

# 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

**URL** <https://github.com/foocheung2/dumbbell>

**NeedsCompilation** no

**RoxygenNote** 7.1.1

**Collate** 'global.R' 'dumbbell.R'

**Suggests** knitr, rmarkdown

**VignetteBuilder** knitr

**Repository** CRAN

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dumbbell

*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                                                                                   |
| segsz              | numeric value specifying the segment width eg segsz = 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 p_col1 = "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 dumbbell 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

## Author(s)

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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="")))
```

```
      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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