

# Package ‘oottest’

October 14, 2022

**Type** Package

**Title** Out-of-Treatment Testing

**Version** 0.9.1

**Maintainer** Philipp Külpmann <philipp@kuelpmann.org>

**Description** Implements the out-of-treatment testing from Kuelpmann and Kuzmics (2020) <[doi:10.2139/ssrn.3441675](https://doi.org/10.2139/ssrn.3441675)> based on the Vuong Test introduced in Vuong (1989) <[doi:10.2307/1912557](https://doi.org/10.2307/1912557)>. Out-of treatment testing allows for a direct, pairwise likelihood comparison of theories, calibrated with pre-existing data.

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**Encoding** UTF-8

**LazyData** true

**RoxygenNote** 7.1.2

**Suggests** knitr, rmarkdown, xtable, testthat (>= 3.0.0), covr

**Config/testthat/edition** 3

**Depends** R (>= 3.5.0)

**URL** <https://github.com/PhilippKuelpmann/oottest>

**BugReports** <https://github.com/PhilippKuelpmann/oottest/issues>

**VignetteBuilder** knitr

**NeedsCompilation** no

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**Repository** CRAN

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data\_three\_action\_games  
*Data from the three-action games*

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### Description

This is the choice data from Kuelpmann and Kuzmics (2022) for the three-action games, i.e., Hawk-Middle-Dove and Rock-Paper-Scissor. For an explanation of the different treatments and the games, please refer to the paper.

### Usage

```
data_three_action_games
```

### Format

Need to reformat anyway ...

**rows** actions

**columns** treatments

**cells** number of subjects who chose each action on each treatment ...

### Source

<https://homepage.univie.ac.at/philipp.kuelpmann/hdg.html>

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data\_two\_action\_games *Data from the two-action games*

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**Description**

This is the choice data from Kuelpmann and Kuzmics (2022) for the two-action games, i.e., Hawk-Dove and Matching Pennies. For an explanation of the different treatments and the games, please refer to the paper.

**Usage**

data\_two\_action\_games

**Format**

**rows** actions

**columns** treatments

**cells** number of subjects who chose each action on each treatment ...

**Source**

<https://homepage.univie.ac.at/philipp.kuelpmann/hdg.html>

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predictions\_three\_action\_games

*Predictions for the three-action games*

---

**Description**

These are the prediction of every theory considered in Kuelpmann and Kuzmics (2022) for the three-action games. For a explanation of the different theories, treatments and the games, please refer to the paper.

**Usage**

predictions\_three\_action\_games

**Format**

**rows** predicted probabilities of actions

**columns** treatments

**tables** different theories

**cells** probability of choosing an action on each treatment depending on the theory ...

**Source**

<https://homepage.univie.ac.at/philipp.kuelpmann/hdg.html>

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predictions\_two\_action\_games

*Predictions for the two-action games*

---

### Description

These are the prediction of every theory considered in Kuelpmann and Kuzmics (2022) for the two-action games. For a explanation of the different theories, treatments and the games, please refer to the paper.

### Usage

predictions\_two\_action\_games

### Format

**rows** predicted probabilities of actions

**columns** treatments

**tables** different theories

**cells** probability of choosing an action on each treatment depending on the theory ...

### Source

<https://homepage.univie.ac.at/philipp.kuelpmann/hdg.html>

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simple\_test\_data

*Simple Test Data*

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### Description

This is just very simple test data, mostly used for testing and demonstration purposes.

### Usage

simple\_test\_data

### Format

A matrix with 3 rows and 2 columns

**rows** actions

**columns** treatments

**cells** number of subjects who chose each action on each treatment ...

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vuong_matrix	<i>Getting a vuong matrix</i>
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**Description**

Getting a vuong matrix

**Usage**

```
vuong_matrix(data, theories)
```

**Arguments**

data	matrix rows: choices, columns: treatments
theories	list of matrices each in the same format as above

**Value**

Table of z-scores for all comparisons

**Examples**

```
vuong_matrix(data_two_action_games, predictions_two_action_games)
```

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vuong_statistic	<i>Implementation of the Vuong test for our setting</i>
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**Description**

Implementation of the Vuong test for our setting

**Usage**

```
vuong_statistic(data, pred_i, pred_j)
```

**Arguments**

data	Data of the experiment (matrix of ints/data.frame): columns are treatments, rows are actions, values are number of subjects who chose each action on each treatment
pred_i	Model prediction for a theory (matrix of doubles/data.frame): rows are prediction of playing action 1,2,3..., columns are treatments
pred_j	Model prediction for a theory (matrix of doubles/data.frame): rows are prediction of playing action 1,2,3..., columns are treatments

**Value**

The z score of testing theory I against theory J, given the data

**Examples**

```
vuong_statistic(  
  data_two_action_games,  
  predictions_two_action_games[, , 1],  
  predictions_two_action_games[, , 2]  
)
```

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