Segregated Choice: The Impact of Public School Closures on a Community
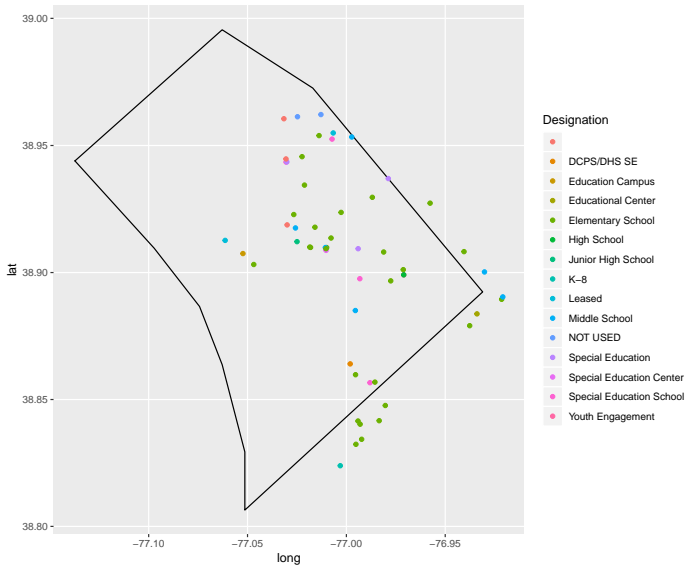
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Introduction: The Premise

- ▶ DCPS has an equity problem
- ▶ More affluent, well off neighborhoods are able to outperform schools in struggling neighborhoods
- ▶ Between 2008-2013: 42 public schools closed, 28 of them elementary schools

Education and Childhood Development

- A child's educational development is interlinked with cultural developments (Raikes 2017)
- Educational structure can inforce positive cultural norms (Nugent 2014)
- WV: Students lost time for studying, extracurriculars, and outside play due to new commutes established after school closures (Lee 2017)
- Negative social implications to moving schools

DC Public School Closures

DC Ward Demographics: A Snapshot

```
## # A tibble: 5 x 8
##    Ward.1 Ward.2 Ward.3 Ward.4 Ward.5 Ward.6 Ward.7 Ward.
## *  <int>  <int>  <int> <fct>  <fct>   <int> <fct>  <fct>
## 1    926    327    108 1,987  2,670    1445 4,269  5,225
## 2    969    364    131 2,201  3,000    1620 4,831  5,253
## 3    720    253     73 1533   2,221    1171 3,448  3,714
## 4   2503    389    164 882    1575      940 2,204  2,578
## 5   5681   1518    476 6,603  9,468    5156 14,752 16,77
```

Impact: Breakdown by Grade

```
## PreSchool      PreK         K    Grade 1    Grade 2    Grad
##      330       497       770       771       790
##   Grade 5   Grade 6   Grade 7   Grade 8   Grade 9   Grade
##      617       496       572       668       435
##   Grade 12  UNGRADED
##      100       491
```
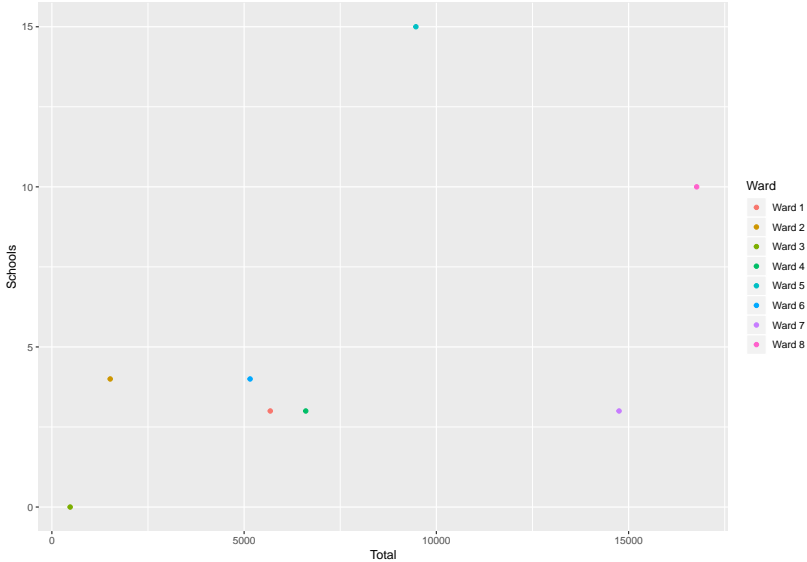
The Question

-Are you more likely to have a public school closed in your
 neighborhood if you are a black child than if you are a white child?

Wards Impacted by School Closures 2008-2013

```
##   Schools   Ward Total
## 1       3 Ward 1  5681
## 2       4 Ward 2  1518
## 3       0 Ward 3   476
## 4       3 Ward 4  6603
## 5      15 Ward 5  9468
## 6       4 Ward 6  5156
## 7       3 Ward 7 14752
## 8      10 Ward 8 16770
```
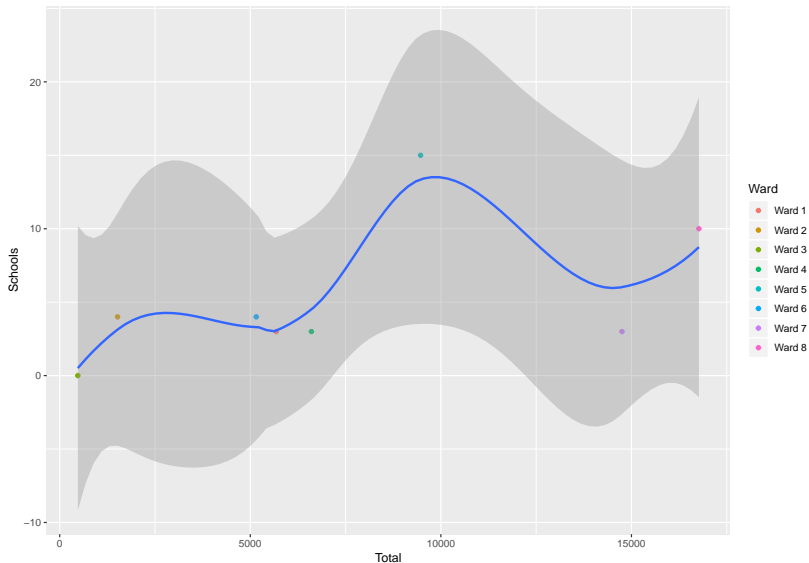
Wards Impacted by School Closures

Wards Impacted by School Closures

```
## `geom_smooth()` using method = 'loess' and formula 'y ~
```

Linear Regression Model

- In this model, population of African Americans between the ages of 5 and 19 will be used as a predictor for the number of schools closing in a Ward.

LRM

```
##
## Call:
## lm(formula = Total ~ Schools, data = Ward_Breakdown)
##
## Residuals:
##    Min    1Q Median    3Q    Max
##  -5268  -3909  -1061   1898   8579
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)   4332.4     2931.0   1.478    0.190
## Schools        613.4      423.1   1.450    0.197
##
## Residual standard error: 5410 on 6 degrees of freedom
## Multiple R-squared:  0.2595, Adjusted R-squared:  0.1361
## F-statistic: 2.103 on 1 and 6 DF,  p-value: 0.1972
```
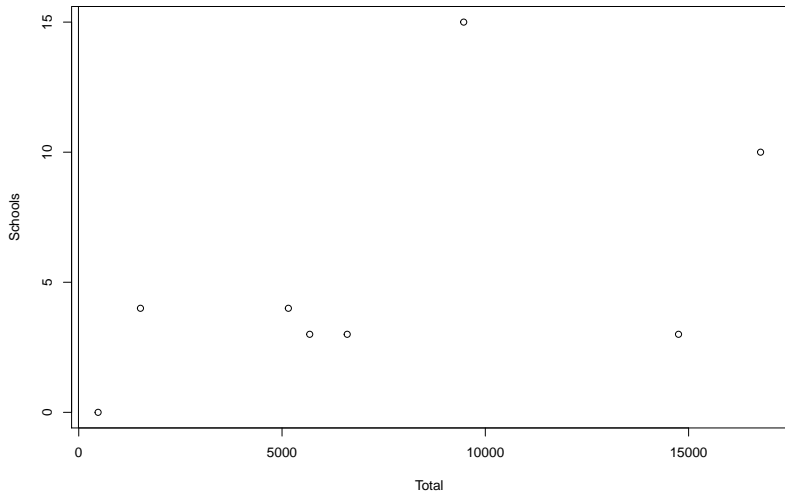
Regression Continued

Policy Options

- Schools close, but the story does not stop there
- The rise of charter schools, particularly in DC could help
- Parent participation in schools is a barrier worth looking into

Confounding Variables

- Neighborhood Diversity within the Wards
- Charter Schools/Non DCPS Presence
- School Size
- School Density in Areas

Limitations of the Study

- Missing Data in School Closures
- No Accompanying Data for Schools Open
- Neighborhood Demographics Precision