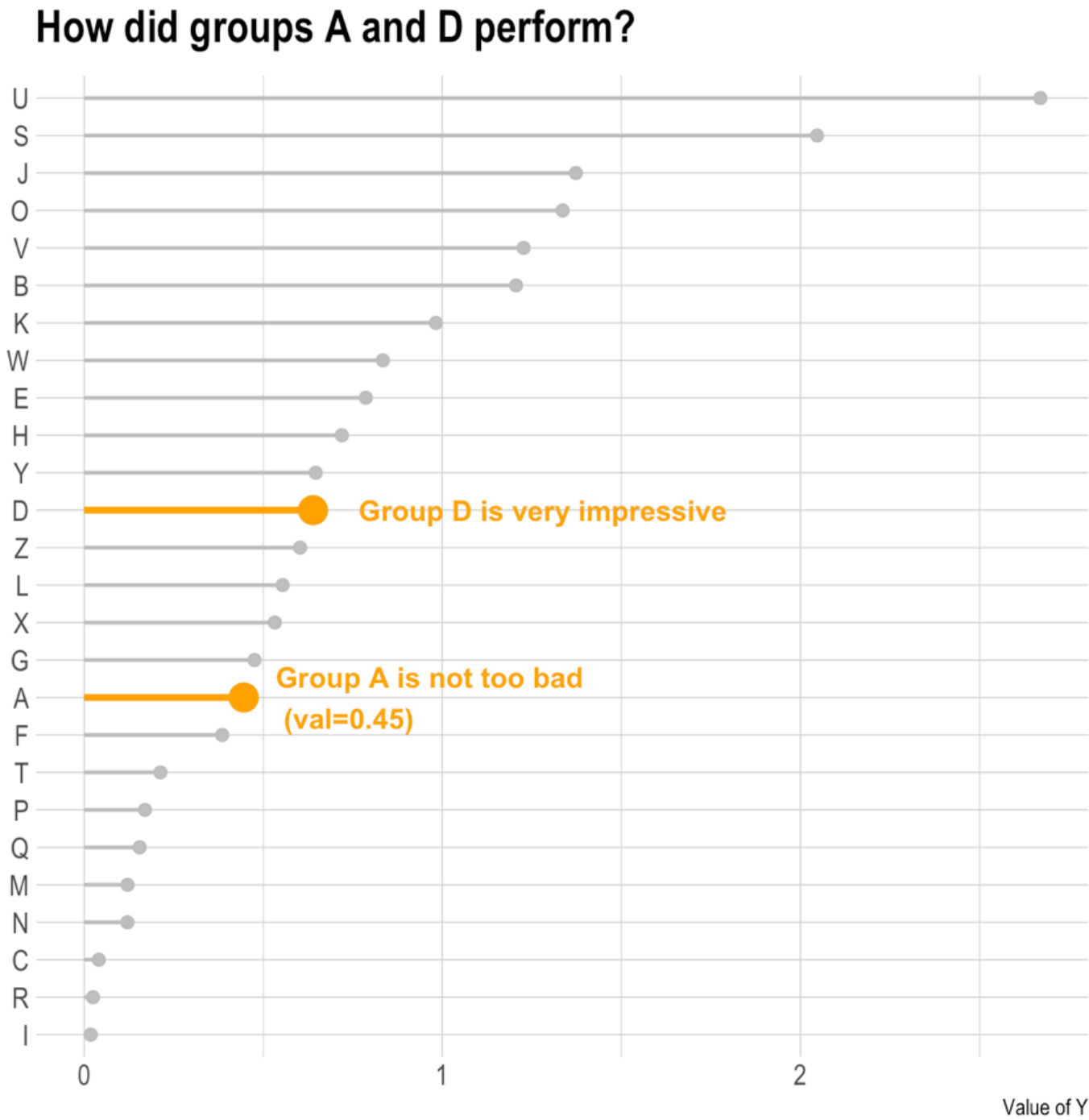
# BAR PLOTS

Example of bar colouring that makes sense:

- Distinguish groups



- Attract attention



# BAR PLOTS

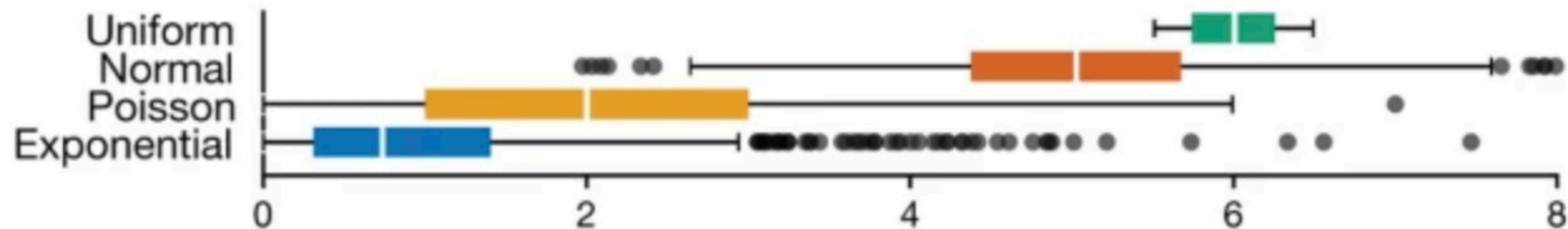
Can hide important info if they summarise data!

- Barplot (mean with SD)

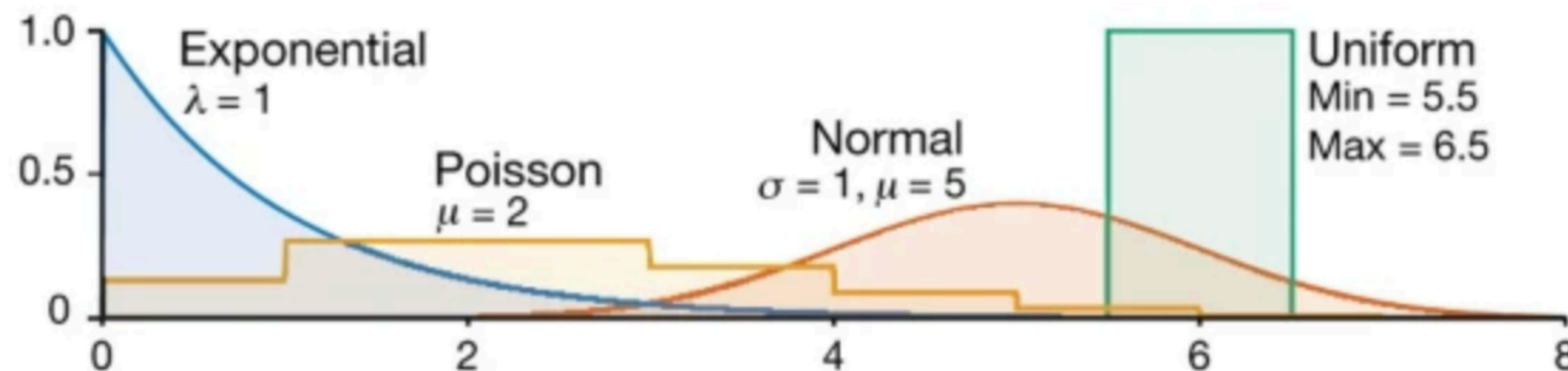


Same data!

- Boxplot (quartiles and outliers)



- Density plots



# Sanity-check your figures!

➔ <https://www.data-to-viz.com>

# Compilation of fails

➔ <https://viz.wtf>