Package 'phdcocktail'

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Title Enhance the Ease of R Experience as an Emerging Researcher

Version 0.1.0

Description A toolkit of functions to help: i) effortlessly transform collected data into a publication ready format, ii) generate insightful visualizations from clinical data, iii) report summary statistics in a publication-ready format, iv) efficiently export, save and reload R objects within the framework of R projects.

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Encoding UTF-8

RoxygenNote 7.2.3

Imports ggplot2, here, RColorBrewer, rstudioapi, scales, stats

Depends R (>= 2.10)

Suggests knitr, rmarkdown

VignetteBuilder knitr

LazyData true

URL https://dahhamalsoud.github.io/phdcocktail/, https://github.com/DahhamAlsoud/phdcocktail

BugReports https://github.com/DahhamAlsoud/phdcocktail/issues

NeedsCompilation no

Author Dahham Alsoud [cre, aut, cph] (<https://orcid.org/0000-0002-6795-6328>)

Maintainer Dahham Alsoud <dahhamalsoud@gmail.com>

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R topics documented:

`get_safe_file_name` *Get a safe name to export a file without overwriting*

Description

Get a safe name to export a file without overwriting

Usage

```
get_safe_file_name(
  data,
  name = NULL,
  format = "xlsx",
  overwrite = FALSE,
  time_in_name = FALSE
)
```

Arguments

`data`	The object to be exported.
`name`	A desired name for the exported file. If no name is provided, the file will inherit the object's name.
`format`	The format of the exported file. Default is 'xlsx'.
`overwrite`	A logical to indicate whether preexisting files with identical names should be overwritten. Default is 'FALSE'.
`time_in_name`	A logical to indicate whether a timestamp should be included in the file's name.

Value

A safe name for exporting the file, as a "character string", and also indicated in a message.

Examples

```
if (FALSE) {
  library(phdcocktail)
  get_safe_file_name(mtcars)
}
```

`get_safe_workspace_name` *Get a safe name to save current workspace without overwriting*

Description

Get a safe name to save current workspace without overwriting

Usage

```
get_safe_workspace_name(name = "analysis", time_in_name = TRUE)
```

Arguments

`name`	A desired name for the saved workspace. If no name is provided, the name will be 'analysis'.
`time_in_name`	A logical to indicate whether a timestamp should be included in the workspace's name.

Value

A safe name for exporting the workspace, as a "character string", and also indicated in a message.

Examples

```
if (FALSE) {
  library(phdcocktail)
  get_safe_workspace_name()
}
```

ibd_data1 *Inflammatory Bowel Disease (IBD) datasets*

Description

'ibd_data1' and 'ibd_data2' are two small datasets containing data collected from IBD patients, more specifically patients with Crohn's disease. 'ibd_data2' is a modified version of 'ibd_data1' by introducing missing and incorrect entries 'L11' into the column 'disease_location'.

Usage

```
ibd_data1

ibd_data2
```

Format

Two data frames with each 30 rows and six columns:

patientid Patient ID

gender Gender

disease_location Disease location

disease_behaviour Disease behaviour

crp_mg_l C-reactive protein (mg/L)

calprotectin_ug_g Faecal calprotectin (ug/g)

Source

Randomly generated data

ibd_data_dict *Data dictionary for Inflammatory Bowel Disease (IBD) data*

Description

A small, non-exhaustive list of variables that are commonly collected in IBD research. For each variable and its levels, if applicable, publications-ready labels are provided

Usage

```
ibd_data_dict
```

Format

A data frame with 53 rows and four columns:

variable Variable name in the 'short', i.e. 'excel', form

variable_label Variable name in the publication form

value Value name in the 'short', i.e. 'excel', form

value_label Value name in the publication form

`ibd_outcomes` *Inflammatory Bowel Disease (IBD) outcomes*

Description

A table containing proportions and percentages of IBD patients achieving clinical outcomes.

Usage

```
ibd_outcomes
```

Format

A data frame with eight rows and seven columns:

outcome Outcome type

timepoint Assessment timepoint

achieved Number of patients who achieved the outcome

total Total number of patients

proportion Proportion of patients who achieved the outcome

percentage Percentage of patients who achieved the outcome

percentage_labelled Percentage of patients who achieved the outcome, suffixed with '%'

identify_recent_workspace *Identify the most recent saved R workspace*

Description

Identify the most recent saved R workspace

Usage

```
identify_recent_workspace(folder = "output")
```

Arguments

folder	The folder in which the workspace need to be identified.

Value

The most recent saved workspace, as a "character string", and also indicated in a message.

Examples

```
library(phdcocktail)
if (FALSE) {
  identify_recent_workspace()
}
```

plot_bars *Plot % of outcomes as bars*

Description

Plot % of outcomes as bars

Usage

```
plot_bars(
  data,
  outcome,
  proportion,
  percentage_labelled,
  achieved,
  total,
```

```
  x_axis_title = NULL,
  y_axis_title = "% Patients",
  legend_title = "Outcome",
  bar_fill = "Greys",
  grouping = NULL
)
```

Arguments

data	A data frame containing outcomes data.
outcome	Variable containing outcomes to be plotted.
proportion	Variable containing proportion of patients who achieved the outcome.
percentage_labelled	Variable containing percentage of patients who achieved the outcome, suffixed with '%' label.
achieved	Variable containing number of patients who achieved the outcome.
total	Variable containing total number of patients.
x_axis_title	Title of the x-axis.
y_axis_title	Title of the y-axis.
legend_title	Title of the legend.
bar_fill	Fill color of the bars.
grouping	Faceting variable.

Value

A bar plot of outcome percentages.

Examples

```
if (FALSE) {
library(phdcocktail)
data(ibd_outcomes, package = "phdcocktail")
plot_bars(ibd_outcomes)
  }
```

print.quantiles_report *A custom print method for the 'quantiles_report' class*

Description

A custom print method for the 'quantiles_report' class

Usage

```
## S3 method for class 'quantiles_report'
print(x, ...)
```

Arguments

x	A data frame of the class 'quantiles_report'.
...	Other argument that can be passed to 'print'.

Value

The function displays the content of the column 'report' in separate lines.

Examples

```
if (FALSE) {
library(phdcocktail)
summary_data <- report_quantiles(mtcars, summary_vrs = "mpg")
print(summary_data)
  }
```

recode_vrs *Recode variables and their values based on a data dictionary*

Description

Recode variables and their values based on a data dictionary

Usage

```
recode_vrs(data, data_dictionary, vrs = NULL, factor = FALSE)
```

Arguments

data	A data frame with raw data.
data_dictionary	A data dictionary containing labels for variables and their values.
vrs	A character vector specifying variables of which the values need to be recoded.
factor	A logical to indicate whether recoded variables need to be converted into ordered factors.

Value

The input data frame with recoded and labelled variables.

Examples

```
if (FALSE) {
  library(phdcocktail)
  data(ibd_data1, package = "phdcocktail")
  ibd_data_recoded <- recode_vrs(
    data = ibd_data1, data_dictionary = ibd_data_dict,
    vrs = c("disease_location", "disease_behaviour", "gender"), factor = TRUE
  )
}
```

---

report_quantiles *Report median-quantiles summaries*

Description

Report median-quantiles summaries

Usage

```
report_quantiles(data, summary_vrs, grouping_vrs = NULL)
```

Arguments

data	A data frame including numeric variables to be summarized.
summary_vrs	A character vector specifying the numeric variables to be summarized.
grouping_vrs	A character vector specifying the grouping variables, if any.

Value

A dataframe of the class 'quantiles_report', containing a 'report' column, which report the 'median (quartile 1-quartile 3)' combinations for each specified numeric variable, at each grouping key.

Examples

```
if (FALSE) {
library(phdcocktail)
summary_data <- report_quantiles(mtcars, summary_vrs = "mpg")
print(summary_data)
  }
```

`start_fresh` *Restart R session*

Description

Restart R session

Usage

```
start_fresh()
```

Value

A clean R session

Examples

```
if (FALSE) {
library(phdcocktail)
start_fresh()
  }
```

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