Package 'rcollectadhd'

July 23, 2025

Title Collection of Data Sets Containing ADHD Related Data

Version 0.8

Description A collection of data sets relating to ADHD (Attention Deficit Hyperactivity Disorder) which have been sourced from other packages on CRAN or from publications on other websites such as Kaggle <http://www.kaggle.com/>.The package also includes some simple functions for analysing data sets. The data sets and descriptions of the data sets may differ from what is on CRAN or other source websites. The aim of this package is to bring together data sets from a variety of ADHD research publications. This package would be useful for those interested in finding out what research has been done on the topic of ADHD, or those interested in comparing the results from different existing works. I started this project because I wanted to put together a collection of the data sets relevant to ADHD research, which I have a personal interest in. This work was conducted with the support of my mentor within the Global Talent Mentoring platform. <https://globaltalentmentoring.org/>.

Depends R (>= 4.0.0)

License GPL (>= 3)

Encoding UTF-8

RoxygenNote 7.3.2

LazyData true

Suggests testthat (>= 3.0.0)

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Contents

`bf` *Multiple Sources of Attentional Dysfunction in Adults With Tourette's Syndrome*

Description

Data from a psychological study comparing attentional performances of Tourette's syndrome (TS) patients, ADHD patients, and controls. These data were simulated using the sufficient statistics from Silverstein et al. (1995).

Usage

```
bf
```

Format

A data frame with 51 rows and 2 columns:

`accuracy` (numeric) Participant's accuracy in the attentional task

`group` (factor) Participant's group membership (TS patient, ADHD patient, or control).

Source

`{BFpack}` package Last retrieved from CRAN: 2024-10-12

References

Silverstein, S. M., Como, P. G., Palumbo, D. R., West, L. L., & Osborn, L. M. (1995). Multiple sources of attentional dysfunction in adults with Tourette's syndrome: Comparison with attention deficit- hyperactivity disorder. Neuropsychology, 9(2), 157–164. https://doi.org/10.1037/0894-4105.9.2.157

`chil_reac1` *Children's reaction times (milliseconds) to stimuli of different nature, arranged with four response columns*

Description

The data (Keselman et al., 2003) represent the reaction times in milliseconds of children with attention-deficit hyperactivity (ADHD) and non-ADHD children when they are presented four kinds of inputs: a target alone or an arrow stimuli incongruent, congruent and neutral to the target. According to the authors, the dataset was artificially generated from the summary measures given in the original study by Jonkman et al. (1999), in groups of 20 and 10 children to create an unbalanced design.

Usage

```
chil_reac1
```

Format

A data frame with 30 rows and 5 variables:

Group (factor) Whether the child has ADHD or not.

TargetAlone (numeric) Reaction time (milliseconds) to a target alone.

Congruent (numeric) Reaction time (milliseconds) to a congruent stimulus.

Neutral (numeric) Reaction time (milliseconds) to a neutral stimulus.

Incongruent (numeric) Reaction time (milliseconds) to an incongruent stimulus.

Source

`{welchADF}` package Last retrieved from CRAN: 2024-10-12

References

Jonkman, L. M., Kemner, C., Verbaten, M. N., Van Engeland, H., Kenemans, J. L., Camfferman, G., Buitelaar, J. K., & Koelega, H. S. (1999). Perceptual and response interference in children with attention-deficit hyperactivity disorder, and the effects of methylphenidate. Psychophysiology, 36(4), 419–429. https://doi.org/10.1111/1469-8986.3640419

Data was got from: Keselman, H. J., Wilcox, R. R., & Lix, L. M. (2003). A generally robust approach to hypothesis testing in independent and correlated groups designs. Psychophysiology, 40(4), 586–596. https://doi.org/10.1111/1469-8986.00060

`chil_reac2` *Children's reaction times (milliseconds) to stimuli of different nature, arranged with one single response column and taking the multivariate response as an explicit within-subjects factor*

Description

The data (Keselman et al., 2003) represent the reaction times in milliseconds of children with attention-deficit hyperactivity (ADHD) and non-ADHD children when they are presented four kinds of inputs: a target alone or an arrow stimuli incongruent, congruent and neutral to the target. According to the authors, the dataset was artificially generated from the summary measures given in the original study by Jonkman et al. (1999), in groups of 20 and 10 children to create an unbalanced design.

Usage

```
chil_reac2
```

Format

A data frame with 120 rows and 4 variables:

Group (factor) whether the child has ADHD or not.

Stimulus (factor) The stimulus to which the reaction time in this row corresponds.

Subject (factor) ID that corresponds to the reaction time score.

Milliseconds (numeric) Reaction time (milliseconds) of subject to stimuli.

Source

`{welchADF}` package Last retrieved from CRAN: 2024-10-12

References

Jonkman, L. M., Kemner, C., Verbaten, M. N., Van Engeland, H., Kenemans, J. L., Camfferman, G., Buitelaar, J. K., & Koelega, H. S. (1999). Perceptual and response interference in children with attention-deficit hyperactivity disorder, and the effects of methylphenidate. Psychophysiology, 36(4), 419–429. https://doi.org/10.1111/1469-8986.3640419

Data was got from: Keselman, H. J., Wilcox, R. R., & Lix, L. M. (2003b). A generally robust approach to hypothesis testing in independent and correlated groups designs. Psychophysiology, 40(4), 586–596. https://doi.org/10.1111/1469-8986.00060

compare2 *Print two columns of interest from the data frame in the console*

Description

`compare2()` is a function that prints two columns of interest from a data frame side by side, for a quick visual row-wise comparison.

Usage

```
compare2(data, column1, column2)
```

Arguments

`data`	The data frame in question.
`column1`	The first column to compare.
`column2`	The second column to compare.

Value

The two selected columns printed in the console.

Examples

```
compare2(mtcars, 'cyl', 'mpg')
```

data_type *List the data type in each column of the data frame*

Description

`data_type()` is a function that returns a list which contains the data type in each of the columns in a data frame. If a column contains more than one type of data, it will list both.

Usage

```
data_type(data)
```

Arguments

`data`	The data frame in question.

Value

A list of the data type in each column of the data frame.

Examples

```
data_type(mtcars)
```

`doublecone` *Sub-clinical ADHD behaviors and classroom functioning in schoolage children*

Description

Observations on children aged 9-11 in classroom settings, for a study on the effects of sub-clinical hyperactive and inattentive behaviors on social and academic functioning.

Usage

```
doublecone
```

Format

A data frame with 686 observations on the following 4 variables:

sex (factor) 1=boy; 2=girl

ethn (factor) 1=Colombian, 2=African American, 3=Hispanic American, 5=European American

hypb (numeric) Classroom hyperactive behaviour level.

fcn (numreric) A measure of social and academic functioning.

Source

`{DoubleCone}` package Last retrieved from CRAN: 2024-10-12

References

Brewis, A., Schmidt, K. L., & Meyer, M. (2000). ADHD-Type Behavior and Harmful Dysfunction in Childhood: A Cross-Cultural Model. American Anthropologist, 102(4), 823–828. https://doi.org/10.1525/aa.2000.102.4.823

max_val *Get the maximum value in each numeric column of a data frame*

Description

`max_val()` is a function that returns a data frame holding the maximum value in each of the numeric columns in the specified data frame.

Usage

```
max_val(data)
```

Arguments

`data`	The data frame in question.

Value

The maximum value in each of the numeric columns in the specified data frame (provided there are numeric columns in the data frame).

Examples

```
max_val(mtcars)
max_val(ChickWeight)
```

min_val *Get the minimum value in each numeric column of a data frame*

Description

`min_val()` is a function that returns a data frame holding the minimum value in each of the numeric columns in the specified data frame.

Usage

```
min_val(data)
```

Arguments

`data`	The data frame in question.

Value

The minimum value in each of the numeric columns in the specified data frame (provided there are numeric columns in the data frame).

Examples

```
min_val(mtcars)
min_val(ChickWeight)
```

`psymeta` *Studies on the effects of transcranial direct current stimulation on inhibitory control*

Description

Results from 62 studies, including 75 effect sizes (Hedge's g) on the effect of transcranial direct current stimulation (tDCS) in inhibitory control (Schroeder et al. 2020).

Usage

```
psymeta
```

Format

A data frame with 75 rows and 13 variables:

`study_id` (factor) Unique id for study.

`es_id` (factor) Unique id for effect size.

`yi` (numeric) Effect size (Hedge's g).

`vi` (numeric) Sampling variance for effect size.

`control` (factor) Control condition ("active control", "no tDCS", or "sham").

`study_design` (factor) Study design ("between-subjects" or "within").

`blinding` (factor) Blinding strategy ("no blinding", "not reported", "success").

`task` (factor) Task used in study: go/no-go task ("GNG) or stop-signal task("SST").

`population` (factor) Population of study ("ADHD", "healthy" or "other patients".

`stimulation` (factor) tDCS polarity ("anodal" or "cathodal").

`intensity` (factor) tDCS intensity (1 mA, 1.5 mA, or 2 mA).

`target_electrode_placement` (factor) Target electrode placement.

`return_electrode_placement` (factor) Return electrode placement.

`timing` (factor) Timing of stimulation ("online" or "offline").

Source

`{psymetadata}` package Last retrieved from CRAN: 2024-10-12

References

Schroeder, P. A., Schwippel, T., Wolz, I., & Svaldi, J. (2020). Meta-analysis of the effects of transcranial direct current stimulation on inhibitory control. Brain Stimulation, 13(5), 1159–1167 https://doi.org/10.1016/j.brs.2020.05.006

rcollectadhd *Collection of Data Sets Containing ADHD Related Data*

Description

A collection of data sets relating to ADHD (Attention Deficit Hyperactivity Disorder) which have been sourced from other packages on CRAN or from publications on other websites such as Kaggle http://www.kaggle.com/. The package also includes some simple functions for analysing data sets. The data sets and descriptions of the data sets may differ from what is on CRAN or other source websites. The aim of this package is to bring together data sets from a variety of ADHD research publications. This package would be useful for those interested in finding out what research has been done on the topic of ADHD, or those interested in comparing the results from different existing works. I started this project because I wanted to put together a collection of the data sets relevant to ADHD research, which I have a personal interest in. This work was conducted with the support of my mentor within the Global Talent Mentoring platform. https://globaltalentmentoring.org/.

See Also

{BFpack}, {welchADF}, {DoubleCone}, {psymetadata}, {DTRlearn2}

smart *A 2-stage SMART data of children with ADHD*

Description

We provide a two-stage sequential multiple assignment randomized trial (SMART) data of 150 children with ADHD mimicking a real world study. At the first stage, children were randomized to treatment of low-intensity behavioral modification (BMOD) or low-intensity methamphetamine (MED) with equal probability. At second stage, children were randomized to treatment of low-intensity BMOD + low-intensity MED, or high-intensity with equal probability. The primary outcome of study was children's school performance score ranging from 1 to 5 assessed at the end of the study for all participants

Usage

```
smart
```

Format

A data frame with 11 columns:

`id` (factor) IDs of the 150 children.

`o11` (factor) Baseline covariate encoded as 0/1: diagnosed with ODD (oppositional defiant disorder) before the first-stage intervention.

o12 (numeric) Baseline covariate: ADHD score at the end of the previous school year (ranging from 0 to 3, larger values for fewer ADHD symptoms).

o13 (factor) Baseline covariate encoded as 0/1: receiving medication during the previous school year.

o14 (factor) Baseline covariate encoded as 0/1: race - white (coded 1) versus nonwhite (coded 0).

a1 (factor) First-stage intervention encoded as -1/1: -1 for low-intensity methamphetamine (MEDS), 1 for low-intensity behavioral modification (BMOD).

r (factor) First-stage response indicator encoded as 0/1

o21 (factor) Intermediate outcome: number of months until non-response (maximum: 8 months, NA for responders).

o22 (factor) Intermediate outcome encoded as 0/1: adherence to the first-stage intervention, 1 for high adherence.

a2 (factor) Second-stage intervention encoded as -1/1: -1 for low-intensity BMOD + MEDS, 1 for high-intensity BMOD.

y (factor) Primary outcome (continuous): school performance at the end of the school year (ranging from 1 to 5, higher values reflect better performance)

Source

{DTRlearn2} package Last retrieved from CRAN: 2024-10-12

References

Pelham, W. E., Fabiano, G. A. (2008). Evidence-Based Psychosocial Treatments for Attention-Deficit/Hyperactivity Disorder. Journal of Clinical Child & Adolescent Psychology, 37(1), 184–214. https://doi.org/10.1080/15374410701818681

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student *Multifaceted Computer Science Students Data To Identify Depression Level*

Description

This dataset comprises survey results from 100 computer science students, aiming to identify correlations between their depression levels, class performance, and ADHD patterns through data analysis. This dataset is designed to facilitate a comprehensive analysis of the interplay between demographic factors, academic performance, mental health, study habits, and social dynamics among individuals in the specified context.

Usage

```
student
```

Format

a data frame with 10 columns:

`Age` (factor) Age of each individual.

`Gender` (factor) Gender of individual.

`AcademicPerformance` (factor) Academic performance of each individual.

`TakingNoteInClass` (factor) Note taking habits of each individual.

`DepressionStatus` (factor) Presence of depression symptoms reported by each individual.

`FaceChallengesToCompleteAcademicTask` (factor) Experience of facing challenges in completing academic challenges reported each individual.

`LikePresentation` (factor) Like for making presentations for each individual.

`SleepPerDayHours` (numeric) Average hours of sleep obtained reported by each individual.

`NumberOfFriend` (numeric) Number of friends each individual reported having.

`LikeNewThings` (factor) Like for new things reported by each individual.

Source

"Psychosocial Dimensions of Student Life" authored by Md. Ismiel Hossen Abir on Kaggle: https://www.kaggle.com/datasets/mdismielhossenabir/psychosocial-dimensions-of -student-life Last retrieved from Kaggle: 2024-10-12

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