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| mimix {mimix} | R Documentation |

mimix

**Description**

main wrapper for running mimix

similar to the Stata mimix function

**Usage**

mimix(

data,

covar = NULL,

depvar,

treatvar,

idvar,

timevar,

M = 1,

reference = NULL,

method = NULL,

seed = 101,

prior = "jeffreys",

burnin = 1000,

bbetween = NULL,

methodvar = NULL,

referencevar = NULL,

delta = NULL,

dlag = NULL,

K0 = 1,

K1 = 1

)

**Arguments**

|  |  |
| --- | --- |
| data | Dataset in wide format |
| covar | List of covariates - may include the baseline value of depvar. Must be complete (no missing values). |
| depvar | Dependent (outcome) variable |
| treatvar | Treatment group variable, coded 1,2,.. |
| idvar | Participant id variable |
| timevar | Variable indicating time point for repeated measures |
| M | Number of imputations to be created |
| reference | Reference group for J2R, CIR, CR methods. Control group for causal method. |
| method | Reference-based imputation method: must be ... |
| seed | Seed value. Specify this so that a new run of the command will give the same imputed values. |
| prior | Prior for the variance-covariance matrix when fitting multivariate normal distributions: jeffreys (default), uniform or ridge |
| burnin | Number of burn-in iterations when fitting multivariate normal distributions. |
| bbetween | Number of iterations between imputed data sets when fitting multivariate normal distributions. |
| methodvar | 2 element vector designating variables in data specifying individual method and reference group |
| referencevar | 2 element vector designating variables in data specifying individual method and reference group |
| delta | Optional vector of delta values to add onto imputed values (a's in Rogers paper), of length equal to the number of time points |
| dlag | Optional vector of delta lag values to add onto imputed values (b's in Rogers paper), of length equal to the number of time points. Ignored if delta is not specified. Defaults to a vector of ones if delta is specified. |
| K0 | Causal constant for use with Causal method |
| K1 | exponential decaying Causal constant for use with Causal method |

**Details**

This is based on Suzie Cro's Stata program which implements the reference-based imputation methods of Carpenter et al. This program also implements the delta-adjustment method of Roger and the causal model of White et al.

Cro S, Morris TP, Kenward MG, Carpenter JR. Reference-based sensitivity analysis via multiple imputation for longitudinal trials with protocol deviation. *Stata J*. 2016;16(2):443-463. <https://www.stata-journal.com/article.html?article=st0440>

Carpenter JR, Roger JH, Kenward MG. Analysis of longitudinal trials with protocol deviation: a framework for relevant, accessible assumptions, and inference via multiple imputation. *J Biopharm Stat*. 2013;23(3):1352-1371. doi:10.1080/10543406.2013.834911

White IR, Joseph R, Best N. A causal modelling framework for reference-based imputation and tipping point analysis in clinical trials with quantitative outcome. *J Biopharm Stat*. 2020;30(2):334-350. doi:10.1080/10543406.2019.1684308

[ref for delta method]

sets up a summary table based on missing data pattern- mg mimix\_group

reflects the pattern and treatment group configuration of the raw data

then acts as a looping mechanism, norm2 is used as MCMC multivariate normal

The mimix package contains the functions preprodata and preproIndivdata to process long longitudinal data into wide data format

Also the function Addelta to add delta adjustment to the imputed estimates

**Value**

A data frame containing the original data stacked above the M imputed data-sets. The original ID variable (idvar) is renamed as .id and a new variable .imp indicates the orginal data (.imp=0) or the imputed data sets (.imp=1,…,M).

**Examples**

# impute

imp<-mimix("asthma",c("base"),"fev","treat","id","time",10,1,"Causal",101,"jeffreys",1000,NULL,NULL,NULL,c(0.5,0.5,1,1),c(1,1,1,1),1,0.6)

# analyse imputed data

library(mice)

impmids <- as.mids(imp)

fit <- with(impmids, lm(fev.12~treat+base))

summary(pool(fit))

[Package *mimix* version 0.0.7 [Index](http://127.0.0.1:42967/help/library/mimix/html/00Index.html)]