Package ‘dumbbell’

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Type Package
Title Displaying Changes Between Two Points Using Dumbbell Plots
Version 0.1
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Description Creates a Dumbbell Plot.
License MIT + file LICENSE
Encoding UTF-8
LazyData true
Imports dplyr, tidyr, tidyverse, ggplot2, rlang, utils, data.table, rstatix
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Collate 'global.R' 'dumbbell.R'
Suggests knitr, rmarkdown
VignetteBuilder knitr
Repository CRAN
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R topics documented:

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Dumbbell Plot

Description

Draws a Dumbbell Plot, essentially a dot plot with two series of data.

Usage

dumbbell(  
xdf,  
id,  
key,  
column1,  
column2,  
lab1,  
lab2,  
title,  
pointsize,  
textsize,  
segsize,  
expandx,  
expandy,  
p_col1,  
p_col2,  
leg,  
col_seg1,  
col_seg2,  
col_lab1,  
col_lab2,  
pt_alpha,  
arrow_size,  
arrow,  
pt_val,  
delt,  
pval  
)

Arguments

xdf data a data frame, xdf = data frame A data frame containing at least four columns corresponding, respectively, to (1) the first variable containing the "id", (2) the second variable containing the "key", (3) the third variable containing the start of the point "column1", the first data series, (4) the fourth variable containing the end of the point "column2", the second data series  
id is the name of the column containing the id variable which will label the y axis eg(subject1,subject2 etc) eg id = "id"
key is the name of the column containing the key variable telling us which measure
we use in each row eg key = "key"
column1, column2
first and second series of data eg column1 = "Control" column2 = "Test"
lab1, lab2
labels for data series eg lab1 = "Test" lab2 = "Control"
title
Adds title to the plot eg title = "This is a plot title"
pointsize
Adds pointsize to the points eg pointsize = 3
textsize
numeric value specifying the text size eg textsize = 3
segsize
numeric value specifying the segment width eg segsize = 1
expandx
Add space to the both ends of the x axis eg expandx = 0.6
expandy
Add space to the both ends of the y axis eg expandy = 1
p_col1, p_col2
colors for start and end points eg pcol1 = "red"
leg
Add legend title legend = "legend title"
col_seg1, col_seg2
Adds a color to each arrow in each direction eg col_seg1 = "red"
col_lab1, col_lab2
color text below each dumbell eg col_lab1 = "red"
pt_alpha
Add transparency to points pt_alpha = 0.6
arrow_size
Add size to arrows arrow_size = 0.2
arrow
Adds an arrow to one end of the dumbbell eg arrow = 1
pt_val
Add option to show the point values eg pt_val = 1
delt
Add a delta column to the plot eg delt = 1
pval
Adds pvalue to the facet label, from using a wilcox paired test eg pval = 1 or a
paired t_test eg pval = 2 (requires to use facet_wrap).

Value
Dumbbell plot

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Examples
library(tidyverse)
library(ggplot2)
library(rlang)
library(utils)
library(data.table)
library(dumbbell)
## create data
z <- data.frame(Group = c(rep("A",20),rep("B",20)),
                 # Subject = c(paste("sub_",1:20,sep=""),paste("sub_",1:20,sep="")),
                 Subject = c(paste(1:20,sep=""),paste(1:20,sep="")),
                 var1 = rnorm(40), var2 = rnorm(40))

#Facet plots
ggplot(z, aes(x = var1, y = var2, group = Group)) +
  geom_dumbbell(aes(group = Subject, size = Group)) +
  geom_point(size = 3) +
  scale_size_manual(breaks = c("A", "B"), values = c(1, 2)) +
  theme_minimal()
result = c(sample(1:100000, 40, replace=TRUE)),
analysis = c(rep("a",10),rep("b",10),rep("b",10),rep("a",10))
)

b<-z %>% filter(Group == 'A')
c<-z %>% filter(Group == 'B')
d<-merge(b,c, by.x="Subject", by.y="Subject")
e<-d %>% mutate("diff"=result.x-result.y) %>% arrange(diff)

d$Subject<-factor(d$Subject, levels = e$Subject)

## Basic plot
dumbbell(xdf=d,id="Subject",key="analysis.x",column1="result.x",column2="result.y")
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