Paghahanda rstats

Orville D. Hombrebeueno

2023-06-12

### Pamagat

Kasapatan sa Paghahanda, Antas ng Suliraning Natatamo at ng Perpormans sa Pagsasanay sa Pagtuturo ng mga Nagpapakadalubhasa sa Filipino

### Paglalahad ng Layunin

Ang pananaliksik na ito ay naglalayong mapagtuunan ng pansin ang mga sumusunod na layunin:

1. Matutukoy ang kasapatan sa paghahanda sa pagsasanay sa pagtuturo ng nagpapakadalubhasa sa Filipino.
2. Matutukoy ang antas ng suliraning natatamo sa pagsasanay sa pagtuturo ng mga nagpapakadalubhasa sa Filipino.
3. Matutukoy ang perpormans sa pagsasanay sa pagtuturo ng mga nagpapakadalubhasa sa Pilipino.
4. Matutukoy kung may makabuluhang pagkakaugnay ang kasapatan sa paghahanda at ang antas ng suliraning natatamo sa pagtuturo ng mga nagpapakadalubhasa sa Filipino.
5. Matutukoy kung may makabuluhang pagkakaugnay ang kasapatan sa paghahanda at ang perpormans sa pagsasanay sa pagtuturo ng mga nagpapakadalubhasa sa Filipino;at
6. Matutukoy kung may makabuluhang pagkakaugnay ang antas ng mga suliraning natatamo at ang perpormans sa pagsasanay sa pagtuturo ng mga nagpapakadalubhasa sa Filipino.

### Notes

1. Negative statements, han
   * None
2. Negative statements, dalas
   * None

### Load Libraries

library(tidyverse)

── Attaching core tidyverse packages ──────────────────────── tidyverse 2.0.0 ──  
✔ dplyr 1.1.2 ✔ readr 2.1.4  
✔ forcats 1.0.0 ✔ stringr 1.5.0  
✔ ggplot2 3.4.2 ✔ tibble 3.2.1  
✔ lubridate 1.9.2 ✔ tidyr 1.3.0  
✔ purrr 1.0.1   
── Conflicts ────────────────────────────────────────── tidyverse\_conflicts() ──  
✖ dplyr::filter() masks stats::filter()  
✖ dplyr::lag() masks stats::lag()  
ℹ Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors

library(readxl)  
library(gt)  
library(rstatix)

Attaching package: 'rstatix'  
  
The following object is masked from 'package:stats':  
  
 filter

library(broom)  
library(smplot2)

Updated tutorial for smplot: smin95.github.io/dataviz/

### Import Data

hansul <- read\_excel("data/hansul.xlsx")  
hansul <- tibble(hansul)

### Row Wise Mean for H and S

hansul <- hansul |>  
 rowwise() |>  
 mutate(h\_mean = mean((c\_across(h1:h10))),  
 s\_mean = mean((c\_across(s1:s20)))) |>  
 ungroup()  
  
hansul1 <-  
 hansul |>  
 mutate\_at(vars(grado), factor)  
hansul1 <-   
 hansul1 |>  
 mutate(grado = as.numeric(factor(grado,  
 levels = c("3.00", "2.75", "2.50", "2.25",  
 "2.00", "1.75", "1.5", "1.25", "1.00")))  
 )

### Descriptive Statistics of Profile

hansul |>  
 get\_summary\_stats(edad,  
 show = c("mean", "sd", "min", "max"),  
 ) |>  
 mutate\_if(is.numeric, round, 2) |>  
 gt()

| variable | n | mean | sd | min | max |
| --- | --- | --- | --- | --- | --- |
| edad | 16 | 23.12 | 0.62 | 22 | 24 |

hansul |>  
 count(kasarian) |>  
 mutate(  
 percent = round((n / sum(n))\*100, digits = 2)  
 ) |>  
 gt()

| kasarian | n | percent |
| --- | --- | --- |
| Babae | 14 | 87.5 |
| Lalaki | 2 | 12.5 |

### Objective 1

han <- hansul |>  
 select(h1:h10) |>  
 get\_summary\_stats(  
 show = c("mean", "sd")  
 ) |>  
 mutate\_if(is.numeric, round, 2) |>  
 mutate(QD = case\_when(  
 mean >= 3.26 & mean <= 4 ~ "Lubos na Isinasakatuparan",  
 mean >= 2.51 & mean <= 3.25 ~ "Isinasakatuparan",  
 mean >= 1.76 & mean <= 2.5 ~ "Hindi Isinasakatuparan",  
 mean >= 1 & mean <= 1.75 ~ "Lubos na Hindi Isinasakatuparan"  
 ))  
gt(han)

| variable | n | mean | sd | QD |
| --- | --- | --- | --- | --- |
| h1 | 16 | 3.69 | 0.48 | Lubos na Isinasakatuparan |
| h2 | 16 | 3.44 | 0.63 | Lubos na Isinasakatuparan |
| h3 | 16 | 3.62 | 0.50 | Lubos na Isinasakatuparan |
| h4 | 16 | 3.62 | 0.62 | Lubos na Isinasakatuparan |
| h5 | 16 | 3.69 | 0.48 | Lubos na Isinasakatuparan |
| h6 | 16 | 3.75 | 0.45 | Lubos na Isinasakatuparan |
| h7 | 16 | 3.62 | 0.50 | Lubos na Isinasakatuparan |
| h8 | 16 | 3.75 | 0.45 | Lubos na Isinasakatuparan |
| h9 | 16 | 3.56 | 0.63 | Lubos na Isinasakatuparan |
| h10 | 16 | 3.31 | 0.87 | Lubos na Isinasakatuparan |

han |>  
 get\_summary\_stats(mean, show = c("mean")) |>  
 mutate(average\_han\_sd = sqrt(sum((han$sd)^2)/n)) |>  
 mutate\_if(is.numeric, round, 2) |>  
 mutate(QD = case\_when(  
 mean >= 3.26 & mean <= 4 ~ "Lubos na Isinasakatuparan",  
 mean >= 2.51 & mean <= 3.25 ~ "Isinasakatuparan",  
 mean >= 1.76 & mean <= 2.5 ~ "Hindi Isinasakatuparan",  
 mean >= 1 & mean <= 1.75 ~ "Lubos na Hindi Isinasakatuparan"  
 )) |>  
 gt()

| variable | n | mean | average\_han\_sd | QD |
| --- | --- | --- | --- | --- |
| mean | 10 | 3.6 | 0.57 | Lubos na Isinasakatuparan |

hansul |>  
 get\_summary\_stats(h\_mean,  
 show = c("mean", "sd", "min", "max"),  
 ) |>  
 mutate\_if(is.numeric, round, 2) |>  
 gt()

| variable | n | mean | sd | min | max |
| --- | --- | --- | --- | --- | --- |
| h\_mean | 16 | 3.61 | 0.42 | 2.8 | 4 |

### Objective 2

sul <- hansul |>  
 select(s1:s20) |>  
 get\_summary\_stats(  
 show = c("mean", "sd")  
 ) |>  
 mutate\_if(is.numeric, round, 2) |>  
 mutate(QD = case\_when(  
 mean >= 3.26 & mean <= 4 ~ "Napakabigat na Suliranin",  
 mean >= 2.51 & mean <= 3.25 ~ "Mabigat na Suliranin",  
 mean >= 1.76 & mean <= 2.5 ~ "Hindi Mabigat na Suliranin",  
 mean >= 1 & mean <= 1.75 ~ "Hindi Napakabigat na Suliranin"  
 ))  
gt(sul)

| variable | n | mean | sd | QD |
| --- | --- | --- | --- | --- |
| s1 | 16 | 3.19 | 0.83 | Mabigat na Suliranin |
| s2 | 16 | 3.06 | 1.06 | Mabigat na Suliranin |
| s3 | 16 | 3.12 | 0.72 | Mabigat na Suliranin |
| s4 | 16 | 2.81 | 1.05 | Mabigat na Suliranin |
| s5 | 16 | 3.19 | 0.91 | Mabigat na Suliranin |
| s6 | 16 | 2.62 | 0.81 | Mabigat na Suliranin |
| s7 | 16 | 2.94 | 1.18 | Mabigat na Suliranin |
| s8 | 16 | 2.69 | 1.01 | Mabigat na Suliranin |
| s9 | 16 | 2.62 | 0.72 | Mabigat na Suliranin |
| s10 | 16 | 3.12 | 0.96 | Mabigat na Suliranin |
| s11 | 16 | 2.94 | 1.06 | Mabigat na Suliranin |
| s12 | 16 | 2.88 | 0.96 | Mabigat na Suliranin |
| s13 | 16 | 3.12 | 1.15 | Mabigat na Suliranin |
| s14 | 16 | 3.00 | 0.97 | Mabigat na Suliranin |
| s15 | 16 | 2.81 | 0.98 | Mabigat na Suliranin |
| s16 | 16 | 2.81 | 1.17 | Mabigat na Suliranin |
| s17 | 16 | 2.75 | 1.06 | Mabigat na Suliranin |
| s18 | 16 | 3.00 | 1.21 | Mabigat na Suliranin |
| s19 | 16 | 2.81 | 1.11 | Mabigat na Suliranin |
| s20 | 16 | 2.94 | 0.85 | Mabigat na Suliranin |

sul |>  
 get\_summary\_stats(mean, show = c("mean")) |>  
 mutate(average\_sul\_sd = sqrt(sum((sul$sd)^2)/n)) |>  
 mutate\_if(is.numeric, round, 2) |>  
 mutate(QD = case\_when(  
 mean >= 3.26 & mean <= 4 ~ "Napakabigat na Suliranin",  
 mean >= 2.51 & mean <= 3.25 ~ "Mabigat na Suliranin",  
 mean >= 1.76 & mean <= 2.5 ~ "Hindi Mabigat na Suliranin",  
 mean >= 1 & mean <= 1.75 ~ "Hindi Napakabigat na Suliranin"  
 )) |>  
 gt()

| variable | n | mean | average\_sul\_sd | QD |
| --- | --- | --- | --- | --- |
| mean | 20 | 2.92 | 1 | Mabigat na Suliranin |

hansul |>  
 get\_summary\_stats(s\_mean,  
 show = c("mean", "sd", "min", "max"),  
 ) |>  
 mutate\_if(is.numeric, round, 2) |>  
 gt()

| variable | n | mean | sd | min | max |
| --- | --- | --- | --- | --- | --- |
| s\_mean | 16 | 2.92 | 0.79 | 1.2 | 3.75 |

### Objective 3

hansul |>  
 count(grado) |>  
 mutate(  
 percent = round((n / sum(n))\*100, digits = 2)  
 ) |>  
 gt()

| grado | n | percent |
| --- | --- | --- |
| 1.25 | 4 | 25.0 |
| 1.50 | 10 | 62.5 |
| 1.75 | 2 | 12.5 |

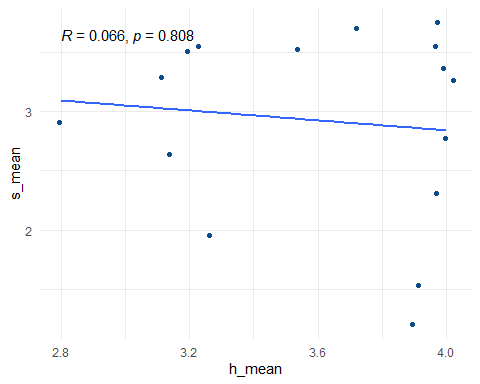
### Objective 4

ob4 <- cor.test(hansul1$h\_mean, hansul1$s\_mean,  
 method = "spearman", exact=FALSE)  
  
tidy(ob4) |>  
 mutate\_if(is.numeric, round, 2) |>  
 gt()

| estimate | statistic | p.value | method | alternative |
| --- | --- | --- | --- | --- |
| 0.07 | 635.17 | 0.81 | Spearman's rank correlation rho | two.sided |

hansul |>  
ggplot() +  
 aes(x = h\_mean, y = s\_mean) +  
 geom\_point(colour = "#0c4c8a", position = "jitter") +  
 sm\_statCorr(corr\_method = 'spearman') +  
 theme\_minimal()

`geom\_smooth()` using formula = 'y ~ x'



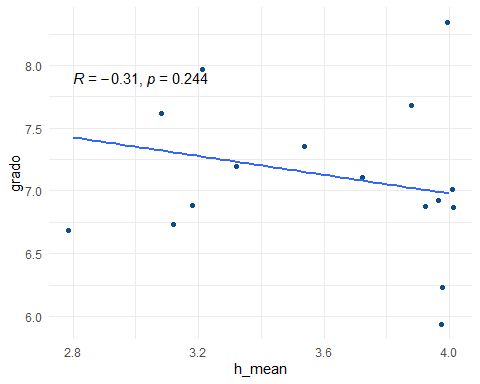
### Objective 5

ob5 <- cor.test(hansul1$h\_mean, hansul1$grado,  
 method = "spearman", exact=FALSE)  
   
tidy(ob5) |>  
 mutate\_if(is.numeric, round, 2) |>  
 gt()

| estimate | statistic | p.value | method | alternative |
| --- | --- | --- | --- | --- |
| -0.31 | 890.4 | 0.24 | Spearman's rank correlation rho | two.sided |

hansul1 |>  
ggplot() +  
 aes(x = h\_mean, y = grado) +  
 geom\_point(colour = "#0c4c8a", position = "jitter") +  
 sm\_statCorr(corr\_method = 'spearman') +  
 theme\_minimal()

`geom\_smooth()` using formula = 'y ~ x'



### Objective 6

ob6 <- cor.test(hansul1$s\_mean, hansul1$grado,  
 method = "spearman", exact=FALSE)  
   
tidy(ob6) |>  
 mutate\_if(is.numeric, round, 2) |>  
 gt()

| estimate | statistic | p.value | method | alternative |
| --- | --- | --- | --- | --- |
| 0.02 | 669.53 | 0.95 | Spearman's rank correlation rho | two.sided |

hansul1 |>  
ggplot() +  
 aes(x = s\_mean, y = grado) +  
 geom\_point(colour = "#0c4c8a", position = "jitter") +  
 sm\_statCorr(corr\_method = 'spearman') +  
 theme\_minimal()

`geom\_smooth()` using formula = 'y ~ x'

