Package 'mxmmod'

October 13, 2022

Type Package

Title Measurement Model of Derivatives in 'OpenMx'

Version 1.1.0

Description Provides a convenient interface in 'OpenMx' for building
Estabrook's (2015) <doi:10.1037/a0034523> Measurement Model of
Derivatives (MMOD).

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Encoding UTF-8

LazyData true

Imports OpenMx

Suggests knitr, rmarkdown, testthat, tidyverse

VignetteBuilder knitr

RoxygenNote 7.1.1

Depends R (>= 2.10)

NeedsCompilation no

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Repository CRAN

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R topics documented:

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mxMmodModel   *Create an MMOD*

Description

This function builds a Measurement Model of Derivatives (MMOD; Estabrook 2015) with a given factor structure.

Usage

```
mxMmodModel(
  data,
  modelName,
  idvar,
  timevar,
  structure,
  orthogonal = F,
  embed_dim = NULL,
  fiml = F
)
```

Arguments

data	a data frame with measurements in long format
modelName	name for the resulting model
idvar	name of column for subject IDs
timevar	name of column for measurement occasion
structure	factor structure, see 'Details'
orthogonal	if true, fix correlations between factors to 0 (A factor and its derivatives will still intercorrelate)
embed_dim	time delay embedding dimension
fiml	if true, use raw data to fit model with FIML. Otherwise, fit using cov matrix (dropping missing values if necessary).

Details

The `structure` argument is a list of latent factors and their mappings to manifest variables. For example, a one factor structure would be:

`list(F1 = c('m1', 'm2', 'm3', 'm4', 'm5', 'm6'))`

And a two factor structure would be:

`list(F1 = c('m1', 'm2', 'm3'), F2 = c('m4', 'm5', 'm6'))`

Value

an MMOD as an mxModel object

Examples

```
data(nlsy97depression)
# Fit one factor MMOD
structure <- list(
  F1 = c('nervous', 'down', 'depressed', 'calm', 'happy')
)
mmod_model <- mxMmodModel(data=nlsy97depression,
                          modelName='1 Factor MMOD',
                          idvar='pid', timevar='occasion', structure=structure)
mmod_fit <- OpenMx::mxRun(mmod_model)
summary(mmod_fit)
```

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nlsy97depression   *NLSY97 Longitudinal Depression Scale Data*

Description

A 5-item depression scale used on the National Longitudinal Survey of Youth, 1997 sample (NLSY97). Individuals were assessed in 2000, 2002, and 2004. All items are assessed on a 4-point likert scale.

Usage

```
nlsy97depression
```

Format

A data frame with 26952 rows and 7 variables:

pid Unique ID of participant

sex Sex of participant

birth_m Birth Month

birth_y Birth Year

occasion Measurement occasion

nervous How often participant felt 'like a nervous person'

calm How often participant felt 'calm and peaceful'

down How often participant felt 'down or blue'

happy How often participant felt 'like a happy person'

depressed How often participant felt 'depressed'

Source

https://www.bls.gov/nls/nlsy97.htm

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