**Good Vs. Bad Graphs**

Good(ish) Graph:

A diagram of a diagram

Description automatically generated with medium confidence

* Pros
  + Reminds me a bit of the Nightingale (1875) graph for British Parliament, latent classes identified are clear in terms of their symptomology levels
  + Colour scheme is consistent but contrasts well
  + Passes the Interocular Traumatic Test (or at least I believe it does)
  + Great way to present latent class/categorical data
* Cons
  + Certain ‘sections’ of symptoms, such as the ‘withdrawal symptom’ under ‘moderate symptoms’ is a little less easy to tell whether it is more common for the symptom to be present or absent within the class

Good Graph:

A graph of different colored lines

Description automatically generated

Information:

* AAS = anabolic androgenic steroids (e.g., testosterone)
* Graph looking at those who developed a dependency on them vs not and executive functioning profiles
* Pros:
  + Distributions with means & SDs included
  + Eye catching and easy to track which profiles (i.e., symptom profiles) were higher in executive dysfunction versus lower
  + Easier to catch existing trends

**Source for both graphs:** Scarth, M., Havnes, I. A., Jørstad, M. L., McVeigh, J., Van Hout, M. C., Westlye, L. T., ... & Bjørnebekk, A. (2022). Severity of anabolic steroid dependence, executive function, and personality traits in substance use disorder patients in Norway. *Drug and Alcohol Dependence*, *231*, 109275.

Bad Graph:

A graph with red and blue lines

Description automatically generated

* Cons:
  + Legend is terrible – what is A and what is B?
  + It is not clear what ‘question’ is being answered by the data and visualization of the data
  + Given the Y-axis and that some of the data appears as an inverted bar, it may be better to use a different graphical method
  + The X-axis intervals are confusing
  + More of an opinion, but given that this was a study paradigm that used a drawing task (and was measuring time to complete it), there are more opportunities to use visual attractors/infographic images to boost the accessibility of this graph

**Source for graph:** Orlandi, G., Fayos, J. C., Ros, C. B., Martínez, Á. R., & Albiol, L. M. (2023). Enhanced impulsivity, poorer planning and rigid patterns when drawing in substance use disorder: a preliminary study. *Behavior & Law Journal*, *9*(1).

Bad Graph:

A graph of a graph showing different levels of performance

Description automatically generated with medium confidenceA graph of different sizes and shapes

Description automatically generated with medium confidence

* Cons:
  + 3D bars = gross
  + Lines in the background are there because they help draw the eye to the y-axis values, but if 3D was avoided you wouldn’t need these
  + Background is too dark – use colours for the bars to make them distinct
  + Smaller bars like Rey Organization or Similarities control bar is very hard to decipher in terms of y-axis value

**Source for graph:** Zinn, S., Stein, R., & Swartzwelder, H. S. (2004). Executive functioning early in abstinence from alcohol. *Alcoholism: Clinical and Experimental Research*, *28*(9), 1338-1346.