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DA3 Cohort Capstone Project

Executive Summary

Title: Demographics of Police Use of Deadly Force

Nationwide protests over police accountability and racial justice have reenergized longstanding efforts [to fundamentally change](https://www.washingtonpost.com/opinions/2020/06/15/mental-illness-is-health-issue-not-police-issue/)how police departments respond to emergencies. I will examine United States police involved killings and U.S. State Census data from 2000- 2016 to determine if age, mental illness, or racial prejudices may have contributed to the use of lethal force during police arrests.

Motivation:

I am interested in many areas of law enforcement, my brother is chief detective with the Polizei in Regensburg, Germany and my wife is a Federal Special Agent, Office of Inspector General. We have had many discussions with how police are trained, interactions with the public, and how law enforcement has changed, especially over the time she has served. I want to analyze the data to see if any trends or patterns exist, which may indicate prejudicial or preferential treatment of individuals related to fatal shootings.

Data Questions

**I. Risk and Threat** – Are there differences in the percentage of police interactions for different racial or age groups and for individuals with mental health issues? Analysis: Compare the rates of police interactions involving minority groups, age groups and people with mental illness to determine if prejudices may have played a role in the fatality of the interaction.

**II. Age, Race or Mental Illness** - is use of lethal force applied at different rates to ethnic / racial minorities or mentally challenged individuals? Analysis: Examine police events to determine whether lethal force is applied differently by police officers, giving rise to a disproportionate rate of deaths among racial or ethnic minority groups, gender, age groups, or those with mental illnesses.

**III. Police Department Trends** – Are there trends or patterns for certain police departments or geographic areas where interactions with the public involve deadly force? Has there been significant increases or decreases year to year for fatal shootings? Analysis: Examine number of shootings and number of fatal police shootings per state population to determine if any patterns are evident for the involved police agencies and locations.

MVP: Minimal Viable Product

This presentation will include a series of summarized data visualizations to indicate the findings of the data analysis, along with a Power BI dashboard.

By aligning data from the police and US State Census data, this solution will provide the capability to analyze fatal police shooting incidents by location. The addition of police data allows for further insight into the behavior of regional police forces. The dashboard will allow the user to change different parameters to see various analytical statistics for police departments in different geographical areas.

Schedule

1. Get the Data - 11/15/2020

2. Clean & Explore the Data – 11/20/2020

3. Create Presentation and Power BI dashboard - 12/17/2020

4. Internal Demos 12/19/2020

5. Demo Day 1/7/2021

Data Sources

**Police Fatalities**: <https://data.world/awram/us-police-involved-fatalities/workspace/file?filename=z_old_data.csv>

**State Census Information**: <https://data.world/aaronhoffman/census-gov-state-quickfacts/workspace/file?filename=census_state_quickfacts.csv>

Regions data: <https://github.com/cphalpert/census-regions.githttps://github.com/cphalpert/census-regions>If you need to, you can also use email correspondence or conversations between you and your family members or anyone that you interview here as well.

**Personal law enforcement interview** – Jeanna Koivula, Special Agent, Office of Inspector General

Known Issues and Challenges:

**Challenges** – data scrubbing of the source datasets will be necessary. The are numerous rows with wither missing elements or questionable data format.

It will be difficult to determine and include many other circumstances which could affect the outcome of each individual police interaction. Variables such as officer training, household gun ownership per state, and the violent crime rate per locale could also affect the outcome.

The project will use estimates based on an analysis of data collected in a cross-section. Although it will account for age, gender, race, mental illness, geographic location and whether the interaction was with an armed suspect, it is likely that other potential variables are missing.

Significant variables such as the violent crime rates can explain almost half of the variation in police killing rates across states. I will examine only police killings with firearms; while these make up most police homicides, the data results could be slightly different if all other mechanisms of homicides were included.