Enhancing 'ggplot2' with statistical details: The 'ggstatsplot' approach

Indrajeet Patil[1]

1 Center for Humans and Machines, Max Planck Institute for Human Development, Berlin, Germany

Summary

ggstatsplot is an extension of ggplot2 package for creating graphics with details from statistical tests included in the plots themselves and targeted primarily at behavioral sciences community to provide a one-line code to produce information-rich plots. In a typical exploratory data analysis workflow, data visualization and statistical modeling are two different phases: visualization informs modeling, and modeling in its turn can suggest a different visualization method, and so on and so forth. The central idea of ggstatsplot is simple: combine these two phases into one in the form of graphics with statistical details, which makes data exploration simpler and faster.

Statement of Need

ggstatsplot at a glance

Benefits

This approach- (a) avoids errors in statistical reporting, (b) highlights the importance of the effect by providing effect size measures by default, (c) provides an easy way to evaluate *absence* of an effect using Bayesian framework, (d) forces to evaluate statistical assumptions behind chosen analysis in the context of the underlying data, and is (e) easy and (f) simple enough that somebody with little-to-no coding experience can use it without making an error.

Licensing and Availability

ggstatsplot is licensed under the GNU General Public License (v3.0), with all source code stored at GitHub, and with a corresponding issue tracker for bug reporting and feature enhancements. In the spirit of honest and open science, we encourage requests/tips for fixes, feature updates, as well as general questions and concerns via direct interaction with contributors and developers, by filing an issue. See the package's *Contribution Guidelines*.

Acknowledgements

References

Patil, (). Enhancing 'ggplot2' with statistical details: The 'ggstatsplot' approach. *Journal of Open Source Software*, (), . https://doi.org/