

Package ‘PsychLab’

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Title PsychLab Package

Version 0.0.0.9000

Description This package serves 2 purposes. The first is to provide functions that automate the collection, scoring and structuring of commonly used psychological scales. The second is to provide useful functions for psychology labs that implement 2-level linear mixed models.

Depends R (>= 3.3.0),
dplyr (>= 0.5.0),
tidyr (>= 0.6.0),
lubridate (>= 1.6.0),
ggplot2 (>= 2.2.1),
nlme (>= 3.1)

License What license is it under?

Encoding UTF-8

LazyData true

RoxygenNote 5.0.1

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heteroMatrix	<i>Heterogenous Variance-Covariance Matrix</i>
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Description

This function computes a heterogenous variance-covariance matrix from a fitted nlme object.

Usage

```
heteroMatrix(model)
```

Arguments

`model` A fitted nlme object

Examples

```
heteroMatrix(model)
```

`icc`

Intraclass Correlation

Description

This function computes an intraclass correlation value from an empty random intercept fitted nlme model object. This function is specific to 2-level models.

Usage

```
icc(model)
```

Arguments

`model` A fitted nlme object

Examples

```
icc(model1)
```

`pseudoR`

Pseudo R-Squared

Description

This function computes a pseudo R-squared value for the amount of variance explained in a variance component of nested nlme model objects. This function is specific to 2-level models. Note that `model1` is nested in `model2`.

Usage

```
pseudoR(model1, model2, varParam)
```

Arguments

`model1` A fitted nlme object with fewer fixed effect parameters than model 2, but with an equal number of variance components.

`model2` A fitted nlme object with more fixed effect parameters than model 1, but with an equal number of variance components.

`varParam` The variance component that you are interested in computing a pseudo R-squared for. That is, the variance component that you expect to change due to adding a fixed effect.

Examples

```
randomCI(model1, "time")
```

randomCI*Random Effect Ninety-Five Percent Confidence Intervals*

Description

This function computes a random effect 95% percent confidence interval from a fitted nlme object. That is, it computes an estimate of individual differences (i.e., random effect variation) for a fixed effect. This function is specific to 2-level models.

Usage

```
randomCI(model, Param)
```

Arguments

model	A fitted nlme object
Param	The random effect of interest. Use quotes.

Examples

```
randomCI(model1, "time")
```

readCsv*Read CSV File*

Description

This function reads a CSV file in a standard way. Header is set to TRUE. stringsAsFactors is set to FALSE. na.strings defaults to c("", " ", "NA", "."). You may use naString to specify an additional NA symbol.

Usage

```
readCsv(file, naString = NULL)
```

Arguments

file	A csv file in your working directory. Use quotes.
naString	An optional argument specifying one extra character/string/number to assign NA to. Use quotes if it is a character or string. Only one extra character/string/number currently supported.

Examples

```
readCsv(myFile.csv)
```

scoreTIPI

*Score Ten-Item Personality Inventory (TIPI)***Description**

This function can be used to score TIPI data that has been downloaded from Qualtrics (manually or via the API - e.g., Qualtrics package) and either append it to a <master.csv> file or create a <master.csv> for you. A <master.csv> file is a file in long format that contains one or more timepoints of scored TIPI data (e.g., weeks 1-n). If manually downloaded from Qualtrics, it will remove rows 1 and 2. It assumes that the participant ID column is labeled 'ID' and that the TIPI columns begin with 'TIPI_' (e.g., TIPI_1). It assumes that there are 16 columns to remove from the front of the Qualtrics .csv file or dataframe (unless the dates parameter is specified).

Usage

```
scoreTIPI(tPoint, tPointNum, masterFile, dates = FALSE, Qualtrics = FALSE,
          duplicates = FALSE, group = NULL)
```

Arguments

tPoint	A .csv file or API dataframe with a timepoint's worth of TIPI data to score. Use quotes and a .csv extension if you manually downloaded the data from Qualtrics. If you are accessing the data via the API (e.g., Qualtrics Package) simply enter the name of the dataframe (without quotes).
tPointNum	Of class character denoting the current timepoint to score. This will add that character to a 'timepoint column.' Use quotes.
masterFile	A .csv file that includes computed TIPI scores from all scored timepoints. If this is the first timepoint to score, it will create the master file to the name of your choosing (e.g., masterTIPI.csv). Use quotes and a .csv extension.
dates	Defaults to FALSE. Set to TRUE if you'd like the start and end dates/times of survey completion for each participant (in 2 separate columns).
Qualtrics	Defaults to FALSE. Set to TRUE if you accessed the data through the Qualtrics R package (Qualtrics API). This will read an object of class dataframe and will not remove the first two rows of the dataframe.
duplicates	Defaults to NULL. This parameter will correct for when participants manage to take the Qualtrics survey more than once (e.g., a participant took the baseline survey twice). This code chunk will choose the survey with the lowest number of missing values, if there is a tie in the number of missing values (e.g., both surveys have 1 missing value), it will choose the survey with the earliest timestamp. NOTE: if you manually download the .csv files from Qualtrics and open them in Excel prior to scoring them, Excel will change the date format and this code chunk will not execute. So, either do not open the files in Excel after downloading them from Qualtrics or open them in Excel and do the following... highlight all dates in the file, right click > Format Cells > Custom, and in the "Type" text field insert: yyyy-mm-dd hh:mm:ss. This will convert the dates to the appropriate format. This is not an issue if you access the data through the API via Qualtrics.
group	This will add a column called groups and fill in the rows with the name of the group (i.e., treatment group) that you are scoring. Use quotes.

Examples

```
scoreTIPI(  
  tPoint = "PreCourse_Survey.csv",  
  tPointNum = "4",  
  masterFile = "masterTIPI.csv",  
  dates = FALSE,  
  QualtRics = FALSE,  
  duplicates = FALSE,  
  group = "Tx_1A")
```

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