Unemployment vs Crime

Unemploymebt vs crime

```
Call:
lm(formula = com_dat$ViolentCrimesPerPop ~ com_dat$PctUnemployed)

Residuals:
     Min       1Q   Median       3Q      Max
-0.53782 -0.12039 -0.04390  0.06705  0.79313

Coefficients:
                      Estimate Std. Error t value Pr(>|t|)
(Intercept)           0.026736   0.009275   2.883  0.00398 **
com_dat$PctUnemployed 0.581087   0.022298  26.060  < 2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.2012 on 1992 degrees of freedom
Multiple R-squared:  0.2543,    Adjusted R-squared:  0.2539
F-statistic: 679.1 on 1 and 1992 DF,  p-value: < 2.2e-16
```

Unemployment vs Crime

```
Analysis of Variance Table

Response: com_dat$ViolentCrimesPerPop
                         Df Sum Sq Mean Sq F value    Pr(>F)
com_dat$PctUnemployed     1 27.506 27.5060  679.15 < 2.2e-16 ***
Residuals              1992 80.678  0.0405
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

exp(unemployment) vs crime

- Having Issues check with Dr. Perry

exp(unemployment) vs crime

exp(unemployment) vs crime

PerCapInc vs Crime

PerCapInc vs Crime

```
Call:
lm(formula = com_dat$ViolentCrimesPerPop ~ com_dat$perCapInc)

Residuals:
     Min       1Q   Median       3Q      Max
-0.34686 -0.14807 -0.05644  0.08039  0.89498

Coefficients:
                   Estimate Std. Error t value Pr(>|t|)
(Intercept)         0.38832    0.01020   38.07   <2e-16 ***
com_dat$perCapInc  -0.42923    0.02557  -16.79   <2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.2181 on 1992 degrees of freedom
Multiple R-squared:  0.124,      Adjusted R-squared:  0.1235
F-statistic: 281.9 on 1 and 1992 DF,  p-value: < 2.2e-16
```

PerCapInc vs Crime

```
Analysis of Variance Table

Response: com_dat$ViolentCrimesPerPop
                    Df Sum Sq Mean Sq F value    Pr(>F)
com_dat$perCapInc    1 13.411 13.4109  281.88 < 2.2e-16 ***
Residuals         1992 94.773  0.0476
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Exp(perCapInc) vs Crime

exp(perCapInc) vs Crime

```
Call:
lm(formula = com_dat$ViolentCrimesPerPop ~ d_exp_perCapInc)

Residuals:
     Min      1Q   Median       3Q      Max
-0.31317 -0.15347 -0.06236  0.08680  0.89680

Coefficients:
                 Estimate Std. Error t value Pr(>|t|)
(Intercept)       0.58540    0.02293   25.53   <2e-16 ***
d_exp_perCapInc  -0.23993    0.01547  -15.51   <2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.2201 on 1992 degrees of freedom
Multiple R-squared:  0.1078,    Adjusted R-squared:  0.1073
F-statistic: 240.7 on 1 and 1992 DF,  p-value: < 2.2e-16
```

exp(perCapInc) vs Crime

```
Analysis of Variance Table

Response: com_dat$ViolentCrimesPerPop
                Df Sum Sq Mean Sq F value    Pr(>F)
d_exp_perCapInc   1 11.661 11.6614  240.66 < 2.2e-16 ***
Residuals      1992 96.523  0.0485
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

perCapInc vs exp(Crimes)

perCapInc vs exp(Crimes)

```
Call:
lm(formula = exp_crimes ~ com_dat$perCapInc)

Residuals:
     Min       1Q   Median       3Q      Max
-0.04663 -0.03485 -0.00883  0.01844  0.19704

Coefficients:
                   Estimate Std. Error t value Pr(>|t|)
(Intercept)        0.869462   0.002090   415.9   <2e-16 ***
com_dat$perCapInc  1.651776   0.005239   315.3   <2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.0447 on 1992 degrees of freedom
Multiple R-squared:  0.9804,    Adjusted R-squared:  0.9803
F-statistic: 9.939e+04 on 1 and 1992 DF,  p-value: < 2.2e-16
```

perCapInc vs exp(Crimes)

```
Analysis of Variance Table

Response: exp_crimes
                   Df Sum Sq Mean Sq F value    Pr(>F)
com_dat$perCapInc   1 198.60 198.596   99393 < 2.2e-16 ***
Residuals        1992   3.98   0.002
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

MedRent vs Crime

MedRent vs Crime

```
Call:
lm(formula = com_dat$ViolentCrimesPerPop ~ com_dat$MedRent)

Residuals:
     Min       1Q   Median       3Q      Max
-0.31500 -0.15376 -0.06669  0.08148  0.80285

Coefficients:
                 Estimate Std. Error t value Pr(>|t|)
(Intercept)       0.33856    0.01043   32.45   <2e-16 ***
com_dat$MedRent  -0.26187    0.02375  -11.03   <2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.2262 on 1992 degrees of freedom
Multiple R-squared:  0.05753,    Adjusted R-squared:  0.05706
F-statistic: 121.6 on 1 and 1992 DF,  p-value: < 2.2e-16
```

MedRent vs Crime

```
Analysis of Variance Table

Response: com_dat$ViolentCrimesPerPop
                  Df  Sum Sq Mean Sq F value    Pr(>F)
com_dat$MedRent    1   6.224  6.2243  121.61 < 2.2e-16 ***
Residuals       1992 101.960  0.0512
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

White perCap vs Crime

White perCap vs Crime

```
Call:
lm(formula = com_dat$ViolentCrimesPerPop ~ com_dat$whitePerCap)

Residuals:
    Min       1Q   Median       3Q      Max
-0.30360 -0.15617 -0.07159  0.08317  0.92174

Coefficients:
                     Estimate Std. Error t value Pr(>|t|)
(Intercept)           0.33404    0.01128  29.619   <2e-16 ***
com_dat$whitePerCap  -0.26101    0.02733  -9.552   <2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.2279 on 1992 degrees of freedom
Multiple R-squared:  0.04379,	Adjusted R-squared:  0.04331
F-statistic: 91.23 on 1 and 1992 DF,  p-value: < 2.2e-16
```

White perCap vs Crime

```
Analysis of Variance Table

Response: com_dat$ViolentCrimesPerPop
                      Df   Sum Sq Mean Sq F value    Pr(>F)
com_dat$whitePerCap    1    4.738  4.7379  91.235 < 2.2e-16 ***
Residuals           1992 103.446  0.0519
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

White Police vs Crime

*NEED TO GET CHECKED refer to summary table for issues

White Police vs Crime

```
Call:
lm(formula = com_dat$ViolentCrimesPerPop ~ com_dat$PctPolicWhite)

Residuals:
     Min       1Q   Median       3Q      Max
-0.52500 -0.13928 -0.05928  0.07625  0.80072

Coefficients:
                           Estimate Std. Error t value Pr(>|t|)
(Intercept)                0.199278   0.005056  39.413  < 2e-16 ***
com_dat$PctPolicWhite0     0.450722   0.073335   6.146 9.64e-10 ***
com_dat$PctPolicWhite0.06  0.670722   0.206992   3.240 0.001214 **
com_dat$PctPolicWhite0.1   0.800722   0.206992   3.868 0.000113 ***
com_dat$PctPolicWhite0.16  0.170722   0.206992   0.825 0.409601
com_dat$PctPolicWhite0.21  0.150722   0.206992   0.728 0.466607
com_dat$PctPolicWhite0.23  0.330722   0.206992   1.598 0.110262
com_dat$PctPolicWhite0.27  0.130722   0.206992   0.632 0.527767
com_dat$PctPolicWhite0.28  0.800722   0.206992   3.868 0.000113 ***
com_dat$PctPolicWhite0.29  0.800722   0.146409   5.469 5.12e-08 ***
com_dat$PctPolicWhite0.3   0.265722   0.146409   1.815 0.069691 .
com_dat$PctPolicWhite0.32  0.325722   0.146409   2.225 0.026215 *
com_dat$PctPolicWhite0.33  0.360722   0.206992   1.743 0.081549 .
com_dat$PctPolicWhite0.35  0.800722   0.206992   3.868 0.000113 ***
com_dat$PctPolicWhite0.36  0.550722   0.146409   3.762 0.000174 ***
com_dat$PctPolicWhite0.37  0.565722   0.146409   3.864 0.000115 ***
com_dat$PctPolicWhite0.4   0.430722   0.146409   2.942 0.003301 **
com_dat$PctPolicWhite0.41  0.205722   0.146409   1.405 0.160148
com_dat$PctPolicWhite0.43  0.800722   0.206992   3.868 0.000113 ***
com_dat$PctPolicWhite0.44  0.660722   0.206992   3.192 0.001436 **
com_dat$PctPolicWhite0.46  0.288222   0.103589   2.782 0.005449 **
com_dat$PctPolicWhite0.47  0.330722   0.206992   1.598 0.110262
com_dat$PctPolicWhite0.48  0.370722   0.146409   2.532 0.011417 *
com_dat$PctPolicWhite0.49  0.260722   0.146409   1.781 0.075107 .
com_dat$PctPolicWhite0.5   0.025722   0.146409   0.176 0.860557
com_dat$PctPolicWhite0.51  0.134056   0.119578   1.121 0.262398
com_dat$PctPolicWhite0.52  0.588722   0.092680   6.352 2.64e-10 ***
com_dat$PctPolicWhite0.53  0.257389   0.119578   2.152 0.031484 *
com_dat$PctPolicWhite0.54  0.500722   0.146409   3.420 0.000639 ***
com_dat$PctPolicWhite0.55  0.555722   0.146409   3.796 0.000152 ***
com_dat$PctPolicWhite0.56  0.440722   0.119578   3.686 0.000234 ***
com_dat$PctPolicWhite0.57  0.365722   0.146409   2.498 0.012575 *
com_dat$PctPolicWhite0.58  0.265722   0.146409   1.815 0.069691 .
com_dat$PctPolicWhite0.59  0.555722   0.103589   5.365 9.09e-08 ***
com_dat$PctPolicWhite0.6   0.220722   0.146409   1.508 0.131829
com_dat$PctPolicWhite0.61  0.228222   0.103589   2.203 0.027702 *
com_dat$PctPolicWhite0.62  0.406722   0.092680   4.388 1.20e-05 ***
com_dat$PctPolicWhite0.63 -0.064278   0.146409  -0.439 0.660691
com_dat$PctPolicWhite0.64  0.400722   0.146409   2.737 0.006257 **
com_dat$PctPolicWhite0.65  0.453222   0.103589   4.375 1.28e-05 ***
com_dat$PctPolicWhite0.66  0.200722   0.103589   1.938 0.052808 .
com_dat$PctPolicWhite0.67  0.300722   0.119578   2.515 0.011989 *
com_dat$PctPolicWhite0.68  0.339056   0.084630   4.006 6.40e-05 ***
com_dat$PctPolicWhite0.69  0.284056   0.069162   4.107 4.17e-05 ***
com_dat$PctPolicWhite0.7   0.419056   0.084630   4.952 8.00e-07 ***
com_dat$PctPolicWhite0.71  0.435722   0.103589   4.206 2.72e-05 ***
com_dat$PctPolicWhite0.72  0.357995   0.062596   5.719 1.24e-08 ***
com_dat$PctPolicWhite0.73  0.382722   0.092680   4.129 3.79e-05 ***
com_dat$PctPolicWhite0.74  0.307389   0.119578   2.571 0.010227 *
com_dat$PctPolicWhite0.75  0.284056   0.084630   3.356 0.000805 ***
com_dat$PctPolicWhite0.76  0.029294   0.078376   0.374 0.708623
com_dat$PctPolicWhite0.77  0.210722   0.103589   2.034 0.042066 *
com_dat$PctPolicWhite0.78  0.412151   0.078376   5.259 1.61e-07 ***
com_dat$PctPolicWhite0.79  0.223722   0.065632   3.409 0.000666 ***
com_dat$PctPolicWhite0.8   0.112722   0.092680   1.216 0.224038
com_dat$PctPolicWhite0.81  0.140722   0.103589   1.358 0.174473
com_dat$PctPolicWhite0.82  0.246972   0.073335   3.368 0.000773 ***
com_dat$PctPolicWhite0.83  0.132389   0.084630   1.564 0.117906
com_dat$PctPolicWhite0.84  0.271972   0.073335   3.709 0.000214 ***
com_dat$PctPolicWhite0.85  0.161833   0.069162   2.340 0.019390 *
com_dat$PctPolicWhite0.86  0.234056   0.119578   1.957 0.050452 .
com_dat$PctPolicWhite0.87  0.195722   0.073335   2.669 0.007675 **
com_dat$PctPolicWhite0.88  0.168500   0.069162   2.436 0.014928 *
com_dat$PctPolicWhite0.89  0.190722   0.069162   2.758 0.005877 **
com_dat$PctPolicWhite0.9   0.058722   0.092680   0.634 0.526415
com_dat$PctPolicWhite0.91  0.199294   0.078376   2.543 0.011075 *
com_dat$PctPolicWhite0.92  0.120722   0.062596   1.929 0.053930 .
com_dat$PctPolicWhite0.93  0.104472   0.073335   1.425 0.154440
com_dat$PctPolicWhite0.94  0.110722   0.078376   1.413 0.157902
com_dat$PctPolicWhite0.95 -0.034278   0.146409  -0.234 0.814915
com_dat$PctPolicWhite0.96  0.079056   0.084630   0.934 0.350353
com_dat$PctPolicWhite0.97 -0.024732   0.062596  -0.395 0.692809
com_dat$PctPolicWhite0.98 -0.060706   0.078376  -0.775 0.438698
com_dat$PctPolicWhite0.99 -0.041778   0.073335  -0.570 0.568963
com_dat$PctPolicWhite1    -0.086778   0.103589  -0.838 0.402296
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.2069 on 1919 degrees of freedom
Multiple R-squared:  0.2404,    Adjusted R-squared:  0.2112
F-statistic: 8.209 on 74 and 1919 DF,  p-value: < 2.2e-16
```

White Police vs Crime

```
Analysis of Variance Table

Response: com_dat$ViolentCrimesPerPop
                     Df Sum Sq Mean Sq F value    Pr(>F)
com_dat$PctPolicWhite  74 26.012 0.35151  8.2091 < 2.2e-16 ***
Residuals            1919 82.172 0.04282
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```