Review of MET-2020-0314R1, Flexplot: Graphically-Based Data Analysis Psychological Methods

Overall evaluation

In general, I like this paper for its aim, which seems to be to introduce the R package {flexplot} to readers who use R in data analysis and are looking for some way to make it easier to produce graphs with a simpler specification framework/language than can be done in base R or with {ggplot2}.

I find that there are enough interesting, possibly novel features here to make this an attractive article for a *Psych Methods* audience. A particularly attractive feature is the wise range of plots generated by flexplot(). (If this was a paper for the *Journal of Statistical Software*, I would be harsher, because there are other uncited packages, e.g., {visreg} that attempt similar things.)

In this revision, the author has considerably improved the paper. However, there are a number of points still requiring attention, detailed below.

General comments

In the previous submission, I complained that the intro text using the "replication crisis" as the main argument for use of graphics was wafer thin. The author has compressed this to a paragraph, but it still reads as a non-sequitur. Graphics *per se* do not provide a solution to these problems of sample size, pre-registration, etc. It might be better to cast this opening paragraph as a contrast between confirmatory, inferential statistics and exploratory, graphical methods. What would be lost (other than author ego) by deleting para 1?

The statement on p. 5, para 2: "The graphics produced by flexplot were developed using empirically-derived heurstics that maximize perceptual understanding, while minimizing perceptual biases (Fife, Longo, Correll, & Tremoulet, in press; Fife et al., 2019)." May be good press, but it evokes a cringe in those who know about human-factors research into graphical perception. Flexplot can certainly claim to simplify the process of creating meaningful graphs with decent perceptual properties, but cannot claim any optimality.

Minor comments / suggestions

Figure 1: The image in the ms. looks too muddy to print.

p. 8: Using GLM for the general linear model risks confusion with `glm()` for the generalized linear model. Perhaps use just LM.

p. 9, para 2: "The GLM equation … doesn't not have vertical pipes …" First, this is an LM formula, not an equation. Second, other modeling methods (mixed models) and plots (e.g., visreg, car::scatterplot) do use "|" notation to condition on other variables to produce multiple panels.

p. 11, para 2: Does flexplot allow coercion to a factor in the model formula (vs. in the data.frame)? E.g., `y ~ as.factor(group)` It would be useful to do this.

p. 15, bottom, code: Please remove jokes from comments in code for journal publication

p 16, code: simplify by using

```
within(tablesaw.injury, {injury = factor(injury, …})
```

p. 21 (and elsewhere): rather than repeating `theme()` in each subplot, you could use `theme_set()` or `theme_update()`

p. 31: Use tinyurl or bit.ly to reduce the youtube link