

Checkpoint 3: Interactive Visualization

The Brave Ducks

Introduction

In this checkpoint, we want to investigate police misconduct allegation categories that include illegal search and use of force. We will implement the D3.js to generate an interactive visualization focusing on misconducts categorized as Illegal-search, and Use-of-force in different demographic areas such as racial and socio-economic status. We want to explore further how socioeconomic statuses coupled with racial demographic plays a role in misconduct allegations.

In this checkpoint, our main intention is to:

- Use Circle Packing to group neighborhoods in different socioeconomic status (i.e. high-income, middle-income and low-income neighborhoods) and use color encodings to show the race composition of police who have committed Use Of Force, and Illegal Search allegations.

Analysis

1. Use of force

We use circle parking to group the category of use of force in each income neighbor (high, middle, and low) and different races (black, white, hispanic, asian, and other) to show the in-depth portion in Use Of Force category.

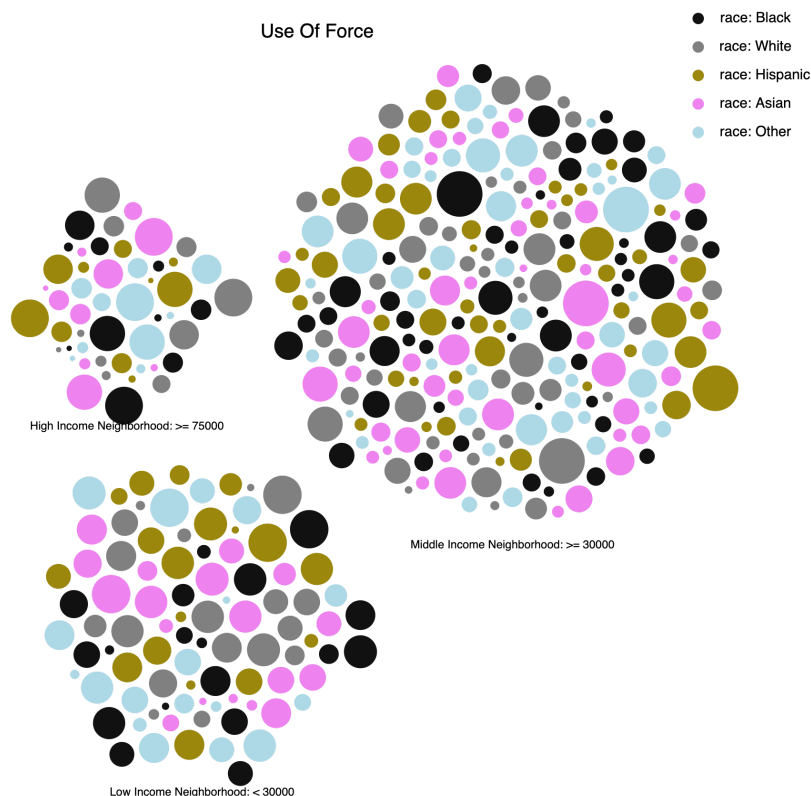


Figure 1: Use of Force Graph

Url: <https://observablehq.com/d/30ad277cb0542590>

2. Illegal search

We use circle packing to group the category of use of force in each income neighbor (high, middle, and low) and different races (black, white, hispanic, asian, and other) to show the in-depth portion in the Illegal Search category.

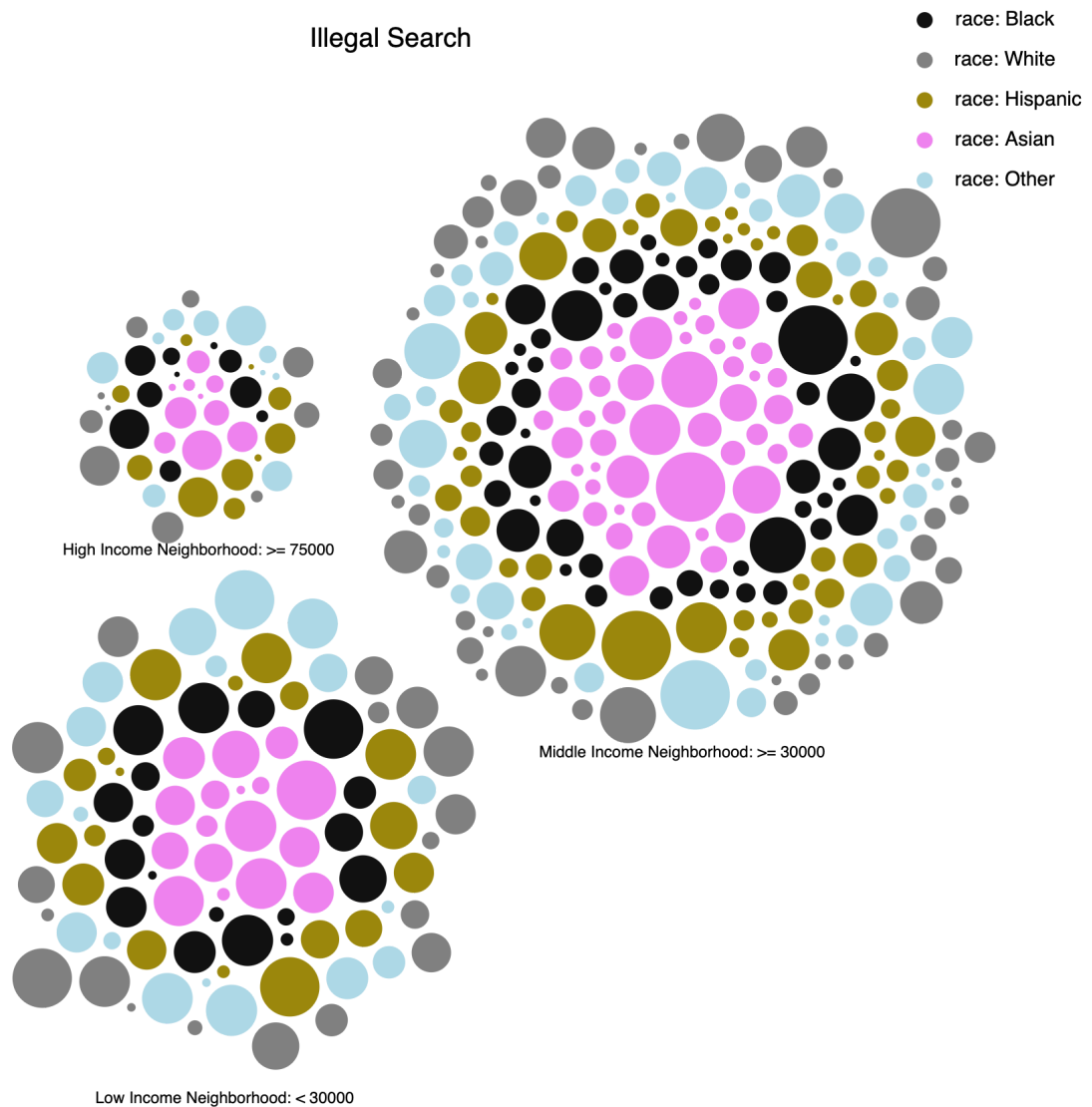


Figure 2: Illegal Search Graph

Url: <https://observablehq.com/d/ac4a094f9b93f569>

Findings (Qualitative)

From the circle packings we have the following key findings:

- In high income neighborhoods, we see fewer clusters of misconduct counts whereas we see more clusters in low income neighborhoods, followed by middle income neighborhoods. In addition, we see that the police have committed more misconducts in middle and low income Black neighborhoods than high income neighborhoods [1].
- For all misconduct categories, we see that the majority of police committing such misconduct is more common among Asian, Hispanic and White populations in high income neighborhoods. In middle income neighborhoods and low income neighborhoods, we see that the racial demographic is more majorly Hispanic, White and Black.
- The difference in all three listed categories between minority groups and the others has an increasing trend as the neighborhood goes from low income to high income.

This fits with our theme to see the effect of police misconduct allegations in different neighborhoods with different socioeconomic status and how police misconducts affect the neighborhoods both social-economically and racially. This finding may not lead to the direct conclusion that the certain race group is treated less as a possibility of facing police misconduct, we also should consider the actual racial demographic distribution in different neighborhoods as a factor [1]. Regarding the change in demographic for high income neighborhoods, we hypothesize the systemic racial demographic plays an important role in shaping our graph. In the future, we could adjust our graph as a per capita graph by normalizing the counts with counts per population.