Package 'PNSIBGE'

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Type Package

Title Downloading, Reading and Analyzing PNS Microdata

Version 0.2.1

Description Provides tools for downloading, reading and analyzing the National Survey of Health - PNS, a household survey from Brazilian Institute of Geography and Statistics - IBGE. The data must be downloaded from the official website <https://www.ibge.gov.br/>. Further analysis must be made using package 'survey'.

Depends R (>= 3.2.0)

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Suggests convey, SIPDIBGE, srvyr

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NeedsCompilation no

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BugReports https://github.com/Gabriel-Assuncao/PNSIBGE/issues

Repository CRAN

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Contents

`get_pns` *Download, label, deflate and create survey design object for PNS microdata*

Description

Core function of package. With this function only, the user can download a PNS microdata from a year and get a sample design object ready to use with `survey` package functions.

Usage

```
get_pns(
  year,
  selected = FALSE,
  anthropometry = FALSE,
  vars = NULL,
  labels = TRUE,
  deflator = TRUE,
  design = TRUE,
  reload = TRUE,
  curlopts = list(),
  savedir = tempdir()
)
```

Arguments

`year`	The year of the data to be downloaded. Must be a number equal to 2013 or 2019. Vector not accepted.
`selected`	Logical value. If `TRUE`, the specific questionnaire for selected resident will be used. If `FALSE`, the basic questionnaire for household and residents will be used.
`anthropometry`	Logical value. If `TRUE`, the specific questionnaire for the anthropometry module of the selected resident will be used. If `FALSE`, the questionnaire defined by the `selected` argument of this function will be used. This argument will be used only if `year` is equal to 2019.
`vars`	Vector of variable names to be kept for analysis. Default is to keep all variables.
`labels`	Logical value. If `TRUE`, categorical variables will presented as factors with labels corresponding to the survey's dictionary.
`deflator`	Logical value. If `TRUE`, deflator variables will be available for use in the microdata.
`design`	Logical value. If `TRUE`, will return an object of class `survey.design` or `svyrep.design`. It is strongly recommended to keep this parameter as `TRUE` for further analysis. If `FALSE`, only the microdata will be returned.

reload	Logical value. If TRUE, will re-download the files even if they already exist in the save directory. If FALSE, will be checked if the files already exist in the save directory and the download will not be performed repeatedly, be careful with coinciding names of microdata files.
curlopts	A named list object identifying the curl options for the handle when using functions from RCurl package.
savedir	Directory to save the downloaded data. Default is to use a temporary directory.

Value

An object of class survey.design or svyrep.design with the data from PNS and its sample design, or a tibble with selected variables of the microdata, including the necessary survey design ones.

Note

For more information, visit the survey official website <https://www.ibge.gov.br/estatisticas/sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e> and consult the other functions of this package, described below.

See Also

read_pns for reading PNS microdata.
pns_labeller for labeling categorical variables from PNS microdata.
pns_deflator for adding deflator variables to PNS microdata.
pns_design for creating PNS survey design object.
pns_example for getting the path of the PNS toy example files.

Examples

```
pns.svy <- get_pns(year=2019, selected=FALSE, anthropometry=FALSE, vars=c("J007","J009"),
                       labels=TRUE, deflator=TRUE, design=TRUE,
                       reload=TRUE, curlopts=list(), savedir=tempdir())
# Calculating proportion of people diagnosed with chronic diseases
if (!is.null(pns.svy)) survey::svymean(x=~J007, design=pns.svy, na.rm=TRUE)
pns.svy2 <- get_pns(year=2019, selected=TRUE, anthropometry=FALSE, vars=c("N001","N00101"),
                       labels=TRUE, deflator=TRUE, design=TRUE,
                       reload=TRUE, curlopts=list(), savedir=tempdir())
# Calculating proportion of people's self-rated health
if (!is.null(pns.svy2)) survey::svymean(x=~N001, design=pns.svy2, na.rm=TRUE)
pns.svy3 <- get_pns(year=2019, selected=FALSE, anthropometry=TRUE, vars=c("W00101","W00201"),
                       labels=TRUE, deflator=TRUE, design=TRUE,
                       reload=TRUE, curlopts=list(), savedir=tempdir())
# Calculating the average weight of people
if (!is.null(pns.svy3)) survey::svymean(x=~W00101, design=pns.svy3, na.rm=TRUE)
```

pns_deflator *Add deflator variables to PNS microdata*

Description

This function adds deflator variables to PNS microdata. For deflation of income variables, the documentation provided through the following address must be used: https://ftp.ibge.gov.br/PNS/Documentacao_Geral/PNSIBGE_Deflator.pdf.

Usage

```
pns_deflator(data_pns, deflator.file)
```

Arguments

data_pns	A tibble of PNS microdata read with read_pns function.
deflator.file	The deflator file for selected survey available on official website: (select the deflator zip file) - https://ftp.ibge.gov.br/PNS/Documentacao_Geral/.

Value

A tibble with the data provided from PNS survey and the deflator variables added for use.

Note

For more information, visit the survey official website <https://www.ibge.gov.br/estatisticas/sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e> and consult the other functions of this package, described below.

See Also

get_pns for downloading, labeling, deflating and creating survey design object for PNS microdata.
read_pns for reading PNS microdata.
pns_labeller for labeling categorical variables from PNS microdata.
pns_design for creating PNS survey design object.
pns_example for getting the path of the PNS toy example files.

Examples

```
# Using data read from disk
input_path <- pns_example(path="input_example.txt")
data_path <- pns_example(path="exampledata.txt")
dictionary.path <- pns_example(path="dictionaryexample.xls")
deflator.path <- pns_example(path="deflatorexample.xls")
pns.df <- read_pns(microdata=data_path, input_txt=input_path, vars=c("J007","J009"))
pns.df <- pns_labeller(data_pns=pns.df, dictionary.file=dictionary.path)
pns.df <- pns_deflator(data_pns=pns.df, deflator.file=deflator.path)
```

```
# Downloading data
pns.df2 <- get_pns(year=2019, selected=FALSE, anthropometry=FALSE, vars=c("J007","J009"),
                       labels=TRUE, deflator=FALSE, design=FALSE,
                       reload=TRUE, curlopts=list(), savedir=tempdir())
deflator.path2 <- pns_example(path="deflatorexample.xls")
pns.df2 <- pns_deflator(data_pns=pns.df2, deflator.file=deflator.path2)
```

---

pns_design *Create PNS survey object with its sample design*

Description

This function creates PNS survey object with its sample design for analysis using survey package functions.

Usage

```
pns_design(data_pns)
```

Arguments

data_pns	A tibble of PNS microdata read with read_pns function.

Value

An object of class survey.design or svyrep.design with the data from PNS and its sample design.

Note

For more information, visit the survey official website <https://www.ibge.gov.br/estatisticas/sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e> and consult the other functions of this package, described below.

See Also

get_pns for downloading, labeling, deflating and creating survey design object for PNS microdata.
read_pns for reading PNS microdata.
pns_labeller for labeling categorical variables from PNS microdata.
pns_deflator for adding deflator variables to PNS microdata.
pns_example for getting the path of the PNS toy example files.

Examples

```
# Using data read from disk
input_path <- pns_example(path="input_example.txt")
data_path <- pns_example(path="exampledata.txt")
dictionary.path <- pns_example(path="dictionaryexample.xls")
deflator.path <- pns_example(path="deflatorexample.xls")
pns.df <- read_pns(microdata=data_path, input_txt=input_path, vars=c("J007","J009"))
pns.df <- pns_labeller(data_pns=pns.df, dictionary.file=dictionary.path)
pns.df <- pns_deflator(data_pns=pns.df, deflator.file=deflator.path)

pns.svy <- pns_design(data_pns=pns.df)
# Calculating proportion of people diagnosed with chronic diseases
if (!is.null(pns.svy)) survey::svymean(x=~J007, design=pns.svy, na.rm=TRUE)

# Downloading data
pns.df2 <- get_pns(year=2019, selected=FALSE, anthropometry=FALSE, vars=c("J007","J009"),
                       labels=TRUE, deflator=TRUE, design=FALSE,
                       reload=TRUE, curlopts=list(), savedir=tempdir())
pns.svy2 <- pns_design(data_pns=pns.df2)
# Calculating proportion of people diagnosed with chronic diseases
if (!is.null(pns.svy2)) survey::svymean(x=~J007, design=pns.svy2, na.rm=TRUE)
```

`pns_example` *Get the path of the PNS toy example files*

Description

This function provides the path of the microdata from year 2019 of the PNS toy example files, loaded with this package.

Usage

```
pns_example(path = NULL)
```

Arguments

`path`	Name of file. If `NULL`, the PNS toy example files names will be listed.

Value

A vector with names of all the available PNS toy example files or the path for specific requested PNS toy example file.

Note

For more information, visit the survey official website <https://www.ibge.gov.br/estatisticas/sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e> and consult the other functions of this package, described below.

See Also

get_pns for downloading, labeling, deflating and creating survey design object for PNS microdata.
read_pns for reading PNS microdata.
pns_labeller for labeling categorical variables from PNS microdata.
pns_deflator for adding deflator variables to PNS microdata.
pns_design for creating PNS survey design object.

Examples

```
pns_example()
pns_example(path="exampledata.txt")
pns_example(path="input_example.txt")
pns_example(path="dictionaryexample.xls")
pns_example(path="deflatorexample.xls")
```

---

pns_labeller *Label categorical variables from PNS microdata*

Description

This function labels categorical variables from PNS microdata.

Usage

```
pns_labeller(data_pns, dictionary.file)
```

Arguments

data_pns	A tibble of PNS microdata read with read_pns function.
dictionary.file	The dictionary file for selected survey available on official website: (select the dictionary and input zip file, according to the appropriated year, microdata folder and then, inside, documentation) - https://ftp.ibge.gov.br/PNS/.

Value

A tibble with the data provided from PNS survey and its categorical variables as factors with related labels.

Note

For more information, visit the survey official website <https://www.ibge.gov.br/estatisticas/sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e> and consult the other functions of this package, described below.

See Also

get_pns for downloading, labeling, deflating and creating survey design object for PNS microdata.
read_pns for reading PNS microdata.
pns_deflator for adding deflator variables to PNS microdata.
pns_design for creating PNS survey design object.
pns_example for getting the path of the PNS toy example files.

Examples

```
# Using data read from disk
input_path <- pns_example(path="input_example.txt")
data_path <- pns_example(path="exampledata.txt")
dictionary.path <- pns_example(path="dictionaryexample.xls")
pns.df <- read_pns(microdata=data_path, input_txt=input_path, vars=c("J007","J009"))
pns.df <- pns_labeller(data_pns=pns.df, dictionary.file=dictionary.path)

# Downloading data
pns.df2 <- get_pns(year=2019, selected=FALSE, anthropometry=FALSE, vars=c("J007","J009"),
                       labels=FALSE, deflator=FALSE, design=FALSE,
                       reload=TRUE, curlopts=list(), savedir=tempdir())
dictionary.path2 <- pns_example(path="dictionaryexample.xls")
pns.df2 <- pns_labeller(data_pns=pns.df2, dictionary.file=dictionary.path2)
```

---

read_pns *Read PNS microdata*

Description

This function reads PNS microdata.

Usage

```
read_pns(microdata, input_txt, vars = NULL)
```

Arguments

microdata	A text file containing microdata from PNS survey, available on official website: (select a microdata file, according to the appropriated year, microdata folder and then, inside, data) - https://ftp.ibge.gov.br/PNS/.
input_txt	A text file, related to the microdata, containing the input script for SAS, available on official website: (select the dictionary and input zip file, according to the appropriated year, microdata folder and then, inside, documentation) - https://ftp.ibge.gov.br/PNS/.
vars	Vector of variable names to be kept for analysis. Default is to keep all variables.

Value

A tibble with selected variables of the microdata, including the necessary survey design ones.

Note

For more information, visit the survey official website <https://www.ibge.gov.br/estatisticas/sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e> and consult the other functions of this package, described below.

See Also

get_pns for downloading, labeling, deflating and creating survey design object for PNS microdata.
pns_labeller for labeling categorical variables from PNS microdata.
pns_deflator for adding deflator variables to PNS microdata.
pns_design for creating PNS survey design object.
pns_example for getting the path of the PNS toy example files.

Examples

```
input_path <- pns_example(path="input_example.txt")
data_path <- pns_example(path="exampledata.txt")
pns.df <- read_pns(microdata=data_path, input_txt=input_path, vars=c("J007","J009"))
```

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