Package 'Ymisc'

October 18, 2023

Type Package

Title Miscellaneous Functions

Version 0.1.0

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Description The Author's personal R Package that contains miscellaneous functions.
The current version of package contains miscellaneous functions for brain data
to compute Asymmetry Index (AI) and bilateral (L+R) measures and reshape the data.

License GPL (>= 2)

Encoding UTF-8

LazyData true

Depends R (>= 3.5.0)

RoxygenNote 7.2.3

Suggests testthat (>= 3.0.0)

Config/testthat/edition 3

Imports stats

NeedsCompilation no

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Repository CRAN

Date/Publication 2023-10-18 14:00:06 UTC

R topics documented:

1

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compute_AI   *The brain asymmetry index (AI)*

Description

AI formula = [(left-right)/(left+right)]. compute_AI() creates new columns that are AIs of the brain measures using the most widely-used formula.

Usage

```
compute_AI(
  data = sample_data,
  left_hemisphere = "lh",
  right_hemisphere = "rh",
  separator = "_",
  ID = "ID",
  hemisphere = "prefix",
  start,
  end
)
```

Arguments

data	The wide format data
left_hemisphere	
	The prefix or suffix that indicates the left hemisphere in the variable names
right_hemisphere	
	The prefix or suffix string that indicates the right hemisphere in the variable names
separator	A character vector that separates characters in the variable names.
ID	The column of identifiers.
hemisphere	The character vector that indicates whether a hemisphere indicator in the variable names is a prefix or suffix.
start	The column that specifies the starting point of a set of variables to calculate the AIs.
end	The column that specifies the endpoint of a set of variables to calculate the AIs.

Value

The data with AIs.

Examples

```
data(sample_data)

compute_AI(sample_data,
left_hemisphere = "lh",
right_hemisphere = "rh",
separator="_",
ID="ID",
hemisphere="prefix",
start="lh_Thalamus",
end="rh_AccumbensArea")
```

---

compute_total	*the bilateral (Left + Right) measures.*

Description

compute_total() creates new columns that are the bilateral (Left + Right) measures.

Usage

```
compute_total(
  data = sample_data,
  left_hemisphere = "lh",
  right_hemisphere = "rh",
  separator = "_",
  ID = "ID",
  hemisphere = "prefix",
  start,
  end
)
```

Arguments

data	The wide format data
left_hemisphere	
	The prefix or suffix that indicates the left hemisphere in the variable names
right_hemisphere	
	The prefix or suffix string that indicate the right hemisphere in the variable names
separator	A character vector that separates characters in the variable names.
ID	The column of identifiers.
hemisphere	The character vector that indicates whether a hemisphere indicator in the variable names is a prefix or suffix.

start	The column that specifies the starting point of a set of variables to calculate the bilateral (L+R) measures.
end	The column that specifies the endpoint of a set of variables to calculate the bilateral (L+R) measures.

Value

The data with the bilateral (L+R) measures.

Examples

```
data(sample_data)

compute_total(sample_data,
left_hemisphere="lh",
right_hemisphere="rh",
separator="_",
ID="ID",
hemisphere="prefix",
start="lh_Thalamus",
end="rh_AccumbensArea")
```

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long | *Long Format Sample Data*

Description

Long Format Sample Data

Usage

```
long
```

Format

A long format data frame.

The regional brain measures from left and right hemisphere, attention check, and ID

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long2wide	*Reshapes the data*

Description

long2wide() is data-reshaping function for long format data. This function mainly targets the brain structure data that contains the data from the left and right hemispheres

Usage

```
long2wide(data, ID = "ID", separator = "_", hemisphere = "prefix", start, end)
```

Arguments

data	The long format data.
ID	The column of identifiers.
separator	A character vector that separates characters in the variable names.
hemisphere	The character vector that indicates whether a hemisphere indicator in the variable names is the prefix or suffix. At this point, only a "prefix" option is available.
start	The column that specifies the starting point of a set of variables to be reshaped.
end	The column that specifies the endpoint of a set of variables to be reshaped.

Value

The wide format data

Examples

```
data(long)

long2wide(
data=long,
ID="ID",
separator="_",
hemisphere="prefix",
start="region",
end="rh")
```

---

sample_data   *Wide Format Sample Data*

Description

Wide Format Sample Data

Usage

```
sample_data
```

Format

A wide format data frame.

The regional brain measures from left and right hemisphere, attention check, and ID.

---

wide2long   *Reshapes the data*

Description

wide2long() function is data-reshaping function for wide format data. This function mainly targets the brain structure data that contains the data from the left and right hemispheres

Usage

```
wide2long(data, ID = "ID", separator = "_", hemisphere = "prefix", start, end)
```

Arguments

data	The wide format data.
ID	The column of identifiers.
separator	A character vector that separates characters in the variable names.
hemisphere	Whether a hemisphere indicator in the variable names is a prefix or suffix. At this point, only the "prefix" option is available.
start	The column that specifies the starting point of a set of variables to be reshaped
end	The column that specifies the endpoint of a set of variables to be reshaped

Value

The long format data

Examples

```
data(sample_data)

long<-wide2long(
data=sample_data,
ID="ID",
separator="_",
start="lh_Thalamus",
end="rh_AccumbensArea",
hemisphere="prefix"
)
```

Index