Analysis of Police Enforcement

Jenny Shen

Police Enforcement is a vital part of crime prevention that is a key component of community mobilization and keeps the peace among the community partnerships. While police enforcement is a safe measurement for ensuring a safe community, racial profiling may occur in police interactions with racialized communities. We investigate occurrences that resulted in an enforcement action and reported use of force in relation to perceived race, which will be analyzed in this paper with the use of figures and graphs. The data show that … While metrics are useful tools for guiding improvements in racial profiling, the Data cannot accurately reflect the holistic value of the table.

1. Introduction

The Toronto Police Service is a municipal police force in Toronto, who's committed to delivering effective police services that are responsive to the needs of individuals and the community. With the ongoing effort to maintain public safety and order, the force employs a combination of police enforcement and community partnership which has been successful in reducing the crime rate. Despite overall success in reducing crime, including a low rate of homicides, in recent years, the Toronto police have faced immense criticism over allegations of misconduct and reports of disproportionate use of force against people of colour. In fact, people of colour were 1.2 to 1.6 times more likely to face violence when interacting with Toronto police in 2020 (). The overwhelming use of force incidents involving Toronto police prompted Chief James Ramer to issue a public apology for the "systematic discrimination." However, there has been a limited amount of research to offer an in-depth examination regarding the reasons for race to affect the use of force, and how the reportable incidents resulting in the use of force disproportionately affects people of colour.

Collecting and analyzing race-based data on police use of force can shed light on any potential racial inequities in policing. This data may then be used to direct efforts to address and minimize inequities in law enforcement policies and procedures. This data may then be used to direct efforts to address and minimize inequities in law enforcement policies and procedures. The mandate that police officers file a report following each use-of-force event is also a step in the right direction since it allows for the tracking and analysis of police use of force, including

any potential racial biases. However, it is imperative to emphasize that collecting and analyzing this data is only the initial step in tackling racial disparities in policing; sustained efforts and improvements are necessary for substantive and long-term change.

In this report, we will analyze Police enforcement, and in particular the use of force to account for any potential racial biases, and examine the common patterns of the use of force in certain racial groups. We will begin by first looking into how the type of force is used in relation to the count of incidents. In addition, I will look for relationships between the type of force used and the Officer's perception of individuals involved in the incident. Finally, we will examine some of the count of reported incident and the respective racial groups to take in account of how the use of force by police can impact the incident count of perceived race of people.

2. Data Source

This report utilizes data from the provincial Use of Force Reports and occurrences that resulted in an enforcement action titled "Police Race and Identity-based Data & Use of Force" obtained from the Toronto Police Service Annual Statistical Report (ASR) (Toronto Police Service 2020b). The reported use of force or enforcement action incidents analyzed in this report was obtained in csv format from the City of Toronto Open Data Portal using the R package `opendatatoronto` (Gelfand 2022). The dataset was last updated on December 2nd, 2022.The dataset provides information on the use of force by the Toronto Police Service (TPS) and includes data on the race and identity of individuals involved in incidents when the TPS officers used force. The dataset includes information on the type of force used, the factor that caused the use of force, and the outcome of the incident. The analysis will be carried out using the statistical programming language R (R Core Team 2022), using the `dplyr` (Wickham et al. 2021), `knitr` (Xie 2021b), and `tidyverse` (Wickham et al. 2019) packages. All figures in the report are generated using ggplot2 (Wickham 2016), `bookdown` (Xie 2016), and tables are created with `kableExtra` (Zhu 2021).

The primary dataset we are interested is Call for Service Types, which includes the information on the type of call for service that resulted Toronto Police Service (TPS) officers using force in a given incident. The raw data includes 176 observations of unique occurrences which resulted in a police enforcement action or incidents of reported use of force, type of call for police service that results in an enforcement action, Officer's perception of individuals involved in the incident, and the number of incident count by the racial group with the year. Type of call service include: person in crisis, admin, domestic/assault, vehicle related, and violent call for services. We are interested in finding the trend of enforcement action incident and the reported use of force incident count based on the perceived race of individual involved.

To begin, I selected all types of call service, perceived race of individuals involved, and incident count from the raw data. I excluded the incident ID, which will not be useful in identifying the grouping of the data. Then, I combined all all types of call service into a long format dataframe using reshape2 (Wickham 2007) which can sum all the call service.

Table 1: Total Number of Incident Count in Each Perceived Race for Reported use of Force incidents

Perceived Race	Incident Count
Black	278
East/Southeast Asian	43
Indigenous	22
Latino	14
Middle Eastern	28
Multiple race group	152
South Asian	44
White	287

?@tbl-jenny shows the Total Number of Incident Count in Each Perceived Race

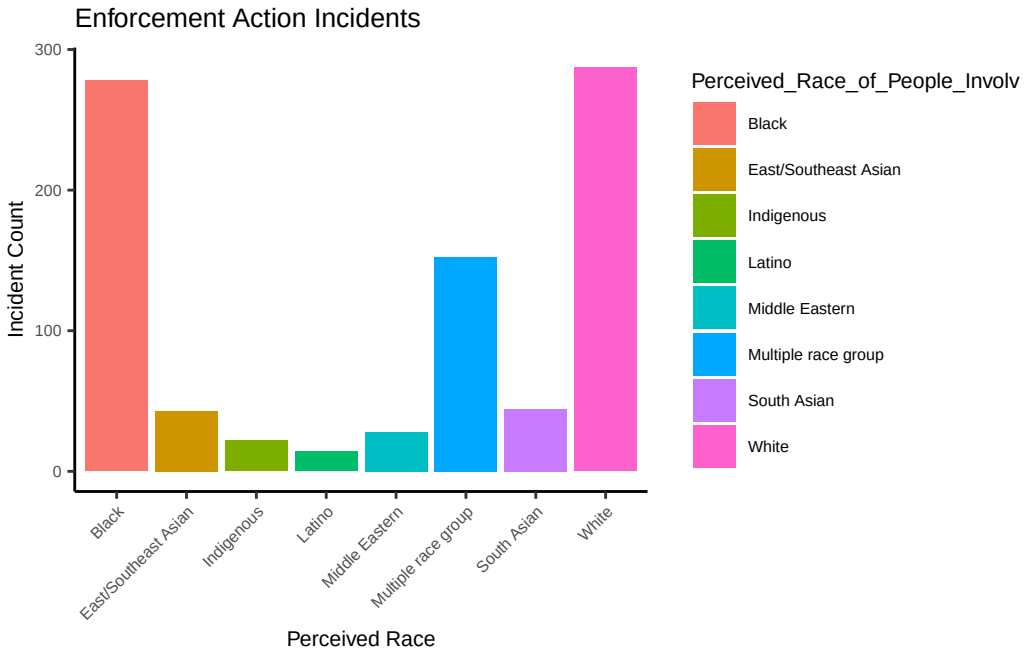
Table 2: Total Number of Incident Count in Each Perceived Race for Enforcement action Incidents

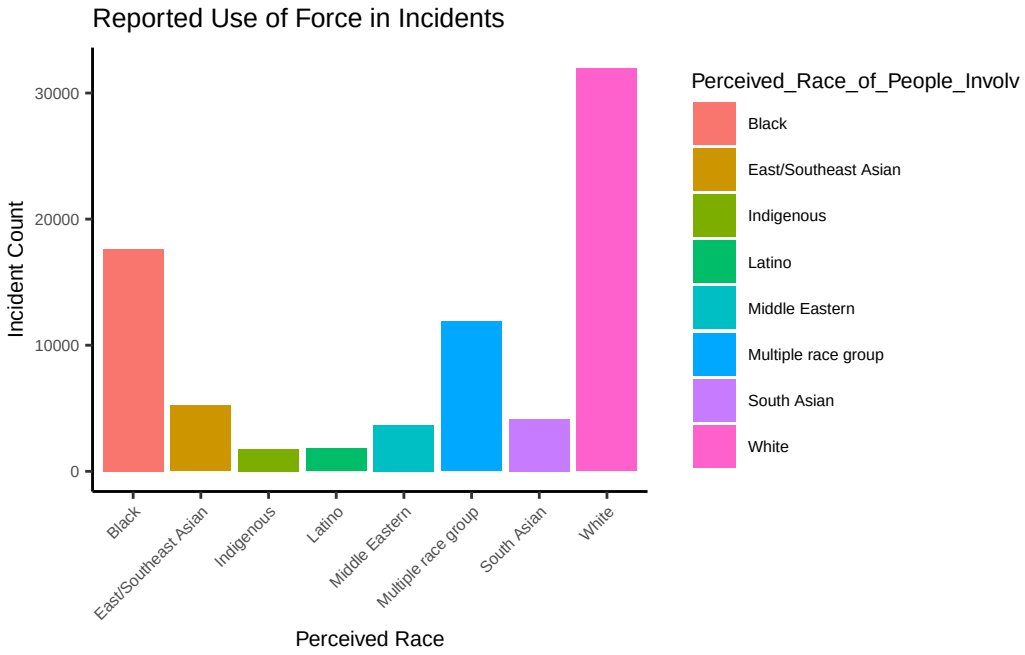
Perceived Race	Incident Count
Black	17631
East/Southeast Asian	5199
Indigenous	1760
Latino	1846
Middle Eastern	3667
Multiple race group	11851
South Asian	4112
White	32003

Reference

Gelfand, Sharla. 2022. *Opendatatoronto: Access the City of Toronto Open Data Portal*. https://CRAN.R-project.org/package=opendatatoronto.

R Core Team. 2022. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. https://www.R-project.org/.


Enforcement Action Incidents
Incident Count
300
200
100
0
Black
East/Southeast Asian
Indigenous
Latino
Middle Eastern
Multiple race group
South Asian
White
Perceived Race
Perceived_Race_of_People_Involv
Black
East/Southeast Asian
Indigenous
Latino
Middle Eastern
Multiple race group
South Asian
White


Reported Use of Force in Incidents
Incident Count
30000
20000
10000
0
Black
East/Southeast Asian
Indigenous
Latino
Middle Eastern
Multiple race group
South Asian
White
Perceived Race
Perceived_Race_of_People_Involv
Black
East/Southeast Asian
Indigenous
Latino
Middle Eastern
Multiple race group
South Asian
White