Package 'youthu'

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Title Youth Outcomes to Health Utility

Version 0.0.0.9065

Description Tools for mapping measures routinely collected in youth
mental health services to AQOL 6D Health Utility. Part of the First
Bounce model of primary youth mental health services. This
development version of the youthu package has been made available as
part of the process of testing and documenting the package. The tools
contained in this development release are designed for use in
conjunction with model objects stored in data repositories. The real
model objects will be publicly released once the associated scientific
manuscript is published. In the mean time, we have included links to
placeholder model objects derived from synthetic data. For this
reason, this release is for demonstration purposes only and this
package should not yet be used in analyses deigned to inform policy
decisions. If you have any questions, please contact the authors
(matthew.hamilton@orygen.org.au). The documentation for this package
has been automatically generated by the ready4fun package and is
therefore quite rudimentary. Human authored documentation will follow
in 2021.

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URL https://ready4-dev.github.io/youthu/,
https://github.com/ready4-dev/youthu, https://www.ready4-dev.com/

Encoding UTF-8

LazyData true

Roxygen list(markdown = TRUE)

RoxygenNote 7.1.1

Imports BCEA,
boot,
dataverse (>= 0.3.7),
dplyr,
ggplot2,
knitr,
knitrBootstrap,
lifecycle,
lubridate,
magrittr,
MatchIt,

methods,
purrr,
ready4fun (>= 0.0.0.9289),
ready4show (>= 0.0.0.9019),
ready4use (>= 0.0.0.9122),
rlang,
stats,
stringr,
testthat,
tibble,
tidyr,
tidyselect,
truncnorm,
TTU (>= 0.0.0.9133),
utils,
youthvars (>= 0.0.0.9018)

VignetteBuilder knitr

Depends R (>= 2.10)

Remotes ready4-dev/ready4show,
ready4-dev/ready4use,
ready4-dev/youthvars,
ready4-dev/TTU,
iqss/dataverse-client-r,
ready4-dev/ready4fun

R topics documented:

youthu-package   *youthu: Youth Outcomes to Health Utility*

Description

Tools for mapping measures routinely collected in youth mental health services to AQOL 6D Health Utility. Part of the First Bounce model of primary youth mental health services. This development version of the youthu package has been made available as part of the process of testing and documenting the package. The tools contained in this development release are designed for use in conjunction with model objects stored in data repositories. The real model objects will be publicly released once the associated scientific manuscript is published. In the mean time, we have included links to placeholder model objects derived from synthetic data. For this reason, this release is for demonstration purposes only and this package should not yet be used in analyses deigned to inform policy decisions. If you have any questions, please contact the authors (matthew.hamilton@orygen.org.au). The documentation for this package has been automatically generated by the ready4fun package and is therefore quite rudimentary. Human authored documentation will follow in 2021.

Details

To learn more about youthu, start with the vignettes: `browseVignettes(package = "youthu")`

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- Orygen [copyright holder, funder]
- Headspace [funder]
- National Health and Medical Research Council [funder]

See Also

Useful links:

- https://ready4-dev.github.io/youthu/
- https://github.com/ready4-dev/youthu
- https://www.ready4-dev.com/

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abbreviations_lup *Common abbreviations lookup table*

Description

A lookup table for abbreviations commonly used in object names in the youthupackage.

Usage

```
abbreviations_lup
```

Format

An object of class tbl_df (inherits from tbl, data.frame) with 493 rows and 3 columns.

Details

A tibble

short_name_chr Short name (a character vector)

long_name_chr Long name (a character vector)

plural_lgl Plural (a logical vector)

Source

<https://doi.org/10.7910/DVN/2Y9VF9>

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add_aqol6d_predn_to_ds

Add Assessment of Quality of Life Six Dimension prediction to dataset

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Description

add_aqol6d_predn_to_ds() is an Add function that updates an object by adding data to that object. Specifically, this function implements an algorithm to add assessment of quality of life six dimension prediction to dataset. Function argument data_tb specifies the object to be updated. The function returns Updated (a tibble).

Usage

```
add_aqol6d_predn_to_ds(
  data_tb,
  model_mdl,
  tfmn_1L_chr,
  predr_vars_nms_chr = NULL,
  utl_var_nm_1L_chr = NULL,
  id_var_nm_1L_chr = "fkClientID",
  round_var_nm_1L_chr = "round",
  round_bl_val_1L_chr = "Baseline",
  utl_cls_fn = youthvars::youthvars_aqol6d_adol,
  predictors_lup = NULL
)
```

Arguments

data_tb	Data (a tibble)
model_mdl	Model (a model)
tfmn_1L_chr	Transformation (a character vector of length one)
predr_vars_nms_chr	
	Predictor variables names (a character vector), Default: NULL
utl_var_nm_1L_chr	
	Utility variable name (a character vector of length one), Default: NULL

id_var_nm_1L_chr

> Identity variable name (a character vector of length one), Default: 'fkClientID'

round_var_nm_1L_chr

> Round variable name (a character vector of length one), Default: 'round'

round_bl_val_1L_chr

> Round baseline value (a character vector of length one), Default: 'Baseline'

utl_cls_fn   Utility class (a function), Default: youthvars::youthvars_aqol6d_adol

predictors_lup   Predictors (a lookup table), Default: NULL

Value

Updated (a tibble)

---

add_qalys_to_ds   *Add Quality Adjusted Life Years to dataset*

Description

add_qalys_to_ds() is an Add function that updates an object by adding data to that object. Specifically, this function implements an algorithm to add quality adjusted life years to dataset. Function argument ds_tb specifies the object to be updated. The function returns Dataset (a tibble).

Usage

```
add_qalys_to_ds(ds_tb, ds_smry_ls)
```

Arguments

ds_tb   Dataset (a tibble)

ds_smry_ls   Dataset summary (a list)

Value

Dataset (a tibble)

---

fns_dmt_tb   *youthu function documentation table*

Description

Meta-data on each youthu function used to create package documentation

Usage

```
fns_dmt_tb
```

Format

An object of class tbl_df (inherits from tbl, data.frame) with 27 rows and 10 columns.

Details

A tibble

fns_chr Functions (a character vector)

title_chr Title (a character vector)

desc_chr Description (a character vector)

details_chr Details (a character vector)

inc_for_main_user_lgl Include for main user (a logical vector)

output_chr Output (a character vector)

example_lgl Example (a logical vector)

args_ls Arguments (a list)

file_nm_chr File name (a character vector)

file_pfx_chr File prefix (a character vector)

Source

<https://ready4-dev.github.io/youthu/>

---

fn_type_lup_tb   *Function type lookup table*

Description

A lookup table to find descriptions for different types of functions used within the youthu package suite.

Usage

```
fn_type_lup_tb
```

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 46 rows and 6 columns.

Details

A tibble

fn_type_nm_chr Function type name (a character vector)

fn_type_desc_chr Function type description (a character vector)

first_arg_desc_chr First argument description (a character vector)

second_arg_desc_chr Second argument description (a character vector)

is_generic_lgl Is generic (a logical vector)

is_method_lgl Is method (a logical vector)

Source

<https://doi.org/10.7910/DVN/2Y9VF9>

---

get_mdls_using_predrs *Get models using predictors*

Description

get_mdls_using_predrs() is a Get function that retrieves a pre-existing data object from memory, local file system or online repository. Specifically, this function implements an algorithm to get models using predictors. Function argument mdl_predrs_in_ds_chr specifies the where to look for the required object. The function returns Filtered models (a lookup table).

Usage

```
get_mdls_using_predrs(mdl_predrs_in_ds_chr, mdls_lup = NULL)
```

Arguments

mdl_predrs_in_ds_chr

                  Model predictors in dataset (a character vector)

mdls_lup   Models (a lookup table), Default: NULL

Value

Filtered models (a lookup table)

---

get_mdl_from_dv *Get model from dataverse*

Description

get_mdl_from_dv() is a Get function that retrieves a pre-existing data object from memory, local file system or online repository. Specifically, this function implements an algorithm to get model from dataverse. Function argument mdl_nm_1L_chr specifies the where to look for the required object. The function returns Model (a model).

Usage

```
get_mdl_from_dv(
  mdl_nm_1L_chr,
  dv_ds_nm_1L_chr = "https://doi.org/10.7910/DVN/JC6PTV",
  server_1L_chr = "dataverse.harvard.edu",
  key_1L_chr = NULL
)
```

Arguments

mdl_nm_1L_chr   Model name (a character vector of length one)

dv_ds_nm_1L_chr

                  Dataverse dataset name (a character vector of length one), Default: 'https://doi.org/10.7910/DVN/JC6

server_1L_chr   Server (a character vector of length one), Default: 'dataverse.harvard.edu'

key_1L_chr   Key (a character vector of length one), Default: NULL

Value

Model (a model)

---

get_tfmn_from_lup   *Get transformation from*

Description

get_tfmn_from_lup() is a Get function that retrieves a pre-existing data object from memory, local
file system or online repository. Specifically, this function implements an algorithm to get transformation from lookup table. Function argument mdl_nm_1L_chr specifies the where to look for the
required object. The function returns Transformation (a character vector of length one).

Usage

```
get_tfmn_from_lup(mdl_nm_1L_chr, mdls_lup = NULL)
```

Arguments

mdl_nm_1L_chr	Model name (a character vector of length one)
mdls_lup	Models (a lookup table), Default: NULL

Value

Transformation (a character vector of length one)

---

make_hlth_ec_smry   *Make health economic summary*

Description

make_hlth_ec_smry() is a Make function that creates a new R object. Specifically, this function
implements an algorithm to make health economic summary. The function returns He summary (a
list).

Usage

```
make_hlth_ec_smry(
  ds_tb,
  change_vars_chr = NA_character_,
  wtp_dbl = 50000,
  bootstrap_iters_1L_int = 1000,
  change_types_chr = "dbl",
  benefits_pfx_1L_chr = "qalys_dbl",
  benefits_var_nm_1L_chr = "qalys",
  costs_pfx_1L_chr = "costs_dbl",
  costs_var_nm_1L_chr = "costs",
  change_sfx_1L_chr = "change",
  cmprsn_groups_chr = c("Intervention", "Control"),
  cmprsn_var_nm_1L_chr = "study_arm_chr",
  round_fup_val_1L_chr = "Follow-up"
)
```

Arguments

`ds_tb`	Dataset (a tibble)
`change_vars_chr`	
	Change variables (a character vector), Default: 'NA'
`wtp_dbl`	Willingness to pay (a double vector), Default: 50000
`bootstrap_iters_1L_int`	
	Bootstrap iterations (an integer vector of length one), Default: 1000
`change_types_chr`	
	Change types (a character vector), Default: 'dbl'
`benefits_pfx_1L_chr`	
	Benefits prefix (a character vector of length one), Default: 'qalys_dbl'
`benefits_var_nm_1L_chr`	
	Benefits variable name (a character vector of length one), Default: 'qalys'
`costs_pfx_1L_chr`	
	Costs prefix (a character vector of length one), Default: 'costs_dbl'
`costs_var_nm_1L_chr`	
	Costs variable name (a character vector of length one), Default: 'costs'
`change_sfx_1L_chr`	
	Change suffix (a character vector of length one), Default: 'change'
`cmprsn_groups_chr`	
	Comparison groups (a character vector), Default: c("Intervention", "Control")
`cmprsn_var_nm_1L_chr`	
	Comparison variable name (a character vector of length one), Default: 'study_arm_chr'
`round_fup_val_1L_chr`	
	Round follow-up value (a character vector of length one), Default: 'Follow-up'

Value

He summary (a list)

---

make_matched_ds	*Make matched dataset*

Description

make_matched_ds() is a Make function that creates a new R object. Specifically, this function implements an algorithm to make matched dataset. The function returns Matched dataset (a tibble).

Usage

```
make_matched_ds(sngl_grp_ds_tb, cmprsn_smry_tb, ds_smry_ls)
```

Arguments

`sngl_grp_ds_tb`	Single group dataset (a tibble)
`cmprsn_smry_tb`	Comparison summary (a tibble)
`ds_smry_ls`	Dataset summary (a list)

Value

Matched dataset (a tibble)

---

make_sngl_grp_ds   *Make single group dataset*

Description

make_sngl_grp_ds() is a Make function that creates a new R object. Specifically, this function implements an algorithm to make single group dataset. The function returns Single group dataset (a tibble).

Usage

```
make_sngl_grp_ds(seed_ds_tb = NULL, ds_smry_ls)
```

Arguments

seed_ds_tb	Seed dataset (a tibble), Default: NULL
ds_smry_ls	Dataset summary (a list)

Value

Single group dataset (a tibble)

---

mdls_lup   *Lookup table of prediction models*

Description

A summary of the key descriptive features of the prediction models included in the youthu package.

Usage

```
mdls_lup
```

Format

An object of class tbl_df (inherits from tbl, data.frame) with 24 rows and 4 columns.

Details

A tibble

mdl_nms_chr Model names (a character vector)

predrs_ls Predictors (a list)

mdl_type_chr Model type (a character vector)

tfmn_chr Transformation (a character vector)

---

rename_from_nmd_vec   *Rename from named vector*

Description

rename_from_nmd_vec() is a Rename function that renames elements of an object based on a pre-speccified schema. Specifically, this function implements an algorithm to rename from named vector. The function returns Renamed data (a tibble).

Usage

```
rename_from_nmd_vec(data_tb, nmd_vec_chr, vec_nms_as_new_1L_lgl = T)
```

Arguments

data_tb	Data (a tibble)
nmd_vec_chr	Named vector (a character vector)
vec_nms_as_new_1L_lgl	
	Vector names as new (a logical vector of length one), Default: T

Value

Renamed data (a tibble)

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