**Package ‘ggcorset’**

December 11, 2022

**Type** Package

**Title** The Corset Plot

**Version** 0.4.5

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**Description** Corset plots are a visualization technique used strictly to visualize repeat measures at 2 time points (such as pre- and post- data). The distribution of measurements are visualized at each time point, whilst the trajectories of individual change are visualized by connecting the pre- and post- values linearly. These lines can be coloured to represent the magnitude of change, or other user-defined value. This method of visualization is ideal for showing the heterogeneity of data, including differences by sub-groups. The package relies on ‘ggplot2’ allowing for easy integration so that users can customize their visualizations as required. Users can create corset plots using data in either wide or long format using the functions gg_corset() or gg_corset_elongated(), respectively.

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**Depends** R (>= 3.5.0)

**Imports** ggplot2, dplyr, gghalves, ggstance

**Encoding** UTF-8

**LazyData** true

**RoxygenNote** 7.2.2

**Suggests** rmarkdown, knitr, viridis, MetBrewer

**VignetteBuilder** knitr

**NeedsCompilation** no

**Repository** CRAN

**Date/Publication** 2022-12-11 22:20:03 UTC

**R topics documented:**

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Description

An example data set from simulated data.

Usage

data(drinkdays)

Format

An object of class data.frame with 300 rows and 3 columns.

Examples

```r
## Not run:
data(drinkdays)
## End(Not run)
```

---

gg_corset

Description

This function visualizes a corset plot in wide format.

Arguments

data The name of the data frame.
y_var1 The name of measured variable at time 1.
y_var2 The name of measured variable at time 2.
group The name of units measured at each time point such as 'ID'. The trajectories of these units are visualized by the lines of the corset plot.
c_var The name of variable to visualize by line colour, such as percent change, magnitude of change, or direction of change.
eyelets Optional (default is FALSE). If set to true, this will visualize one of two mean types by c_var, as defined by the 'e_type' argument.
e_type
Optional eyelet type if the eyelets parameter is set to TRUE. One of "SE" or "SD". The default is standard error ("SE") means. Alternatively, standard deviations ("SD") with means can be specified, which include horizontal lines to denote +1 and -1 standard deviation. Note that the visualization of standard deviations works best in tandem with the faceted option.

faceted
Optional (default is FALSE). If set to true, the c_var will be faceted.

facet_design
Optional facet type when the faceted parameter is set to TRUE. One of "original","group", or "line". The default is "original", which provides facets void of any special features. The "group" option includes the overall distribution of the entire sample in the background of each facet (which defaults to the 'vio_fill' colour), alongside each distribution for each c_var group. The "line" option includes all individual trajectories in the background of each facet using a soft grey (default) or custom colour as chosen by 'line_col' argument.

vio_fill
Optional (defaults to a soft black). Use to change the fill colour of the half violins.

line_size
Optional. Use to change the size (thickness) of the lines which visualize the c_var. Default is 0.25.

line_col
Optional custom colour of the background individual lines when the facet_design is set to "line". Defaults to a soft grey.

Value
ggplot2 graphical object

Examples

```r
wide.df <- data.frame(id = c(1,2,3,4,5),
                      time1 = c(3,4,7,5,6),
                      time2 = c(5,5,7,3,0),
                      change = c(28.57,14.29,0,-28.57,-85.71),
                      direction = c("increase","increase","no change","decrease","decrease"))

gg_corset(data = wide.df, y_var1 = "time1", y_var2 = "time2",
          group = "id", c_var = "change")
## Create corset plots with eyelets:

gg_corset(data = wide.df, y_var1 = "time1", y_var2 = "time2",
          group = "id", c_var = "direction", eyelets = TRUE)
## Create faceted corset plots based on direction of change:

gg_corset(data = wide.df, y_var1 = "time1", y_var2 = "time2",
          group = "id", c_var = "direction", faceted = TRUE)
## Create faceted corset plots with standard deviation eyelets:

gg_corset(data = wide.df, y_var1 = "time1", y_var2 = "time2", group = "id",
          eyelets = TRUE)
```
Description

This function visualizes a corset plot in long format.

Arguments

data
x_var
x_vals
y_var
group
c_var
eyelets
e_type
faceted
facet_design
vio_fill
line_size
line_col

Value

ggplot2 graphical object
Examples

\[
\begin{align*}
\text{long.df} & \leftarrow \text{data.frame}(id = c(1,1,2,2,3,3), \\
& \quad \text{time} = c(\text{"pre","post","pre","post","pre","post"}), \\
& \quad \text{days} = c(3,5,4,0,7,7), \\
& \quad \text{change} = c(28.57,28.57,-57.14,-57.14,0,0), \\
& \quad \text{direction} = c(\text{"increase","increase","decrease","decrease","no change","no change"}))
\end{align*}
\]

\[
\text{gg_corset_elongated(data = long.df, x_var = "time",} \\
\quad \text{x_vals = c("pre","post"), y_var = "days",} \\
\quad \text{group = "id", c_var = "change"})
\]

## Create groupings based on direction of change to use for eyelets:

\[
\text{gg_corset_elongated(data = long.df, x_var = "time", x_vals = c("pre","post"),} \\
\quad \text{y_var = "days", group = "id", c_var = "direction", eyelets = TRUE})
\]

## Create faceted corset plots based on direction of change:

\[
\text{gg_corset_elongated(data = long.df, x_var = "time", x_vals = c("pre","post"),} \\
\quad \text{y_var = "days", group = "id", c_var = "direction", faceted = TRUE})
\]

## Create faceted corset plots with standard deviation eyelets:

\[
\text{gg_corset_elongated(data = long.df, x_var = "time", x_vals = c("pre","post"),} \\
\quad \text{y_var = "days", group = "id", c_var = "direction", e_type = "SD", faceted = TRUE})
\]

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### theme_ggcorset

**THEME_GGCORSET**

**Description**

This function offers a ggplot theme to make visualizations more polished.

**Usage**

\[
\text{theme_ggcorset()}
\]

**Value**

ggplot2 theme

**Examples**

\[
\text{wide.df} \leftarrow \text{data.frame}(id = c(1,2,3,4,5),} \\
\quad \text{time1 = c(3,4,7,5,6),}
\]

```r
time2 = c(5, 5, 7, 3, 0),
change = c(28.57, 14.29, 0, -28.57, -85.71))

plot1 <- gg_corset(data = wide.df, y_var1 = "time1", y_var2 = "time2",
group = "id", c_var = "change")

plot1 + theme_ggcorset()
```
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