

# Package ‘LikertEZ’

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**Title** Easy Analysis and Visualization of Likert Scale Data

**Version** 0.1.0

**Description** Provides functions for summarizing, visualizing, and analyzing Likert-scale survey data. Includes support for computing descriptive statistics, Relative Importance Index (RII), reliability analysis (Cronbach's Alpha), and response distribution plots.

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**Imports** ggplot2, stats, utils

**NeedsCompilation** no

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cronbach_alpha	<i>Cronbach Alpha for a set of ordinal items</i>
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**Description**

This function calculates the Cronbach Alpha for a set of ordinal items to assess their reliability or internal consistency.

**Usage**

```
cronbach_alpha(data)
```

**Arguments**

`data` A data.frame with the ordinal items. Each column represents an item.

**Value**

The Cronbach alpha value as a numeric value between 0 and 1.

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plot_item	<i>Barplot with RII annotation</i>
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**Description**

This function generates a barplot showing the distribution of responses for a single item, with the Relative Importance Index (RII) annotated.

**Usage**

```
plot_item(responses, max_scale = 5, scale_labels = NULL)
```

**Arguments**

`responses` Numeric vector of ordinal responses.  
`max_scale` Max Likert scale value (default: 5).  
`scale_labels` Optional vector of labels for each scale point.

**Value**

A ggplot2 bar plot with RII annotation.

**Examples**

```
responses <- c(1, 2, 3, 4, 5, 3, 2, 1, NA)  
plot_item(responses)
```

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rank_items	<i>Rank items by RII or Mean</i>
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**Description**

This function ranks items in the data based on either the Relative Importance Index (RII) or the mean of responses.

**Usage**

```
rank_items(data, method = "rii", max_scale = 5, n = 5, top = TRUE)
```

**Arguments**

data	A data.frame of ordinal items.
method	Method to rank items. Either "rii" (for Relative Importance Index) or "mean" (for mean response).
max_scale	Max Likert scale value (default: 5).
n	Number of top items to return (default: 5).
top	Logical. If TRUE, returns the top items, otherwise returns the bottom items (default: TRUE).

**Value**

A vector of ranked items.

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rii_weighted	<i>Weighted RII Calculation</i>
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**Description**

This function computes the weighted Relative Importance Index (RII) for a set of ordinal responses with associated weights.

**Usage**

```
rii_weighted(responses, weights, max_scale = 5)
```

**Arguments**

responses	Numeric vector of ordinal responses.
weights	Numeric vector of weights for each response.
max_scale	Max Likert scale value (default: 5).

**Value**

The weighted RII as a numeric value.

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summarize	<i>Summarize a Likert item</i>
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### Description

This function calculates summary statistics for a Likert item, including mean, median, mode, and performs a chi-square test.

### Usage

```
summarize(responses, max_scale = 5, exact = TRUE, B = 10000, tidy = FALSE)
```

### Arguments

responses	Numeric vector of responses.
max_scale	The maximum scale value.
exact	If TRUE, use exact Monte Carlo method.
B	Number of simulations for Monte Carlo.
tidy	If TRUE, returns a tidy data frame.

### Value

A list or data.frame with summary statistics.

### Examples

```
responses <- c(1, 2, 3, 4, 5, 4, 3, 2, NA)
summarize(responses)
```

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summary_table_all	<i>Create a tidy summary table of all items</i>
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### Description

This function generates a tidy summary table for all ordinal items in a data.frame. The table includes statistics such as mean, median, standard deviation, counts, and percentages.

### Usage

```
summary_table_all(data, max_scale = 5, scale_labels = NULL, decimals = 2)
```

**Arguments**

<code>data</code>	A data.frame of ordinal items.
<code>max_scale</code>	Max value on the Likert scale (default: 5).
<code>scale_labels</code>	Optional vector of labels for each scale point.
<code>decimals</code>	Number of decimal places for percentages (default: 2).

**Value**

A data.frame with summary statistics for all items.

**Examples**

```
dat <- data.frame(Q1 = c(1, 2, 3, 4, 5), Q2 = c(2, 2, 3, 4, NA))
summary_table_all(dat)
```

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