

# Package ‘plotor’

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**Type** Package

**Title** Produces an Odds Ratio Plot from a Logistic Regression Model

**Version** 0.7.0

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**Description** Produces an Odds Ratio (OR) Plot to visualise the result of a logistic regression analysis.

Provide it with a binomial regression model produced by 'glm()' and it will convert the estimates to odds ratios with a 95% confidence interval and plot the results using 'ggplot2'.

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**Encoding** UTF-8

**Imports** broom, car, cli, detectseparation, dplyr, forcats, ggplot2, glue, gt, janitor, purrr, rlang, scales, stats, stringr, tibble, tidyselect

**RoxygenNote** 7.3.2

**Suggests** datasets, knitr, labelled, rmarkdown, svglite, testthat (>= 3.0.0), tidyr, vdiff

**VignetteBuilder** knitr

**URL** <https://github.com/craig-parylo/plotor>,  
<https://craig-parylo.github.io/plotor/>

**BugReports** <https://github.com/craig-parylo/plotor/issues>

**Config/testthat/edition** 3

**Depends** R (>= 4.1.0)

**NeedsCompilation** no

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**Repository** CRAN

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|          |                 |
|----------|-----------------|
| check_or | <i>Check OR</i> |
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Description

Performs a series of tests to ensure that assumptions for logistic regression are met, with optional detailed feedback if any tests fail.

Usage

```
check_or(glm_model_results, confint_fast_estimate = FALSE, details = TRUE)
```

Arguments

- glm\_model\_results  
Results from a binomial Generalised Linear Model (GLM), as produced by `stats::glm()`.
- confint\_fast\_estimate  
Boolean (default = FALSE) Use a faster estimate of the confidence interval?  
Note: this assumes normally distributed data, which may not be suitable for your data.
- details  
Boolean (default = TRUE) Show detailed feedback for any failed tests?

Value

Logical, TRUE if all assumption tests pass, FALSE if one or more tests fail

Examples

```
# Load the Titanic dataset
df <- datasets::Titanic |>
  dplyr::as_tibble() |>
  # convert aggregated counts to individual observations
  dplyr::filter(n > 0) |>
  tidyr::uncount(weights = n) |>
  # convert character variables to factors
  dplyr::mutate(dplyr::across(dplyr::where(is.character), as.factor))

# Perform logistic regression using `glm`
lr <- stats::glm(
  data = df,
```

```
family = binomial,  
formula = Survived ~ Class + Sex + Age  
)  
  
# Check the model for logistic regression assumption violations  
check_or(lr)
```

---

plot\_or

*Plot OR*

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## Description

Produces an Odds Ratio plot to visualise the results of a logistic regression analysis.

## Usage

```
plot_or(glm_model_results, conf_level = 0.95, confint_fast_estimate = FALSE)
```

## Arguments

|                       |                                                                                                                                                                                          |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| glm_model_results     | Results from a binomial Generalised Linear Model (GLM), as produced by <code>stats::glm()</code> .                                                                                       |
| conf_level            | Numeric value between 0.001 and 0.999 (default = 0.95) specifying the confidence level for the confidence interval.                                                                      |
| confint_fast_estimate | Boolean (default = FALSE) indicating whether to use a faster estimate of the confidence interval. Note: this assumes normally distributed data, which may not be suitable for your data. |

## Value

The function returns an object of class `gg` and `ggplot`, which can be customised and extended using various `ggplot2` functions.

## See Also

- See vignette('using\_plotlor', package = 'plotlor') for more details on usage.
- More details and examples can be found on the website: <https://craig-parylo.github.io/plotlor/index.html>

## Examples

```
# Load required libraries
library(plotor)
library(datasets)
library(dplyr)
library(ggplot2)
library(stats)
library(forcats)
library(tidyr)

# Load the Titanic dataset
df <- datasets::Titanic |>
  as_tibble() |>
  # convert aggregated counts to individual observations
  filter(n > 0) |>
  uncount(weights = n) |>
  # convert character variables to factors
  mutate(across(where(is.character), as.factor))

# Perform logistic regression using `glm`
lr <- glm(
  data = df,
  family = 'binomial',
  formula = Survived ~ Class + Sex + Age
)

# Produce the Odds Ratio plot
plot_or(lr)
```

---

table\_or

---

*Table OR*


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## Description

Produces a formatted table showing the outputs from the Odds Ratio analysis, including details on covariate characteristics and model results.

## Usage

```
table_or(
  glm_model_results,
  conf_level = 0.95,
  output = "tibble",
  confint_fast_estimate = FALSE
)
```

## Arguments

|                                    |                                                                                                                                                                                          |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>glm_model_results</code>     | Results from a binomial Generalised Linear Model (GLM), as produced by <code>stats::glm()</code> .                                                                                       |
| <code>conf_level</code>            | Numeric value between 0.001 and 0.999 (default = 0.95) specifying the confidence level for the confidence interval.                                                                      |
| <code>output</code>                | String describing of the output type (default = 'tibble'). Options include 'tibble' and 'gt'.                                                                                            |
| <code>confint_fast_estimate</code> | Boolean (default = FALSE) indicating whether to use a faster estimate of the confidence interval. Note: this assumes normally distributed data, which may not be suitable for your data. |

## Details

The table includes the following information:

- Covariate characteristics:
  - Number of observations for each characteristic
  - Number of observations resulting in the outcome of interest
  - Conversion rate of outcome by the number of observations
- Model results:
  - Estimated Odds Ratio, standard error and p-value
  - Calculated confidence interval for the specified confidence level
- A visualisation of the OR plot is also provided for an at-a-glance view of the model results

Includes details on the characteristics of the covariates, such as:

- the number of observations for each characteristic,
- the number of observations resulting in the outcome of interest,
- the conversion rate of outcome by the number of observations,

Details are calculated showing the:

- estimated Odds Ratio, standard error and p-value,
- calculated confidence interval for the confidence level,

Also included is a visualisation of the OR plot to provide an at-a-glance view of the model results.

## Value

The returned object depends on the output parameter:

- If `output = 'tibble'`, the function returns an object of class `"tbl_df"`, `"tbl"` and `"data.frame"`.
- If `output = 'gt'`, the function returns an object of class `"gt_tbl"` and `"list"`

**Examples**

```
# Load the Titanic dataset
df <- datasets::Titanic |>
  dplyr::as_tibble() |>
  # convert aggregated counts to individual observations
  dplyr::filter(n > 0) |>
  tidyr::uncount(weights = n) |>
  # convert character variables to factors
  dplyr::mutate(dplyr::across(dplyr::where(is.character), as.factor))

# Perform logistic regression using `glm`
lr <- stats::glm(
  data = df,
  family = 'binomial',
  formula = Survived ~ Class + Sex + Age
)

# Produce the Odds Ratio table as a tibble
table_or(lr)

# Produce the Odds Ratio table as a gt object
table_or(lr, output = 'gt')
```

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