

Examples with PIRLS 2016

```
library("devtools")
install_github("eldafani/intsvy")
library("intsvy")
```

Read data for selected variables and countries

The object *dir* specifies the directory path where the PIRLS 2016 data is located (eg. `"/home/data"`). Variable selection can be done with aid of `pirls.var.label(dir)`.

```
pirls <- pirls.select.merge(folder= dir,
                           countries= c("AUS", "ENG", "ESP", "FIN", "FRA", "SVN", "SWE", "TTO"),
                           student= c("ITSEX", "ASDAGE", "ASBGSLR"),
                           home= c("ASDHEDUP", "ASDHOCCP", "ASDHELA", "ASBHELA"),
                           school= c("ACDGDAS", "ACDGELS", "ACDGO3"))
```

Calculate average reading score by country

```
pirls.mean.pv(pvlabel = "ASRREA", by = "IDCNTRYL", data = pirls)
```

##	IDCNTRYL	Freq	Mean	s.e.	SD	s.e
## 1	Australia	6341	544.36	2.53	83.60	1.58
## 2	England	5095	558.68	1.89	79.06	1.24
## 3	Finland	4896	566.01	1.84	67.11	1.59
## 4	France	4767	511.24	2.18	69.36	1.38
## 5	Slovenia	4499	542.47	1.98	71.90	1.14
## 6	Spain	14595	527.74	1.73	65.06	1.44
## 7	Sweden	4525	555.16	2.40	67.06	1.23
## 8	Trinidad and Tobago	4177	479.40	3.27	93.77	1.89

Calculate average reading score by country and sex

```
pirls.mean.pv(pvlabel = "ASRREA", by = c("IDCNTRYL", "ITSEX"), data = pirls[!is.na(pirls$ITSEX), ])
```

##	IDCNTRYL	ITSEX	Freq	Mean	s.e.	SD	s.e
## 1	Australia	1	3153	555.10	2.62	79.50	1.79
## 2	Australia	2	3188	533.56	2.98	86.19	1.92
## 3	England	1	2565	566.06	2.25	77.73	1.75
## 4	England	2	2530	551.19	2.43	79.69	1.32
## 5	Finland	1	2417	576.88	1.94	64.12	1.60
## 6	Finland	2	2479	555.17	2.30	68.25	2.13
## 7	France	1	2395	515.15	2.63	67.35	1.63
## 8	France	2	2371	507.29	2.48	71.11	1.81
## 9	Slovenia	1	2250	551.85	2.30	68.81	1.73
## 10	Slovenia	2	2249	533.23	2.59	73.65	1.48
## 11	Spain	1	7247	531.99	1.41	62.93	1.01
## 12	Spain	2	7348	523.59	2.66	66.80	2.21

```
## 13          Sweden      1 2257 563.07 2.75 65.15 1.63
## 14          Sweden      2 2268 547.65 2.61 67.98 1.52
## 15 Trinidad and Tobago  1 2153 490.16 3.78 87.95 2.38
## 16 Trinidad and Tobago  2 2024 467.83 4.45 98.34 2.66
```

Calculate proficiency levels by country

```
pirls.ben.pv(pvlabel="ASRREA", by="IDCNTRYL", data=pirls)
```

```
##          IDCNTRYL      Benchmark Percentage Std. err.
## 1      Australia At or above 400      94.49      0.55
## 2      Australia At or above 475      80.85      1.04
## 3      Australia At or above 550      51.23      1.40
## 4      Australia At or above 625      15.93      1.02
## 5          England At or above 400      96.83      0.37
## 6          England At or above 475      85.54      0.74
## 7          England At or above 550      57.14      1.12
## 8          England At or above 625      20.10      0.94
## 9          Finland At or above 400      98.29      0.30
## 10         Finland At or above 475      91.34      0.77
## 11         Finland At or above 550      62.42      1.29
## 12         Finland At or above 625      18.22      0.82
## 13          France At or above 400      93.72      0.55
## 14          France At or above 475      71.90      1.18
## 15          France At or above 550      30.20      1.32
## 16          France At or above 625       3.83      0.60
## 17      Slovenia At or above 400      96.32      0.54
## 18      Slovenia At or above 475      82.82      0.94
## 19      Slovenia At or above 550      49.09      1.25
## 20      Slovenia At or above 625      11.30      0.78
## 21          Spain At or above 400      96.57      0.59
## 22          Spain At or above 475      79.85      0.97
## 23          Spain At or above 550      38.69      0.92
## 24          Spain At or above 625       5.74      0.36
## 25          Sweden At or above 400      98.07      0.34
## 26          Sweden At or above 475      87.84      0.94
## 27          Sweden At or above 550      56.77      1.60
## 28          Sweden At or above 625      13.68      1.43
## 29 Trinidad and Tobago At or above 400      80.34      1.24
## 30 Trinidad and Tobago At or above 475      55.02      1.66
## 31 Trinidad and Tobago At or above 550      23.93      1.22
## 32 Trinidad and Tobago At or above 625       4.19      0.50
```

Estimate regression of reading on sex by country

```
pirls.reg.pv(pvlabel="ASRREA", x="ITSEX", by = "IDCNTRYL", data=pirls[!is.na(pirls$ITSEX), ])
```

```
## $Australia
##          Estimate Std. Error t value
## (Intercept)  576.65      2.97  194.28
## ITSEX        -21.55      2.79   -7.72
## R-squared      0.02      2.56    0.01
##
## $England
```

```

##           Estimate Std. Error t value
## (Intercept)  580.94      3.09  187.82
## ITSEX        -14.87      3.06   -4.86
## R-squared     0.01      2.96    0.00
##
## $Finland
##           Estimate Std. Error t value
## (Intercept)  598.58      2.59  230.93
## ITSEX        -21.71      2.30   -9.43
## R-squared     0.03      2.22    0.01
##
## $France
##           Estimate Std. Error t value
## (Intercept)  523.01      3.23  161.69
## ITSEX        -7.86      3.07   -2.56
## R-squared     0.00      3.01    0.00
##
## $Slovenia
##           Estimate Std. Error t value
## (Intercept)  570.48      3.37  169.46
## ITSEX        -18.62      3.11   -6.00
## R-squared     0.02      2.98    0.01
##
## $Spain
##           Estimate Std. Error t value
## (Intercept)  540.4      2.32  232.77
## ITSEX        -8.4      2.30   -3.66
## R-squared     0.0      2.29    0.00
##
## $Sweden
##           Estimate Std. Error t value
## (Intercept)  578.50      3.23  179.07
## ITSEX        -15.43      2.92   -5.29
## R-squared     0.01      2.73    0.00
##
## $`Trinidad and Tobago`
##           Estimate Std. Error t value
## (Intercept)  512.49      5.28   97.12
## ITSEX        -22.33      5.14   -4.34
## R-squared     0.01      5.04    0.00

```