An Overview of Functions in the *metafor* Package

last updated: May 1 2021
(not all functions documented)

functions in the 'util' package to:
- read in data from ASCII file
- see also 'foreign', 'readxl', and 'haven' packages for reading in other data formats

read.table()
read.csv()
read.delim()

given the required data (e.g., means, SDs, and group sizes; counts for 2x2 tables; correlations and sample sizes), calculate the desired effect size or outcome measure for the meta-analysis (e.g., raw or standardized mean differences, log odds ratios, log risk ratios, risk differences, r-to-z transformed correlations, …)

escalc()

- yi = observed outcomes or effect size estimates
- vi = corresponding sampling variances

rma.uni()
rma.mh()
rma.peto()
rma.glmm()
rma.mv()

- rma.uni() = fixed- and random/mixed-effects models ("inverse-variance" method; normal-normal models)
- rma.mh() = Mantel-Haenszel method (fixed-effects model)
- rma.peto() = Peto's method (fixed-effects model)
- rma.glmm() = fixed- and random/mixed-effects models (binomial-normal and Poisson-normal models)
- rma.mv() = fixed- and random/mixed-effects multivariate/multilevel models (normal-normal models)

note: rma.uni() takes either 'yi' and 'vi' as input or one can supply the required data to calculate the desired effect size or outcome measure for the meta-analysis directly; rma.mh(), rma.peto(), and rma.glmm() require that the raw counts are supplied; rma.mv() takes 'yi' and 'V' as input (V is the variance-covariance matrix of the sampling errors)

print()
summary()
aggregate()

print functions

print()
summary()

fitted and predicted values

fitted()
predict()
blup()
ranef()
cumul()

residuals and influential case diagnostics

residuals()
rstandard()
rstudent()
hatvalues()
weights()
influence()
leave1out()

funnel plot asymmetry / publication bias

ranktest()
regtest()
trimfill()
hc()
tes()
selmodel()

confidence intervals and inference

confint()
anova()
permutest()
robust()
vif()

plotting functions

forest()
funnel()
labbe()
radial()
qqnorm()
baujat()
gosh()
regplot()
plot()

various extractor functions

logLik()
deviance()
fitstats()
AIC(), BIC()
coef()
vcov()

note: class of fitted model object is the same as the function name; so print() for an object of class 'rma.uni' actually calls print.rma.uni() and so on

note: blup() only for 'rma.uni' objects; ranef() only for 'rma.uni' and 'rma.mv' objects; cumul() not for 'rma.mv' or 'rma.glmm' objects

note: all functions implemented for 'rma.uni' objects; coverage of functions for other objects varies (see docs)

note: regtest() not for 'rma.glmm' or 'rma.mv' objects; trimfill(), hc(), tes(), selmodel() only for 'rma.uni' objects

note: confint() not for 'rma.glmm' objects; anova() and robust() only for 'rma.uni' and 'rma.mv' objects; permutest() only for 'rma.uni' objects

note: forest() and funnel() also take 'yi' and 'vi' as input; qqnorm(), baujat(), gosh() and plot() not for 'rma.glmm' or 'rma.mv' objects

note: coef() also for 'permutest.rma.uni' and 'summary.rma' objects