



# **Draft: Predictors of Domestic Violence in Washington, D.C.**

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## Goal

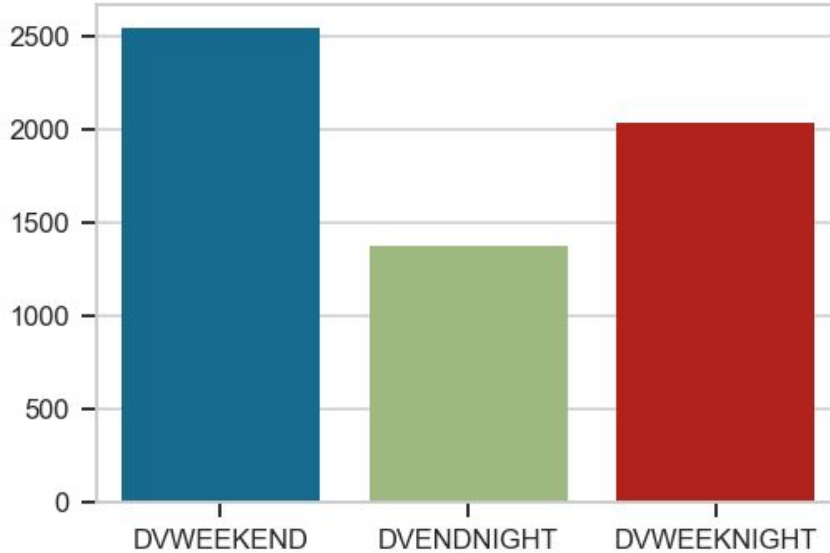
Which factors are most efficient in predicting domestic violence incidents in Washington, D.C.?

## Data Source

Block-level data from D.C. from a study by Caterina Goman of the Urban Institute



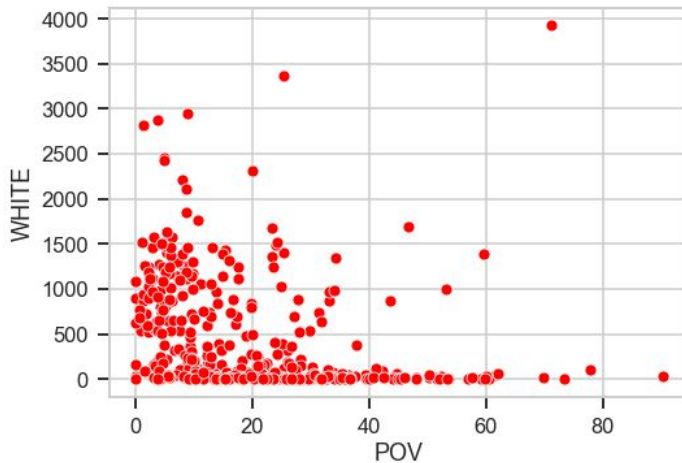
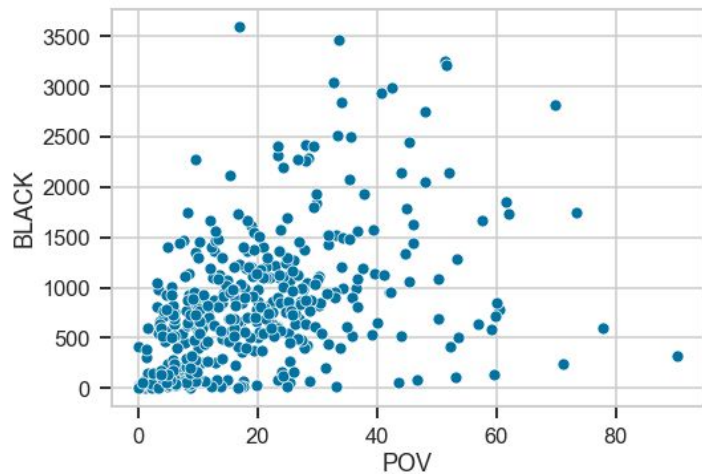
## Data



**Weekends** tend to have more incidents of **domestic violence** than weeknights (Mon - Thurs).



# Data

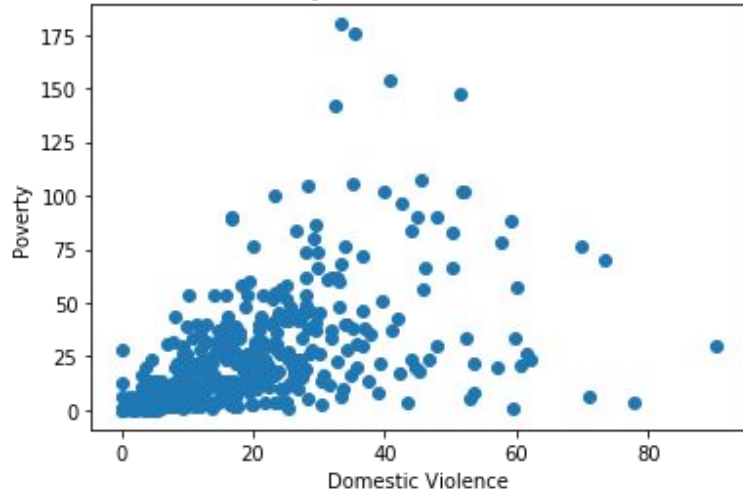


Race interacts  
with **Poverty** in  
D.C.

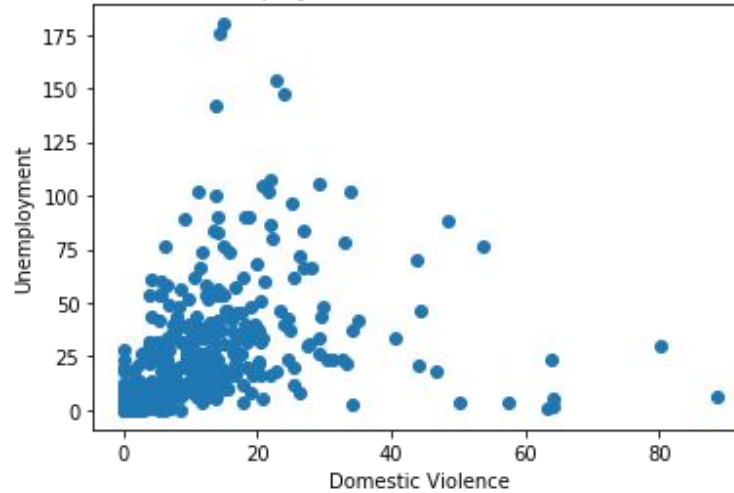


# Data

Poverty and Domestic Violence



Unemployment and Domestic Violence



There seems to be a positive correlation between both **Poverty** & **Unemployment** with **Domestic Violence**



## Findings: Model 1 (Lasso)

- Concentrated disadvantage index (neighborhoods with high percentages of residents of low socioeconomic status)
- Number of metro stops
- Young population (inverse)
- Public housing
- Parcels of land that are vacant
- Average number of physical disorder incidents (e.g. graffiti, abandoned vehicles)



## Findings: Model 2 (RFE)

- Residential stabbings (inverse)
- Average number of physical disorder incidents
- Vacant parcels of land
- Persons living in the same house for over a year
- Young population
- Concentrated disadvantage index
- Public housing



## Findings: Model 3

- Poverty
- Alcohol availability
- Unemployment
- Percentage of population that is female





# Recommendations

- Understand common features.
- Explore complex interactions between variables.
- Conducting individual linear regressions with each variable may be helpful.