

Package ‘metaplotr’

August 29, 2016

Version 0.0.3

Date 2016-08-04

Title Creates CrossHairs Plots for Meta-Analyses

Author Mehmet Gultas [aut, cre],
Michael T. Brannick [aut]

Maintainer Mehmet Gultas <mehmetgultas@gmail.com>

Description Creates crosshairs plots to summarize and analyse
meta-analysis results. In due time this package will contain code
that will create other kind of meta-analysis graphs.

URL <https://github.com/mehmetgultas/metaplotr>,
<https://github.com/mehmetgultas/metaplotr/wiki>

License GPL-2 | file LICENSE

LazyData TRUE

Depends R (>= 3.3)

RoxygenNote 5.0.1

Imports ggplot2, gridExtra

Suggests knitr, rmarkdown, metafor

VignetteBuilder knitr

NeedsCompilation no

Repository CRAN

Date/Publication 2016-08-04 16:17:10

R topics documented:

metaplotr-package	2
crosshairs	2
FergusonBrannick2012	4
GenderDiff01	5
GenderDiff02	6
GenderDiff03	7
McLeod2007	7
Sweeney2015	8

Index**10**

metaplotr-package	<i>Creates Cross-hairs Plot.</i>
-------------------	----------------------------------

Description

In its current state this package only creates a cross-hairs plots that makes it possible to compare dependent effects sizes in meta-analysis. This package was created as a supporting code of the paper Brannick and Gultas (2016). In the future it will contain functions to create regularly used plots in meta-analyses studies (i.e., forest, funnel, le abbe, radial, baujat, GOSH, L'Abbe)

crosshairs	<i>Creates a Cross-hairs Plot.</i>
------------	------------------------------------

Description

When given effect sizes and standard errors, creates cross-hairs plots.

Usage

```
crosshairs(x, y, xse, yse, x_lab = NULL, y_lab = NULL, main_lab = NULL,
  confint = 0.95, mdrtr = NULL, mdrtr_lab = NULL, mdrtr_lab_pos = c(0.2,
  0.9), lab_size = 14, pnt_size = 3, whis_on = TRUE, annotate = FALSE,
  grid_dense = FALSE, bxplts = TRUE)
```

Arguments

x	Numeric vector of effect sizes that will be used in x axis.
y	Numeric vector of effect sizes that will be used in y axis.
xse	Numeric vector standard errors of effect sizes that is used in x axis.
yse	Numeric vector standard errors of the effect sizes that is used in y axis
x_lab	Title of the x-axis.
y_lab	Title of the y-axis.
main_lab	Main label of the cross-hairs plot.
confint	Confidence interval that is used to determine length of the whiskers.
mdrtr	Whether there is a moderator variable?
mdrtr_lab	Label of the moderator variable.
mdrtr_lab_pos	Determine the position of the moderator labels. Values between 0.1 and 0.9 are allowed.
lab_size	Size of the axis titles.
pnt_size	Determines the size of point in the plot.

whis_on	Whiskers on or off?
annotate	If true, mean effect size and correlation between effect sizes will be printed within the graph.
grid_dense	When changed to FALSE, a default denser gridlines will be used.
bxplts	Swithes boxplots on or off.

Details

crosshairs's basic output is a bitmat file that contains cross-hairs plot of given dependent effect sizes.

Examples

```
## Not run:
# Load and attach metaplotr package to the Global Environment
library(metaplotr)

# Remove all variables in the .GlobalEnv, effectively clearing .GlobalEvn
rm(list = ls())

# Find out more about the data set from Ferguson and Brannick (2012)
# help("FergusonBrannick2012")

# You can check out help file of the \code{crosshairs} function.
# help(crosshairs)

## End(Not run)

# Basic usage of the \code{crosshairs} function.
crosshairs(FergusonBrannick2012$pub_z, FergusonBrannick2012$dis_z,
FergusonBrannick2012$pub_z_se, FergusonBrannick2012$dis_z_se)

## Not run:
# whis_on option opens and closes whiskers.
crosshairs(FergusonBrannick2012$pub_z, FergusonBrannick2012$dis_z,
FergusonBrannick2012$pub_z_se, FergusonBrannick2012$dis_z_se,
whis_on = FALSE)

## End(Not run)

# confint option can control whiskers length.
crosshairs(FergusonBrannick2012$pub_z, FergusonBrannick2012$dis_z,
FergusonBrannick2012$pub_z_se, FergusonBrannick2012$dis_z_se, confint = .7)

crosshairs(FergusonBrannick2012$pub_z, FergusonBrannick2012$dis_z,
FergusonBrannick2012$pub_z_se, FergusonBrannick2012$dis_z_se, confint = .2)
crosshairs(FergusonBrannick2012$pub_z, FergusonBrannick2012$dis_z,
FergusonBrannick2012$pub_z_se, FergusonBrannick2012$dis_z_se, confint = .95)

# Main and axes labels can be changed.
crosshairs(FergusonBrannick2012$pub_z, FergusonBrannick2012$dis_z,
```

```

FergusonBrannick2012$pub_z_se, FergusonBrannick2012$dis_z_se,
main_lab = 'Different Main Label', x_lab = 'Different X Label',
y_lab = 'Different Y Label')

# Annotated correlation and meand values can be added to the graph.
crosshairs(FergusonBrannick2012$pub_z, FergusonBrannick2012$dis_z,
FergusonBrannick2012$pub_z_se, FergusonBrannick2012$dis_z_se, annotate = TRUE,
main_lab = 'Annotated Graph')

# Boxplots can be hidden.
crosshairs(FergusonBrannick2012$pub_z, FergusonBrannick2012$dis_z,
FergusonBrannick2012$pub_z_se, FergusonBrannick2012$dis_z_se,
main_lab = 'No Boxplots', bxppls = FALSE)

## Not run:
# Moderator legend and annotations can be used simulaneously.
crosshairs(FergusonBrannick2012$pub_z, FergusonBrannick2012$dis_z,
FergusonBrannick2012$pub_z_se, FergusonBrannick2012$dis_z_se,
mdrtr = FergusonBrannick2012$mod, annotate = TRUE,
main_lab = 'Moderator Legend and Annotation')

# Moderator legend position can be adjusted.
crosshairs(FergusonBrannick2012$pub_z, FergusonBrannick2012$dis_z,
FergusonBrannick2012$pub_z_se, FergusonBrannick2012$dis_z_se,
mdrtr = FergusonBrannick2012$mod, mdrtr_lab_pos = c(0.8, 0.8),
main_lab = 'Moderator Legend Position Change')

# Dot size can be changed.
crosshairs(FergusonBrannick2012$pub_z, FergusonBrannick2012$dis_z,
FergusonBrannick2012$pub_z_se, FergusonBrannick2012$dis_z_se,
mdrtr = FergusonBrannick2012$mod, pnt_size = 6,
main_lab = 'Bigger Dots')

# Size of labels can be changed.
crosshairs(FergusonBrannick2012$pub_z, FergusonBrannick2012$dis_z,
FergusonBrannick2012$pub_z_se, FergusonBrannick2012$dis_z_se,
mdrtr = FergusonBrannick2012$mod, lab_size = 20,
main_lab = 'Label Size Change')

## End(Not run)

```

FergusonBrannick2012 *Effect sizes and standard errors from Ferguson and Brannick (2012).*

Description

This data set contains Z scores and standards errors from Ferguson and and Brannick (2012) meta-analysis.

Usage

FergusonBrannick2012

Format

A data frame with 24 rows and 5 variables:

pub_z Publication effect size in z scores

dis_z Dissertation effect size in z scores

pub_z_se Standard error of the publication effect size z scores

dis_z_se Standard error of the dissertation effect size z scores

mod Moderator variable

Source

<http://dx.doi.org/10.1037/a0027128>

GenderDiff01

Gender Differences Data (1).

Description

This is a data set that show gender differences in effect sizes.

Usage

GenderDiff01

Format

A data frame with 45 rows and 14 variables:

author Author of the publication.

pub_year Year of the publication.

boys_n Sample size of male group.

boys_r Correlation of male group.

boys_z Effect size of male group.

boys_se Standard error of the effect size.

girls_n Sample size of female group.

girls_r Correlation of female group.

girls_z Effect size of female group.

girls_se Standard error of the effect size.

Source

<http://dx.doi.org/10.1037/a0027128>

GenderDiff02

Gender Differences Data (2).

Description

This data set contains Z scores and standards errors from Ferguson and and Brannick (2012) meta-analysis.

Usage

GenderDiff02

Format

A data frame with 27 rows and 13 variables:

author Author(s) of the study.

year Publication year.

men_n Number of male participants.

men_r Correlation.

men_z Z-scores.

men_se Standard error of male participants.

women_n Number of female participants.

women_r Correlation.

women_z Standard effect size.

women_se Standard error of female participants.

menage_m To be written.

country Country from which study was conducted.

region Continent of the study.

Source

<http://dx.doi.org/10.1037/a0027128>

GenderDiff03

Gender Differences Data (3).

Description

To be written.

Usage

GenderDiff03

Format

A data frame with 24 rows and 5 variables:

author Author of the study.

year Publication year.

men_n Number of men.

men_r Correlation among men.

men_z Z-scores of men.

men_se Standard errors of men.

gender Factor indicating gender.

Source

<http://dx.doi.org/10.1037/a0027128>

McLeod2007

Effect sizes from McLeod, Weisz, and Wood (2007).

Description

This data set contains various factors and variables from McLeod, Weisz, and Wood (2007) Examining the association between parenting and childhood depression: A meta-analysis.

Usage

McLeod2007

Format

A data frame with 45 rows and 14 variables:

- author** Author(s) of the publication used in the meta-analysis
- year** Year of the publication
- n** Sample size of the primary study used in the meta-analysis
- age** Mean age of the participants
- parent** Which parent was used? Mother (M), father (F), both (B)
- techp** Technology of the parenting measure: questionnaire (Q), interview (I), observation (O)
- informp** Who is the informant? Child (C), parent (P), observer (O)
- dx** Diagnostic status: yes (Y), no (N)
- tf** Timeframe: current symptomatology (C), lifetime symptomatology (L), unspecified (U)
- techd** To be added
- informd** Information technology used
- r** Mean r
- z** Effect size as Z-score.
- var** Variance of the Z-score.

Source

<http://dx.doi.org/10.1016/j.cpr.2007.03.001>

Sweeney2015

Effect sizes from Sweeney and Moyer (2015).

Description

Self-affirmation and responses to health messages: A meta-analysis on intentions and behavior.

Usage

Sweeney2015

Format

A data frame with 10 rows and 6 variables:

- author** Author of the primary study
- year** Publication of the primary study
- inten_d** Effect size of intentions
- inten_se** Standard error of intentions effect size
- beh_d** Effect size of behaviors
- beh_se** Standard error of behaviors effect size

Source

<http://dx.doi.org/10.1037/hea000110>

Index

*Topic **datasets**

FergusonBrannick2012, [4](#)

GenderDiff01, [5](#)

GenderDiff02, [6](#)

GenderDiff03, [7](#)

McLeod2007, [7](#)

Sweeney2015, [8](#)

cross-hairs (crosshairs), [2](#)

crosshairs, [2](#)

FergusonBrannick2012, [4](#)

GenderDiff01, [5](#)

GenderDiff02, [6](#)

GenderDiff03, [7](#)

McLeod2007, [7](#)

metaplotr (metaplotr-package), [2](#)

metaplotr-package, [2](#)

Sweeney2015, [8](#)