Violent Crime Statistics & Correlations

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Why is Violent Crime Important?

Total Violent Crimes for PA in 2019:

```
1    Campbellcrime
2    | summarize Violent_ncrime = sum(Violent_ncrime)
```

Violent_ncrime ≡
> 2,901

Cities are not required to report but over 90% of cities in PA are included

Average Violent Crime per City in PA:

```
1    [PA data"]
2    | summarize sum(Violent_ncrime) / count(City)
```

Column1 ≡
> 22.073260073260073

Does the size of the City have a consistent impact on the occurrence of Violent Crime?

Norristown & Chester Population: 30,000 _____

Erie Population: 95,000

```
1    padata
2    | where City  matches regex "^Norristown.*"
3    | project City, Population, Violent_ncrime
```

City	Population	Violent_ncrime
> Norristown		170

```
1    ["PA data"]
2    | where City matches regex "^Chester.*"
3    | project City, Population, Violent_ncrime
```

City	Population	Violent_ncrime
> Chester		469

```
1    padata
2    | where City  matches regex "^Erie.*"
3    | project City, Population, Violent_ncrime
```

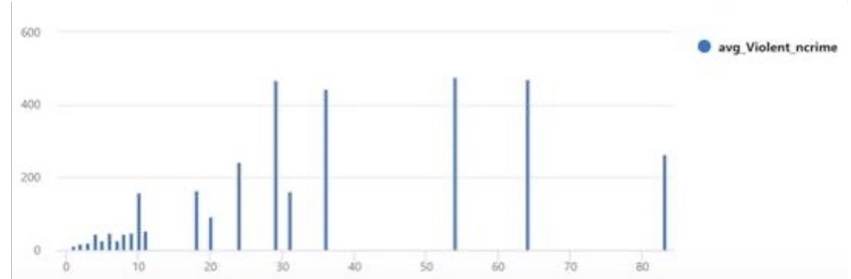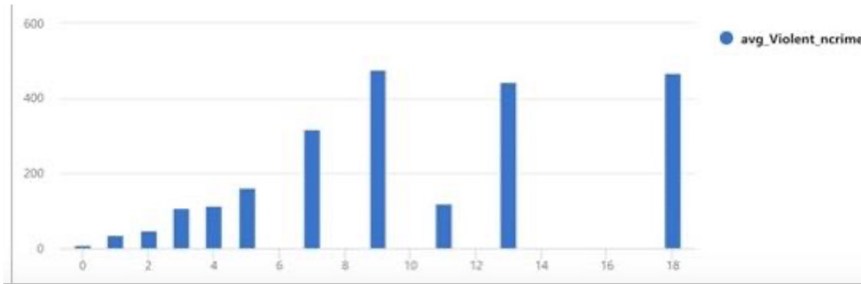| City	Population	Violent_ncrime
> Erie		476

From this we gather population does not have a consistent impact.

Is there correlation between the specific Violent Crimes and others?

Murder and Nonnegligent Manslaughter & Rape are the best predictors of Violent Crime

Rape is the second best predictor but the last column can be slightly misleading when used for prediction

```
1    ["PA data"]
2    | summarize avg(Violent_ncrime) by Rape1
```



```
1    ["PA data"]
2    | summarize avg(Violent_ncrime) by ['Murder and_nnonnegligent_nmanslaughter']
```

Murder and Nonnegligent Manslaughter is a slightly better predictor due to slight level of steadiness and increase towards the end of the x-axis

What is the Significance (Percentage) of the Average of Violent Crimes in Pennsylvania?

Rape

Ratio_AggMur	☰
〉 0.11705732722776946	

Aggravated Assault

Ratio_AggMur	☰
〉 0.6533355459674742	

Robbery

Ratio_AggMur	☰
〉 0.22783191655348348	

Arson

Ratio_AggMur	☰
〉 0.03176533528837723	

All other crimes such Murder and Nonnegligent Manslaughter, Larceny, Motor Vehicle Theft, etc. were less prevalent than Arson

Formula: *("Rape1" was the independent variable)*

```
1    ["PA data"]
2    | summarize Ratio_AggMur = avg(Rape1) / avg(Violent_ncrime)
```