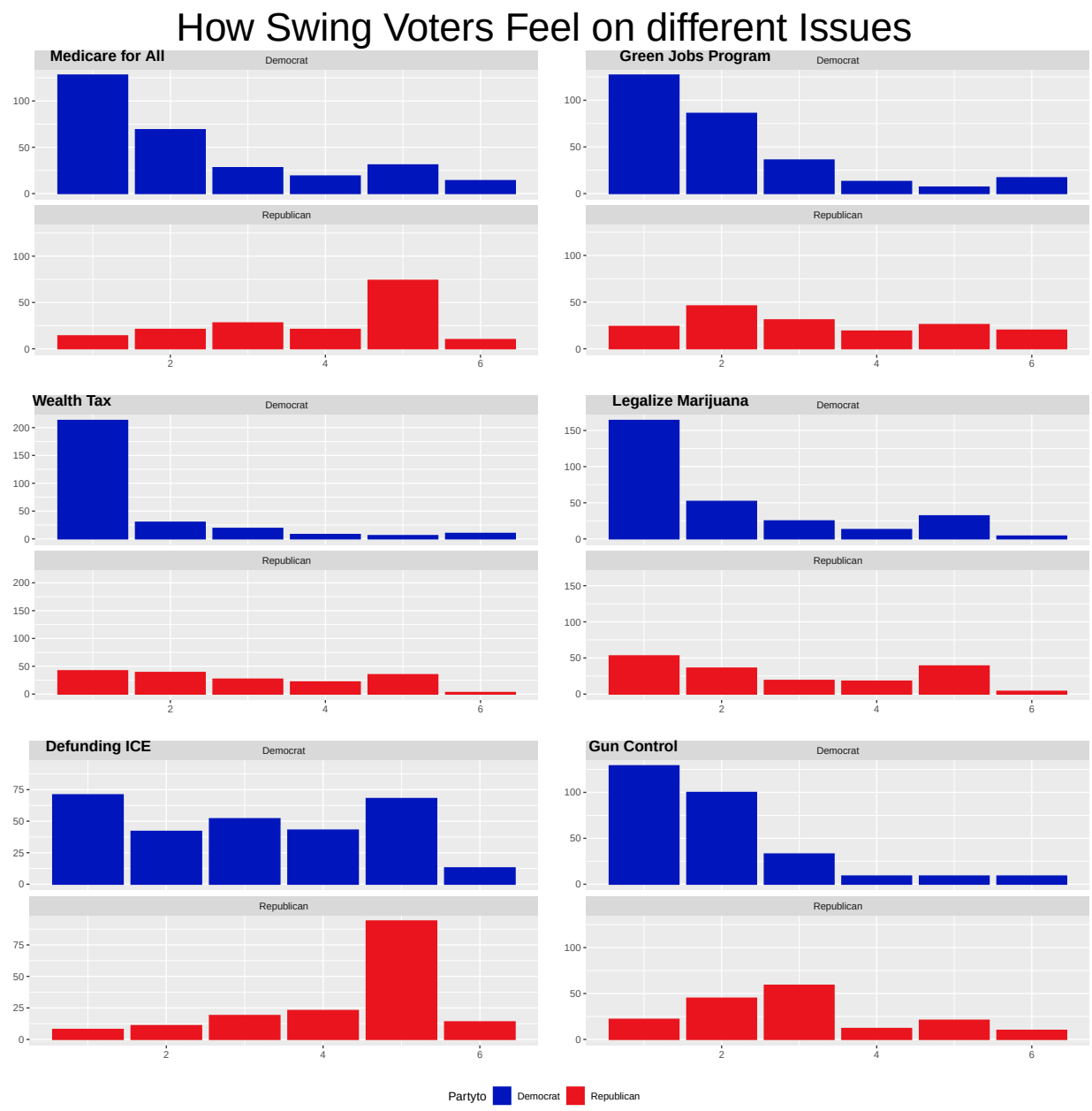
Mini Project 2

Evelyn Delph, Arthur Janes, Nick Mobley

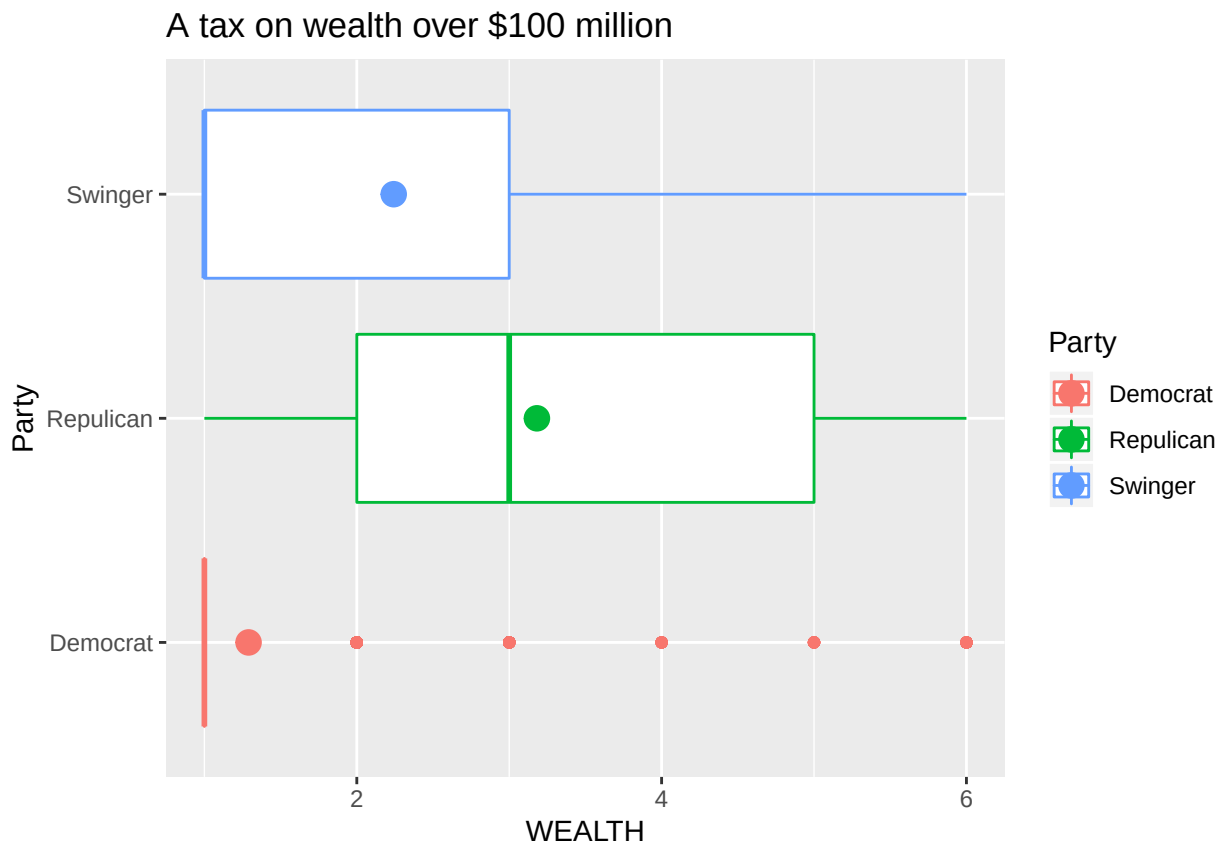
3/26/2020

#Section 1: How do Switch D and Switch R voters differ on issue variables?

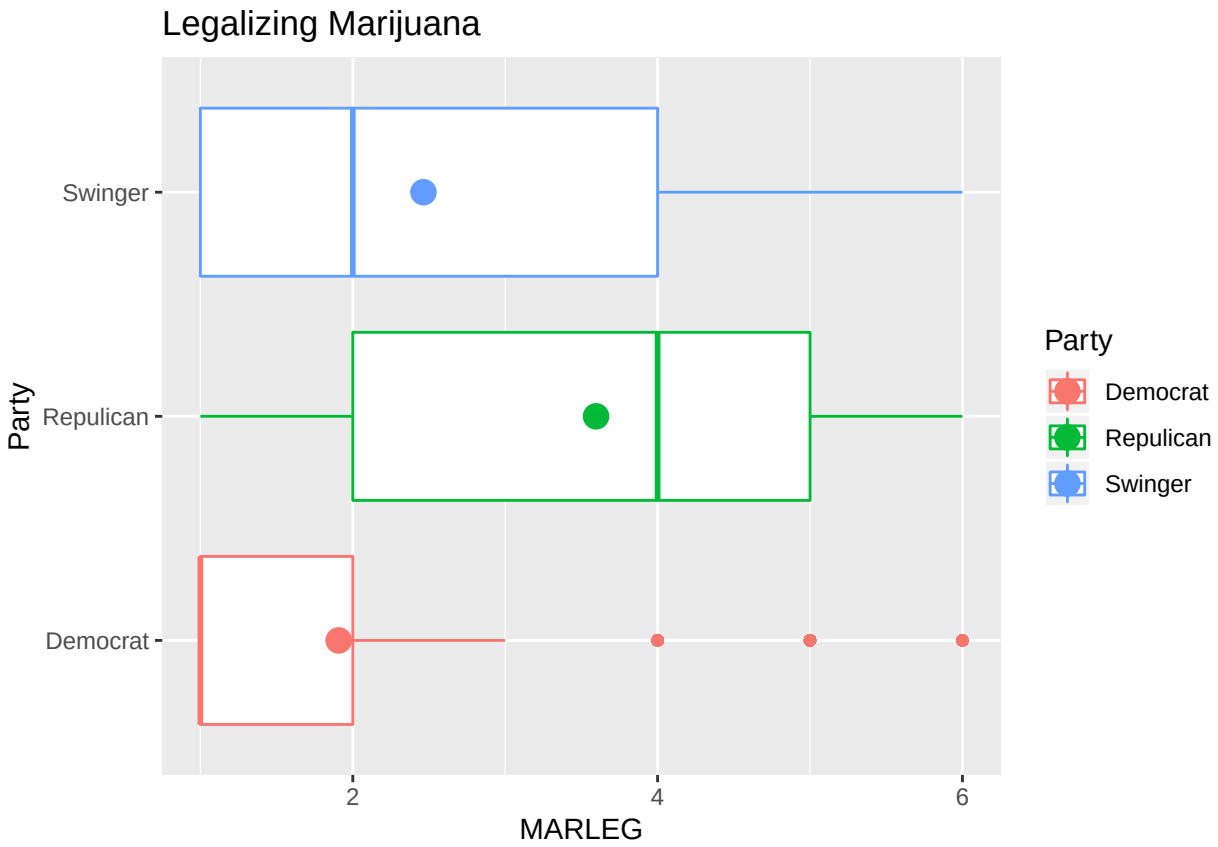


```
ggplot(df, aes(y = GREENJOB, x = Party, color = Party)) + geom_boxplot() + coord_flip() + stat_summary(
```

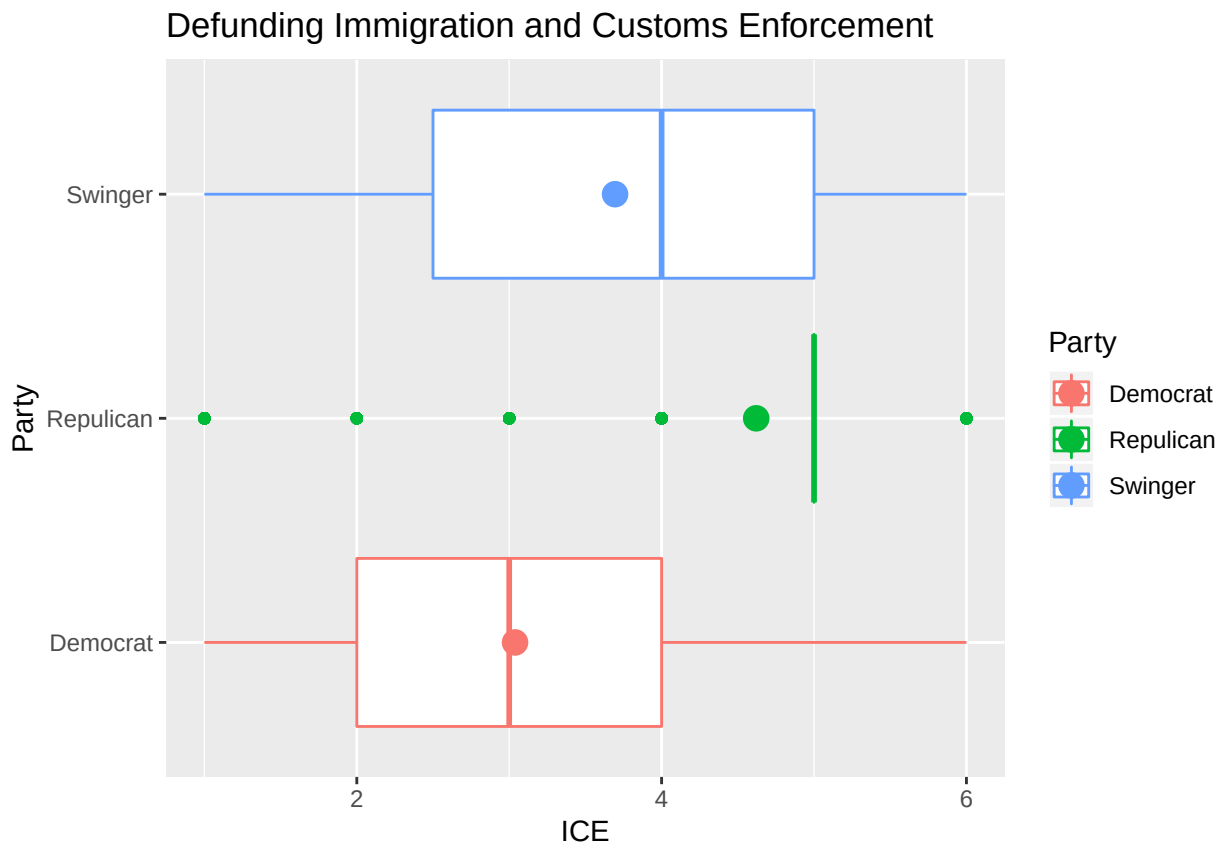

```
ggplot(df, aes(y = WEALTH, x = Party, color = Party)) + geom_boxplot() + coord_flip() + stat_summary(fu
```



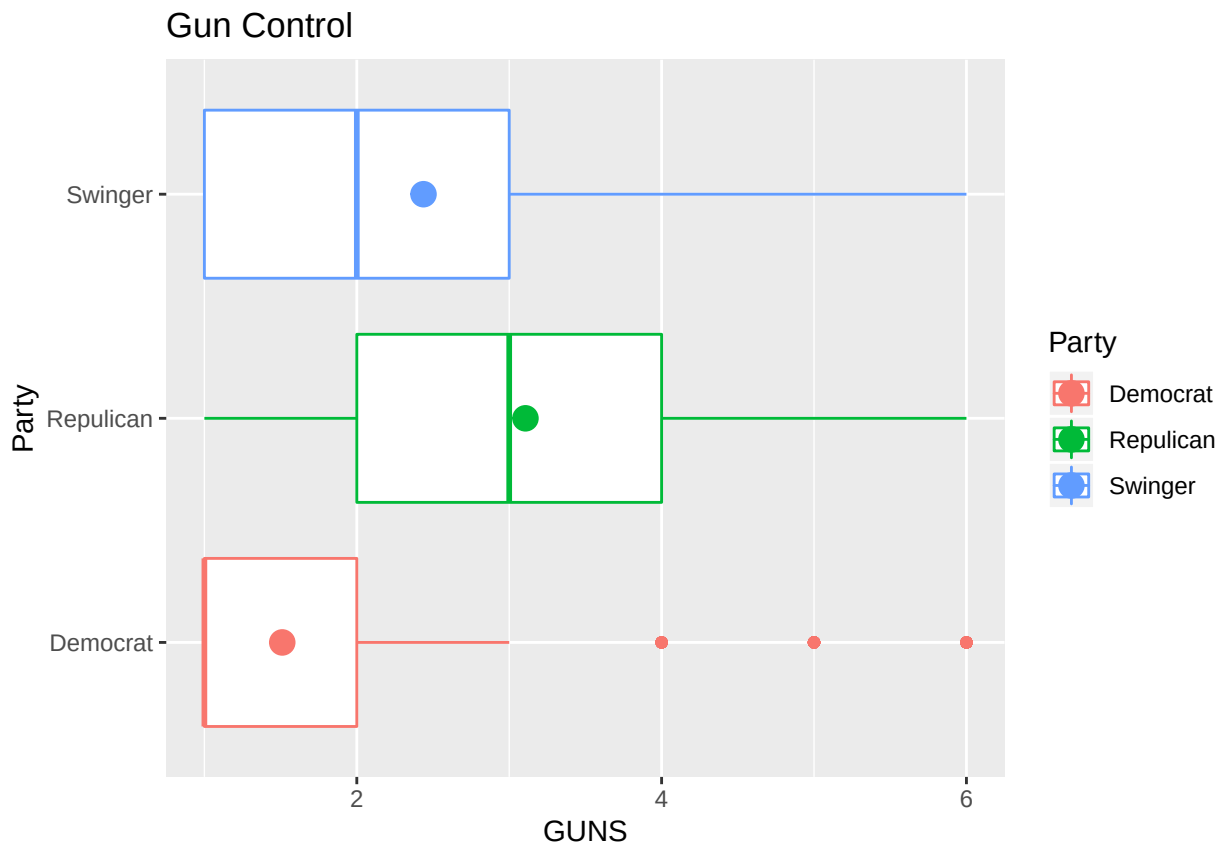

```
ggplot(df, aes(y = MARLEG, x = Party, color = Party)) + geom_boxplot() + coord_flip() + stat_summary(fu
```




```
ggplot(df, aes(y = ICE, x = Party, color = Party)) + geom_boxplot() + coord_flip() + stat_summary(fun.y
```




```
ggplot(df, aes(y = GUNS, x = Party, color = Party)) + geom_boxplot() + coord_flip() + stat_summary(fun.y
```



#Section 3: What predicts being a swing voter?

##Issue Variables

```
## Probabilities for one issue variable (Wealth):
##  0.2084428 0.216675 0.2251398 0.2338367 0.2427642

## [1] ""

##
## Probabilities for two issue variables (WEALTH + M4A):
##  0.1709065 0.1691748 0.167457 0.1657532 0.1640633

## [1] ""

##
## Probabilities for three issue variables (WEALTH + M4A + MARLEG):
##  0.2462047 0.248449 0.250707 0.2529785 0.2552637

## [1] ""

##
## Probabilities for four issue variables (WEALTH + M4A + MARLEG + GUNS):
##  0.1861425 0.1848046 0.1834741 0.1821511 0.1808354

## [1] ""

##
## Probabilities for five issue variables (WEALTH + M4A + MARLEG + GUNS+ GREENJOB):
##  0.1704236 0.1686309 0.1668533 0.1650907 0.163343

## [1] ""
```

```
##
## Probabilities for six issue variables (WEALTH + M4A + MARLEG + GUNS+GREENJOB + ICE):
##  0.2350682 0.2365042 0.2379462 0.2393942 0.2408483
```

Final 6 variable equation:

```
votes = -1.99244285 + 0.29325492 + 0.18323905 + (-0.18073493) + 0.11441703  + 0.16567127 + (-0.07662718)
```

##Populism Variables

```
## Probabilities for one populism variable (POP_1):
##  0.3109913 0.2642393 0.2222485 0.1852505 0.1531985

## [1] ""

## Probabilities for two populism variables (POP_1+ POP_2):
##  0.3245092 0.3147179 0.3050887 0.2956269 0.2863377

## [1] ""

## Probabilities for three populism variables (POP_1 + POP_2 + POP_3):
##  0.3163266 0.3224769 0.3286894 0.3349623 0.3412941

## [1] ""
```

Final 3 populism variable equation:

```
votes = -1.06513692 + (-0.20446605) + (-0.04608700) + 0.06178131 * X
```

#Appendix

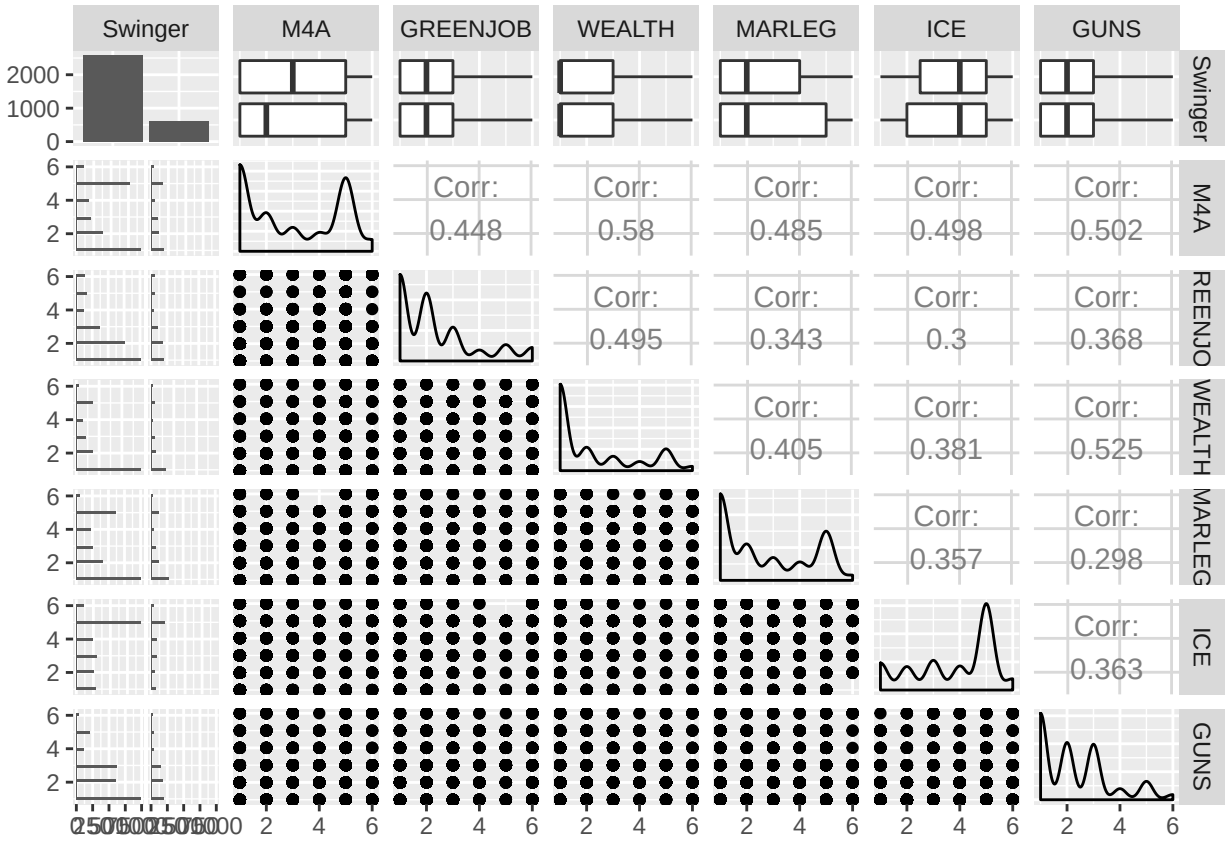
##Section 3

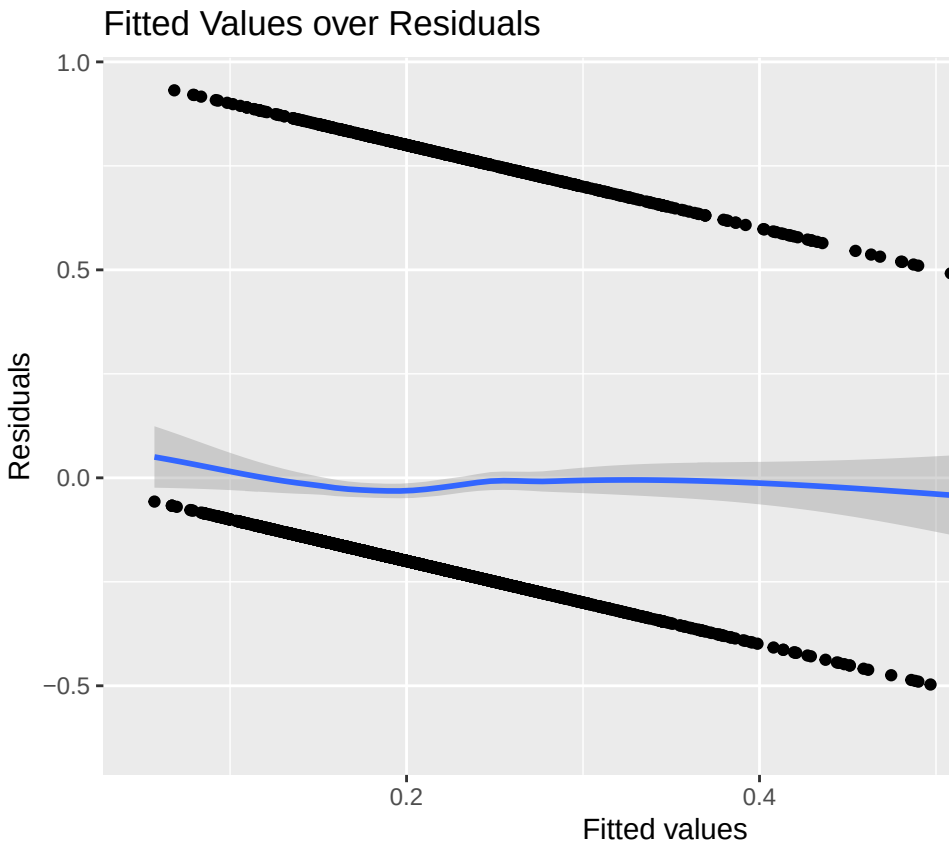
GGPairs plot to detect correlation and possible interactions with issue variables:

```
## Warning: Removed 19 rows containing non-finite values (stat_boxplot).

## Warning: Removed 28 rows containing non-finite values (stat_boxplot).

## Warning: Removed 29 rows containing non-finite values (stat_boxplot).

## Warning: Removed 14 rows containing non-finite values (stat_boxplot).

## Warning: Removed 17 rows containing non-finite values (stat_boxplot).

## Warning: Removed 19 rows containing non-finite values (stat_boxplot).

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.

## Warning: Removed 19 rows containing non-finite values (stat_bin).

## Warning: Removed 19 rows containing non-finite values (stat_density).

## Warning in (function (data, mapping, alignPercent = 0.6, method =
## "pearson", : Removed 41 rows containing missing values

## Warning in (function (data, mapping, alignPercent = 0.6, method =
## "pearson", : Removed 40 rows containing missing values

## Warning in (function (data, mapping, alignPercent = 0.6, method =
## "pearson", : Removed 25 rows containing missing values

## Warning in (function (data, mapping, alignPercent = 0.6, method =
## "pearson", : Removed 31 rows containing missing values

## Warning in (function (data, mapping, alignPercent = 0.6, method =
## "pearson", : Removed 31 rows containing missing values
```

```
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.

## Warning: Removed 28 rows containing non-finite values (stat_bin).

## Warning: Removed 41 rows containing missing values (geom_point).

## Warning: Removed 28 rows containing non-finite values (stat_density).

## Warning in (function (data, mapping, alignPercent = 0.6, method =
## "pearson", : Removed 48 rows containing missing values

## Warning in (function (data, mapping, alignPercent = 0.6, method =
## "pearson", : Removed 36 rows containing missing values

## Warning in (function (data, mapping, alignPercent = 0.6, method =
## "pearson", : Removed 40 rows containing missing values

## Warning in (function (data, mapping, alignPercent = 0.6, method =
## "pearson", : Removed 39 rows containing missing values

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.

## Warning: Removed 29 rows containing non-finite values (stat_bin).

## Warning: Removed 40 rows containing missing values (geom_point).

## Warning: Removed 48 rows containing missing values (geom_point).

## Warning: Removed 29 rows containing non-finite values (stat_density).

## Warning in (function (data, mapping, alignPercent = 0.6, method =
## "pearson", : Removed 34 rows containing missing values

## Warning in (function (data, mapping, alignPercent = 0.6, method =
## "pearson", : Removed 41 rows containing missing values

## Warning in (function (data, mapping, alignPercent = 0.6, method =
## "pearson", : Removed 38 rows containing missing values

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.

## Warning: Removed 14 rows containing non-finite values (stat_bin).

## Warning: Removed 25 rows containing missing values (geom_point).

## Warning: Removed 36 rows containing missing values (geom_point).

## Warning: Removed 34 rows containing missing values (geom_point).

## Warning: Removed 14 rows containing non-finite values (stat_density).

## Warning in (function (data, mapping, alignPercent = 0.6, method =
## "pearson", : Removed 25 rows containing missing values

## Warning in (function (data, mapping, alignPercent = 0.6, method =
## "pearson", : Removed 25 rows containing missing values

## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.

## Warning: Removed 17 rows containing non-finite values (stat_bin).

## Warning: Removed 31 rows containing missing values (geom_point).

## Warning: Removed 40 rows containing missing values (geom_point).

## Warning: Removed 41 rows containing missing values (geom_point).

## Warning: Removed 25 rows containing missing values (geom_point).
```

```
## Warning: Removed 17 rows containing non-finite values (stat_density).
## Warning in (function (data, mapping, alignPercent = 0.6, method =
## "pearson", : Removed 30 rows containing missing values
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
## Warning: Removed 19 rows containing non-finite values (stat_bin).
## Warning: Removed 31 rows containing missing values (geom_point).
## Warning: Removed 39 rows containing missing values (geom_point).
## Warning: Removed 38 rows containing missing values (geom_point).
## Warning: Removed 25 rows containing missing values (geom_point).
## Warning: Removed 30 rows containing missing values (geom_point).
## Warning: Removed 19 rows containing non-finite values (stat_density).
```





Results of fitting the issue variable models:

```
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
## parametric, : pseudoinverse used at 2
```

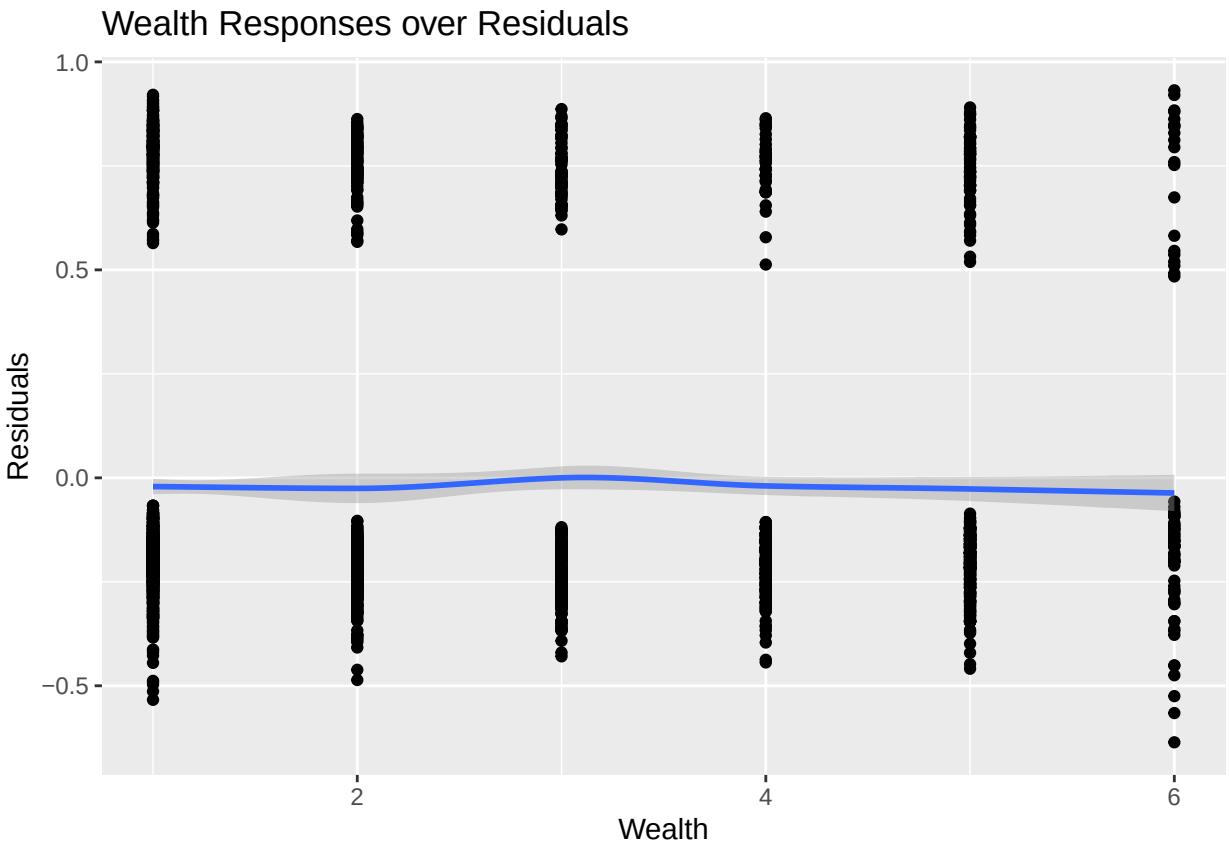
```
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
## parametric, : neighborhood radius 1
```

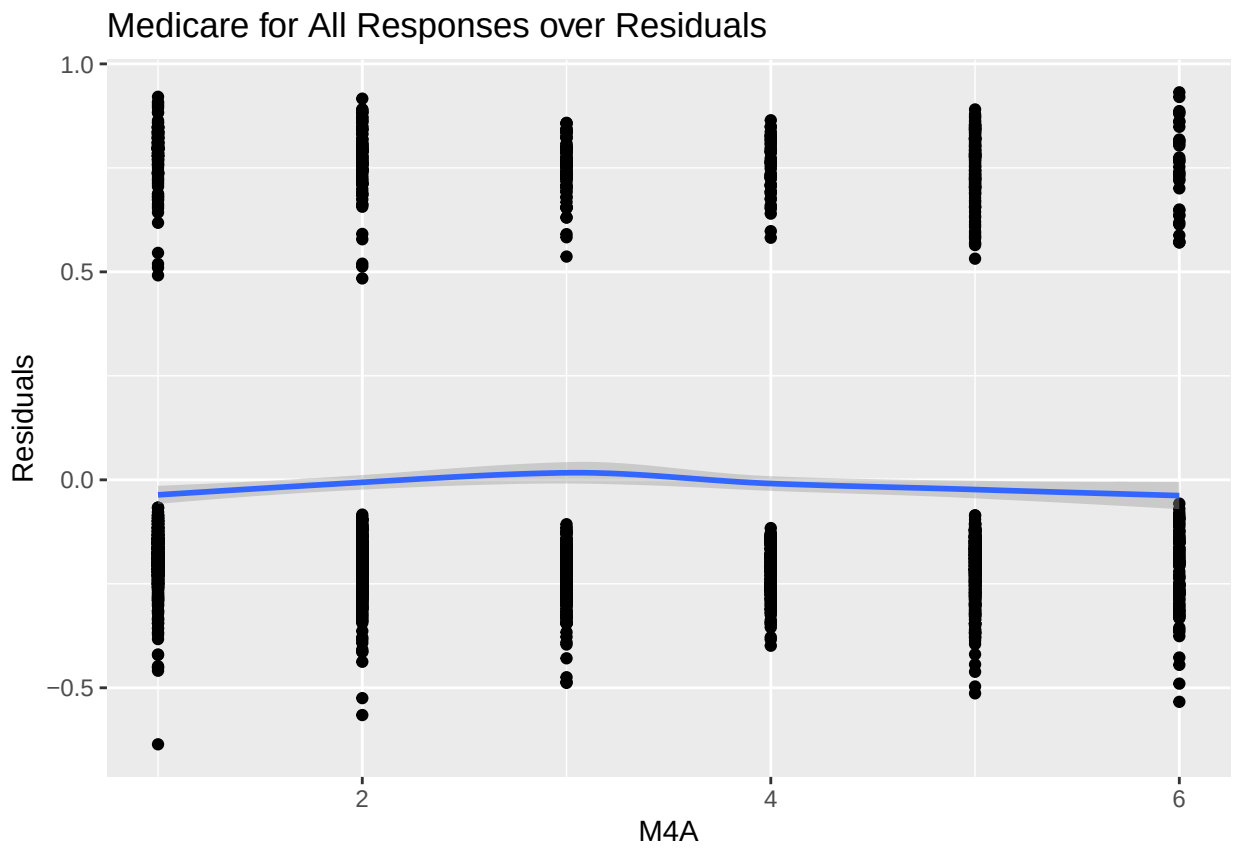
```
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
## parametric, : reciprocal condition number -0
```

```
## Warning in predLoess(object$y, object$x, newx = if
## (is.null(newdata)) object$x else if (is.data.frame(newdata))
## as.matrix(model.frame(delete.response(terms(object)), : pseudoinverse used
## at 2
```

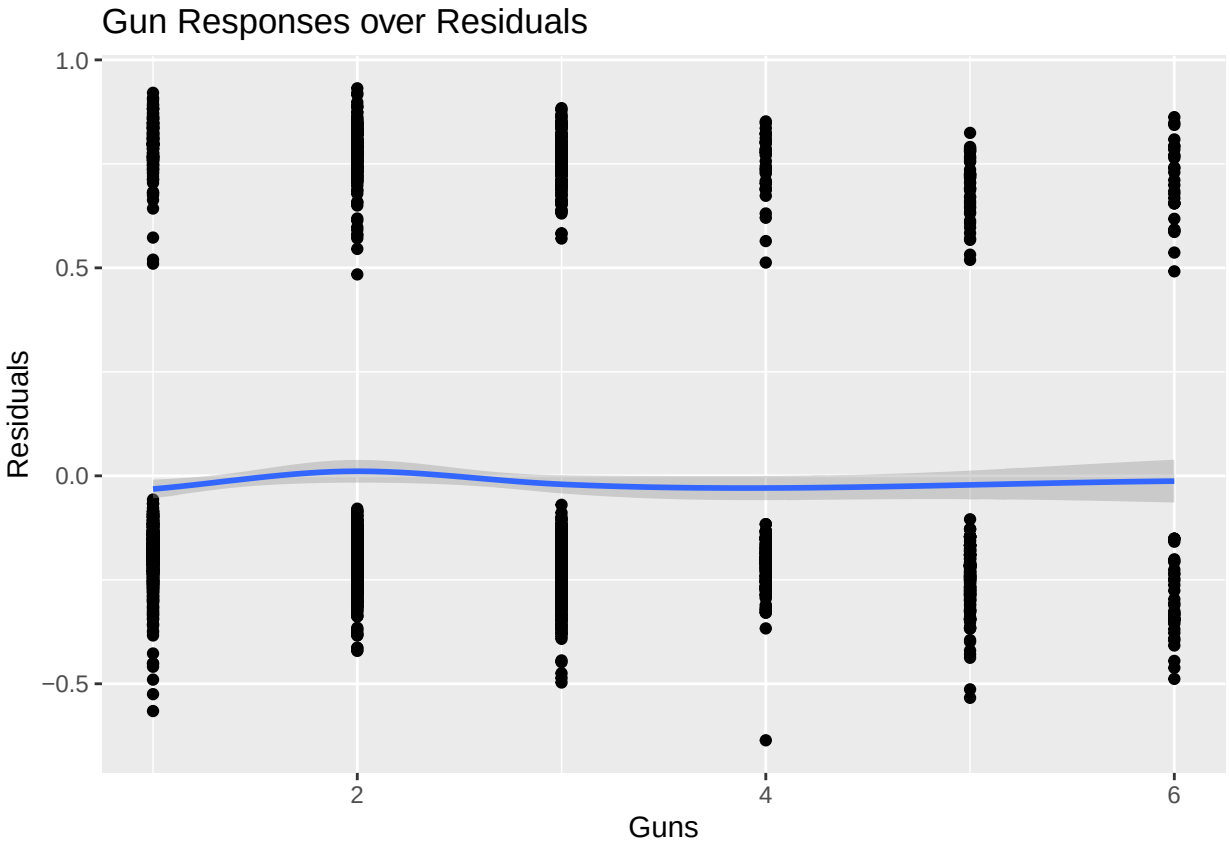
```
## Warning in predLoess(object$y, object$x, newx = if
## (is.null(newdata)) object$x else if (is.data.frame(newdata))
## as.matrix(model.frame(delete.response(terms(object)), : neighborhood radius
## 1
```

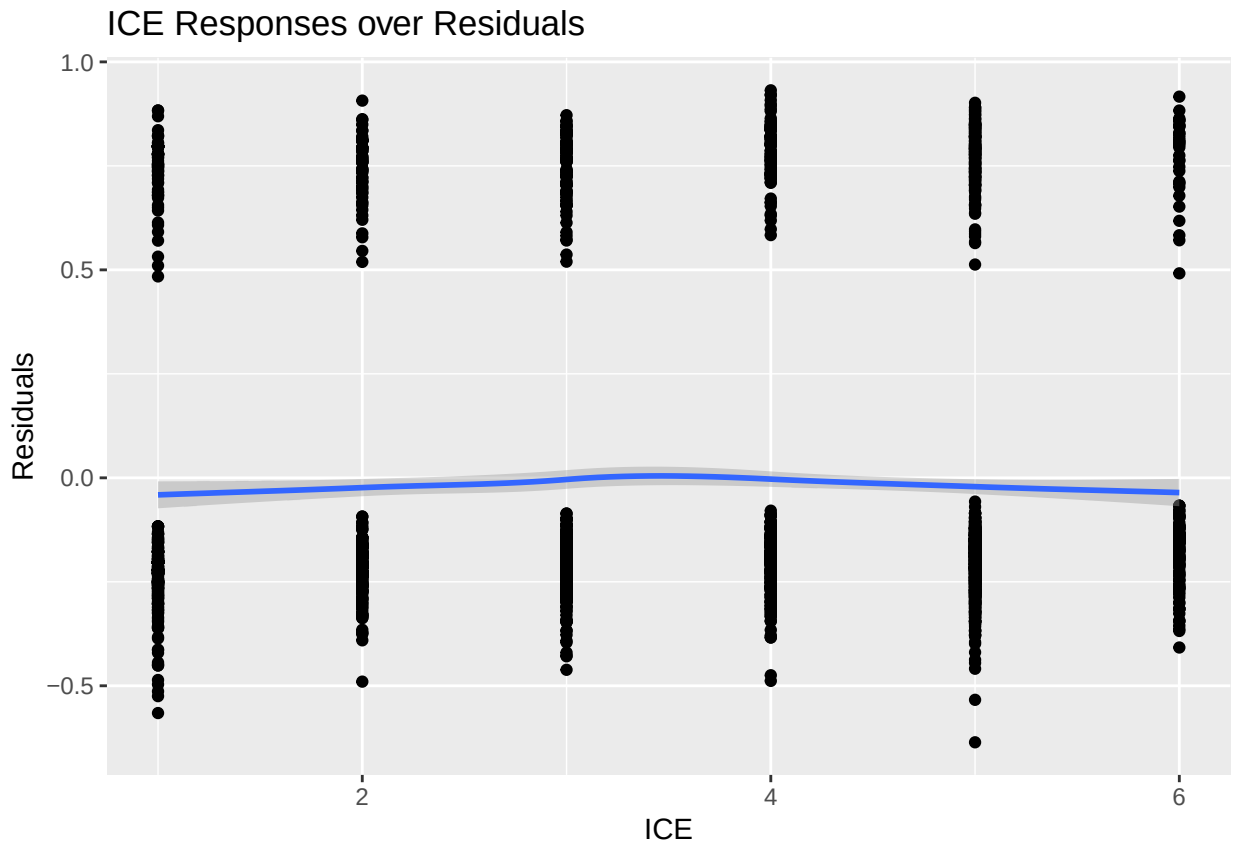
```
## Warning in predLoess(object$y, object$x, newx = if
## (is.null(newdata)) object$x else if (is.data.frame(newdata))
## as.matrix(model.frame(delete.response(terms(object)), : reciprocal
## condition number -0
```


Wealth Responses over Residuals
1.0
0.5
0.0
−0.5
Residuals
2
4
6
Wealth

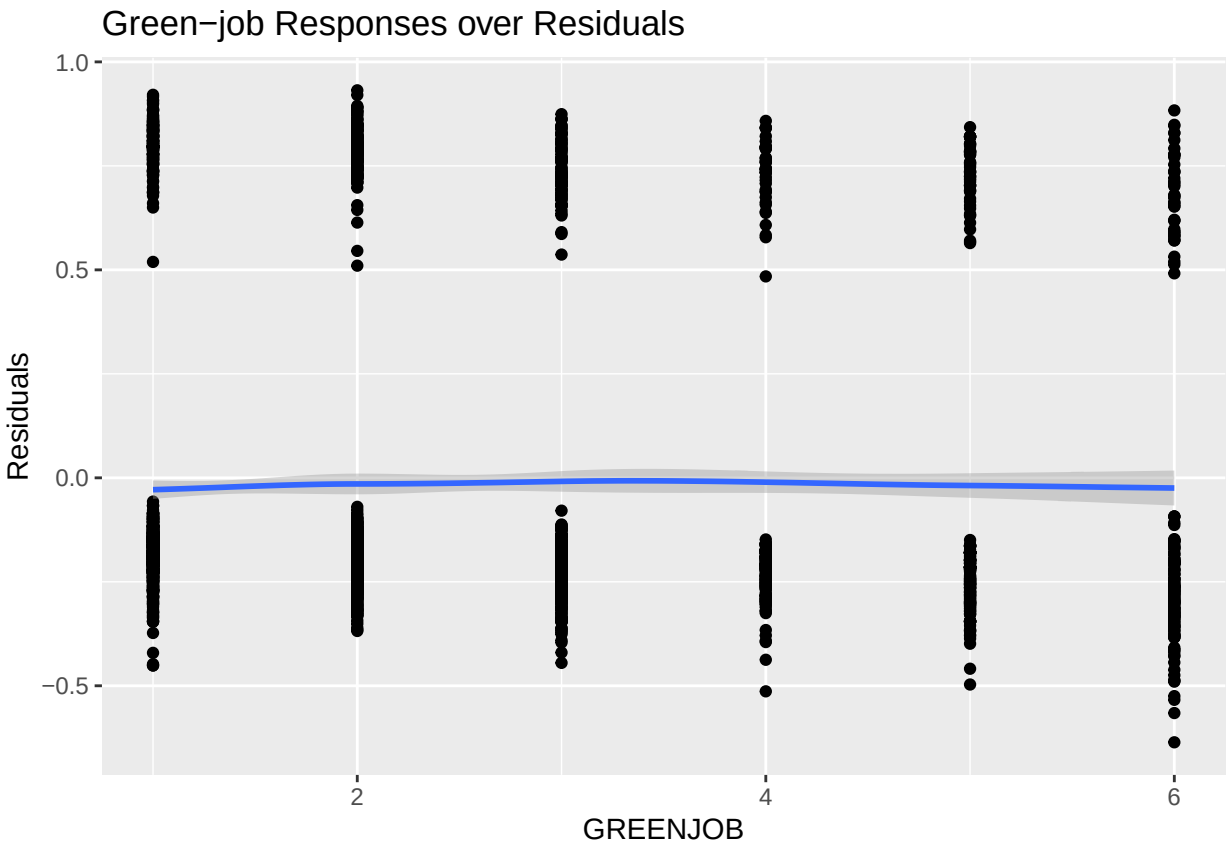


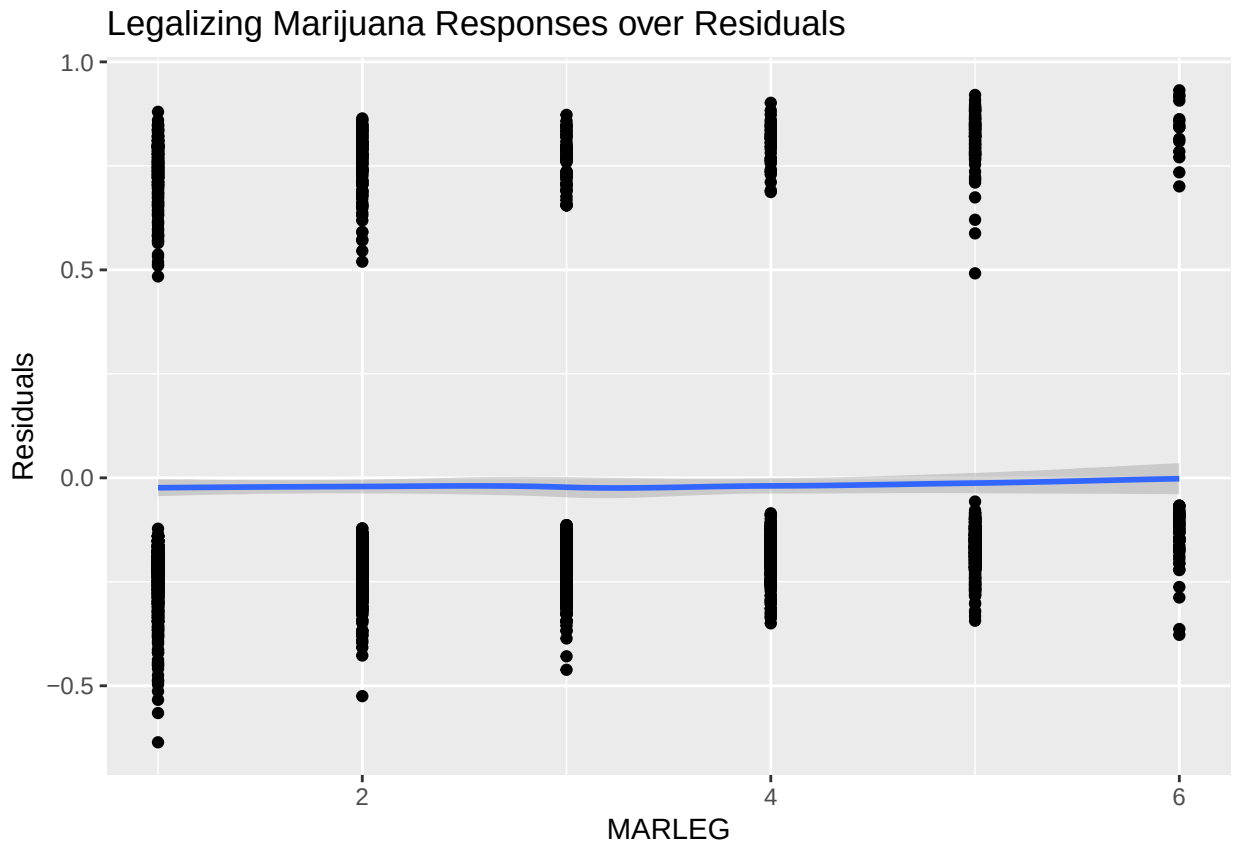

```
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
## parametric, : pseudoinverse used at 2

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
## parametric, : neighborhood radius 1

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
## parametric, : reciprocal condition number -0

## Warning in predLoess(object$y, object$x, newx = if
## (is.null(newdata)) object$x else if (is.data.frame(newdata))
## as.matrix(model.frame(delete.response(terms(object)), : pseudoinverse used
## at 2

## Warning in predLoess(object$y, object$x, newx = if
## (is.null(newdata)) object$x else if (is.data.frame(newdata))
## as.matrix(model.frame(delete.response(terms(object)), : neighborhood radius
## 1

## Warning in predLoess(object$y, object$x, newx = if
## (is.null(newdata)) object$x else if (is.data.frame(newdata))
## as.matrix(model.frame(delete.response(terms(object)), : reciprocal
## condition number -0
```


Gun Responses over Residuals
1.0
0.5
0.0
−0.5
Residuals
2
4
6
Guns



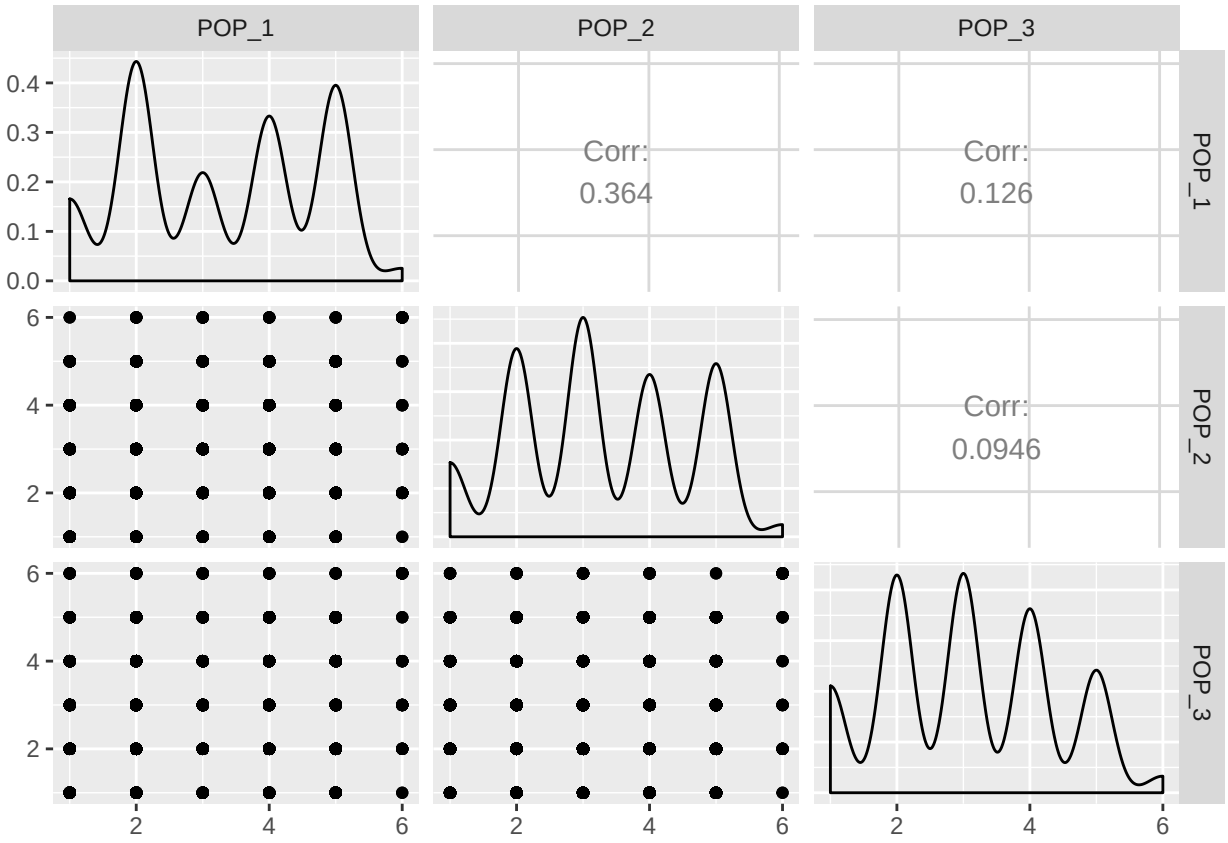

```
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
## parametric, : pseudoinverse used at 2

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
## parametric, : neighborhood radius 1

## Warning in simpleLoess(y, x, w, span, degree = degree, parametric =
## parametric, : reciprocal condition number 0

## Warning in predLoess(object$y, object$x, newx = if
## (is.null(newdata)) object$x else if (is.data.frame(newdata))
## as.matrix(model.frame(delete.response(terms(object)), : pseudoinverse used
## at 2

## Warning in predLoess(object$y, object$x, newx = if
## (is.null(newdata)) object$x else if (is.data.frame(newdata))
## as.matrix(model.frame(delete.response(terms(object)), : neighborhood radius
## 1

## Warning in predLoess(object$y, object$x, newx = if
## (is.null(newdata)) object$x else if (is.data.frame(newdata))
## as.matrix(model.frame(delete.response(terms(object)), : reciprocal
## condition number 0
```

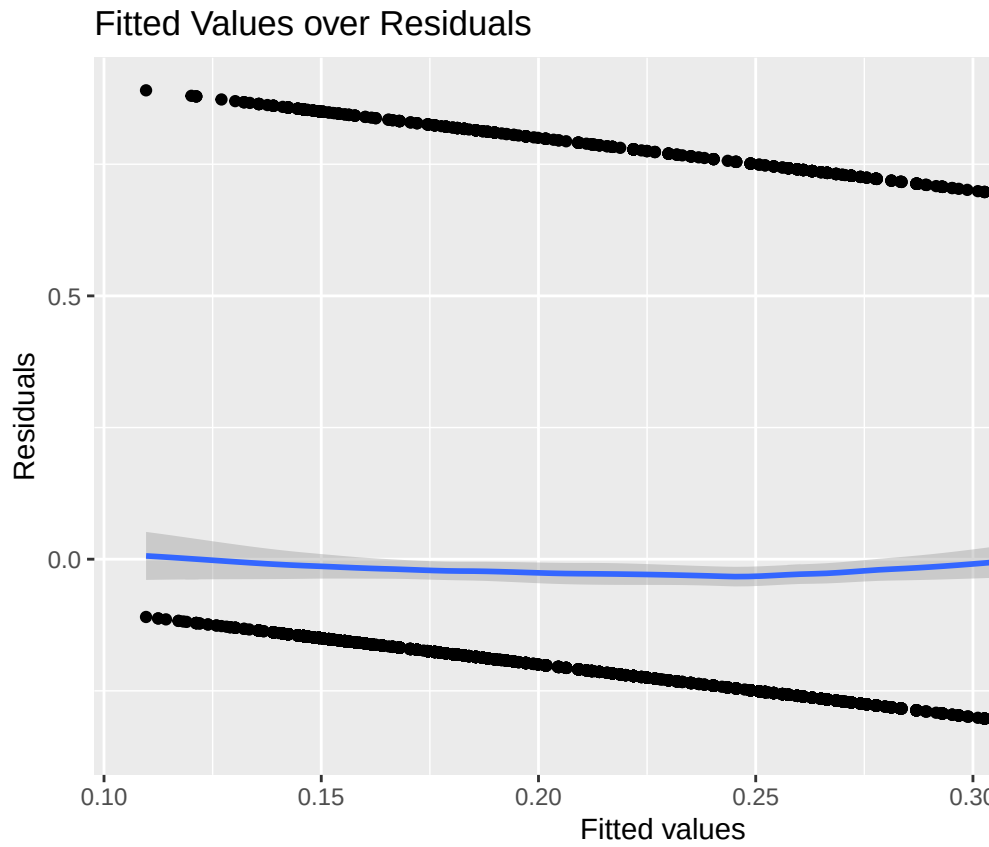

Green−job Responses over Residuals
1.0
0.5
0.0
−0.5
Residuals
2
4
6
GREENJOB



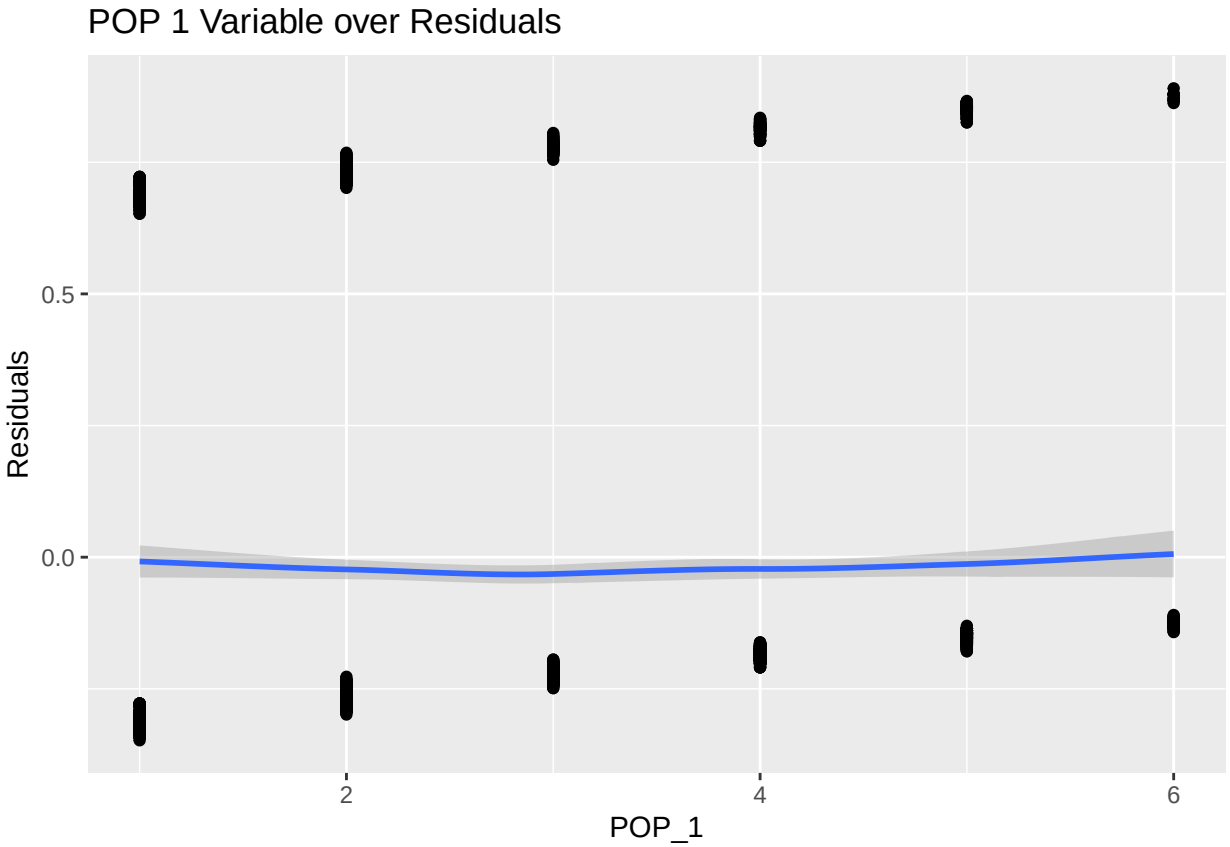
GGPairs for populism variables:

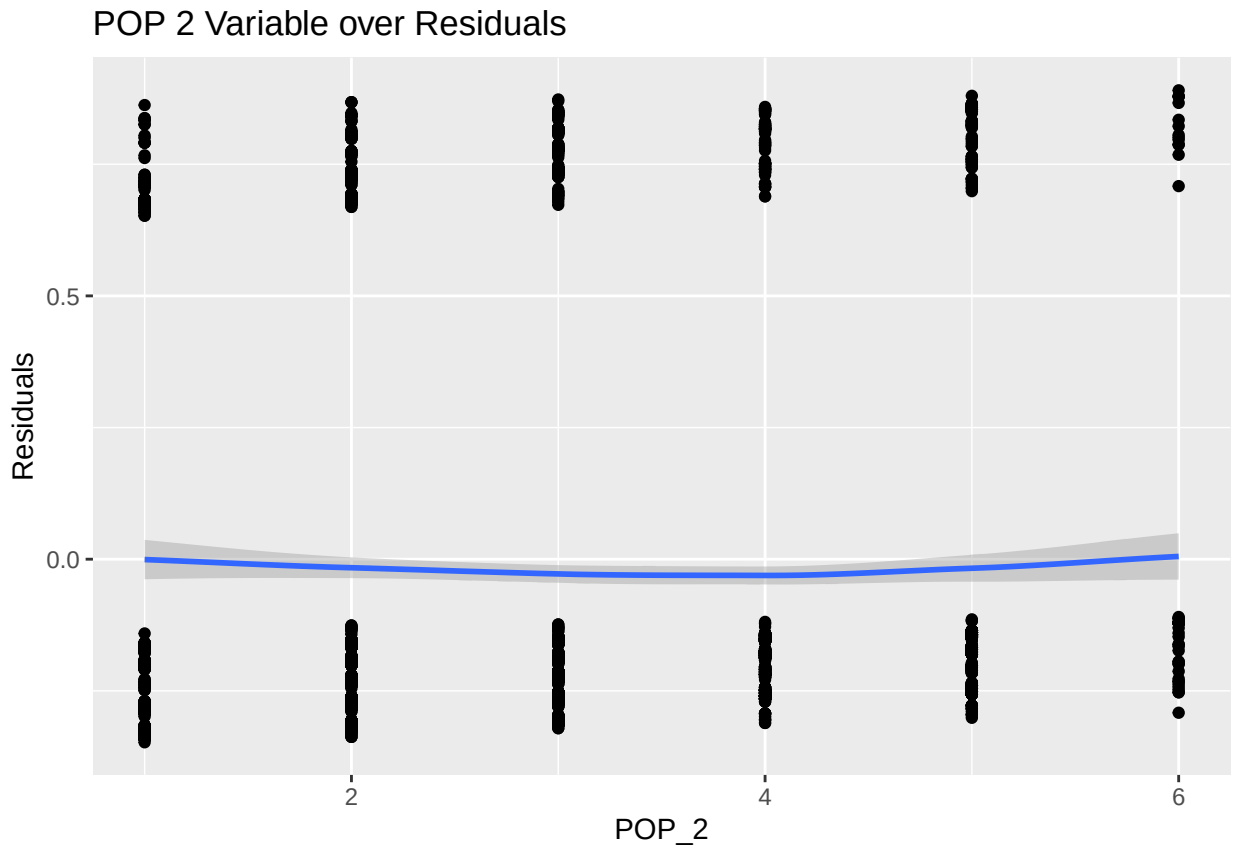
```
## Warning: Removed 21 rows containing non-finite values (stat_density).
## Warning in (function (data, mapping, alignPercent = 0.6, method =
## "pearson", : Removed 26 rows containing missing values
## Warning in (function (data, mapping, alignPercent = 0.6, method =
## "pearson", : Removed 37 rows containing missing values
## Warning: Removed 26 rows containing missing values (geom_point).
## Warning: Removed 13 rows containing non-finite values (stat_density).
## Warning in (function (data, mapping, alignPercent = 0.6, method =
## "pearson", : Removed 28 rows containing missing values
## Warning: Removed 37 rows containing missing values (geom_point).
## Warning: Removed 28 rows containing missing values (geom_point).
## Warning: Removed 22 rows containing non-finite values (stat_density).
```

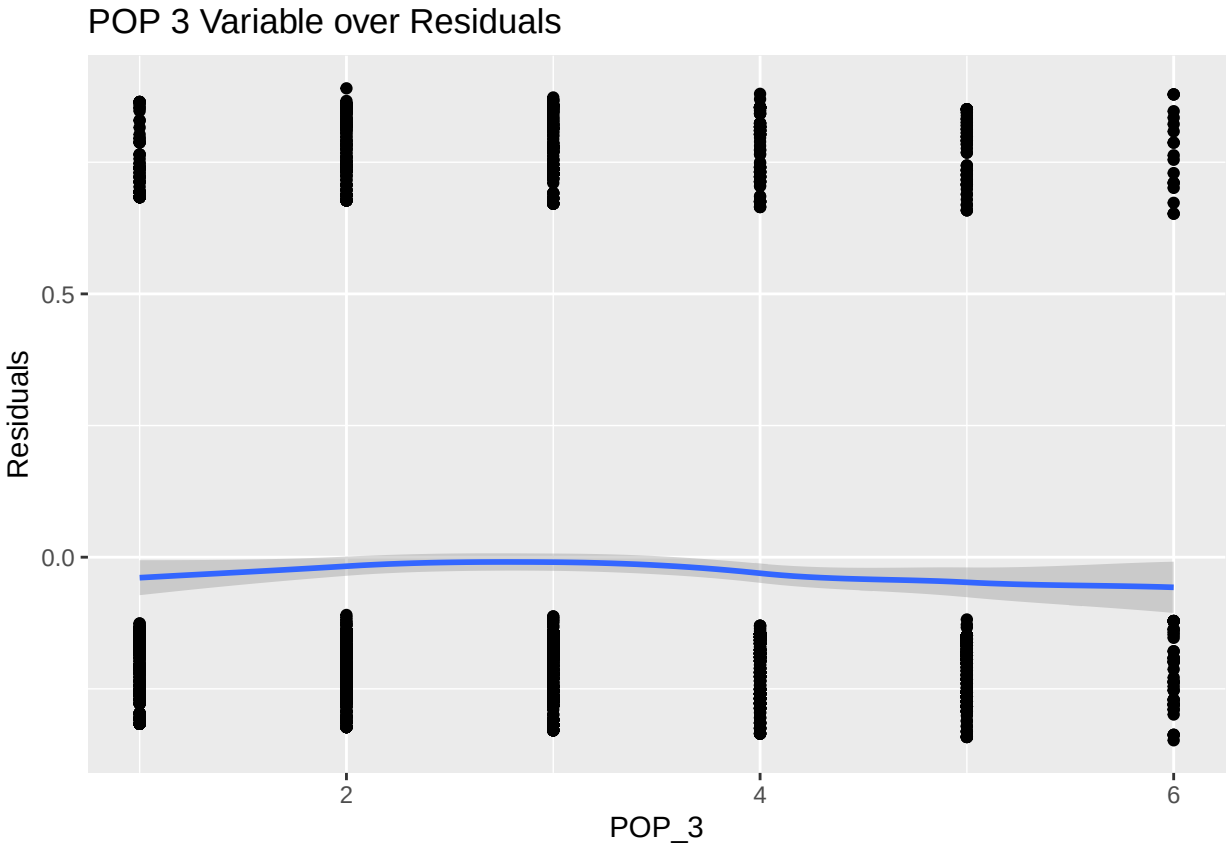

POP_1
POP_2
POP_3
Corr:
0.364
Corr:
0.126
Corr:
0.0946
POP_1
POP_2
POP_3
0.4
0.3
0.2
0.1
0.0
6
4
2
2
4
6



Results from fitting populism variables:


POP 1 Variable over Residuals
Residuals
0.5
0.0
2
4
6
POP_1


POP 2 Variable over Residuals
Residuals
0.5
0.0
2
4
6
POP_2


POP 3 Variable over Residuals
Residuals
0.5
0.0
2
4
6
POP_3