Package 'psymetlab'

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Title Provides useful functions for APA formatting and writing output to Excel

Version 1.0.1

Description
Package includes a variety of functions to tag significant correlations, write data to excel, etc.

Depends R (>= 3.1.3)

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LazyData true

RoxygenNote 7.1.1

Imports psych, xlsx, effsize

R topics documented:

`cor_table` *APA style correlation table*

Description

APA style correlation table

Usage

```
cor_table(
  data,
  filename = NA,
  table.number = NA,
  show.conf.interval = TRUE,
  show.sig.stars = TRUE,
  landscape = TRUE
)
```

Arguments

data	Project data frame
filename	(optional) Output filename document filename (must end in .rtf or .doc only)
table.number	Integer to use in table number output line
show.conf.interval	(TRUE/FALSE) Display confidence intervals in table. This argument is deprecated and will be removed from later versions.
show.sig.stars	(TRUE/FALSE) Display stars for significance in table.
landscape	(TRUE/FALSE) Make RTF file landscape

Value

APA table object

Examples

```
#forked from https://github.com/dstanley4/apaTables/
```

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f.adverse_impact *Compute adverse impact statistics*

Description

Accepts grouping vector d.group, vector of outcome (e.g., pass/fail) as d.pass, and value for majority group (e.g., "male"), assumes only two groups

Usage

```
f.adverse_impact(
  d.group,
  d.pass,
  majority.group,
  minority.group,
  min_percent_minority = 0.05
)
```

Arguments

d.group	is a vector of grouping variable values
d.pass	is a vector of outcome values
majority.group	is the label of value assigned to the majority group
min_percent_minority	is the minimum percent of the sample that must be in the minority group in order to report results

Value

Returns a dataframe with columns...

total.n = overall sample size

majority.n = sample size of the majority group

minority.n = sample size of the minority group

percent.minority = percentage of sample in minority group

SR.total = selection ratio of the entire sample

SR.majority = selection ratio of the majority group

SR.minority = selection ratio of the minority group

impact.ratio = SR.minority / SR.majority

fishers.p = p value of the Fisher Exact Test

SD2.test = results of the 2 Standard Deviation Test

lower_95CI, upper_95CI = lower and upper confidence intervals around Impact Ratio

shortfall = the number of additional minority group members needed to pass to have an impact ratio = 1

Author(s)

Adam Meade <awmeade@ncsu.edu>

Examples

```
require('psych')
pass <- ifelse(sat.act$ACT > mean(sat.act$ACT) , 1, 0)
table(sat.act$gender)
f.adverse_impact(sat.act$gender, pass, majority.group = 2)
```

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f.corstar *Add asterisk(s) to significant correlations*

Description

Uses an output object from the Psych package and adds 1 or 2 askterisks (stars) to the correlation for APA table output. Returns object as dataframe.

Usage

```
f.corstar(corr.obj, is.triangle = TRUE, p.val.1 = 0.05, p.val.2 = 0.01)
```

Arguments

corr.obj	is the output list object from the corr.test function in the Psych package
is.triangle	is whether the correlation is a symetric matrix (default) or a rectangular matrix in which one set of variables is correlated with a different set.
p.val.1	is the p-value desired to trigger a single astrisk (default = .05)
p.val.2	is the p-value desired to trigger a second astrisk added to the first default = .01. p.val.2 should be a smaller p val than p.val.1. set p.val.2 = FALSE if no second astrisk is desired

Author(s)

Adam Meade <awmeade@ncsu.edu>

Examples

```
## Not run:
require('psych')
 corrs.1 = corr.test(sat.act)
 f.corstar(corrs.1)
 f.corstar(corrs.1, p.val.1 = .01, p.val.2 = FALSE)
 corrs.2 = corr.test(sat.act[3:5],sat.act[6])
 f.corstar(corrs.2,is.triangle = FALSE)

## End(Not run)
```

---

f.describe *Simplify output of R Psych package describe function*

Description

Accepts dataframe as arguement and returns dataframe table

Usage

```
f.describe(f.d)
```

Arguments

f.d	is the dataframe object

Author(s)

Adam Meade <awmeade@ncsu.edu>

Examples

```
## Not run:
require('psych')
 f.describe(sat.act)

## End(Not run)
```

f.get.reg.output *Take output from lm function and put relevant info into a dataframe*

Description

Returns a dataframe with predictors and coefficients listed along with model statistics F,df,p, and r-squred values.

Usage

```
f.get.reg.output(out.lm)
```

Arguments

out.lm	results of a linear regression from lm()

Author(s)

Adam Meade <awmeade@ncsu.edu>

Examples

```
## Not run:
model.out <- lm(sat.act[,1]~sat.act[,2]+sat.act[,3])
f.get.reg.output(model.out)

## End(Not run)
```

f.screen.outliers *Deletes multivariate outliers using Mahalanobis distance*

Description

Accepts a dataframe and optional list of variables within that dataframe for which to screen the data. The function computes mahalanobis distace and associated chi-square on the screening data and then returns a dataframe that is a subset of the original all.data dataframe based on non-significant chi-square values.

Usage

```
f.screen.outliers(all.data, screening.vars = NULL, p.val = 0.05)
```

Arguments

all.data	is the database from which to remove outliers
screening.vars	is an optional array of variable names on which the screening should be based.
p.val	is the cutoff value of the chi-square distribution to use. default is .05.

Author(s)

Adam Meade <awmeade@ncsu.edu>

Examples

```
## Not run:
nrow(trees)
new.data <- f.screen.outliers(trees)
nrow(new.data)

## End(Not run)
```

`f.t_test` *Returns the results of a t-test along with a Cohen's D effect size estimate*

Description

Requires two dataframes with continuous variables, variance on variables, and matched in variable order. Requires use of describe from 'psych' package. Requires use of cohen.d from 'effsize' package

Usage

```
f.t_test(df1, df2)
```

Arguments

`df1`	is the majority group dataframe
`df2`	is the minority group dataframe

Author(s)

Adam Meade <awmeade@ncsu.edu>

Examples

```
## Not run:
 require('psych')
 require('effsize')
 automatic  <- mtcars[which(mtcars$am == 0),]
 manual <- mtcars[which(mtcars$am == 1),]
 f.t_test(automatic,manual)

## End(Not run)
```

`f.write.corrs` *Formats in APA format and writes correlation matrices to an excel sheet*

Description

Uses an output object from the Psych package and adds 1 or 2 askterisks (stars) to the correlation for APA table output. Returns object as dataframe. Writes correlational data for r, n, and pvalues to three consecutively named Excel sheets.

Usage

```
f.write.corrs(
  f.name = "output.xlsx",
  s.name,
  obj.corrs,
  print.p = TRUE,
  print.n = TRUE,
  ...
)
```

Arguments

`f.name`	is the file name to which to write the data. default = 'output.xlsx'
`s.name`	is the name of the Excel sheet(s) to which to write the data
`obj.corrs`	is the correlation object from the corr.test function in the Psych package
`print.p`	requests printing of p values. default = TRUE
`print.n`	requests printing of sample size (n). default = TRUE
`...`	parameters passed to the f.corstar function

Author(s)

Adam Meade <awmeade@ncsu.edu>

Examples

```
## Not run:
corrs = corr.test(sat.act)
f.write.corrs(s.name='example',obj.corrs=corrs)
f.write.corrs(f.name='example.xlsx',s.name='example',obj.corrs=corrs,p.val.2=FALSE)

## End(Not run)
```

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