

# Package ‘metacor’

February 14, 2012

**Type** Package

**Title** Meta-analysis of correlation coefficients

**Version** 1.0-2

**Date** 2011-03-21

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**Description** Implement the DerSimonian-Laird (DSL) and Olkin-Pratt (OP) meta-analytical approaches with correlation coefficients as effect sizes.

**License** GPL-2

**LazyLoad** yes

**Lazydata** yes

**Depends** R (>= 2.8.0), rmeta, gsl

**Keyword** meta-analysis

**Encoding** latin1

**Repository** CRAN

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metacor-package

*Meta-analysis of correlation coefficients*

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### Description

Implement the DerSimonian-Laird (DSL) and Olkin-Pratt (OP) meta-analytical approaches with correlation coefficients as effect sizes.

### Details

Package: metacor  
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License: GLP-2  
LazyLoad: yes

### Author(s)

Etienne Laliberté

Maintainer: Etienne Laliberté <etiennelaliberte@gmail.com> <http://www.elaliberte.info/>

### References

Schulze, R. (2004) Meta-analysis: a comparison of approaches. Hogrefe & Huber, Gottingen, Germany.

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lui

*Response diversity and functional redundancy of plant communities under land use intensification across 18 land use intensity gradients*

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### Description

This dataset contains the correlation coefficients between land use intensity and response diversity (r.FDis) or functional redundancy (r.nbsp) across 18 land use intensity gradients from nine countries and five biomes.

### Usage

data(lui)

**Format**

A data frame with 18 observations on the following 4 variables.

label the labels for each study

r.FDis a numeric vector containing the correlation coefficients between land use intensity and response diversity for each land use intensity gradient

r.nbsp a numeric vector containing the correlation coefficients between land use intensity and functional redundancy for each land use intensity gradient

n a numeric vector containing the sample sizes used for each study

**Source**

Laliberté, E., Wells J., DeClerck F., Metcalfe D.J., Catterall C.P., Queiroz C., Aubin I., Bonser S.P., Ding Y., Fraterrigo J.M., McNamara S., Morgan J.W., Sanchez-Merlos D, Vesk PA and Mayfield MM. 2009. Land use intensification reduces functional redundancy and response diversity in plant communities. *Ecology Letters* **in press**.

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metacor.DSL

*DerSimonian-Laird (DSL) meta-analytical approach with correlation coefficients as effect sizes*

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**Description**

Implements the DerSimonian-Laird (DSL) random-effect meta-analytical approach with correlation coefficients as effect sizes, as described by Schulze (2004).

**Usage**

```
metacor.DSL(r, n, labels, alpha = 0.05, plot = TRUE,
            xlim = c(-1, 1), transform = TRUE)
```

**Arguments**

r	vector of correlations
n	vector of sample sizes
labels	vector of the study names
alpha	alpha-level for the main test and for the confidence intervals
plot	logical; should a forest plot be returned?
xlim	range of the x-axis of the forest plot
transform	logical; should the z-values be back-transformed to r-space?

**Value**

z	vector of the z-values
z.var	vector of the variances of each z
z.lower	the lower limits of the confidence intervals for each z
z.upper	the upper limits of the confidence intervals for each z
z.mean	the mean effect size z
r.mean	the mean effect size r, back-transformed from z-space
z.se	the standard error of z.mean
z.mean.lower	the lower limit of the confidence interval for z.mean
r.mean.lower	the lower limit of the confidence interval for r.mean, back-transformed from z-space
z.mean.upper	the upper limit of the confidence interval for z.mean
r.mean.upper	the upper limit of the confidence interval for r.mean, back-transformed from z-space
p	the p-value for the null hypothesis $H_0 \rightarrow z.mean = 0$

**Author(s)**

Etienne Laliberté <etiennelaliberte@gmail.com> <http://www.elaliberte.info/>

**References**

Schulze, R. (2004) Meta-analysis: a comparison of approaches. Hogrefe & Huber, Gottingen, Germany.

**See Also**

[metacor.OP](#)

**Examples**

```
data(lui)
lui <- lui[order(lui$r.FDis),]
test <- metacor.DSL(lui$r.FDis, lui$n, lui$label)
test
```

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metacor.OP	<i>Olkin-Pratt (OP) meta-analytical approach with correlation coefficients as effect sizes</i>
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**Description**

Implements the Olkin-Pratt (DSL) fixed-effect meta-analytical approach with correlation coefficients as effect sizes, as described by Schulze (2004).

**Usage**

```
metacor.OP(r, n, labels, alpha = 0.05, plot = TRUE, xlim = c(-1, 1))
```

**Arguments**

r	vector of correlations
n	vector of sample sizes
labels	vector of the study names
alpha	alpha-level for the main test and for the confidence intervals
plot	logical; should a forest plot be returned?
xlim	range of the x-axis of the forest plot

**Value**

G	vector of the G-values
G.var	vector of the variances of each G
G.lower	the lower limits of the confidence intervals for G
G.upper	the upper limits of the confidence intervals for G
G.mean	the mean effect size G
G.se	the standard error of G.mean
G.mean.lower	the lower limit of the confidence interval for G.mean
G.mean.upper	the upper limit of the confidence interval for G.mean
p	the p-value for the null hypothesis $H_0 \rightarrow G.mean = 0$

**Author(s)**

Etienne Laliberté <etiennelaliberte@gmail.com> <http://www.elaliberte.info/>

**References**

Schulze, R. (2004) Meta-analysis: a comparison of approaches. Hogrefe & Huber, Göttingen, Germany.

**See Also**[metacor.DSL](#)**Examples**

```
data(lui)
lui <- lui[order(lui$r.FDis),]
test <- metacor.OP(lui$r.FDis, lui$n, lui$label)
test
```

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