Package 'glvmfit'

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Title Methods to Assess Generalized Latent Variable Model Fit

Version 0.1.0

Description Provides residual global fit indices for generalized latent variable models.

Encoding UTF-8

LazyData true

License GPL-3

RoxygenNote 7.1.1

Imports methods

Depends R (>= 2.10)

NeedsCompilation no

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Contents

`glvmfit` *glvmfit: Methods to Assess Generalized Latent Variable Model Fit*

Description

Provides residual global fit indices for generalized latent variable models.

`nlsy` *Subset of 221 children from the 1979 National Longitudinal Survey of Youth*

Description

These data are wave-based such that each child's Peabody Individual Assessment Test (PIAT) reading and antisocial behavior scores were measured at four waves in two-year intervals.

Usage

```
nlsy
```

Format

A data frame with 221 rows and 14 variables:

id Unique identifier

mom_age Mother's age when the child was born

home_cog Measure of cognitive stimulation provided at home

home_emo Measure of emotional support provided at home

read0 PIAT reading score at wave 1

read1 PIAT reading score at wave 2

read2 PIAT reading score at wave 3

read3 PIAT reading score at wave 4

anti0 Antisocial behavior score at wave 1

anti1 Antisocial behavior score at wave 2

anti2 Antisocial behavior score at wave 3

anti3 Antisocial behavior score at wave 4

Source

https://github.com/MultiLevelAnalysis/Datasets-third-edition-Multilevel-book/tree/master/chapter%205/Curran

ResidualFitIndex-class

An S4 class to represent a residual fit indices.

Description

An S4 class to represent a residual fit indices.

Slots

`type` A length-one numeric vector

`resid` A length-one numeric vector

`ssr` A length-one numeric vector

`size` A length-one numeric vector

`index`

ResidualFitIndices-class

An S4 class to represent the set of residual fit indices

Description

An S4 class to represent the set of residual fit indices

Usage

```
details(object, comp = c("Total", "Covariance", "Variance", "Mean", "Total"))

## S4 method for signature 'ResidualFitIndices'
details(object, comp = c("Total", "Covariance", "Variance", "Mean", "Total"))
```

Arguments

`object`	R object of type `ResidualFitIndices`.
`comp`	Character indicating the components to include.

Slots

`sampleMoments`

`impliedMoments`

`RMR`

`SRMR`

`CRMR`

Note

comp can be "Total" for overall fit indices, "Cov" for covariance elements (off diagonals), "Var" for variance components (diagonal), and "Mean" means.

`resid_fit` *Residual fit indices*

Description

Computes the RMR, SRMR, and CRMR.

Usage

```
resid_fit(
  S = NULL,
  Sigma = NULL,
  ybar = NULL,
  mu = NULL,
  lavaan_object = NULL,
  exo = TRUE
)
```

Arguments

S	sample covariance matrix
Sigma	model-implied covariance matrix
ybar	sample mean vector
mu	model-implied mean vector
lavaan_object	is a fitted model of class lavaan
exo	boolean argument indicating if model has exogenous covariates

Value

An S4 object

Details

S, Sigma, ybar, and mu must be of the same dimensions.

If the sum of the diagonal elements of S equals the sum of the diagonal elements of Sigma the variance component of SRMR is not included

If the sum of the sample means yhat equals the sum of the model-implied means mu the mean component of SRMR is not included

Examples

```
Sigma <- matrix(c(1.022, .550,  .622, .550, .928, .783, .622, .783, 1.150),
                    nrow = 3)
S <- matrix(c(.770, .545, .515, .545, 1.003, .890, .515, .890, 1.211),
            nrow = 3)
ybar <- c(2.516, 4.041, 5.021)
mu <- c(2.825, 3.877, 4.929)

resid_fit(S = S,  Sigma = Sigma, ybar = ybar, mu = mu)
```

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