

Examples with SEA-PLM 2019

```
library("tidyverse")

## -- Attaching core tidyverse packages ----- tidyverse 2.0.0 --
## v dplyr      1.1.3      v readr      2.1.4
## v forcats    1.0.0      v stringr    1.5.0
## v ggplot2    3.4.3      v tibble     3.2.1
## v lubridate  1.9.2      v tidyr      1.3.0
## v purrr      1.0.1
## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()     masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors

library("haven")
library("devtools")

## Loading required package: usethis
install_github("eldafani/intsvy")

## Skipping install of 'intsvy' from a github remote, the SHA1 (3b30e184) has not changed since last install
## Use `force = TRUE` to force installation

library("intsvy") # version from github
```

Read data

```
dir <- "/home/eldani/eldani/International LSA/SEA-PLM/Data/SEA-PLM_Regional_Students-sav"
student <- read_spss(file.path(dir, "SEA-PLM_Regional_Students.sav"))
dir <- "/home/eldani/eldani/International LSA/SEA-PLM/Data/SEA-PLM_Regional_Schools-sav"
school <- read_spss(file.path(dir, "SEA-PLM_Regional_Schools.sav"))
```

Merge data

```
sea <- left_join(student, school, by = c("CNT", "SchID"))
```

Create grouping variables

```
sea$Sex <- factor(sea$Gender, 1:2, labels = c("Female", "Male"))
sea$Language <- factor(sea$S_LANG, 0:1, labels = c("No", "Yes"))
sea$Location <- factor(sea$SC09Q01, 1:5, labels = c("Rural", rep("Urban", 4)))
```

Proficiency reading levels by CNT

```
intsvy.ben.pv(pvnames= paste0("PV", 1:5, "_R"), cutoff = c(304, 317),  
             by= c("CNT"), data=sea, config = sea_conf)
```

##	CNT		Benchmark	Percentage	Std. err.
## 1	KHM	At or above	304	27.50	1.44
## 2	KHM	At or above	317	11.02	1.01
## 3	LAO	At or above	304	8.91	0.80
## 4	LAO	At or above	317	2.50	0.41
## 5	MMR	At or above	304	26.88	1.30
## 6	MMR	At or above	317	10.74	0.78
## 7	MYS	At or above	304	76.61	1.80
## 8	MYS	At or above	317	58.26	2.06
## 9	PHL	At or above	304	21.53	1.62
## 10	PHL	At or above	317	9.56	1.21
## 11	VNM	At or above	304	92.34	1.03
## 12	VNM	At or above	317	81.88	1.42

Proficiency reading levels by CNT and sex

```
intsvy.ben.pv(pvnames= paste0("PV", 1:5, "_R"), cutoff = c(304, 317),  
             by= c("CNT", "Sex"), data=sea, config = sea_conf)
```

##	CNT	Sex		Benchmark	Percentage	Std. err.
## 1	KHM	Female	At or above	304	32.68	1.85
## 2	KHM	Female	At or above	317	13.79	1.46
## 3	KHM	Male	At or above	304	22.04	1.33
## 4	KHM	Male	At or above	317	8.11	0.78
## 5	LAO	Female	At or above	304	10.50	1.12
## 6	LAO	Female	At or above	317	2.99	0.52
## 7	LAO	Male	At or above	304	7.42	0.96
## 8	LAO	Male	At or above	317	2.03	0.43
## 9	LAO	<NA>	At or above	304	0.00	0.00
## 10	LAO	<NA>	At or above	317	0.00	0.00
## 11	MMR	Female	At or above	304	29.59	1.50
## 12	MMR	Female	At or above	317	12.09	1.07
## 13	MMR	Male	At or above	304	24.41	1.59
## 14	MMR	Male	At or above	317	9.51	0.91
## 15	MYS	Female	At or above	304	82.41	1.60
## 16	MYS	Female	At or above	317	65.87	2.15
## 17	MYS	Male	At or above	304	70.66	2.29
## 18	MYS	Male	At or above	317	50.43	2.27
## 19	PHL	Female	At or above	304	25.10	1.95
## 20	PHL	Female	At or above	317	10.84	1.37
## 21	PHL	Male	At or above	304	18.07	1.88
## 22	PHL	Male	At or above	317	8.33	1.56
## 23	VNM	Female	At or above	304	93.44	1.03
## 24	VNM	Female	At or above	317	84.20	1.46
## 25	VNM	Male	At or above	304	91.31	1.31
## 26	VNM	Male	At or above	317	79.69	1.70

Mean reading achievement by groups

```
intsvy.mean.pv(pvnames=paste0("PV", 1:5, "_R"), by= c("CNT"), data=sea, config = sea_conf)
```

```
##   CNT Freq   Mean s.e.   SD s.e
## 1 KHM 5396 290.12 0.82 21.88 0.43
## 2 LAO 4698 275.06 0.78 20.62 0.42
## 3 MMR 5707 291.73 0.78 19.98 0.37
## 4 MYS 4479 318.91 1.14 23.56 0.62
## 5 PHL 6083 287.72 0.91 20.59 0.59
## 6 VNM 4837 336.46 0.88 22.18 0.65
```

```
intsvy.mean.pv(pvnames=paste0("PV", 1:5, "_R"), by= c("CNT", "Location"), data=sea, config = sea_conf)
```

```
##   CNT Location Freq   Mean s.e.   SD s.e
## 1 KHM   Rural 2487 284.94 1.03 20.74 0.57
## 2 KHM   Urban 2842 295.04 1.26 21.85 0.52
## 3 KHM   <NA>   67 287.79 5.60 19.04 4.23
## 4 LAO   Rural 3262 272.88 1.00 20.25 0.56
## 5 LAO   Urban 1187 283.40 1.66 20.21 0.69
## 6 LAO   <NA>  249 267.42 2.78 16.43 1.60
## 7 MMR   Rural 2900 289.72 0.93 18.87 0.44
## 8 MMR   Urban 2718 295.38 1.41 21.23 0.74
## 9 MMR   <NA>   89 294.25 6.81 22.57 1.83
## 10 MYS  Rural 1267 316.21 2.24 23.62 1.08
## 11 MYS  Urban 3212 320.10 1.39 23.43 0.77
## 12 PHL  Rural 2229 282.02 1.48 18.83 0.97
## 13 PHL  Urban 3854 291.65 1.39 20.82 0.82
## 14 VNM  Rural 2364 332.35 1.33 22.18 0.90
## 15 VNM  Urban 2441 341.08 1.16 21.27 0.85
## 16 VNM  <NA>   32 338.09  NaN 20.09  NaN
```

```
intsvy.mean.pv(pvnames=paste0("PV", 1:5, "_R"), by= c("CNT", "Sex"),
               data=sea[!is.na(sea$Sex), ], config = sea_conf)
```

```
##   CNT Sex Freq   Mean s.e.   SD s.e
## 1 KHM Female 2766 293.48 0.92 21.66 0.51
## 2 KHM  Male 2630 286.59 0.87 21.54 0.44
## 3 LAO Female 2304 275.99 0.97 21.24 0.52
## 4 LAO  Male 2393 274.20 0.81 19.98 0.49
## 5 MMR Female 2705 293.24 0.83 20.03 0.45
## 6 MMR  Male 3002 290.35 0.87 19.83 0.44
## 7 MYS Female 2283 323.38 1.12 21.97 0.56
## 8 MYS  Male 2196 314.33 1.31 24.24 0.78
## 9 PHL Female 3012 290.68 1.00 19.83 0.57
## 10 PHL  Male 3071 284.85 1.10 20.90 0.93
## 11 VNM Female 2330 338.29 0.98 21.83 0.72
## 12 VNM  Male 2507 334.73 0.99 22.36 0.74
```

```
intsvy.mean.pv(pvnames= paste0("PV", 1:5, "_R"), by= c("CNT", "Language"), data=sea, config = sea_conf)
```

```
##   CNT Language Freq   Mean s.e.   SD s.e
## 1 KHM      No   321 280.32 2.53 26.65 1.27
## 2 KHM     Yes 5075 290.75 0.77 21.39 0.39
## 3 LAO      No 1849 267.61 0.89 19.26 0.50
## 4 LAO     Yes 2849 280.11 0.93 19.98 0.47
```

```
## 5 MMR      No 1262 279.73 1.47 18.59 0.64
## 6 MMR      Yes 4445 295.48 0.68 18.89 0.35
## 7 MYS      No  903 309.16 1.77 24.78 0.80
## 8 MYS      Yes 3576 321.36 1.24 22.59 0.80
## 9 PHL      No 5656 287.72 0.87 20.09 0.49
## 10 PHL     Yes  427 287.73 3.36 26.24 2.15
## 11 VNM     No  432 317.12 3.28 26.03 1.72
## 12 VNM     Yes 4405 338.62 0.67 20.61 0.35
```

Mean writing and math achievement by CNT

```
intsvy.mean.pv(pvnames=paste0("PV", 1:5, "_W"), by= c("CNT"), data=sea, config = sea_conf)
```

```
## CNT Freq Mean s.e. SD s.e
## 1 KHM 5396 284.82 1.01 27.24 0.46
## 2 LAO 4698 283.47 1.04 30.65 0.69
## 3 MMR 5707 298.48 0.89 20.10 0.55
## 4 MYS 4479 317.50 0.88 18.84 0.54
## 5 PHL 6083 288.28 1.13 27.73 0.55
## 6 VNM 4837 327.45 0.89 22.07 0.54
```

```
intsvy.mean.pv(pvnames=paste0("PV", 1:5, "_M"), by= c("CNT"), data=sea, config = sea_conf)
```

```
## CNT Freq Mean s.e. SD s.e
## 1 KHM 5396 289.41 0.82 20.74 0.49
## 2 LAO 4698 278.63 0.82 20.62 0.48
## 3 MMR 5707 287.92 0.61 17.23 0.33
## 4 MYS 4479 314.71 1.08 21.84 0.63
## 5 PHL 6083 287.88 0.84 19.99 0.52
## 6 VNM 4837 341.45 1.04 23.99 0.64
```

Regression of reading achievement on SES

```
intsvy.reg.pv(pvnames= paste0("PV", 1:5, "_R"), x= "SES", by= c("CNT"), data=sea, config = sea_conf)
```

```
## $KHM
## Estimate Std. Error t value
## (Intercept) 290.55 0.50 575.65
## SES 8.21 0.50 16.27
## R-squared 0.13 0.48 0.27
##
## $LAO
## Estimate Std. Error t value
## (Intercept) 276.02 0.53 522.57
## SES 9.00 0.50 18.12
## R-squared 0.18 0.49 0.36
##
## $MMR
## Estimate Std. Error t value
## (Intercept) 292.75 0.52 561.98
## SES 6.65 0.49 13.68
## R-squared 0.10 0.48 0.21
##
## $MYS
```

```

##           Estimate Std. Error t value
## (Intercept)  319.25      0.64  495.28
## SES           7.87      0.64   12.23
## R-squared     0.11      0.64    0.17
##
## $PHL
##           Estimate Std. Error t value
## (Intercept)  287.77      0.47  611.11
## SES          11.44      0.46   24.85
## R-squared     0.31      0.46    0.69
##
## $VNM
##           Estimate Std. Error t value
## (Intercept)  337.08      0.51  655.34
## SES           9.48      0.55   17.30
## R-squared     0.17      0.51    0.35

```

Regression of math achievement on SES and sex

```
intsvy.reg.pv(pvnames= paste0("PV", 1:5, "_M"), x= c("SES", "Sex"), by= c("CNT"), data=sea, config = sea)
```

```

## $KHM
##           Estimate Std. Error t value
## (Intercept)  291.69      0.59  497.74
## SES           8.05      0.54   14.85
## SexMale      -3.79      0.64   -5.95
## R-squared     0.15      0.53    0.28
##
## $LAO
##           Estimate Std. Error t value
## (Intercept)  279.73      0.65  431.22
## SES           9.12      0.64   14.33
## SexMale      -0.30      0.65   -0.46
## R-squared     0.18      0.63    0.29
##
## $MMR
##           Estimate Std. Error t value
## (Intercept)  289.01      0.46  632.41
## SES           6.05      0.43   13.96
## SexMale      -0.34      0.48   -0.71
## R-squared     0.11      0.43    0.26
##
## $MYS
##           Estimate Std. Error t value
## (Intercept)  316.45      0.71  444.76
## SES           8.71      0.71   12.20
## SexMale      -2.77      0.73   -3.76
## R-squared     0.16      0.68    0.24
##
## $PHL
##           Estimate Std. Error t value
## (Intercept)  289.48      0.56  519.02
## SES          10.18      0.53   19.26
## SexMale      -3.01      0.57   -5.26

```

```
## R-squared      0.27      0.53      0.51
##
## $VNM
##      Estimate Std. Error t value
## (Intercept)  342.13      0.65  523.72
## SES           9.39      0.71   13.26
## SexMale      -0.12      0.69   -0.17
## R-squared     0.15      0.64      0.23
```