

Package ‘hwig’

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Title Half-Weight Index Gregariousness

Version 0.0.2

Description The half-weight index gregariousness (HWIG) is an association index used in social network analyses. It extends the half-weight association index (HWI), correcting for level of gregariousness in individuals. It is calculated using group by individual data according to methods described in Godde et al. (2013) [<doi:10.1016/j.anbehav.2012.12.010>](https://doi.org/10.1016/j.anbehav.2012.12.010).

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Encoding UTF-8

LazyData true

RoxygenNote 7.1.2

Depends R (>= 2.10)

Imports asnipe, spatsock, data.table

Suggests testthat

BugReports <https://github.com/robitalec/hwig/issues>

URL <https://gitlab.com/robit.a/hwig>, <https://github.com/robitalec/hwig>

NeedsCompilation no

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Contents

calc_hwi	2
calc_hwig	3
DT	4
get_names	4

Index	6
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`calc_hwi`*Calculate HWI*

Description

Calculates the Half-Weight Association Index

Usage

```
calc_hwi(DT, id, group, by = NULL)
```

Arguments

<code>DT</code>	input group membership data, in individual/group format
<code>id</code>	column indicating id in DT
<code>group</code>	column indicating group in DT
<code>by</code>	column(s) to split calculation by. e.g.: year

Details

Expects an input ‘DT’ with id and group column, e.g. as returned by [group_pts](#).

Value

HWI data.table or list of data.tables.

See Also

[calc_hwig](#)

Examples

```
# Load data.table
library(data.table)

# Load example data
DT <- fread(system.file("extdata", "DT.csv", package = "hwig"))

# Calculate HWI
hwi <- calc_hwi(DT, 'id', 'group', 'yr')
```

`calc_hwig`*Calculate HWIG*

Description

Calculates the Half-Weight Association Index according to the method described in Godde et al. (2013).

Usage

```
calc_hwig(hwi)
```

Arguments

`hwi` output of [calc_hwi](#). Either a data.table or a list of data.tables. See Details.

Details

It is expected that the input 'hwi' is the output from 'calc_hwi'. If 'by' was provided in that function, 'hwi' will be a list of data.tables. Alternatively if 'by' wasn't provided, 'hwi' will be a single data.table.

Value

HWIG data.table or list of data.tables.

References

Sophie Godde, Lionel Humbert, Steeve D. Côté, Denis Réale, Hal Whitehead. Correcting for the impact of gregariousness in social network analyses. *Animal Behaviour*. Volume 85, Issue 3. 2013.

See Also

[calc_hwi](#) [get_names](#)

Examples

```
# Load data.table
library(data.table)

# Load example data
DT <- fread(system.file("extdata", "DT.csv", package = "hwig"))

# Calculate HWI
hwi <- calc_hwi(DT, 'id', 'group', 'yr')

# Calculate HWIG
hwig <- calc_hwig(hwi)
```

DT

*Example data for input to 'hwig'***Description**

Example data for input to 'hwig'

Format

A data.table with 14297 rows and 3 variables:

ID individual identifier

year integer representing the year

Source

```
# Load packages library(spatSOC) library(data.table)
# Read example data DT <- fread(system.file("extdata", "DT.csv", package = "spatsoc"))
# Cast the character column to POSIXct DT[, datetime := as.POSIXct(datetime, tz = 'UTC')]
# Temporal grouping group_times(DT, datetime = 'datetime', threshold = '20 minutes')
# Spatial grouping with timegroup group_pts( DT, threshold = 5, id = 'ID', coords = c('X', 'Y'),
timegroup = 'timegroup' )
fwrite(DT[, .(id = ID, group, yr = year(datetime))], 'inst/extdata/DT.csv')
```

Examples

```
# Load data.table
library(data.table)

# Read example data
DT <- fread(system.file("extdata", "DT.csv", package = "hwig"))
```

get_names

*Get HWI/HWIG names***Description**

Helper function, to return names of each matrix

Usage

```
get_names(DT, by)
```

Arguments

DT	input group membership data, in individual/group format
by	column(s) to split calculation by. e.g.: year

Value

names corresponding to values of by for each of the returned list of matrices in [calc_hwi](#) and [calc_hwig](#).

See Also

[calc_hwi](#) [calc_hwig](#)

Examples

```
# Load data.table
library(data.table)

# Load example data
DT <- fread(system.file("extdata", "DT.csv", package = "hwig"))

# Calculate HWI
hwi <- calc_hwi(DT, 'id', 'group', 'yr')

# Calculate HWIG
hwig <- calc_hwig(hwi)

# Set names
nms <- get_names(DT, 'yr')
names(hwig) <- nms
```

Index

calc_hwi, [2](#), [3](#), [5](#)
calc_hwig, [2](#), [3](#), [5](#)

DT, [4](#)

get_names, [3](#), [4](#)
group_pts, [2](#)