

A Plot Method for "htest" Objects

Richard M. Heiberger^{1,*}, G. Jay Kerns²

1. Temple University

2. Youngstown State University

*Contact author: rmh@temple.edu

Keywords: plot method, "htest", hypothesis tests, confidence intervals

The numerical results of many statistical tests in R are stored in an "htest" object. The print method for the class displays a table. We have written a generic `plot.htest` function for the class and constructed the plot methods for normal, t , chi-square, and F tests. The plot methods call the graphing functions in the **HH** package. The hypothesis graphs display

1. the density function for the null hypothesis with critical bounds and shaded areas for the rejection region,
2. the location of the observed value with shading for the p -value, and
3. a second density for the alternative hypothesis with shaded areas for the Type II error.

The confidence interval plots show

1. the density with parameters set at the observed value of the statistic,
2. the confidence interval, and
3. shaded areas for the confidence level.

The axes are labeled in both the data units (\bar{x} , or s^2 , or s_x^2/s_y^2) and in standardized units. We also wrote menu items for the **RcmdrPlugin.HH** package that can be used with the **Rcmdr** point-and-click GUI.

References

- [1] Fox, J. et al. (2010). Rcmdr: R Commander. R package; additional contributors: Michael Ash, Theophilus Boye, Stefano Calza, Andy Chang, Philippe Grosjean, Richard Heiberger, G. Jay Kerns, Renaud Lancelot, Matthieu Lesnoff, Samir Messad, Martin Maechler, Erich Neuwirth, Dan Putler, Miroslav Ristic, Peter Wolf.; <http://www.r-project.org>, <http://socserv.socsci.mcmaster.ca/jfox/Misc/Rcmdr/>.
- [2] Heiberger, R. M. (2010a). HH: Statistical Analysis and Data Display: Heiberger and Holland. R package, <http://www.r-project.org>; contributions from Burt Holland and G. Jay Kerns.
- [3] Heiberger, R. M. (2010b). RcmdrPlugin.HH: Rcmdr support for the HH package. R package, <http://www.r-project.org>; contributions from Burt Holland.