My title*

My subtitle

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Abstract

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1 Introduction

In January 2022, two NYPD police officers Jason Riversa, 22 years old, and Wilbert Mora, 27 years old, were shot and killed during their investigation to a domestic incident.

2 Data

2.1 Raw Dataset Introduction

I utilized an Annual Victims of crime report("Police Annual Statistical Report - Victims of Crime" 2021) from Toronto Open Data portal, using the `opendatatoronto` package(Gelfand 2020) to have a better understanding of the relationship between peace officers and the communities in Toronto. This data was published by Toronto Police Services, and the last time the data was refreshed on Aug 12, 2021. There are 854 observations in the raw data, each observation has 12 variables - id, index, ReportedYear, Category, Subtype, AssaultSubtype, Sex, AgeGroup, AgeCohort, Count, ObjectId, geometry. This dataset collects victim of crime which crime was reported between 2014 and 2020, and the victim of the crimes are classified as peace officers, other, and unknown. Subtypes of assault against peace officers include Aggravated Peace Officer, Assault Peace Officer, Assault Peace Officer Weapon/Bodily Harm, and Assault Resist Arrest. Since I am only interested in crimes against peace officers, I cleaned the data and extracted essential observations by using `R`(R Core Team 2020), `tidyverse`(Wickham et al. 2019), `dplyr`(Wickham 2021), and `janitor`(Sam Firke 2021).

2.2 Cleaning Process And Cleaned Dataset

The columns "index" and "geometry" of the dataset are all `NA` and `Null`, and the column "ObjectId" is redundant, thus I removed these columns as they did not provide useful information for analysis. Then I modified each column name to make them more organized by using the package `janitor`(Sam Firke 2021). Finally, I extracted the observation that only peace officers were victims.The cleaned dataset has 168 observations, each observations has 9 variables:

- id: Unique row identifier
- reported_year: Year crime was reported (from 2014 to 2020)
- category: Crime category
- subtype: Crime category subtype
- assault_subtype: Breakdown of assault subtypes
- sex: Sex of identified victim
- age_group: Age group of identified victim, adult or youth

*Code and data are available at: https://github.com/SimingShan/STA304-Project-1

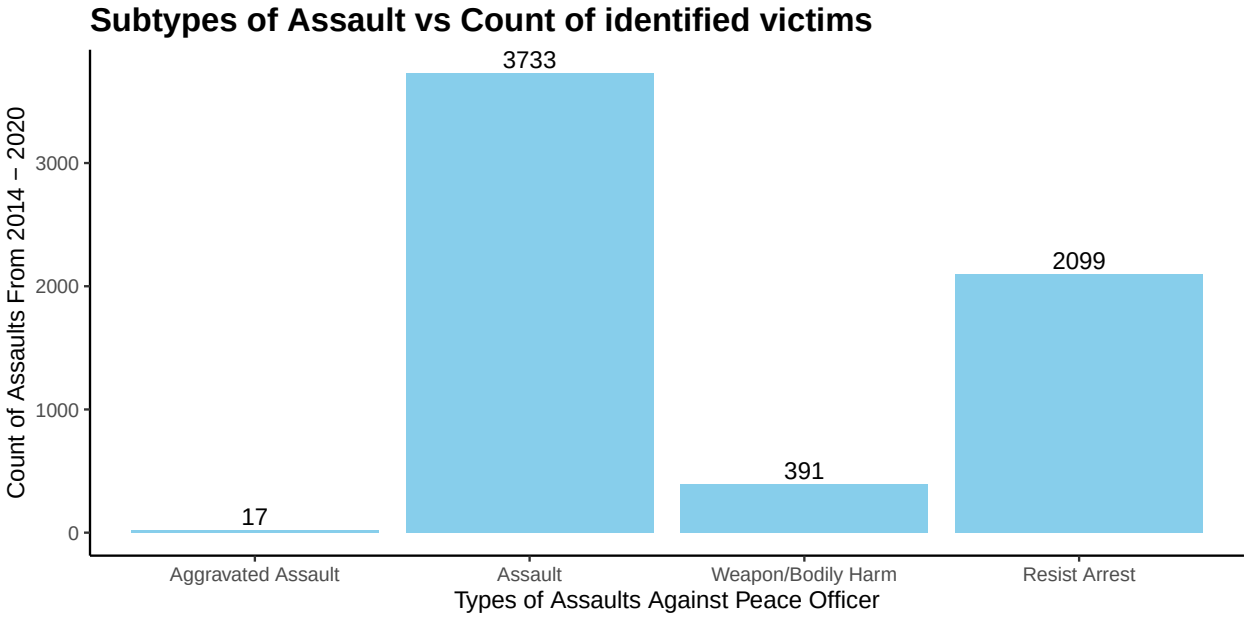
- age_cohort: Age cohort of identified victim
- count: Count of identified victims

A brief view of the dataset made by using knitr(Xie 2021) is shown below:

id	reported_year	category	subtype	assault_subtype	sex	age_group	age_cohort	count
1	2014	Crimes Against the Person	Assault	Aggravated Peace Officer	M	Adult	25-34	2
2	2014	Crimes Against the Person	Assault	Aggravated Peace Officer	M	Adult	55-64	1
3	2014	Crimes Against the Person	Assault	Assault Peace Officer	F	Adult	18-24	1
4	2014	Crimes Against the Person	Assault	Assault Peace Officer	F	Adult	25-34	5
5	2014	Crimes Against the Person	Assault	Assault Peace Officer	F	Adult	35-44	3
6	2014	Crimes Against the Person	Assault	Assault Peace Officer	F	Adult	45-54	1

2.3 Simple Assault Is The Most Common Crime Against Peace Officers

In this dataset, there are four types of assault against peace officers - aggravated assault, assault, weapon/bodily harm, resist arrest. Assault, also known as simple assault, includes minor injuries, touching, and threatening word or actions, while aggravated includes serious injuries or any conduct involving weapon(Reaves 2019).



3 Conclusion

Reference

Gelfand, Sharla. 2020. *Opendatatoronto: Access the City of Toronto Open Data Portal*. https://cran.r-project.org/web/packages/opendatatoronto/index.html.

"Police Annual Statistical Report - Victims of Crime." 2021. Toronto Police Services. https://open.toronto.ca/dataset/police-annual-statistical-report-victims-of-crime/.

R Core Team. 2020. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. https://www.R-project.org/.

Reaves, Walter. 2019. "What Is the Difference Between Simple Assault and Aggravated Assault in Texas?" https://www.reaveslegal.com/faqs/what-is-the-difference-between-simple-assault-and-aggravated-assault-in-texas-.cfm#:~:text=Simple%20assault%20encompasses%20minor%20injuries,and%20threatening%20words%20or%20behavior.&text=Aggravated%20assault%20involves%20serious%20injuries,could%20be%20considered%20aggravated%20assault.

Sam Firke, Chris Haid, Bill Denney. 2021. *Janitor: Simple Tools for Examining and Cleaning Dirty Data*. https://cran.r-project.org/web/packages/janitor/index.html.

Wickham, Hadley. 2021. *Dplyr: A Grammar of Data Manipulation*. https://cran.r-project.org/web/packages/dplyr/index.html.

Wickham, Hadley, Mara Averick, Jennifer Bryan, Winston Chang, Lucy D'Agostino McGowan, Romain François, Garrett Grolemund, et al. 2019. "Welcome to the tidyverse." *Journal of Open Source Software* 4 (43): 1686. https://doi.org/10.21105/joss.01686.

Xie, Yihui. 2021. *Knitr: A General-Purpose Package for Dynamic Report Generation in r*. https://cran.r-project.org/web/packages/knitr/index.html.