

Getting started

Table of contents

| | |
|--------------------------|----------|
| 1 Data Summaries | 2 |
| 2 Model Summaries | 3 |

To begin, load the `modelsummary` package and download data from the [Rdatasets archive](https://vincentarelbundock.github.io/Rdatasets/):

```
library(modelsummary)
```

`modelsummary` 2.0.0` now uses `tinytable`` as its default table-drawing backend. Learn more at: <https://vincentarelbundock.github.io/tinytable/>

Revert to `kableExtra`` for one session:

```
options(modelsummary_factory_default = 'kableExtra')
```







Change the default backend persistently:

```
config_modelsummary(factory_default = 'gt')
```

Silence this message forever:

```
config_modelsummary(startup_message = FALSE)
```

```
url <- 'https://vincentarelbundock.github.io/Rdatasets/csv/HistData/Guerry.csv'
dat <- read.csv(url)
dat$Small <- dat$Pop1831 > median(dat$Pop1831)
dat <- dat[,
  c("Donations", "Literacy", "Commerce", "Crime_pers", "Crime_prop", "Clergy", "Small")
]
```

| | Unique | Missing Pct. | Mean | SD | Min | Median | Max | |
|------------|--------|--------------|----------|--------|--------|----------|----------|---|
| Donations | 85 | 0 | 7075.5 | 5834.6 | 1246.0 | 5020.0 | 37 015.0 |  |
| Literacy | 50 | 0 | 39.3 | 17.4 | 12.0 | 38.0 | 74.0 |  |
| Commerce | 84 | 0 | 42.8 | 25.0 | 1.0 | 42.5 | 86.0 |  |
| Crime_pers | 85 | 0 | 19 754.4 | 7504.7 | 2199.0 | 18 748.5 | 37 014.0 |  |
| Crime_prop | 86 | 0 | 7843.1 | 3051.4 | 1368.0 | 7595.0 | 20 235.0 |  |
| Clergy | 85 | 0 | 43.4 | 25.0 | 1.0 | 43.5 | 86.0 |  |

| | FALSE (N=43) | | TRUE (N=43) | | Diff. in Means | Std. Error |
|------------|--------------|-----------|-------------|-----------|----------------|------------|
| | Mean | Std. Dev. | Mean | Std. Dev. | | |
| Donations | 7258.5 | 6194.1 | 6892.6 | 5519.0 | -365.9 | 1265.2 |
| Literacy | 37.9 | 19.1 | 40.6 | 15.6 | 2.7 | 3.8 |
| Commerce | 42.7 | 24.6 | 43.0 | 25.7 | 0.3 | 5.4 |
| Crime_pers | 18040.6 | 7638.4 | 21468.2 | 7044.3 | 3427.7 | 1584.6 |
| Crime_prop | 8422.5 | 3406.7 | 7263.7 | 2559.3 | -1158.8 | 649.8 |
| Clergy | 39.1 | 26.7 | 47.7 | 22.7 | 8.6 | 5.3 |

1 Data Summaries

Quick overview of the data:

```
datasummary_skim(dat)
```

Balance table (aka “Table 1”) with differences in means by subgroups:

```
datasummary_balance(~Small, dat)
```

Correlation table:

```
datasummary_correlation(dat)
```

Two variables and two statistics, nested in subgroups:

```
datasummary(Literacy + Commerce ~ Small * (mean + sd), dat)
```

| | Donations | Literacy | Commerce | Crime_pers | Crime_prop | Clergy |
|------------|-----------|----------|----------|------------|------------|--------|
| Donations | 1 | . | . | . | . | . |
| Literacy | -0.13 | 1 | . | . | . | . |
| Commerce | 0.30 | -0.58 | 1 | . | . | . |
| Crime_pers | -0.04 | -0.04 | 0.05 | 1 | . | . |
| Crime_prop | -0.13 | -0.37 | 0.41 | 0.27 | 1 | . |
| Clergy | 0.09 | -0.17 | -0.12 | 0.26 | -0.07 | 1 |

| | FALSE | | TRUE | |
|----------|-------|-------|-------|-------|
| | mean | sd | mean | sd |
| Literacy | 37.88 | 19.08 | 40.63 | 15.57 |
| Commerce | 42.65 | 24.59 | 42.95 | 25.75 |

2 Model Summaries

Estimate a linear model and display the results:

```
mod <- lm(Donations ~ Crime_prop, data = dat)
modelsummary(mod)
```

Estimate five regression models, display the results side-by-side, and display the table:

```
models <- list(
  "OLS 1" = lm(Donations ~ Literacy + Clergy, data = dat),
  "Poisson 1" = glm(Donations ~ Literacy + Commerce, family = poisson, data = dat),
  "OLS 2" = lm(Crime_pers ~ Literacy + Clergy, data = dat),
  "Poisson 2" = glm(Crime_pers ~ Literacy + Commerce, family = poisson, data = dat),
  "OLS 3" = lm(Crime_prop ~ Literacy + Clergy, data = dat)
)
modelsummary(models, stars = TRUE, gof_omit = "IC|Adj|F|RMSE|Log")
```

Now, save it to a Microsoft Word document:

```
modelsummary(models, output = "table.docx")
```

And draw a coefficient plot:

| (1) | |
|-------------|------------------------|
| (Intercept) | 9065.287 (1738.926) |
| Crime_prop | −0.254 (0.207) |
| Num.Obs. | 86 |
| R2 | 0.018 |
| R2 Adj. | 0.006 |
| AIC | 1739.0 |
| BIC | 1746.4 |
| Log.Lik. | −866.516 |
| F | 1.505 |
| RMSE | 5749.29 |

| | OLS 1 | Poisson 1 | OLS 2 | Poisson 2 | OLS 3 |
|-------------|---------------------------|---------------------|-----------------------------|---------------------|-----------------------------|
| (Intercept) | 7948.667*** (2078.276) | 8.241*** (0.006) | 16 259.384*** (2611.140) | 9.876*** (0.003) | 11 243.544*** (1011.240) |
| Literacy | −39.121 (37.052) | 0.003*** (0.000) | 3.680 (46.552) | 0.000*** (0.000) | −68.507*** (18.029) |
| Clergy | 15.257 (25.735) | | 77.148* (32.334) | | −16.376 (12.522) |
| Commerce | | 0.011*** (0.000) | | 0.001*** (0.000) | |
| Num.Obs. | 86 | 86 | 86 | 86 | 86 |
| R2 | 0.020 | | 0.065 | | 0.152 |

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

```
# OLS models only
ols <- models[grepl("OLS", names(models))]
modelplot(ols, coef_omit = "Intercept")
```

