Package ‘simfit’

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Type Package
Title Test Model Fit with Simulation
Version 0.1.0
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Description Simulates data from model objects (e.g., from lm(), glm()), and plots this along with the original data to compare how well the simulated data matches the original data to determine model fit.
Imports magrittr
Depends R (>= 2.10), ggplot2
License GPL-3
Encoding UTF-8
LazyData true
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**pred.fit**

*Fit Simulated Data to a Model.*

**Description**

Fit Simulated Data to a Model.

**Usage**

```r
pred.fit(model, xpred = NULL, ci = 0.95, npoints = "same")
```

**Arguments**

- `model`: a model object, from (eg) `lm`
- `xpred`: the predictor for the x axis on the graph
- `ci`: confidence interval for fit curve (defaults to 0.95)
- `npoints`: number of data points for fit line. Either specify a number, or "same" will return a simulation of the same size as the original dataset.

**Value**

predicted data

**Examples**

```r
## Anwar M, Green JA, Norris P, et al
## Prospective daily diary study reporting of any and all symptoms in healthy
## adults in Pakistan: prevalence and #' response
## BMJ Open 2017;7:e014998
##
data(symptom)
glm.symptom <- glm(actual_help_days ~ symp_days_reported,
                   family = "poisson", data = symptom)
pred.fit(glm.symptom)
```

**pred.plot**

*Add model fit line (with SE) to GLM models (Poisson, negative binomial etc)*

**Description**

Add model fit line (with SE) to GLM models (Poisson, negative binomial etc)

**Usage**

```r
pred.plot(model, xpred = NULL, ci = 0.95)
```
**sim.plot**

**Plot simulated data from a GLM model**

**Description**

Plot simulated data from a GLM model

**Usage**

```r
sim.plot(
  model,
  xpred = NULL,
  seed = NULL,
  fit.line = TRUE,
  ci = 0.95,
  npoints = "same",
  orig_jitter = 0.1,
  sim_jitter = 0.1
)
```

**Arguments**

- `model`: a model object, from (eg) lm glm (Poisson, Negative binomial)
- `xpred`: the predictor to be plotted on the x axis
- `seed`: random seed so that simulation results are replicable
- `fit.line`: if TRUE (default) adds fit line with SE

**Examples**

```r
# ' ## Anwar M, Green JA, Norris P, et al
# Prospective daily diary study reporting of any and all symptoms in healthy
# adults in Pakistan: prevalence and ' response
# BMJ Open 2017;7:e014998
data(symptom)
glm.symptom <- glm(actual_help_days ~ symp_days_reported,
  family = "poisson", data = symptom)
pred.plot(glm.symptom)
```
symptom

```r
symptom <- ... # Anwar M, Green JA, Norris P, et al
symptom <- ... # BMJ Open 2017;7:e014998
```

**symptom**

Responses to symptoms from a sample of the general population of Pakistan.

**Description**

A dataset containing the age, gender, number of days on which symptoms were experienced, number of days on which help was sought, as well as measures of impulsivity and attitudes to medicines.

**Usage**

`symptom`

**Format**

A data frame with 53940 rows and 10 variables:

- **id** participant ID, integer
- **age5** age in 5 year bins, (18,20) (20,25) (25,30) (30,35) (35,40) (40,45) (45,50) (50,55) (55,60) (60,65)
- **gender** female, male, character
- **bmq_spec** Pakistan adaption of Beliefs about Medicines Questionnaire (Specific) Stored as POMP score 0-100
- **bmq_necess** Pakistan adaption of Beliefs about Medicines Questionnaire (Necessity) Stored as POMP score 0-100
symptom

bmq_concern  Pakistan adaption of Beliefs about Medicines Questionnaire, (Concern) Stored as POMP score 0-100

bmq_general  Pakistan adaption of Beliefs about Medicines Questionnaire, (General) Stored as POMP score 0-100

bis  Pakistan adaption of Barratt Impulsivity Scale, Stored as POMP score 0-100

symp_days_reported  Number of days on which symptoms were reported, Non-negative integer (days)

actual_help_days  Number of days on which participants visited some type of health professional, Non-negative integer

Source

https://osf.io/4mjhq/

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