Package ‘capl’

March 16, 2021

Title Compute and Visualize CAPL-2 Scores and Interpretations
Version 1.39
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Description A toolkit for computing and visualizing CAPL-2
(Canadian Assessment of Physical Literacy, Second Edition;
<https://www.capl-eclp.ca>) scores and interpretations from raw data.
License GPL (>= 3)
URL https://github.com/barnzilla/capl
BugReports https://github.com/barnzilla/capl/issues
Depends R (>= 2.10)
VignetteBuilder knitr
Encoding UTF-8
Language en
LazyData true
RoxygenNote 7.1.1
Imports dplyr, ggplot2, lubridate, magrittr, readxl, stats, writexl
Suggests knitr, rmarkdown
NeedsCompilation no
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Repository CRAN
Date/Publication 2021-03-16 08:40:02 UTC

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capitalize_character

Capitalize a character vector.

Description

This function capitalizes a character vector.
Usage

capitalize_character(x = NA)

Arguments

x A character vector.

Details

Other capl functions called by this function include: validate_character().

Value

Returns a character vector (if valid) or NA (if not valid).

Examples

capitalize_character(c("beginning", "progressing", "achieving", "excelling"))

# [1] "Beginning"  "Progressing"  "Achieving"  "Excelling"

capl_demo_data  CAPL demo raw data.

Description

A dataset containing CAPL-2 demo raw data.

Usage

capl_demo_data

Format

A data frame with 500 rows of data on 60 variables that are required to compute CAPL-2 scores and interpretations:

...  

Source

https://github.com/barnzilla/capl
**export_capl_data**  
*Export CAPL-2 data to an Excel workbook.*

**Description**

This function exports CAPL-2 data to an Excel workbook on a local computer.

**Usage**

```r
export_capl_data(x = NULL, file_path = NA)
```

**Arguments**

- `x`  
  A data frame.

- `file_path`  
  A character vector representing the file path to a location on the user’s local computer (e.g., “c:/users/user_name/desktop/file.xlsx”) where `x` will be saved as an Excel workbook on the user’s computer. The file path is not case-sensitive.

**Details**

Other capl functions called by this function include: `validate_character()`.

**Value**

No return value.

---

**get_24_hour_clock**  
*Convert 12-hour clock values to 24-hour clock values.*

**Description**

This function converts 12-hour clock values to 24-hour clock values.

**Usage**

```r
get_24_hour_clock(x = NA)
```

**Arguments**

- `x`  
  A character vector representing values in 12-hour clock format.

**Details**

Other capl functions called by this function include: `validate_character()` and `validate_integer()`.
get_adequacy_score

**Value**

Returns a 24-hour clock vector (if valid) or NA (if not valid).

**Examples**

```r
get_24_hour_clock(c("5:00 am", "7:10PM", "9:37", NA, "21:13", ",", 9, "6:17"))
```

# [1] "05:00" "19:10" "09:37" NA "21:13" NA "06:17"

---

get_adequacy_score **Compute an adequacy score.**

---

**Description**

This function computes an adequacy score (adequacy_score) for responses to items 2, 4 and 6 of the CSAPPA (Children's Self-Perceptions of Adequacy in and Predilection for Physical Activity; Hay, 1992) Questionnaire as they appear in the CAPL-2 Questionnaire. This score is used to compute the motivation and confidence domain score (mc_score).

**Usage**

```r
get_adequacy_score(csappa2 = NA, csappa4 = NA, csappa6 = NA)
```

**Arguments**

- `csappa2`: A numeric (integer) vector representing a response to CSAPPA item 2 (valid values are integers between 1 and 4).
- `csappa4`: A numeric (integer) vector representing a response to CSAPPA item 4 (valid values are integers between 1 and 4).
- `csappa6`: A numeric (integer) vector representing a response to CSAPPA item 6 (valid values are integers between 1 and 4).

**Details**

Valid values (integers between 1 and 4) represent the following responses:

- 1 = REALLY TRUE for me for "some kids" statements
- 2 = SORT OF TRUE for me for "some kids" statements
- 3 = REALLY TRUE for me for "other kids" statements
- 4 = SORT OF TRUE for me for "other kids" statements

Other capl functions called by this function include: `validate_scale()`.

**Value**

Returns a numeric vector with values between 1.8 and 7.5 (if valid) or NA (if not valid).
get_binary_score

Examples

```r
get_adequacy_score(
    csappa2 = c(1:3, 0),
    csappa4 = c(4, 2, 1, "3"),
    csappa6 = c(4, 4, 2, 2)
)
```

```r
# [1] 4.9 4.8 4.9 NA
```

---

get_binary_score

Compute a binary score.

Description

This function computes a binary score (0 = incorrect answer, 1 = correct answer) for a response to a questionnaire item based on the value(s) set as answer(s) to the item.

Usage

```r
get_binary_score(x, answer)
```

Arguments

- `x`: A character or numeric vector representing a response to a questionnaire item.
- `answer`: A character or numeric vector representing the correct answer(s) to the questionnaire item. The answer argument does not have to match `x` in case for a correct answer to be computed.

Details

This function is called by `get_fill_in_the_blanks_score()`.

Value

Returns 1 (if correct), 0 (if incorrect) or NA (if not valid).

Examples

```r
get_binary_score(
    x = c(1:4, NA, ""),
    answer = 3
)
```

```r
# [1] 0 0 1 0 NA 0
```

```r
get_binary_score(
    x = c("20 minutes", "30 minutes", "60 minutes or 1 hour", "120 minutes or 2 hours"),
    answer = "30 minutes"
)
```

```r
# [1] 0 0 1 0 NA 0
```
The `get_camsa_score` function selects the maximum CAMSA (Canadian Agility and Movement Skill Assessment) skill + time score for two trials (`camsa_skill_time_score1` and `camsa_skill_time_score2`) and then divides by 2.8 so that the score is out of 10. This score is used to compute the physical literacy score (`pc_score`).

### Usage

```r
get_camsa_score(camsa_skill_time_score1 = NA, camsa_skill_time_score2 = NA)
```

### Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>camsa_skill_time_score1</code></td>
<td>A numeric (integer) vector representing the skill + time score from trial 1 (valid values are between 1 and 28).</td>
</tr>
<tr>
<td><code>camsa_skill_time_score2</code></td>
<td>A numeric (integer) vector representing the skill + time score from trial 2 (valid values are between 1 and 28).</td>
</tr>
</tbody>
</table>

### Details

Other `capl` functions called by this function include: `validate_scale()`.

### Value

Returns a numeric vector with values between 0 and 10 (if valid) or NA (if not valid).
Examples

```r
get_camsa_score(
  camsa_skill_time_score1 = c(1, 5, 10, 28, 29),
  camsa_skill_time_score2 = c(5, 7, 12, NA, 27)
)
# [1] 5 7 12 NA NA
```

---

**get_camsa_skill_time_score**

*Compute the CAMSA skill + time score.*

Description

This function computes the CAMSA (Canadian Agility and Movement Skill Assessment) skill +
time score (e.g., `camsa_skill_time_score1`) for a given trial. This score is used to compute the
CAMSA score (`camsa_score`).

Usage

```r
get_camsa_skill_time_score(camsa_skill_score = NA, camsa_time_score = NA)
```

Arguments

- `camsa_skill_score`  
  A numeric (integer) vector representing the CAMSA skill score (valid values are between 0 and 14).

- `camsa_time_score`  
  A numeric vector representing the CAMSA time score (valid values are between 1 and 14).

Details

Other capl functions called by this function include: `validate_scale()`.

Value

Returns a numeric (integer) vector with values between 1 and 28 (if valid) or NA (if not valid).

Examples

```r
get_camsa_skill_time_score(
  camsa_skill_score = c(0, 5, 10, 14, 15),
  camsa_time_score = c(1, 10, 12, 15, 30)
)
# [1] 1 15 22 NA NA
```
get_camsa_time_score

Description
This function computes the CAMSA (Canadian Agility and Movement Skill Assessment) time score based on the time taken (in seconds) to complete a trial.

Usage
get_camsa_time_score(camsa_time = NA)

Arguments
camsa_time A numeric vector representing the time taken (in seconds) to complete a CAMSA trial (valid values are > 0).

Details
Other capl functions called by this function include: validate_number().

Value
Returns a numeric vector with values between 1 and 14 (if valid) or NA (if not valid).

Examples
get_camsa_time_score(c(14, 12, 30, 25, 0))
# [1] 13 14 1 4 NA

get_capl

Description
This function is the main function in the capl package. It is a wrapper function that calls all other capl functions to compute all CAPL-2 scores and interpretations from raw data at once. If required CAPL-2 variables are missing, the function will create the variables and set values for these variables to NA so the function can proceed.

Usage
getcapl(raw_data = NULL, sort = "asis")
get_capl_bar_plot

Arguments

raw_data  A data frame of raw CAPL-2 data.

sort  An optional character vector representing how the variables in the returned data frame are to be sorted (valid values are "asis", "abc" and "zyx"; valid values are not case-sensitive). This argument is set to "asis" by default.

Details

Other capl functions called by this function include: get_missing_capl_variables(), get_pacer_20m_laps(), get_pacer_score(), get_capl_interpretation(), get_plank_score(), get_camsa_time_score(), get_camsa_skill_time_score(), get_camsa_skill_time(), get_camsa_score(), get_capl_domain_status(), get_pedometer_wear_time(), validate_steps(), get_step_average(), get_step_score(), get_self_report_pa_score(), get_db_score(), get_predilection_score(), get_adequacy_score(), get_intrinsic_motivation_score(), get_pa_competence_score(), get_mc_score(), get_binary_score(), get_fill_in_the_blanks_score(), get_ku_score() and get_capl_score()

Value

Returns a merged data frame of raw data and CAPL-2 scores and interpretations.

Examples

get_capl(raw_data)

get_capl_bar_plot(score = NA, interpretation = NA, x_label = "Interpretation", y_label = "Score", colors = c("#333376", "#00a79d", "#f26522", "#a6ce39")}

Description

This function renders a bar plot for a given CAPL-2 domain score, grouped by CAPL-2 interpretative categories.

Usage

get_capl_bar_plot(
  score = NA,
  interpretation = NA,
  x_label = "Interpretation",
  y_label = "Score",
  colors = c("#333376", "#00a79d", "#f26522", "#a6ce39")
)
get_capl_demo_data

Arguments

- **score**: A numeric vector.
- **interpretation**: A character vector representing CAPL-2 interpretative categories ("beginning", "progressing", "achieving", "excelling").
- **x_label**: An optional character vector representing the x-axis label. This argument is set to "Interpretation" by default.
- **y_label**: An optional character vector representing the y-axis label. This argument is set to "Score" by default.
- **colors**: An optional character vector representing the color palette for the bars. This argument is set to CAPL-2 branding colors by default (c("#333376", "#00a79d", "#f26522", "#a6ce39", "#747474").

Details

Other capl functions called by this function include: `validate_character()`, `validate_number()` and `capitalize_character()`.

Value

Renders a ggplot2 bar plot (if valid).

Examples

```r
capl_results <- get_capl_demo_data(n = 25)
get_capl_bar_plot(
    score = capl_results$capl_score,
    interpretation = capl_results$capl_interpretation,
    x_label = "Overall physical literacy interpretation",
    y_label = "Overall physical literacy score",
)
```

Description

This function generates a data frame of CAPL-2 demo (fake) raw data containing the 60 required variables that the capl package needs to compute scores and interpretations.

Usage

```r
capl_results <- get_capl_demo_data(n = 500)
```
get_capl_demo_data

Arguments

n
A numeric (integer) vector representing the number of rows of data to generate.
By default, n is set to 500.

Value

Returns a data frame containing the 60 required variables that the capl package needs to compute scores and interpretations.

Examples

capl_demo_data <- get_capl_demo_data(10000)

str(capl_demo_data)

# 'data.frame': 10000 obs. of 60 variables:
#  $ age     : int 9 10 8 8 11 9 12 NA 7 10 ...
#  $ gender : chr "Girl" "Boy" "Boy" "Girl" ...
#  $ pacer_lap_distance : num 20 15 20 15 15 15 20 15 20 15 ...  
#  $ pacer_laps     : int 5 112 150 46 51 82 43 189 55 91 ...
#  $ plank_time  : int 238 66 95 173 299 172 169 33 277 152 ...
#  $ camsa_skill_score1 : int 9 3 7 NA 8 14 13 11 11 ...
#  $ camsa_time1    : int 17 33 26 22 31 28 NA 24 12 11 ...
#  $ camsa_skill_score2 : int 12 11 12 9 NA 7 10 14 11 ...
#  $ camsa_time2    : int 15 13 15 20 12 15 29 12 12 18 ...
#  $ steps1  : int 29663 30231 3157 5751 23362 28283 ...
#  $ time_on1    : chr "05:00" "5:13am" "07:00" "08:00am" ...
#  $ time_off1  : chr "11:57pm" "10:57 pm" "10:57 pm" "11:57pm" ...
#  $ non_wear_time1 : int 38 47 38 40 36 32 36 82 25 51 ...
#  $ steps2  : int 29703 9142 5424 23763 3645 28625 3019 ...
#  $ time_on2    : chr "07:00" "07:48am" "6:07" "06:00" ...
#  $ time_off2  : chr "22:00" "21:00" "8:17pm" "10:57 pm" ...
#  $ non_wear_time2 : int 5 34 41 60 84 18 19 47 66 55 ...
#  $ steps3  : int 28380 10987 5885 13518 14385 30680 14120 ...
#  $ time_on3    : chr "07:00" "06:00" "6:07" "8:00am" ...
#  $ time_off3  : chr "11:13pm" "11:57pm" "21:00" "08:30pm" ...
#  $ non_wear_time3 : int 54 70 16 36 72 16 89 86 26 81 ...
#  $ steps4  : int 13224 20817 19640 2326 1665 25783 23078 ...
#  $ time_on4    : chr "07:48am" "5:13am" "5:13am" "6:07" ...
#  $ time_off4  : chr "11:13pm" NA "22:00" "23:00" ...
#  $ non_wear_time4 : int 2 48 61 NA 81 81 2 30 35 14 ...
#  $ steps5  : int 28408 8845 5802 6966 24499 18561 13771 ...
#  $ time_on5    : chr "5:13am" NA "06:00" "6:07" ...
#  $ time_off5  : chr "11:13pm" NA "11:57pm" "11:13pm" ...
#  $ non_wear_time5 : int 75 10 70 45 77 75 50 61 17 72 ...
#  $ steps6  : int 9581 18237 6377 3282 16898 15649 19890 ...
#  $ time_on6    : chr "6:13" "6:07" "07:00" "8:00am" ...
#  $ time_off6  : chr "11:57pm" "21:00" "10:57 pm" "8:17pm" ...
#  $ non_wear_time6 : int 13 14 37 28 14 86 89 19 78 40 ...
#  $ steps7  : int 8205 15351 16948 19442 4026 10830 4644 ...
#  $ time_on7    : chr "05:00" NA "07:48am" "6:07" ...
#  $ time_off7  : chr NA "22:00" "08:30pm" "08:30pm" ...
get_capl_domain_status

Compute the status of a CAPL domain.

Description

This function computes the status ("complete", "missing interpretation", "missing protocol" or "incomplete") of a CAPL domain (e.g., pc_status, db_status, mc_status, ku_status, capl_status).

Usage

get_capl_domain_status(x = NULL, domain = NA)

Arguments

x A data frame that includes the required variables for a given domain (see Details).

domain A character vector representing one of the CAPL-2 domains (valid values are "pc", "db", "mc", "ku" and "capl")
Details

If the domain argument is set to "pc", the following variables must be included in the x argument:

- pc_score
- pc_interpretation
- pacer_score
- plank_score
- camsa_score

If the domain argument is set to "db", the following variables must be included the x argument:

- db_score
- db_interpretation
- step_score
- self_report_pa_score

If the domain argument is set to "mc", the following variables must be included the x argument:

- mc_score
- mc_interpretation
- predilection_score
- adequacy_score
- intrinsic_motivation_score
- pa_competence_score

If the domain argument is set to "ku", the following variables must be included the x argument:

- ku_score
- ku_interpretation
- pa_guideline_score
- crf_means_score
- ms_means_score
- sports_skill_score
- fill_in_the_blanks_score

If the domain argument is set to "capl", the following variables must be included the x argument:

- capl_score
- capl_interpretation
- pc_score
- db_score
- mc_score
- ku_score
- capl_score

Other capl functions called by this function include: `validate_character()` and `validate_number()`.
get_capl_interpretation

Value

Returns a character vector with a value of "complete", "missing interpretation", "missing protocol" or "incomplete".

Examples

capl_demo_data <- get_capl_demo_data(3)
capl_results <- get_capl(capl_demo_data)
get_capl_domain_status(capl_results, "pc")

# [1] "complete"   "incomplete"   "missing interpretation"

get_capl_interpretation

Compute a CAPL-2 interpretation for a given CAPL-2 protocol or domain score.

Description

This function computes an age- and gender-specific CAPL-2 interpretation for a given CAPL-2 protocol or domain score (e.g., pc_interpretation).

Usage

getcapl_interpretation(age = NA, gender = NA, score = NA, protocol = NA)

Arguments

age       A numeric vector (valid values are between 8 and 12).
gender    A character vector (valid values currently include "girl", "g", "female", "f", "boy", "b", "male", "m").
score     A numeric vector. If the protocol argument is set to "pacer" or "steps", this argument must contain integers.
protocol  A character vector representing a CAPL protocol (valid values include "pacer", "plank", "camsa", "pc", "steps", "self_report_pa", "db", "mc", "ku", "capl"; valid values are not case-sensitive).

Details

Other capl functions called by this function include: validate_age(), validate_gender(), validate_character(), validate_number() and validate_scale(). This function will check whether a score for a given protocol is within a valid range; if not, NA will be returned.
get_capl_score

Value

Returns a character vector with values of "beginning", "progressing", "achieving" or "excelling" (if valid) or NA (if not valid).

Examples

```r
get_capl_interpretation(
  age = 7:13,
  gender = c("g", "g", "b", "Boy", "m", "f", "Female"),
  score = c(50, 25, 100, 5, 150, 23, 78),
  protocol = "pacer"
)
# [1] NA  "achieving"  "excelling"  "beginning"  "excelling"  "progressing"  NA
```

get_capl_score  

Compute an overall physical literacy score.

Description

This function computes an overall physical literacy score (capl_score) based on the physical competence (pc_score), daily behaviour (db_score), motivation and confidence (mc_score), and knowledge and understanding (ku_score) domain scores. If one of the scores is missing or invalid, a weighted score will be computed from the other three scores.

Usage

```r
get_capl_score(pc_score = NA, db_score = NA, mc_score = NA, ku_score = NA)
```

Arguments

- `pc_score`: A numeric vector (valid values are between 0 and 30).
- `db_score`: A numeric (integer) vector (valid values are between 0 and 30).
- `mc_score`: A numeric vector (valid values are between 0 and 30).
- `ku_score`: A numeric vector (valid values are between 0 and 10).

Details

Other capl functions called by this function include: `validate_number()`, `validate_integer()` and `validate_domain_score()`.

Value

Returns a numeric vector with values between 0 and 100 (if valid) or NA (if not valid).
get_db_score

Examples

```r
get_capl_score(
    pc_score = c(20, 15, 12, 5, 31),
    db_score = c(20, 15, 6, 4.1, 25),
    mc_score = c(20, 20, 19, 15.4, 25),
    ku_score = c(11, 4, 5, 7.8, 10)
)
# [1] 66.66667 54.00000 42.00000 40.28571 85.71429
```

get_db_score

Compute a daily behaviour domain score.

Description

This function computes a daily behaviour domain score (db_score) based on the step and self-reported physical activity scores. This score is used to compute the overall physical literacy score (capl_score).

Usage

```r
get_db_score(step_score = NA, self_report_pa_score = NA)
```

Arguments

- `step_score` A numeric (integer) vector representing the pedometer steps score (valid values are integers between 0 and 25).
- `self_report_pa_score` A numeric (integer) vector representing the self-reported physical activity score (valid values are integers between 0 and 5).

Details

Other capl functions called by this function include: `validate_scale()`.

Value

Returns a numeric (integer) vector with values between 0 and 30 (if valid) or NA (if not valid).

Examples

```r
get_db_score(
    step_score = c(20, 6, 13, 5, NA, 4.5),
    self_report_pa_score = c(3, 2, 1, 4, 7, 3)
)
# [1] 23 8 14 9 NA NA
```
get_fill_in_the_blanks_score

Compute a fill in the blanks score.

**Description**

This function computes a score (fill_in_the_blanks_score) for responses to the fill in the blanks items (story about Sally) in the CAPL-2 Questionnaire. This score is used to compute the knowledge and understanding domain score (ku_score).

**Usage**

```r
get_fill_in_the_blanks_score(
  pa_is = NA,
  pa_is_also = NA,
  improve = NA,
  increase = NA,
  when_cooling_down = NA,
  heart_rate = NA
)
```

**Arguments**

- **pa_is**
  A vector representing a response to the first fill in the blank item (correct answers are 1, 7, "Fun" or "Good").

- **pa_is_also**
  A vector representing a response to the second fill in the blank item (correct answers are 1, 7, "Fun" or "Good").

- **improve**
  A vector representing a response to the third fill in the blank item (correct answers are 3 or "Endurance").

- **increase**
  A vector representing a response to the fourth fill in the blank item (correct answers are 8 or "Strength").

- **when_cooling_down**
  A vector representing a response to the fifth fill in the blank item (correct answers are 2 or "Stretches").

- **heart_rate**
  A vector representing a response to the sixth fill in the blank item (correct answers are 4 or "Pulse").

**Details**

The following integers represent the responses for the items/arguments in this function:

- 1 = Fun
- 2 = Stretches
- 3 = Endurance
- 4 = Pulse
get_intrinsic_motivation_score

- 5 = Breathing
- 6 = Flexibility
- 7 = Good
- 8 = Strength
- 9 = Bad
- 10 = Sport

Other cap1 functions called by this function include: get_binary_score().

Value

Returns a numeric (integer) vector with values between 0 and 5 (if valid) or NA (if not valid).

Examples

get_fill_in_the_blanks_score(
  pa_is = c(2, 3, "fun", 9),
  pa_is_also = c(2, 5, "Fun", 9),
  improve = c(1, 3, 10, "Endurance"),
  increase = c(2, 3.5, "strength", "strength"),
  when_cooling_down = c("stretches", 9, 2, ""),
  heart_rate = c(3, 9, 4, "pulse")
)

# [1] 0 1 3 1

get_intrinsic_motivation_score

Compute an intrinsic motivation score.

Description

This function computes an intrinsic motivation score (intrinsic_motivation_score) for responses to items 1-3 of the Behavioral Regulation in Exercise Questionnaire (BREQ) as they appear in the CAPL-2 Questionnaire. This score is used to compute the motivation and confidence domain score (mc_score).

Usage

get_intrinsic_motivation_score(
  why_active1 = NA,
  why_active2 = NA,
  why_active3 = NA
)
get_ku_score

Arguments

why_active1  A numeric (integer) vector representing a response to BREQ item 1 (valid values are integers between 1 and 5).
why_active2  a numeric (integer) vector representing a response to BREQ item 2 (valid values are integers between 1 and 5).
why_active3  a numeric (integer) vector representing a response to BREQ item 3 (valid values are integers between 1 and 5).

Details

Other capl functions called by this function include: validate_scale().
Valid values (integers between 1 and 5) represent the following responses:

• 1 = Not true for me
• 2 = Not really true for me
• 3 = Sometimes true for me
• 4 = Often true for me
• 5 = Very true for me

Value

Returns a numeric vector with values between 1.5 and 7.5 (if valid) or NA (if not valid).

Examples

get_intrinsic_motivation_score(
  why_active1 = c(4, 3, 6, 5, "2"),
  why_active2 = c(1:5),
  why_active3 = c(1, 5, 4, 3, 3)
)
# [1]  3  5 NA  6  5

---

get_ku_score  Compute a knowledge and understanding domain score.

Description

This function computes a knowledge and understanding domain score (ku_score) based on the physical activity guideline (pa_guideline_score), cardiorespiratory fitness means (crf_means_score), muscular strength and endurance means (ms_score), sports skill (sports_skill_score) and fill in the blanks (fill_in_the_blanks_score) scores. If one of the scores is missing or invalid, a weighted domain score will be computed from the other four scores. This score is used to compute the overall physical literacy score (capl_score).
get_ku_score

Usage

get_ku_score(
    pa_guideline_score = NA,
    crf_means_score = NA,
    ms_means_score = NA,
    sports_skill_score = NA,
    fill_in_the_blanks_score = NA
)

Arguments

pa_guideline_score
    A numeric (integer) vector (valid values are between 0 and 1).

crf_means_score
    A numeric (integer) vector (valid values are between 0 and 1).

ms_means_score
    A numeric (integer) vector (valid values are between 0 and 1).

sports_skill_score
    A numeric (integer) vector (valid values are between 0 and 1).

fill_in_the_blanks_score
    A numeric (integer) vector (valid values are between 0 and 6).

Details

Other cap1 functions called by this function include: validate_scale().

Value

Returns a numeric vector with values between 0 and 10 (if valid) or NA (if not valid).

Examples

get_ku_score(
    pa_guideline_score = c(1, 0, 1, 1, NA),
    crf_means_score = c(0, 1, "", 2, 1),
    ms_means_score = c(1, 1, 1, 0, 0),
    sports_skill_score = c(0, 0, 1, 0, 1),
    fill_in_the_blanks_score = c(5, 6, 3, 1, 2)
)

get_mc_score

Compute a motivation and confidence domain score.

Description

This function computes a motivation and confidence domain score (mc_score) based on the predilection (predilection_score), adequacy (adequacy_score), intrinsic motivation (intrinsic_motivation_score) and physical activity competence (pa_competence_score) scores. If one of the scores is missing or invalid, a weighted domain score will be computed from the other three scores. This score is used to compute the overall physical literacy score (capl_score).

Usage

get_mc_score(
  predilection_score = NA,
  adequacy_score = NA,
  intrinsic_motivation_score = NA,
  pa_competence_score = NA
)

Arguments

predilection_score
  A numeric vector (valid values are between 1.8 and 7.5).
adequacy_score    A numeric vector (valid values are between 1.8 and 7.5).
intrinsic_motivation_score
  A numeric vector (valid values are between 1.5 and 7.5).
pa_competence_score
  A numeric vector (valid values are between 1.5 and 7.5).

Details

Other capl functions called by this function include: validate_number().

Value

Returns a numeric vector with values between 0 and 30 (if valid) or NA (if not valid).

Examples

get_mc_score(
  predilection_score = c(7, 7.5, 5, 8, 4),
  adequacy_score = c(NA, 5, 3, 1, 4),
  intrinsic_motivation_score = c(5, 7.5, 4, 2, 3.5),
  pa_competence_score = c(6, 3, 6, 7, 2)
)

# [1] 24.0 23.0 18.0 NA 13.5
get_missing_capl_variables
Add required CAPL-2 variables to a data frame of raw data if they are missing.

Description
This function adds required CAPL-2 variables (see Details for a full list) to a data frame of raw data if they are missing. When missing variables are added, the values for a given missing variable are set to NA. This function is called within get_capl() so that CAPL-2 score and interpretation computations will run without errors in the presence of missing variables.

Usage
get_missing_capl_variables(raw_data = NULL)

Arguments
raw_data a data frame of raw CAPL-2 data.

Details
The required CAPL-2 variables include:
- age
- gender
- pacer_lap_distance
- pacer_laps
- plank_time
- camsa_skill_score1
- camsa_time1
- camsa_skill_score2
- camsa_time2
- steps1
- time_on1
- time_off1
- non_wear_time1
- steps2
- time_on2
- time_off2
- non_wear_time2
- steps3
• time_on3
• time_off3
• non_wear_time3
• steps4
• time_on4
• time_off4
• non_wear_time4
• steps5
• time_on5
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• time_on6
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• why_active1
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• pa_guideline
• crt_means
• ms_means
• sports_skill
• pa_is
get_pacer_20m_laps

- pa_is_also
- improve
- increase
- when_cooling_down
- heart_rate

Examining the structure (see str()) of some CAPL-2 demo data (see get_capl_demo_data()) provides additional information about these variables.

Value

returns a merged data frame of raw data and missing required CAPL-2 variables (values are set to NA).

Examples

raw_data <- get_missing_capl_variables(raw_data)

---

**get_pacer_20m_laps**  
*Convert PACER shuttle run laps to their equivalent in 20-metre laps.*

**Description**

This function converts PACER (Progressive Aerobic Cardiovascular Endurance Run) shuttle run laps to their equivalent in 20-metre laps (pacer_laps_20m). If laps are already 20-metre laps, they are returned unless outside the valid range (1-229). This variable is used to compute the PACER score (pacer_score).

**Usage**

get_pacer_20m_laps(lap_distance = NA, laps_run = NA)

**Arguments**

- lap_distance  
  A numeric (integer) vector (valid values are 15 or 20).

- laps_run  
  A numeric (integer) vector (if lap_distance = 15, valid values are integers between 1 and 298; if lap_distance = 20, valid values are integers between 1 and 229).

**Details**

Other capl functions called by this function include: validate_integer() and validate_scale().

**Value**

Returns a numeric (integer) vector with values between 1 and 229 (if valid) or NA (if not valid).
get_pacer_score

Examples

```r
get_pacer_20m_laps(
  lap_distance = c(15, 20, NA, "15", 20.5),
  laps_run = rep(100, 5)
)
# [1] 77 100 NA 77 NA
```

get_pacer_score

Compute a PACER score.

Description

This function computes a PACER (Progressive Aerobic Cardiovascular Endurance Run) score (pacer_score) based on the number of PACER laps run at a 20-metre distance. This score is used to compute the physical competence domain score variable (pc_score).

Usage

```r
get_pacer_score(pacer_laps_20m = NA)
```

Arguments

- `pacer_laps_20m` A numeric (integer) vector (valid values between 1 and 229).

Details

Other cap1 functions called by this function include: `validate_scale()` and `validate_integer()`.

Value

Returns a numeric (integer) vector with values between 0 and 10 (if valid) or NA (if not valid).

Examples

```r
get_pacer_score(c(1, 6, 12, 18, NA, 46, 31, 45.1))
# [1] 0 1 2 3 NA 9 6 NA
```
**get_pa_competence_score**

*Compute a physical activity competence score.*

**Description**

This function computes a physical activity competence score (pa_competence_score) for responses to items 4-6 of the Behavioral Regulation in Exercise Questionnaire (BREQ) as they appear in the CAPL-2 Questionnaire. This score is used to compute the motivation and confidence domain score (mc_score).

**Usage**

```r
get_pa_competence_score(
  feelings_about_pa1 = NA,
  feelings_about_pa2 = NA,
  feelings_about_pa3 = NA
)
```

**Arguments**

- **feelings_about_pa1**
  A numeric (integer) vector representing a response to BREQ item 4 (valid values are integers between 1 and 5).

- **feelings_about_pa2**
  A numeric (integer) vector representing a response to BREQ item 5 (valid values are integers between 1 and 5).

- **feelings_about_pa3**
  A numeric (integer) vector representing a response to BREQ item 6 (valid values are integers between 1 and 5).

**Details**

Other capl functions called by this function include: `validate_scale()`. 

Valid elements (integers between 1 and 5) represent the following responses:

- 1 = Not true for me
- 2 = Not really true for me
- 3 = Sometimes true for me
- 4 = Often true for me
- 5 = Very true for me

**Value**

Returns a numeric vector with values between 1.5 and 7.5 (if valid) or NA (if not valid).
get_pc_score

Examples

get_pa_competence_score(
  feelings_about_pa1 = c(4, 3, 6, 5, "2"),
  feelings_about_pa2 = c(1:5),
  feelings_about_pa3 = c(1, 5, 4, 3, 3)
)

# [1]  3  5  NA  6  5

get_pc_score(pacer_score = NA, plank_score = NA, camsa_score = NA)

Arguments

pacer_score A numeric (integer) vector representing the PACER score (valid values are integers between 0 and 10).
plank_score a numeric (integer) vector representing the plank score (valid values are integers between 0 and 10).
camsa_score A numeric vector representing the best CAMSA skill + skill score divided by 2.8 (valid values are between 0 and 10).

Details

Other capl functions called by this function include: validate_scale().

Value

Returns a numeric vector with values between 0 and 30 (if valid) or NA (if not valid).
get_pedometer_wear_time

Compute pedometer wear time in decimal hours for a given day.

Description

This function computes pedometer wear time in decimal hours for a given day (e.g., wear_time1). This variable is used to compute the step_average variable and the step score (step_score).

Usage

get_pedometer_wear_time(time_on = NA, time_off = NA, non_wear_time = NA)

Arguments

time_on A character vector representing the time (in 12- or 24-hour clock format) when the pedometer was first worn on a given day.

time_off A character vector representing the time (in 12- or 24-hour clock format) when the pedometer was removed at the end of a given day.

non_wear_time A numeric vector representing the total time (in minutes) the pedometer was not worn during waking hours on a given day.

Details

Other capl functions called by this function include: get_24_hour_clock() and validate_number().

Value

Returns a numeric vector with values >= 0 (if valid) or NA (if not valid).

Examples

get_pedometer_wear_time(
  time_on = c("6:23", "5:50 am", NA),
  time_off = c("21:37", "9:17pm", ""),
  c(60, 90, 0)
)
get_plank_score

Description
This function computes a plank score (plank_score) based on the duration of time (in seconds) for which a plank is held. This score is used to compute the physical competence domain score (pc_score).

Usage
get_plank_score(plank_time = NA)

Arguments
plank_time A numeric vector representing time (in seconds).

Details
Other capl functions called by this function include: validate_number().

Value
Returns a numeric vector with values between 0 and 10 (if valid) or NA (if not valid).

Examples
get_plank_score(c(120.5, 75.6, 40, 10.99, 90))
# [1] 10 6 3 0 8

get_predilection_score

Description
This function computes a predilection score (predilection_score) for responses to items 1, 3 and 5 of the CSAPPA (Children's Self-Perceptions of Adequacy in and Predilection for Physical Activity; Hay, 1992) Questionnaire as they appear in the CAPL-2 Questionnaire. This score is used to compute the motivation and confidence domain score (mc_score).
get_self_report_pa_score

Usage

get_predilection_score(csappa1 = NA, csappa3 = NA, csappa5 = NA)

Arguments

csappa1  A numeric (integer) vector representing a response to CSAPPA item 1 (valid values are integers between 1 and 4).

csappa3  A numeric (integer) vector representing a response to CSAPPA item 3 (valid values are integers between 1 and 4).

csappa5  A numeric (integer) vector representing a response to CSAPPA item 5 (valid values are integers between 1 and 4).

Details

Valid values (integers between 1 and 4) represent the following responses:

- 1 = REALLY TRUE for me for "some kids" statements
- 2 = SORT OF TRUE for me for "some kids" statements
- 3 = REALLY TRUE for me for "other kids" statements
- 4 = SORT OF TRUE for me for "other kids" statements

Other cap1 functions called by this function include: validate_scale().

Value

Returns a numeric vector with values between 1.8 and 7.5 (if valid) or NA (if not valid).

Examples

get_predilection_score(
    csappa1 = c(1:3, 0),
    csappa3 = c(4, 2, 1, "3"),
    csappa5 = c(4, 4, 2, 2)
)

# [1] 4.2 4.2 4.3 NA

get_self_report_pa_score

Compute a score for a response to the self-reported physical activity question.
get_step_average

Description

This function computes the daily arithmetic mean of a week of steps taken as measured by a pedometer (step_average). This variable is used to compute the step score (step_score).

Usage

get_step_average(raw_data = NULL)

Arguments

raw_data A data frame that includes seven days of pedometer steps and their corresponding on and off times. See Details for how these variables must be named.
Details

This function will throw an error unless the following variables are found in the `raw_data` argument:

- `steps1`
- `steps2`
- `steps3`
- `steps4`
- `steps5`
- `steps6`
- `steps7`
- `time_on1`
- `time_on2`
- `time_on3`
- `time_on4`
- `time_on5`
- `time_on6`
- `time_on7`
- `time_off1`
- `time_off2`
- `time_off3`
- `time_off4`
- `time_off5`
- `time_off6`
- `time_off7`

There must be at least three valid days for an arithmetic mean to be computed. If only three valid days, one of the step values from a valid day will be randomly sampled and used for the fourth valid day before computing the mean.

Other `capl` functions called by this function include: `validate_steps()` and `get_pedometer_wear_time()`.

Value

Returns a data frame with nine columns: `steps1` (validated), `steps2` (validated), `steps3` (validated), `steps4` (validated), `steps5` (validated), `steps6` (validated), `steps7` (validated), `valid_days` and `step_average`. The steps are validated with the `validate_steps()` function.

Examples

```r
capl_demo_data <- get_capl_demo_data(10)

get_step_average(capl_demo_data)$step_average
# [1] 18365 12655 15493 12966 11396 13954 18456 13589 17543 11276
```
get_step_score  Compute a step score.

Description

This function computes a step score (step_score) based on the average daily steps taken as measured by a pedometer. This score is used to compute the daily behaviour domain score (db_score).

Usage

get_step_score(step_average = NA)

Arguments

- step_average: A numeric vector representing average daily steps taken. See get_step_average().

Details

Other capl functions called by this function include: validate_number().

Value

Returns a numeric (integer) vector with values between 0 and 25 (if valid) or NA (if not valid).

Examples

capl_demo_data <- get_capl_demo_data(10)
step_average <- get_step_average(capl_demo_data)$step_average
get_step_score(step_average)

# [1] 25 18 22 18 15 20 25 20 24 15

import_capl_data  Import CAPL-2 data from an Excel workbook.

Description

This function imports CAPL-2 data from an Excel workbook on a local computer.

Usage

import_capl_data(file_path = NA, sheet_name = NA)
import_capl_data

Arguments

file_path A character vector representing the file path to an Excel workbook on the user’s local computer (e.g., “c:/users/user_name/desktop/file.xlsx”). The file path is not case-sensitive.

sheet_name An optional character vector representing the sheet to import from the Excel workbook. If this argument is not set, the first sheet in the workbook will be imported.

Details

Other capl functions called by this function include: validate_character().

Value

Returns a data frame if the Excel workbook sheet is successfully imported.

Examples

capl_demo_data <- import_capl_data(
  file_path = "c:/users/joel/desktop/capl_demo_data.xlsx",
  sheet_name = "Sheet1"
)

str(capl_demo_data)

# tibble [500 x 60] (S3: tbl_df/tbl/data.frame)
# $ age          : num [1:500]  8  9  9  8 12 10 12 10 12 9 ...
# $ gender       : chr [1:500] "Male" "Female" "Male" "f" ...
# $ pacer_lap_distance : num [1:500] 23 31 169 50 63 15 32 143 43 182 ...
# $ plank_time   : num [1:500] 274 282 9 228 252 110 21 185 6 41 ...
# $ camsa_skill_score1 : num [1:500] 14 5 6 13 2 9 4 11 5 11 ...
# $ camsa_time1  : num [1:500] 34 27 13 35 21 NA NA 14 3 18 ...
# $camsa_skill_score2 : num [1:500] 14 5 13 11 14 14 0 4 0 4 ...
# $camsa_time2   : num [1:500] 35 23 14 35 23 23 33 30 29 18 ...
# $ steps1       : num [1:500] 30627 27788 8457 8769 14169 ...
# $ time_on1     : chr [1:500] "5:13am" "6:07" "5:13am" "6:13" ...
# $ time_off1    : chr [1:500] "22:00" NA "22:00" "22:00" ...
# $ non_wear_time1 : num [1:500] 25 31 33 25 83 67 20 10 49 64 ...
# $ steps2       : num [1:500] 14905 24750 30111 21077 15786 ...
# $ time_on2     : chr [1:500] "06:00" "5:13am" "6:13" ...
# $ time_off2    : chr [1:500] "21:00" "23:00" "11:13pm" "23:00" ...
# $ non_wear_time2 : num [1:500] 20 82 4 53 1 53 47 82 79 ...
# $ non_wear_time3 : num [1:500] 20 82 4 53 1 53 47 82 79 ...
# $ steps3       : num [1:500] 21972 15827 14130 13132 18022 ...
# $ time_on3     : chr [1:500] "07:00" "05:00" "07:48am" NA ...
# $ time_off3    : chr [1:500] "11:57pm" NA "08:30pm" NA ...
# $ non_wear_time3 : num [1:500] 6 79 23 65 34 15 72 76 60 40 ...
# $ steps4       : num [1:500] 28084 27369 14315 9963 6993 ...
# $ time_on4     : chr [1:500] "05:00" "6:13" "6:07" NA ...
# $ time_off4    : chr [1:500] "08:30pm" "10:57pm" "22:00" "11:13pm" ...
# $ non_wear_time4 : num [1:500] 32 38 74 20 75 22 84 59 42 22 ...
rename_variable

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ steps5</td>
<td>num [1:500] 14858 21112 16880 11707 20917 ...</td>
<td>rename_variable(x = NULL, search = NA, replace = NA)</td>
</tr>
<tr>
<td>$ time_on5</td>
<td>chr [1:500] &quot;6:07&quot; &quot;6:13&quot; &quot;06:00&quot; &quot;05:00&quot; ...</td>
<td></td>
</tr>
<tr>
<td>$ time_off5</td>
<td>chr [1:500] &quot;11:57pm&quot; &quot;23:00&quot; &quot;8:17pm&quot; &quot;8:17pm&quot; ...</td>
<td></td>
</tr>
<tr>
<td>$ non_wear_time5</td>
<td>num [1:500] 61 64 73 23 82 42 66 38 55 18 ...</td>
<td></td>
</tr>
<tr>
<td>$ steps6</td>
<td>num [1:500] 17705 5564 16459 12106 18795 15039 ...</td>
<td></td>
</tr>
<tr>
<td>$ time_on6</td>
<td>chr [1:500] &quot;06:00&quot; &quot;06:00&quot; NA &quot;6:07&quot; ...</td>
<td></td>
</tr>
<tr>
<td>$ time_off6</td>
<td>chr [1:500] &quot;21:00&quot; NA &quot;10:57 pm&quot; &quot;08:30pm&quot; ...</td>
<td></td>
</tr>
<tr>
<td>$ non_wear_time6</td>
<td>num [1:500] 33 24 89 8 27 56 66 21 14 7 ...</td>
<td></td>
</tr>
<tr>
<td>$ steps7</td>
<td>num [1:500] 11067 13540 12106 18795 15039 ...</td>
<td></td>
</tr>
<tr>
<td>$ time_on7</td>
<td>chr [1:500] &quot;06:07&quot; &quot;6:07&quot; &quot;8:00am&quot; &quot;06:00&quot; ...</td>
<td></td>
</tr>
<tr>
<td>$ time_off7</td>
<td>chr [1:500] &quot;08:30pm&quot; &quot;11:13pm&quot; &quot;8:17pm&quot; &quot;10:57 pm&quot; ...</td>
<td></td>
</tr>
<tr>
<td>$ self_report_pa</td>
<td>num [1:500] 8 72 4 38 9 32 49 36 43 ...</td>
<td></td>
</tr>
<tr>
<td>$ csappa1</td>
<td>num [1:500] 1 2 4 2 2 2 3 2 2 3 ...</td>
<td></td>
</tr>
<tr>
<td>$ csappa2</td>
<td>num [1:500] 3 2 1 1 1 1 4 1 4 3 ...</td>
<td></td>
</tr>
<tr>
<td>$ csappa3</td>
<td>num [1:500] 2 3 2 1 NA 1 3 3 4 4 ...</td>
<td></td>
</tr>
<tr>
<td>$ csappa4</td>
<td>num [1:500] 4 1 1 3 4 4 4 4 4 4 ...</td>
<td></td>
</tr>
<tr>
<td>$ csappa5</td>
<td>num [1:500] 4 2 3 2 1 2 2 2 4 1 ...</td>
<td></td>
</tr>
<tr>
<td>$ csappa6</td>
<td>num [1:500] 3 4 1 4 2 2 3 4 4 ...</td>
<td></td>
</tr>
<tr>
<td>$ why_active1</td>
<td>num [1:500] 4 3 5 3 1 5 4 1 1 2 ...</td>
<td></td>
</tr>
<tr>
<td>$ why_active2</td>
<td>num [1:500] 5 3 4 2 5 3 5 NA 5 NA ...</td>
<td></td>
</tr>
<tr>
<td>$ why_active3</td>
<td>num [1:500] 3 3 1 4 2 3 4 4 5 3 ...</td>
<td></td>
</tr>
<tr>
<td>$ feelings_about_pa1</td>
<td>num [1:500] 4 3 2 2 1 1 3 4 4 2 ...</td>
<td></td>
</tr>
<tr>
<td>$ feelings_about_pa2</td>
<td>num [1:500] 5 2 2 3 4 2 4 4 2 5 ...</td>
<td></td>
</tr>
<tr>
<td>$ feelings_about_pa3</td>
<td>num [1:500] 2 5 2 5 3 2 2 1 3 5 ...</td>
<td></td>
</tr>
<tr>
<td>$ pa_guideline</td>
<td>num [1:500] 2 3 4 1 2 4 3 2 2 2 ...</td>
<td></td>
</tr>
<tr>
<td>$ crt_means</td>
<td>num [1:500] 1 4 4 2 2 1 2 1 4 1 ...</td>
<td></td>
</tr>
<tr>
<td>$ ms_means</td>
<td>num [1:500] 3 2 1 2 3 1 2 4 2 ...</td>
<td></td>
</tr>
<tr>
<td>$ sports_skill</td>
<td>num [1:500] 2 4 4 1 3 1 3 1 4 3 ...</td>
<td></td>
</tr>
<tr>
<td>$ pa_is</td>
<td>num [1:500] 10 1 1 1 1 1 1 2 1 3 1 ...</td>
<td></td>
</tr>
<tr>
<td>$ pa_is_also</td>
<td>num [1:500] 5 1 4 4 1 7 2 7 2 8 ...</td>
<td></td>
</tr>
<tr>
<td>$ improve</td>
<td>num [1:500] 3 3 9 3 9 3 9 3 3 6 ...</td>
<td></td>
</tr>
<tr>
<td>$ increase</td>
<td>num [1:500] 2 8 3 8 8 1 3 3 8 8 ...</td>
<td></td>
</tr>
<tr>
<td>$ when_cooling_down</td>
<td>num [1:500] 4 2 4 2 2 2 5 2 2 ...</td>
<td></td>
</tr>
<tr>
<td>$ heart_rate</td>
<td>num [1:500] 5 6 4 4 4 9 4 8 7 4 ...</td>
<td></td>
</tr>
</tbody>
</table>

## Description

This function renames variables in a data frame.

## Usage

rename_variable(x = NULL, search = NA, replace = NA)
validate_age

Arguments

- **x**
  - A data frame.

- **search**
  - A character vector representing the variable names to be renamed.

- **replace**
  - A character vector representing the new names for those variables identified in the `search` argument.

Details

Other `capl` functions called by this function include: `validate_character()`.

Value

Returns a data frame with the renamed variables (if variables in the `search` argument are successfully found and renamed).

Examples

```r
capl_demo_data <- get_capl_demo_data(n = 25)
str(capl_demo_data[, 1:2])
# 'data.frame': 25 obs. of 2 variables:
# $ age : int 11 9 10 11 9 8 11 9 10 12 ...
# $ gender: chr "Female" "Girl" "Girl" "F" ...

capl_demo_data <- rename_variable(
  x = capl_demo_data,
  search = c("age", "gender"),
  replace = c("hello", "world")
)
str(capl_demo_data[, 1:2])
# 'data.frame': 25 obs. of 2 variables:
# $ hello: int 11 9 10 11 9 8 11 9 10 12 ...
# $ world: chr "Female" "Girl" "Girl" "F" ...
```

validate_age

*Check whether an age is valid for CAPL-2.*

Description

This function checks whether an age is valid (numeric and between 8 and 12). CAPL-2 scores and interpretations are valid for children between the ages of 8 and 12 years.

Usage

```r
validate_age(x)
```
Arguments

x  A numeric vector.

Details

If x contains a decimal value that is otherwise valid (e.g., 8.5, 10.1), this function will return the floor() of the value.

Other capl functions called by this function include: validate_number().

Value

Returns a numeric (integer) vector with a value between 8 and 12 (if valid) or NA (if not valid).

Examples

validate_age(c(7:13, "", NA, "12", 8.5))
# [1] NA 8 9 10 11 12 NA NA NA 12 8

validate_character

Check whether a vector is a character and not of length zero or "."

Description

This function checks whether a vector is a character and not of length zero or ".".

Usage

validate_character(x)

Arguments

x  A vector.

Value

Returns a character vector (if valid) or NA (if not valid).

Examples

validate_character(c("beginning", "progressing", "achieving", "excelling", ", , NA, 7))
# [1] "beginning" "progressing" "achieving" "excelling" NA NA
# [7] "7"
validate_domain_score  
Check whether a CAPL-2 domain score is valid.

Description
This function checks whether a CAPL-2 domain score is numeric and within a valid range.

Usage
validate_domain_score(x = NA, domain = NA)

Arguments

x A vector representing a CAPL domain score.
domain A character vector representing domains within CAPL (valid values are "pc", "db", "mc", "ku"; valid values are not case-sensitive).

Details
Other capl functions called by this function include: validate_number() and validate_integer().

Value
Returns a numeric vector (if valid) or NA (if not valid).

Examples
validate_domain_score(
  x = c(34, 15, 10, 12.5, 25),
  domain = "pc"
)
# [1]  NA 15.0 10.0 12.5 25.0

validate_gender  
Check whether a vector can be classified as "girl" or "boy".

Description
This function checks whether a vector can be classified as "girl" or "boy".

Usage
validate_gender(x)
validate_integer

Check whether a vector is an integer.

Description

This function checks whether a vector is an integer.

Usage

validate_integer(x)

Arguments

x A vector.

Value

Returns a numeric (integer) vector (if valid) or NA (if not valid).

Examples

validate_integer(c(2, 6, 3.3, "", NA, "6", "hello, world"))

# [1] 2 6 NA NA NA 6 NA

validate_gender(c("Girl", "GIRL", "g", "G", "Female", "f", "F", ",", NA, 1))

# [1] "girl" "girl" "girl" "girl" "girl" "girl" "girl" NA NA "girl"

validate_gender(c("Boy", "BOY", "b", "B", "Male", "m", "M", ",", NA, 0))

# [1] "boy" "boy" "boy" "boy" "boy" "boy" "boy" NA NA "boy"
validate_number

Check whether a vector is numeric.

Description

This function checks whether a vector is numeric.

Usage

validate_number(x)

Arguments

x A vector.

Value

Returns a numeric vector (if valid) or NA (if not valid).

Examples

validate_number(c(1:5, "5", "", NA, "hello, world"))

# [1] 1 2 3 4 5 5 NA NA NA

validate_scale

Check whether a response to a given questionnaire item or scale is valid.

Description

This function checks whether a vector for a given questionnaire item or scale is valid.

Usage

validate_scale(x, lower_bound = NA, upper_bound = NA)

Arguments

x A numeric (integer) vector representing the response to a questionnaire item (valid values are between the values set by the lower_bound and upper_bound arguments).

lower_bound A numeric (integer) vector representing the value below which x is invalid.

upper_bound A numeric (integer) vector representing the value above which x is invalid.
validate_steps

Value

Returns a numeric (integer) vector (if valid) or NA (if not valid).

Examples

validate_scale(
  x = c(0:10, NA, "7"),
  lower_bound = 1,
  upper_bound = 7
)
# [1] NA 1 2 3 4 5 6 7 NA NA NA NA 7

validate_steps

Check whether daily steps as measured by a pedometer are valid.

Description

This function checks whether daily steps as measured by a pedometer are valid. The variables from this function are used to compute step_average and the step score (step_score).

Usage

validate_steps(steps = NA, wear_time = NA)

Arguments

steps A numeric (integer) vector representing the steps taken on a given day (valid values are between 1000 and 30000).
wear_time A numeric vector representing the duration of time (in decimal hours) that a pedometer was worn on a given day (valid values are >= 10.0 hours).

Details

Other capl functions called by this function include: validate_scale() and validate_number().

Value

Returns the steps argument (if valid) or NA (if not valid).

Examples

validate_steps(
  steps = c(5400, 11001, 999, 31000, 8796),
  wear_time = c(10.1, 12.6, 10.2, 10.9, 9.5)
)
# [1] 5400 11001 NA NA NA
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