Wilkinson Redesign

Variables:

* Bible: Categorical
* Partners: Ordinal
* Count: Continuous

Tasks Enabled:

* Observe overall trend in number of partners.
* Compare “partners” variable across “Bible” categories.
* Compare different “Bible” categories to one another

Deliberate Affordances:

* 2D axes & major tick labels for orientation
* Major *and* minor y gridlines for distinguishing minute differences in values between lines.
* Simple legend for distinguishing lines.
* I tried to keep this graph as simple and clean as possible without losing the ability to distinguish minute differences.
* If I had time, I would make this HTML-enabled with the option to zoom, with the affordance of a simple “+” and “-“ symbol UI to signal the ability to zoom & pan.
  + Enable users to take a closer look at the minute differences especially on the right half of the graph.

Concrete design choices & why:

* No unnecessary marks
  + I took the Tufte approach to constructing this graph, attempting to allow the observer to interpret as much as possible as quickly as possible, while minimizing unnecessary ink.
* “Get it right in black and white”
  + While I thought some more colorful options might look nicer, I opted for coloring the lines for each religiosity group by different levels of saturation for accessibility.
  + My choice of shades of green was informed by my understanding is that people may be better able to distinguish shades of green than shades of other colors.
* Luminance/Saturation code religiosity.
  + My intention is that the audience will intuit that saturation implies an *ordinal*, rather than simply *categorical* variable.
* Convert to proportions.
  + My intuition is that we are more concerned with observing for interaction between religiosity and number of partners than we are with observing the total number of individuals in each religiosity category.
* Bring outliers toward center
  + Plot “Partners” against “Bible”, rather than a density plot of “count” in order to squeeze outliers into a more easy-to-read plot area.
* “No unjustified 2D/3D”
  + I considered representing the 3 variables in 3 dimensions, but none of my options seemed to add more than they took away from a 2D representation with multiple lines.
* Background
  + I recolored the background a slightly yellow off-white, with the intention of making the graph easier on the eyes while simultaneously maintaining contrast for distinguishing lines.
* Legend
  + I brought the legend closer to the plot lines in order to make it easier to compare/identify line colors.
  + I kept the text very simple, assuming the audience would be seeing this graph in an environment with additional context.
* Text
  + I chose a sans-serif font family and font size that I felt would minimize eye strain without being awkwardly large.
* Narrow lines
  + To preserve the ability to distinguish them when they are close together.