Package ‘whomds’

October 12, 2022

**Type** Package

**Title** Calculate Results from WHO Model Disability Survey Data

**Version** 1.1.0

**Description** The Model Disability Survey (MDS) <https://www.who.int/activities/collection-of-data-on-disability> is a World Health Organization (WHO) general population survey instrument to assess the distribution of disability within a country or region, grounded in the International Classification of Functioning, Disability and Health <https://www.who.int/standards/classifications/international-classification-of-functioning-disability-and-health>. This package provides fit-for-purpose functions for calculating and presenting the results from this survey, as used by the WHO. The package primarily provides functions for implementing Rasch Analysis (see Andrich (2011) <doi:10.1586/erp.11.59>) to calculate a metric scale for disability.

**License** GPL-3

**Encoding** UTF-8

**LazyData** true

**Imports** colorspace, dplyr, eRm, ggraph, ggplot2, GPArotation, grDevices, igraph, nFactors, plyr, polycor, purrr, RColorBrewer, readr, rlang, scales, srvyr, stringr, TAM, tibble, tidygraph, tidyr, WrightMap

**Depends** R (>= 3.6.0), psych

**BugReports** https://github.com/lindsayevanslee/whomds/issues

**RoxygenNote** 7.2.0

**Suggests** covr, httr, knitr, lubridate, rmarkdown, testthat

**VignetteBuilder** knitr

**URL** https://github.com/lindsayevanslee/whomds

**NeedsCompilation** no

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Example of WHO Model Disability Survey data for adults

Description
An dummy data set of data from the WHO Model Disability Survey. All survey variables and demographic characteristics (except work status) are randomly generated. Responses to the survey questions and work status are from randomly selected rows of the 2014 Chilean implementation of the MDS, ENDIS II (2014).

Usage
df_adults

Format
A tibble with 2500 rows and 90 variables:

- **HHID**: household number
- **strata**: survey strata
- **PSU**: PSU id
- **weight**: survey weights
- **sex**: sex, Male or Female
- **age**: age in years
- **age_cat**: age category, one of "18-24", "25-39", "40-64", or "64-100"
- **edu_cat**: highest level of education attained
- **work_cat**: whether respondent is currently working, binary
- **disability_score**: metric scale of performance, from Rasch analysis

**disability_cat**: performance level, as defined by WHO cutoffs of disability_score

Functioning section: On a scale from 1 (none) to 5 (extreme), in the last 30 days, taking into account any help or support you receive, how much has of a problem has it been for you to...

F1 ...stand up from sitting?
F2 ...stand for long periods of time, for example 30 minutes?
F3 ...leave the house?
F4 ...walk short distances, such as a street block or 100 meters?
F5 ...walk 10 blocks or a kilometer?
F6 ...do vigorous activities, such as play football, lift heavy objects, ride a bike or run?
F7 ...get where you want to go?
F8 ...manipulate small objects or opening a container?
F9 ...lift a 2L full bottle of water from your waist to your eye level?
F10 ...wash or dress yourself?
F11 ...feed yourself?
F12 ...use the bathroom?
F13 ...cut your toenails?
F14 ...take care of your health, for example exercise, eat well or take your medications?
F15 ...see objects at a distance?
F16 ...see objects at arms length?
F17 ...hear a conversation in a quiet room?
F18 ...hear a conversation in a loud room?
F19 ...feel pain?
F20 ...sleep?
F21 ...feel tired or not have enough energy?
F22 ...feel short of breath?
F23 ...cough or wheeze?
F24 ...feel sad, down or depressed?
F25 ...feel worried, nervous or anxious?
F26 ...get along with people close to you, including your family and friends?
F27 ...get along with people you don’t know?
F28 ...make new friends or maintain your friendships?
F29 ...have intimate relationships?
F30 ...manage stress?
F31 ...cope with everything you have to do?
F32 ...be understood in your usual language?
F33 ...understand others in your usual language?
F34 ...forget things?
F35 ...remember the important things you have to do day-to-day?
F36 ...find solutions to your day-to-day problems?
F37 ...complete household tasks, like sweeping, cooking, arranging the house or taking our the trash?
F38 ...manage the money you have?
F39 ...do things for relaxation?
F40 ...participate in community activities?
F41 ...participate in local or national politicics or civil society?
F42 ...take care of others?
F43 ...get a job?
F44 ...obtain a higher education?
F45 ...use public transportation?
F46 ...get things done in your job (if not currently working, NA)?
...get things done at your school (if not currently studying, NA)? *Capacity section: On a scale from 1 (none) to 5 (extreme), in the last 30 days, withing taking into account any type of help or support, due to your health how much difficulty have you had with...*

- C2 ...seeing, without contact lenses or glasses?
- C3 ...hearing, without hearing aids?
- C4 ...walking or climbing steps?
- C5 ...remembering or concentrating?
- C6 ...washing or dressing?
- C7 ...communicating in your usual language?
- C8 ...feeding yourself?
- C9 ...using the bathroom?
- C10 ...waking up and getting out of bed?
- C11 ...going out to the street?
- C12 ...doing shopping or going to the doctor?
- C13 ...manipulating small objects or opening a container?
- C14 ...sleeping?
- C15 ...breathing?
- C16 ...doing household tasks like sweeping, cooking, arranging the house or taking out the trash?
- C17 ...taking care of others?
- C18 ...participating in community activities?
- C19 ...feeling sad, down or depressed?
- C20 ...feeling worried, nervous or anxious?
- C21 ...getting along with people close to you, including your family and friends?
- C22 ...coping with everything you have to do?
- C23 ...feeling pain?
- C24 ...getting things done in your job (if not currently working, NA)?
- C25 ...getting things done at your school (if not currently studying, NA)? *Environmental factors section: On a scale from 1 (very easy) to 5 (very hard), to what extent...*

- EF1 ...do health facilities you need regularly make it easy or hard for you to use them?
- EF2 ...do places where you socialize and engage in community activities make it easy or hard for you to do this?
- EF3 ...do the shops, banks and post office in your neighbourhood make it easy or hard for you to use them?
- EF4 ...do your regular places of worship make it easy or hard for you to worship?
- EF5 ...does the transportation you need or want to use make it easy or hard for you to use it?
- EF6 ...does your dwelling (including the toilet and all rooms) make it easy or hard for you to live there?
- EF7 ...do the temperature, terrain, and climate of the place you usually live make it easy or hard for you to live there?
EF8 ...does the lighting in your surroundings make it easy or hard for you to live there?
EF9 ...does the noise in your surroundings make it easy or hard for you to live there?
EF10 ...do the crowds in your surroundings make it easy or hard for you to live there?
EF11 ...does your workplace make it easy or hard for you to work or learn (if not currently working, NA)?
EF12 ...does your educational institution make it easy or hard for you to work or learn (if not currently studying, NA)?

Description

An dummy data set of data from the WHO Model Disability Survey for children. All survey variables and demographic characteristics (except age variables) are randomly generated. Responses to the survey questions and age variables are from randomly selected rows of the 2014 Chilean implementation of the MDS, ENDIS II (2014).

Usage

df_children

Format

A tibble with 2500 rows and 42 variables:

HHID household number
strata survey strata
PSU PSU id
weight survey weights
sex sex, Male or Female
age age in years
age_cat age category, one of "Age2to4", "Age5to9", or "Age10to17" Functioning section: On a scale from 1 (none) to 5 (extreme), in the last 30 days, taking into account any help or support the child receives, compared with children of the same age, how much has of a problem it been for the child to...
child1 ...walk?
child2 ...manipulate small objects or opening a container?
child3 ...see things from a long distance?
child4 ...hear?
child5 ...feel pain?
child6 ...not have enough energy?
child7 ...have too much energy
child8 ...feel short of breath?
child9 ...feel sad, down or depressed?
child10 ...feel worried, nervous or anxious?
child11 ...(for children aged 5 to 17) wash or dress him- or herself?
child12 ...(for children aged 2 to 4) bite or hit other children or adults?
child13 ...(for children aged 5 to 17) control his or her own behavior?
child14 ...(for children aged 5 to 17) get along with children of the same age?
child15 ...(for children aged 2 to 4) understand what you say to him or her?
child16 (for children aged 2 to 4) How much of a problem has it been for you to understand what the child says?
child17 ...(for children aged 5 to 17) understand other people?
child18 ...(for children aged 5 to 17) be understood?
child19 ...(for children aged 2 to 3) learn the names of household objects?
child20 ...(for children aged 3 to 17) learn to do new things?
child21 ...(for children aged 5 to 17) complete a task?
child22 ...(for children aged 5 to 17) make changes to his or her routine?
child23 ...(for children aged 5 to 17) do homework as requested at school?
child24 ...(for children aged 2 to 5) play with toys or domestic objects?
child25 ...(for children aged 2 to 12) play with other children?
child26 ...(for children aged 13 to 17) do activities with other children?
child27 ...(for children aged 5 to 17) participate in community activities? Capacity section: On a scale from 1 (none) to 5 (extreme), in the last 30 days, without taking into account any help or support the child receives, how much has difficulty has the child had with...
child28 ...seeing without glasses?
child29 ...hearing without hearing aids?
child30 ...walking?
child31 ...understanding you or others?
child32 ...learning?
child33 ...controlling his or her behavior?
child34 ...completing a task?
child35 ...getting along with other children?
fig_density

Plot a density of a score

Description

Plot a density of a score

Usage

fig_density(
  df, score,
  var_color = NULL,
  var_facet = NULL,
  cutoffs = NULL,
  x_lab = "Score",
  pal = "Paired",
  adjust = 2,
  size = 1.5
)

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>df</td>
<td>a data frame where each row is an individual, containing at least a score column (between 0 and 100)</td>
</tr>
<tr>
<td>score</td>
<td>a string (length 1) of the column name for the score variable to print the distribution of</td>
</tr>
<tr>
<td>var_color</td>
<td>a string (length 1) of the column name for the variable to set color of density lines by. Default is NULL.</td>
</tr>
<tr>
<td>var_facet</td>
<td>a string (length 1) of the column name for the variable to create a ggplot2::facet_grid() with. Default is NULL.</td>
</tr>
<tr>
<td>cutoffs</td>
<td>a numeric vector of the cut-offs for the score categorization. Default is NULL.</td>
</tr>
<tr>
<td>x_lab</td>
<td>a string (length 1) of x-axis label. Default is &quot;Score&quot;.</td>
</tr>
<tr>
<td>pal</td>
<td>a string specifying either a manual color to use for the color aesthetic, a character vector explicitly specifying the colors to use for the color scale, or as the name of a palette to pass to \texttt{RColorBrewer::brewer.pal()} with the name of the color palette to use for the color scale. Default is &quot;Paired&quot;</td>
</tr>
<tr>
<td>adjust</td>
<td>a numeric value to pass to adjust argument of \texttt{ggplot2::geom_density()}. Default is 2.</td>
</tr>
<tr>
<td>size</td>
<td>a numeric value to pass to size argument of \texttt{ggplot2::geom_density()}. Default is 1.5.</td>
</tr>
</tbody>
</table>
Details

Plots a histogram of a score that ranges between 0 and 100, with the fill determined by some set categorization of the score. This is the function used to plot the distributions of disability scores resulting from the WHO Model Disability Survey.

Value

A density figure

See Also

Other figure functions: `fig_LID()`, `fig_dist()`, `fig_poppyramid()

Examples

```r
fig_density(df_adults, score = "disability_score", cutoffs = c(19.1, 34.4, 49.6), x_lab = "Disability score")
fig_density(df_adults, score = "disability_score", var_color = "sex", cutoffs = c(19.1, 34.4, 49.6), x_lab = "Disability score")
fig_density(df_adults, score = "disability_score", var_color = "sex", var_facet = "age_cat", cutoffs = c(19.1, 34.4, 49.6), x_lab = "Disability score")
```
Arguments

df | a data frame where each row is an individual, containing at least a score column
   | (between 0 and 100) and a categorization of that score
score | a string (length 1) of the column name for the score variable to print the distribution of
score_cat | a string (length 1) of the column name for the categorization of the score variable
cutoffs | a numeric vector of the cut-offs for the score categorization
x_lab | a string (length 1) of x-axis label. Default is "Score".
y_max | a numeric value of the maximum limit on the y-axis. Default is NULL to use default value from geom_histogram()
pcent | a logical value determining whether or not to display the distribution as percentages or frequency. Default is FALSE, to display as frequency.
pal | a string to pass to RColorBrewer::brewer.pal() with the name of the color palette to use
binwidth | a numeric value giving the width of the bins in the histogram. Default is 5.

Details
Plots a histogram of a score that ranges between 0 and 100, with the fill determined by some set categorization of the score. This is the function used to plot the distributions of disability scores resulting from the WHO Model Disability Survey.

Value
A score distribution figure with fill based on categorization of the score

See Also
Other figure functions: fig_LID(), fig_density(), fig_poppyramid()

Examples

fig_dist(df_adults, score = "disability_score", score_cat = "disability_cat",
cutoffs = c(19.1, 34.4, 49.6), x_lab = "Disability score")
fig_dist(df_adults, score = "disability_score", score_cat = "disability_cat",
cutoffs = c(19.1, 34.4, 49.6), x_lab = "Disability score", y_max = 2000)
fig_dist(df_adults, score = "disability_score", score_cat = "disability_cat",
cutoffs = c(19.1, 34.4, 49.6), x_lab = "Disability score", y_max = 0.2, pcent=TRUE)
Print a graph showing significant correlations between survey items

**Description**
Print a graph showing significant correlations between survey items

**Usage**

```r
fig_LID(
  LIDforgraph,
  LIDcutoff = 0.2,
  path_output,
  extra_file_label = NULL,
  vertex_print_grey = NULL
)
```

**Arguments**

- `LIDforgraph`: a square matrix of item correlations
- `LIDcutoff`: a numeric value between 0 and 1 for the cut-off for significant correlation
- `path_output`: a string with the path to the output folder
- `extra_file_label`: a string to tack on to the end of names of files outputted and the title of the plot. Default is `NULL`.
- `vertex_print_grey`: a character vector with the names of vertices to print in "lightgrey", with all others printed in "skyblue". If left as default `NULL`, all vertices will be printed in "lightgrey".

**Details**
This function could be applied to visualize any kind of correlations. But within the context of the Rasch Analysis used for the WHO Model Disability Survey, the residual correlations are used when analyzing item dependence.

**Value**

Returns a ggplot graph showing the items with correlation >= `LIDcutoff` and prints a csv of the corresponding correlations

**See Also**

Other figure functions: `fig_density()`, `fig_dist()`, `fig_poppyramid()`
fig_poppyramid

Print a population pyramid

Description
Print a population pyramid

Usage
fig_poppyramid(
  df,
  var_age,
  var_sex,
  x_axis = c("n", "pct"),
  age_plus = 100,
  age_by = 5
)

Arguments
df a data frame of individual survey data, where each row is an individual
var_age a string (length 1) of the name of the age column
var_sex a string (length 1) of the name of the sex column
x_axis a string (length 1) indicating whether to use absolute numbers or sample percentage on the x-axis. Choices are "n" (default) or "pct".
age_plus a numeric value (length 1) indicating the age that is the first value of the oldest age group. Default is 100, for the last age group to be 100+
age_by a numeric value (length 1) indicating the width of each age group, in years. Default is 5.

Details
A population pyramid gives an image of the age and sex distribution of a population.
The function divides the var_age variable into intervals of width age_by.

Value
A population pyramid figure

See Also
Other figure functions: fig_LID(), fig_density(), fig_dist()

Examples
fig_poppyramid(df_adults, "age", "sex")
Description

Check a vector for particular values

Usage

helper_checkrow(
  row,
  check_type = c("all_equal", "all_not_equal", "any_in"),
  check_value,
  na_rm = TRUE
)

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>row</td>
<td>a vector of data</td>
</tr>
<tr>
<td>check_type</td>
<td>a string indicating the type of check to do on row. Options are &quot;all_equal&quot;,</td>
</tr>
<tr>
<td></td>
<td>&quot;all_not_equal&quot;, and &quot;any_in&quot;. A value of &quot;all_equal&quot; will check that all</td>
</tr>
<tr>
<td></td>
<td>values in row equal check_value. A value of &quot;all_not_equal&quot; will check that</td>
</tr>
<tr>
<td></td>
<td>all values of row are not equal to check_value. A value of &quot;any_in&quot; will</td>
</tr>
<tr>
<td></td>
<td>check if any of the values in check_value are in row.</td>
</tr>
<tr>
<td>check_value</td>
<td>a vector of values to check against</td>
</tr>
<tr>
<td>na_rm</td>
<td>logical indicating whether or not to perform check after removing NAs,</td>
</tr>
<tr>
<td></td>
<td>passed to argument na.rm of any() or all(). Default is TRUE.</td>
</tr>
</tbody>
</table>

Details

If all values of row are NA, then an NA is returned.

Value

a logical vector with the result of the check

See Also

Other helper functions: helper_palette(), helper_varslist()
helper_indicator  
Create indicators from data frame

Description
Create indicators from data frame

Usage

```r
helper_indicator(
  df,
  vars_indicators,
  mapvalues_from,
  mapvalues_to,
  make_factor = TRUE
)
```

Arguments

- `df` a data frame
- `vars_indicators` a character vector of the variables from `df` to create indicators for
- `mapvalues_from` vector to pass to `plyr::mapvalues()` argument from
- `mapvalues_to` vector to pass to `plyr::mapvalues()` argument to
- `make_factor` a logical indicating whether resulting indicators should be factors. Default is `TRUE`.

Value

a data frame with new columns that are the indicators from `vars_indicators`, with the same names pasted with "_ind".

Examples

```r
helper_indicator(df = df_adults,
  vars_indicators = c("EF1", "EF2", "EF3"),
  mapvalues_from = 1:5,
  mapvalues_to = c(0,0,0,1,1))
```
**helper_installation**  
Check installation of whomds is the most updated

**Description**  
Compares build date of installed package against the date of the last commit from GitHub ([https://github.com/lindsayevanslee/whomds](https://github.com/lindsayevanslee/whomds))

**Usage**  
```  
helper_installation()  
```

**Value**  
Prints a message stating whether or not installed package is same as most updated version from Github

**helper_palette**  
Color palette for the MDS

**Description**  
Color palette for the MDS

**Usage**  
```  
helper_palette(  
n,  
h = c(-100, 100),  
c. = c(60, 100),  
l = c(15, 95),  
power = c(2, 0.9),  
fixup = TRUE,  
gamma = NULL,  
alpha = 1,  
...  
)  
```

**Arguments**  
- `n` the number of colors ($\geq 1$) to be in the palette.  
- `h` hue value in the HCL or HSV color description, has to be in [0, 360] for HCL and in [0, 1] for HSV colors.  
- `c.` chroma value in the HCL color description.  
- `l` luminance value in the HCL color description.
power control parameter determining how chroma and luminance should be increased (1 = linear, 2 = quadratic, etc.).
fixup logical. Should the color be corrected to a valid RGB value before correction?
gamma Deprecated.
alPHA numeric vector of values in the range [0, 1] for alpha transparency channel (0 means transparent and 1 means opaque).

... Other arguments passed to hex.

Details
Generated with colorspace::choose_palette()

Value
n hex codes from the color palette

See Also
Other helper functions: helper_checkrow(), helper_varslist()

| helper_rowSums | Perform row sum |

Description
Perform row sum

Usage
helper_rowSums(x, allNA0 = TRUE, ...)

Arguments
x an array of two or more dimensions, containing numeric, complex, integer or logical values, or a numeric data frame
allNA0 logical indicating that if a whole row is NA to give the row sum as NA. Only works for two dimensional x and if na.rm is TRUE.

Details
Essentially equivalent to base::rowSums() except with the addition of the allNA0 argument.

Value
A numeric or complex array of suitable size, or a vector if the result is one-dimensional.
Examples

```r
x <- data.frame(v1 = c(NA, 1:4), v2 = c(NA, 2:5), v3 = c(NA, 1:2, NA, 3))
helper_rowSums(x, na.rm = TRUE, allNA0 = TRUE)
helper_rowSums(x, na.rm = TRUE, allNA0 = FALSE)
```

---

**helper_varslist**  
*Convert list to vector with unique elements*

**Description**

Convert list to vector with unique elements

**Usage**

```r
helper_varslist(vars_list)
```

**Arguments**

- `vars_list`  
a list of character vectors

**Value**

a character vector of all unique items from `vars_list`

**See Also**

Other helper functions: `helper_checkrow()`, `helper_palette()`

---

**rasch_df_nest**  
*Nest data by age group*

**Description**

Nest data by age group

**Usage**

```r
rasch_df_nest(df, vars_group, vars_id)
```

**Arguments**

- `df`  
a data frame of individual survey data, where each row is an individual
- `vars_group`  
a string with the column name identifying grouping variable
- `vars_id`  
a string with column name uniquely identifying individuals
Value

nested tibble with two columns: the age group given by vars_group and df_split with the split data

See Also

Other rasch functions: rasch_DIF(), rasch_drop(), rasch_factor(), rasch_mds_children(), rasch_mds(), rasch_model_children(), rasch_model(), rasch_quality_children_print(), rasch_quality_children(), rasch_rawscore(), rasch_recode(), rasch_rescale_children(), rasch_rescale(), rasch_split_age(), rasch_split(), rasch_testlet()

Other children analysis functions: rasch_drop(), rasch_mds_children(), rasch_model_children(), rasch_quality_children_print(), rasch_quality_children(), rasch_recode(), rasch_rescale_children(), rasch_split_age(), rasch_split(), rasch_testlet()

———

rasch_DIF  Perform analysis of Differential Item Functioning (DIF) for Rasch Model

———

Description

Perform analysis of Differential Item Functioning (DIF) for Rasch Model

Usage

rasch_DIF(  
df,  
vars_metric,  
vars_DIF,  
residuals_PCM,  
split_strategy = NULL,  
print_results = FALSE,  
path_output = NULL,  
breaks = 6  
)

Arguments

df  
a data frame of individual survey data, where each row is an individual

vars_metric  
a character vector of items to use in the Rasch Analysis

vars_DIF  
a string with the column names to use for analyzing differential item functioning (DIF). Default is NULL, to skip analysis of DIF.

residuals_PCM  
a matrix giving the residuals of the person parameters from the Rasch Model. Row names are the numbers of the people and the columns are for each variable.
split_strategy  a named list giving the strategy to take for splitting variables by categories, passed to `rasch_split()`. One element of the list per variable to split by. Each element of the list must be a character vector of column names to split. The names of the list are the variables to split each group of variables by. Default is NULL, to not split items.

print_results  a logical value indicating whether or not to print various files displaying results from the Rasch Model. Default is FALSE, to not print the files.

path_output  a string with the path to the output folder. Default is NULL.

breaks  a numeric value giving the number of class intervals. Default is 6.

Details

Differential Item Functioning (DIF) refers to the circumstance when different groups in a sample respond to items in different ways. For instance, DIF would be observed if men and women had different patterns of responses to a set of survey questions. DIF can cause poor fit for the Rasch Model, and therefore should be analyzed. This function uses ANOVA to find DIF by the variables supplied and by a generated class interval.

Value

a list with results from the DIF analysis:

- `df_DIF_class`  the person residuals from the Rasch Model, the assigned class intervals, and the variables used for DIF analysis
- `tab_aov_DIF`  the results of the ANOVA used to analyze DIF
- `DIF_results`  string of variables that exhibit some form of DIF

Note

Currently the calculation of the class intervals is quite slow. Reducing the number of breaks can improve speed.

See Also

rasch_drop

Drop items from a Rasch Analysis

Description

Drop items from a Rasch Analysis

Usage

rasch_drop(vars_metric, drop_vars, max_values)

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>vars_metric</td>
<td>a character vector of items to use in the Rasch Analysis</td>
</tr>
<tr>
<td>drop_vars</td>
<td>a character vector of column names to drop from the Rasch Analysis. Default is NULL, to not drop items.</td>
</tr>
<tr>
<td>max_values</td>
<td>a tibble with two columns, var equivalent to vars_metric and max_val with their corresponding maximum possible values</td>
</tr>
</tbody>
</table>

Details

Dropping variables might be desirable if one finds that particular items are causing a lot of problems for the fit of a Rasch Model.

Value

a named list with:

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>vars_metric</td>
<td>new vars_metric after dropping the desired variables</td>
</tr>
<tr>
<td>max_values</td>
<td>new max_values after dropping the desired variables</td>
</tr>
</tbody>
</table>

See Also

Other rasch functions: rasch_DIF(), rasch_df_nest(), rasch_factor(), rasch_mds_children(), rasch_mds(), rasch_model(), rasch_quality_children(), rasch_quality_children_print(), rasch_quality_children(), rasch_rawscore(), rasch_recode(), rasch_rescale_children(), rasch_rescale(), rasch_split_age(), rasch_split(), rasch_testlet()

Other children analysis functions: rasch_df_nest(), rasch_mds_children(), rasch_model_children(), rasch_quality_children_print(), rasch_quality_children(), rasch_recode(), rasch_rescale_children(), rasch_split_age(), rasch_split(), rasch_testlet()
rasch_factor

Calculate a factor analysis for a Rasch Model

Description

Calculate a factor analysis for a Rasch Model

Usage

```r
rasch_factor(df, vars_metric, print_results = FALSE, path_output = NULL)
```

Arguments

- `df`: a data frame of individual survey data, where each row is an individual
- `vars_metric`: a character vector of items to use in the Rasch Analysis
- `print_results`: a logical value indicating whether or not to print various files displaying results from the Rasch Model. Default is FALSE, to not print the files.
- `path_output`: a string with the path to the output folder. Default is NULL.

Details

Unidimensionality of the data is one of the core assumptions of the Rasch Model. This function performs the factor analysis to assess the unidimensionality of the data.

Value

A named list with results from the factor analysis for a Rasch Model:

- `cor_poly`: the matrix of polychoric correlations
- `eigenvalues`: the eigenvalues
- `parallel_analysis`: permutation parallel analysis distribution
- `results_scree`: results of a scree analysis
- `n_group_factors`: number of factors from the parallel analysis in the scree analysis
- `fa_onefactor`: results from factor analysis with one factor
- `fa_resid`: local dependency based on polychoric correlations of the items

See Also

rasch_mds  

Top-level function to perform Rasch Analysis on WHO Model Disability Survey data

Description

Top-level function to perform Rasch Analysis on WHO Model Disability Survey data

Usage

```r
rasch_mds(
  df,
  vars_metric,
  vars_id,
  vars_DIF = NULL,
  resp_opts = 1:5,
  max_NA = 2,
  print_results = FALSE,
  path_parent = NULL,
  model_name = NULL,
  testlet_strategy = NULL,
  recode_strategy = NULL,
  drop_vars = NULL,
  split_strategy = NULL,
  comment = NULL
)
```

Arguments

df  a data frame of individual survey data, where each row is an individual  
vars_metric a character vector of items to use in the Rasch Analysis  
vars_id a string with column name uniquely identifying individuals  
vars_DIF a string with the column names to use for analyzing differential item functioning (DIF). Default is NULL, to skip analysis of DIF.  
resp_opts a numeric vector of possible response options for vars_metric. Must begin with 1. Default is 1:5  
max_NA a numeric value for the maximum number of NAs allowed per individual among vars_metric. Default is 2.  
print_results a logical value indicating whether or not to print various files displaying results from the Rasch Model. Default is FALSE, to not print the files.  
path_parent a string with the path to the folder where results from multiple models will be outputted. Default is NULL.  
model_name a string with a name for the model, which is used to create a new folder for model output. Default is NULL.
testlet_strategy
a list giving the strategy to take for creating testlets, passed to rasch_testlet().
One element of the list per testlet to create. Each element of the list must be a
character vector of column names to use for the testlet. Optionally, name the
element of the list to give the name of the new testlet. Otherwise, the new testlet
will be the original column names separated by ".". Default is NULL, to not
create testlets.

recode_strategy
a named list giving the strategy to take for recoding variables, passed to rasch_recode().
One element of the list per recode strategy. Each element of the list is a numeric
vector giving the new values to map the variables to. The names of the list are
the groups of column names to use for each recoding strategy, separated only by
".". Default is NULL, to not recode items.

drop_vars
a character vector of column names to drop from the Rasch Analysis. Default is
NULL, to not drop items.

split_strategy
a named list giving the strategy to take for splitting variables by categories,
passed to rasch_split(). One element of the list per variable to split by. Each
element of the list must be a character vector of column names to split. The
names of the list are the variables to split each group of variables by. Default is
NULL, to not split items.

comment
a string giving a comment describing the analysis, printed to a txt file. Default
is NULL, to not print a comment.

Details
This function combines all of the separate analyses of model fit necessary to assess the quality of
the Rasch Model. It is designed to require minimal intervention from the user. Users wishing to
have more control over the analysis can use the other Rasch functions in this package separately.

Value
a named list with:

df
a tibble with new columns representing the original person abilities (person_pars)
and the rescaled person abilities (rescaled)

vars_metric
a character vector with the variables used in the metric after all adjustments

df_results
a tibble of one row with key results of the model

If print_results is TRUE, prints files to the working directory with the results of the Rasch
Model.

See Also
Other rasch functions: rasch_DIF(), rasch_df_nest(), rasch_drop(), rasch_factor(), rasch_mds_children(),
rasch_model_children(), rasch_model(), rasch_quality_children_print(), rasch_quality_children(),
rasch_rawscore(), rasch_recode(), rasch_rescale_children(), rasch_rescale(), rasch_split_age(),
rasch_split(), rasch_testlet()
### rasch_mds_children

Top-level function to perform Rasch Analysis on WHO Model Disability Survey data for children

#### Usage

```r
rasch_mds_children(
  df,
  vars_id,
  vars_group,
  vars_metric_common,
  vars_metric_grouped = NULL,
  TAM_model = "PCM2",
  vars_DIF = NULL,
  resp_opts = 1:5,
  has_at_least_one = 4:5,
  max_NA = 10,
  print_results = FALSE,
  path_parent = NULL,
  model_name = NULL,
  testlet_strategy = NULL,
  recode_strategy = NULL,
  drop_vars = NULL,
  split_strategy = NULL,
  comment = NULL
)
```

#### Arguments

- **df**: a data frame of individual survey data, where each row is an individual
- **vars_id**: a string with column name uniquely identifying individuals
- **vars_group**: a string with the column name identifying grouping variable
- **vars_metric_common**: a character vector the common items among all individuals
- **vars_metric_grouped**: a named list of character vectors with the items to use in the Rasch Analysis per group. The list should have names corresponding to the different groups, and contain character vectors of the corresponding items for each group.
- **TAM_model**: a string with the type of IRT model to use, passed to irtmodel argument of TAM::tam(). Default is "PCM2"
vars_DIF Currently does nothing. In the future, a string with the column names to use for analyzing differential item functioning (DIF). Default is NULL, to skip analysis of DIF.

resp_opts a numeric vector of possible response options for vars_metric. Must begin with 1. Default is 1:5

has_at_least_one a numeric vector with the response options that a respondent must have at least one of in order to be included in the metric calculation. See details for more information.

max_NA a numeric value for the maximum number of NAs allowed per individual among vars_metric. Default is 2.

print_results a logical value indicating whether or not to print various files displaying results from the Rasch Model. Default is FALSE, to not print the files.

path_parent a string with the path to the folder where results from multiple models will be outputted. Default is NULL

model_name a string with a name for the model, which is used to create a new folder for model output. Default is NULL.

testlet_strategy a list giving the strategy to take for creating testlets, passed to rasch_testlet(). One element of the list per testlet to create. Each element of the list must be a character vector of column names to use for the testlet. Optionally, name the element of the list to give the name of the new testlet. Otherwise, the new testlet will be the original column names separated by "_". Default is NULL, to not create testlets.

recode_strategy a named list giving the strategy to take for recoding variables, passed to rasch_recode(). One element of the list per recode strategy. Each element of the list is a numeric vector giving the new values to map the variables to. The names of the list are the groups of column names to use for each recoding strategy, separated only by ",". Default is NULL, to not recode items.

drop_vars a character vector of column names to drop from the Rasch Analysis. Default is NULL, to not drop items.

split_strategy a named list giving the strategy to take for splitting variables by categories, passed to rasch_split(). One element of the list per variable to split by. Each element of the list must be a character vector of column names to split. The names of the list are the variables to split each group of variables by. Default is NULL, to not split items.

comment a string giving a comment describing the analysis, printed to a txt file. Default is NULL, to not print a comment.

Details

This function combines all of the separate analyses of model fit necessary to assess the quality of the Rasch Model. It is designed to require minimal intervention from the user. Users wishing to have more control over the analysis can use the other Rasch functions in this package separately.
Often Rasch Analysis of children data is more difficult because of the extreme skewness of the responses. For this reason, it is often advisable to build a scale only with the respondents on the more severe end of the disability continuum. By specifying has_at_least_one, the function will remove all children from the sample who do endorse an answer of any of has_at_least_one in at least one vars_metric. The scores created can be reunited with the excluded children post-hoc.

**Value**

a tibble with new columns representing the original person abilities (person_pars) and the rescaled person abilities (rescaled).

If print_results is TRUE, prints files to the working directory with the results of the Rasch Model.

**See Also**

Other rasch functions: rasch_DIF(), rasch_df_nest(), rasch_drop(), rasch_factor(), rasch_mds(), rasch_model_children(), rasch_model(), rasch_quality_children_print(), rasch_quality_children(), rasch_rawscore(), rasch_recode(), rasch_rescale_children(), rasch_rescale(), rasch_split_age(), rasch_split(), rasch_testlet()

Other children analysis functions: rasch_df_nest(), rasch_drop(), rasch_model_children(), rasch_quality_children_print(), rasch_quality_children(), rasch_recode(), rasch_rescale_children(), rasch_split_age(), rasch_split(), rasch_testlet()
print_results a logical value indicating whether or not to print various files displaying results from the Rasch Model. Default is FALSE, to not print the files.

path_output a string with the path to the output folder. Default is NULL.

LIDcutoff either a numeric value between 0 and 1 indicating the cut-off for significant local item dependence, or the string "christensen" to use the cut-off suggested by Christensen et al. 2017 (see reference). If "christensen" cut-off fails, defaults to 0.2.

Details

The Rasch Model is calculated using the function eRm::PCM().

Value

a list with results from the Rasch Model:

model the results from the Rasch Model
df_score a tibble with the items used in the analysis and the person abilities
thresholds the item thresholds (i.e., crossings)
person_parameters person abilities
PSI the person-separation index
item_fit infit and outfit statistics per item
residuals_PCM the standardized person residuals
LID matrix with the item residual correlations
targeting a matrix with information on the targeting of the model
fit_results a string with results of the item fit
LID_results a string with results of the local item dependency
disordered_results a string listing items with disordered thresholds

References


See Also

Other rasch functions: rasch_DIF(), rasch_df_nest(), rasch_drop(), rasch_factor(), rasch_mds_children(), rasch_mds(), rasch_model_children(), rasch_quality_children_print(), rasch_quality_children(), rasch_rawscore(), rasch_recode(), rasch_rescale_children(), rasch_rescale(), rasch_split_age(), rasch_split(), rasch_testlet()
**rasch_model_children**  
*Run the multigroup and anchored Rasch Model*

**Description**
Run the multigroup and anchored Rasch Model

**Usage**

```r
rasch_model_children(df, df_nest, vars_metric, vars_group, TAM_model)
```

**Arguments**
- `df`: a data frame of individual survey data, where each row is an individual
- `df_nest`: a nested tibble that contains the column `df_split` with the data split by the categories in the column `vars_group`
- `vars_metric`: a character vector of items to use in the Rasch Analysis
- `vars_group`: a string with the column name identifying grouping variable
- `TAM_model`: a string with the type of IRT model to use, passed to `irtmodel` argument of `TAM::tam()`. Default is "PCM2"

**Value**
A nested tibble with new columns with the Rasch Models calculated with the TAM package

**See Also**
Other rasch functions: `rasch_DIF()`, `rasch_df_nest()`, `rasch_drop()`, `rasch_factor()`, `rasch_mds_children()`, `rasch_mds()`, `rasch_model()`, `rasch_quality_children_print()`, `rasch_quality_children()`, `rasch_rawscore()`, `rasch_recode()`, `rasch_rescale_children()`, `rasch_rescale()`, `rasch_split_age()`, `rasch_split()`, `rasch_testlet()`

Other children analysis functions: `rasch_df_nest()`, `rasch_drop()`, `rasch_mds_children()`, `rasch_quality_children_print()`, `rasch_quality_children()`, `rasch_recode()`, `rasch_rescale_children()`, `rasch_split_age()`, `rasch_split()`, `rasch_testlet()`

---

**rasch_quality_children**  
*Calculate quality of multigroup and anchored Rasch Models*

**Description**
Calculate quality of multigroup and anchored Rasch Models
Usage

rasch_quality_children_print(df_nest, vars_metric)

Arguments

df_nest: a nested tibble that contains the column df_split with the data split by the categories in the column vars_group.

vars_metric: a character vector of items to use in the Rasch Analysis.

Value

A nested tibble with new columns with information about model quality.

See Also

Other rasch functions: rasch_DIF(), rasch_df_nest(), rasch_drop(), rasch_factor(), rasch_mds_children(), rasch_mds(), rasch_model_children(), rasch_model(), rasch_quality_children_print(), rasch_rawscore(), rasch_recode(), rasch_rescale_children(), rasch_rescale(), rasch_split_age(), rasch_split(), rasch_testlet()

Other children analysis functions: rasch_df_nest(), rasch_drop(), rasch_mds_children(), rasch_model_children(), rasch_quality_children_print(), rasch_recode(), rasch_rescale_children(), rasch_split_age(), rasch_split(), rasch_testlet()
Arguments

- **df_nest**: A nested tibble that contains the column `df_split` with the data split by the categories in the column `vars_group`.
- **vars_metric**: A character vector of items to use in the Rasch Analysis.
- **vars_group**: A string with the column name identifying grouping variable.
- **TAM_model**: A string with the type of IRT model to use, passed to `irtmodel` argument of `TAM::tam()`. Default is "PCM2".
- **LIDcutoff**: A numeric value between 0 and 1 for the cut-off for significant correlation.
- **path_output**: A string with the path to the output folder.

Value

does not return anything to the environment, but prints files to the folder specified in `path_output`.

See Also

Other rasch functions: `rasch_DIF()`, `rasch_df_nest()`, `rasch_drop()`, `rasch_factor()`, `rasch_mds_children()`, `rasch_mds()`, `rasch_model_children()`, `rasch_model()`, `rasch_quality_children()`, `rasch_rawscore()`, `rasch_recode()`, `rasch_rescale_children()`, `rasch_rescale()`, `rasch_split_age()`, `rasch_split()`, `rasch_testlet()`

Other children analysis functions: `rasch_df_nest()`, `rasch_drop()`, `rasch_mds_children()`, `rasch_model_children()`, `rasch_quality_children()`, `rasch_recode()`, `rasch_rescale_children()`, `rasch_split_age()`, `rasch_split()`, `rasch_testlet()`

---

**rasch_rawscore**

*Add the raw scores to the data and artificial individuals attaining the minimum and/or maximum*

Description

Add the raw scores to the data and artificial individuals attaining the minimum and/or maximum.

Usage

```
rasch_rawscore(df, vars_metric, vars_id, max_values)
```

Arguments

- **df**: A data frame of individual survey data, where each row is an individual.
- **vars_metric**: A character vector of items to use in the Rasch Analysis.
- **vars_id**: A string with column name uniquely identifying individuals.
- **max_values**: A tibble with two columns, `var` equivalent to `vars_metric` and `max_val` with their corresponding maximum possible values.
Value

A tibble with a new column `RawScore` with the raw sum score of `vars_metric` for each individual, and artificial rows with individuals that attain the minimum and/or maximum if either is not attained in `df`. The artificial maximum row has value "MAX" in the `vars_id` column, and likewise the artificial minimum row has the value "MIN" in this column.

See Also


---

**rasch_recode**

*Recode survey items for use in Rasch Analysis*

Description

Recode survey items for use in Rasch Analysis

Usage

```
rasch_recode(df, vars_metric, recode_strategy, max_values)
```

Arguments

- **df**
  a data frame of individual survey data, where each row is an individual

- **vars_metric**
  a character vector of items to use in the Rasch Analysis

- **recode_strategy**
  a named list giving the strategy to take for recoding variables, passed to `rasch_recode()`. One element of the list per recode strategy. Each element of the list is a numeric vector giving the new values to map the variables to. The names of the list are the groups of column names to use for each recoding strategy, separated only by ",". Default is NULL, to not recode items.

- **max_values**
  a tibble with two columns, `var` equivalent to `vars_metric` and `max_val` with their corresponding maximum possible values

Value

A named list with:

- **df**
  new `df` after recoding the desired variables

- **max_values**
  new `max_values` after recoding the desired variables
### rasch_rescale

Rescale score from Rasch Analysis to range from 0 to 100

#### Description

Rescale score from Rasch Analysis to range from 0 to 100

#### Usage

```r
rasch_rescale(df, df_score, vars_id)
```

#### Arguments

- `df`: a data frame of individual survey data, where each row is an individual
- `df_score`: a tibble resulting from `rasch_model()` with the person abilities from the Rasch Model
- `vars_id`: a string with column name uniquely identifying individuals

#### Value

A tibble with the left join between `df` and `df_score` and new column "rescaled" with the rescaled person abilities, ranging from 0 to 100, and filter out any rows with an artificial minimum or maximum

#### See Also

rasch_rescale_children

Rescale score from Rasch Analysis for children to range from 0 to 100

Description

Rescale score from Rasch Analysis for children to range from 0 to 100

Usage

```r
rasch_rescale_children(df, df_nest, vars_group, vars_id)
```

Arguments

- `df`: a data frame of individual survey data, where each row is an individual
- `df_nest`: a nested tibble that contains the column `df_split` with the data split by the categories in the column `vars_group`
- `vars_group`: a string with the column name identifying grouping variable
- `vars_id`: a string with column name uniquely identifying individuals

Value

A tibble with the data `df` or unnested `df_nest` and new columns "person_pars" and "rescaled" with the original and rescaled person abilities, ranging from 0 to 100, and filter out any rows with an artificial minimum or maximum

See Also

Other rasch functions: `rasch_DIF()`, `rasch_df_nest()`, `rasch_drop()`, `rasch_factor()`, `rasch_mds_children()`, `rasch_mds()`, `rasch_model_children()`, `rasch_model()`, `rasch_quality_children_print()`, `rasch_quality_children()`, `rasch_rawscore()`, `rasch_recode()`, `rasch_rescale()`, `rasch_split_age()`, `rasch_split()`, `rasch_testlet()`

Other children analysis functions: `rasch_df_nest()`, `rasch_drop()`, `rasch_mds_children()`, `rasch_model_children()`, `rasch_quality_children_print()`, `rasch_quality_children()`, `rasch_recode()`, `rasch_split_age()`, `rasch_split()`, `rasch_testlet()`
rasch_split  

**Split survey items by categories for a Rasch Model**

**Description**

Split survey items by categories for a Rasch Model

**Usage**

```r
rasch_split(df, vars_metric, split_strategy, max_values)
```

**Arguments**

- **df**  
a data frame of individual survey data, where each row is an individual
- **vars_metric**  
a character vector of items to use in the Rasch Analysis
- **split_strategy**  
a named list giving the strategy to take for splitting variables by categories, passed to `rasch_split()`. One element of the list per variable to split by. Each element of the list must be a character vector of column names to split. The names of the list are the variables to split each group of variables by. Default is NULL, to not split items.
- **max_values**  
a tibble with two columns, `var` equivalent to `vars_metric` and `max_val` with their corresponding maximum possible values

**Details**

If significant differential item functioning (DIF) is observed, it may be desirable to split variables based on the characteristic for which DIF is observed. For example, if men and women have significantly different patterns of responses to items, then it may be desirable to split items by sex. This function performs that variable splitting.

**Value**

A named list with:

- **df**  
new df after splitting the desired variables
- **vars_metric**  
new `vars_metric` after splitting the desired variables
- **max_values**  
new `max_values` after splitting the desired variables

**See Also**


Other children analysis functions: `rasch_df_nest()`, `rasch_drop()`, `rasch_mds_children()`, `rasch_model_children()`, `rasch_quality_children_print()`, `rasch_quality_children()`, `rasch_recode()`, `rasch_rescale_children()`, `rasch_split_age()`, `rasch_testlet()`
Split all survey items by age category for a Rasch Model if they are not discrete

**Usage**

```r
rasch_split_age(df, vars_group, vars_metric, vars_id, max_values)
```

**Arguments**

- `df`: a data frame of individual survey data, where each row is an individual
- `vars_group`: a string with the column name identifying grouping variable
- `vars_metric`: a character vector of items to use in the Rasch Analysis
- `vars_id`: a string with column name uniquely identifying individuals
- `max_values`: a tibble with two columns, `var` equivalent to `vars_metric` and `max_val` with their corresponding maximum possible values

**Value**

a named list with:

- `df`: new `df` after splitting the variables
- `vars_metric`: new `vars_metric` after splitting the variables
- `max_values`: new `max_values` after splitting the variables

**See Also**


Other children analysis functions: `rasch_df_nest()`, `rasch_drop()`, `rasch_mds_children()`, `rasch_model_children()`, `rasch_quality_children_print()`, `rasch_quality_children()`, `rasch_recode()`, `rasch_rescale_children()`, `rasch_split()`, `rasch_testlet()`
rasch_testlet  
Create testlets of survey items for a Rasch Model

Description
Create testlets of survey items for a Rasch Model

Usage
rasch_testlet(df, vars_metric, testlet_strategy, max_values, resp_opts)

Arguments
- **df**: a data frame of individual survey data, where each row is an individual
- **vars_metric**: a character vector of items to use in the Rasch Analysis
- **testlet_strategy**: a list giving the strategy to take for creating testlets, passed to rasch_testlet(). One element of the list per testlet to create. Each element of the list must be a character vector of column names to use for the testlet. Optionally, name the element of the list to give the name of the new testlet. Otherwise, the new testlet will be the original column names separated by "_". Default is NULL, to not create testlets.
- **max_values**: a tibble with two columns, var equivalent to vars_metric and max_val with their corresponding maximum possible values
- **resp_opts**: a numeric vector of possible response options for vars_metric. Must begin with 1. Default is 1:5

Details
If high local item dependence is observed (i.e., residual correlation) is observed between items, it may be desirable to combine them into a testlet. This code creates the testlets as desired.

Value
a named list with:
- **df**: new df after creating desired testlets
- **vars_metric**: new vars_metric after creating desired testlets
- **testlet_strategy**: new testlet_strategy after creating desired testlets
- **max_values**: new max_values after creating desired testlets
table_basicstats

Compute basic statistics of the number of members per group per household

Description

Compute basic statistics of the number of members per group per household

Usage

```r
table_basicstats(df, hh_id, group_by_var)
```

Arguments

- `df`: a data frame of household data where the rows represent members of the households in the sample
- `hh_id`: string (length 1) indicating the name of the variable in `df` uniquely identifying households
- `group_by_var`: string (length 1) to pass to `group_by_at()` with name of variable in `df` to group results by

Value

A tibble with rows for each level of `group_by_var` and "Total" and columns for the Mean (SD), Median and Range of the number of people in each group per household.

Note

Includes a call to `tidyr::complete()`, which causes the function to be a bit slow.

See Also

Other table functions: `table_unweightedpctn()`, `table_weightedpct()`
Examples

# create dummy table of household data, where each row represents one member
df_hh <- data.frame(HHID = sample(x = 1:300, size = 1000, replace = TRUE),
                    age_cat = ordered(sample(x = c("18-24", "25-39", "40-64", "64-100"), size = 1000, replace = TRUE)))

table_basicstats(df_hh, "HHID", "age_cat")

---

Table: `table_unweightedpctn`

Compute unweighted percent and N for multiple variables, disaggregated

Description

Compute unweighted percent and N for multiple variables, disaggregated

Usage

```
table_unweightedpctn(df, vars_demo, group_by_var = NULL, spread_by_group_by_var = FALSE, group_by_var_sums_to_100 = FALSE, add_totals = FALSE)
```

Arguments

- **df**: a data frame of individual survey data, where each row is an individual
- **vars_demo**: a character vector of names of variables to calculate percent and N for
- **group_by_var**: a string (length 1) with the name of the variable from df to disaggregate by
- **spread_by_group_by_var**: logical determining whether to pass group_by_var to `tidyr::pivot_wider()` to give a wide-format tab. Default is FALSE.
- **group_by_var_sums_to_100**: logical determining whether percentages sum to 100 along the margin of group_by_var, if applicable. Default is FALSE.
- **add_totals**: logical determining whether to create total rows or columns (as appropriate) that demonstrate the margin that sums to 100. Default is FALSE.
Value

A tibble with percent and N for each level of each variable in vars_demo

See Also

Other table functions: `table_basicstats()`, `table_weightedpct()`

Examples

```r
table_unweightedpctn(df_adults, vars_demo = c("sex", "age_cat", "work_cat", "edu_cat"))
```

```r
table_unweightedpctn(df_adults, vars_demo = c("sex", "age_cat", "work_cat", "edu_cat"),
                     group_by_var = "disability_cat")
```

```r
table_unweightedpctn(df_adults, vars_demo = c("sex", "age_cat", "work_cat", "edu_cat"),
                     group_by_var = "disability_cat", spread_by_group_by_var = TRUE)
```

---

table_weightedpct  
Calculate table of percentages or N of response distribution for survey items, survey weighted, disaggregated

Description

Calculate table of percentages or N of response distribution for survey items, survey weighted, disaggregated

Usage

```r
table_weightedpct(
  df,
  vars_ids,
  vars_strata,
  vars_weights,
  formula_vars,
  ...,  
  formula_vars_levels = 0:1,
  by_vars = NULL,
  pct = TRUE,
  willfilter = NULL,
  add_totals = FALSE,
  spread_key = NULL,
  spread_value = "prop",
  arrange_vars = NULL,
  include_SE = FALSE
)
```
Arguments

df a data frame of individual survey data, where each row is an individual
vars_ids a character vector of cluster ids, passed to srvyr::as_survey_design()
vars_strata a character vector of strata ids, passed to srvyr::as_survey_design()
vars_weights a character vector of survey weight ids, passed to srvyr::as_survey_design()
formula_vars a character vector of variables to calculate the percentages of each level for
... captures expressions to pass to dplyr::filter() or dplyr::transmute(), depending on the value of argument willfilter. See Details.
formula_vars_levels a vector of the levels of the the formula_vars
by_vars a character vector of variables to disaggregate results by. Default is NULL for no disaggregation. The columns listed must not include NAs.
pct a logical variable indicating whether or not to calculate weighted percentages. Default is TRUE for weighted percentages. Set to FALSE for weighted N.
willfilter a logical variable that tells the function whether or not to filter or transmute the data. Leave as default NULL to not filter or transmute. Set as TRUE to filter and FALSE to transmute. See Details.
add_totals logical determining whether to create total rows or columns (as appropriate) that demonstrate the margin that sums to 100. Default is FALSE.
spread_key a string with variable name to pass to names_from argument of tidyr::pivot_wider(). Default is NULL.
spread_value a string with variable name to pass to values_from argument of tidyr::pivot_wider(). Default is "prop" (the column of percentages created within the function)
arrange_vars a character vector with variables to pass to dplyr::arrange(). Default is NULL.
include_SE a logical variable indicating whether to include the standard errors in the table. Default is FALSE. Currently does not work when adding totals, spreading or transmuting.

Details

If willfilter is NULL, the table is not filtered or transmuted. If willfilter is TRUE, the table is filtered before it is spread or arranged. If willfilter is FALSE, the table is transmuted after the spread and/or arrange. "..." captures the non-standard evaluation expressions (NSE) to pass to dplyr::filter or dplyr::transmute().

The function performs the following actions with the table after results are calculated in the following order (if applicable): filter, add totals, spread, arrange, transmute.

Value

a tibble of weighted response percentages or N's
whomds

See Also

See vignette("programming", package = "dplyr") for more about non-standard evaluation (NSE)

Other table functions: table_basicstats(), table_unweightedpctn()

Examples

table_weightedpct(df_adults,
  vars_ids = c("HHID", "PSU"),
  vars_strata = "strata",
  vars_weights = "weight",
  formula_vars = paste0("EF",1:10),
  formula_vars_levels = 1:5,
  by_vars = "sex")

whomds

whomds: A package for calculating results from WHO Model Disability Survey

Description

The whomds package provides three categories of important functions: table functions, figure functions, and Rasch Analysis functions

Table functions

The table functions output different fit for purpose tables for reporting results from the WHO Model Disability Survey (MDS). They begin with table_*()

Figure functions

The figures functions output different figures for reporting results from the WHO Model Disability Survey (MDS). They begin with fig_*()

Rasch Analysis functions

These functions are used to complete an iteration of Rasch Analysis for WHO Model Disability Survey (MDS). They begin with rasch_*

References

WHO Model Disability Survey: https://www.who.int/health-topics/disability
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