Understanding Toronto's Homicide Rates Through its Marginalized Neighbourhoods*

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Abstract

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*Code and data are available at:

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2.1   Data Source & Implications

The data used in this paper was taken from Toronto Open Data, a catalogue of datasets created by the City of Toronto to increase transparency and encourage data literacy (Gelfand 2020). This open data allows communities to engage in political conversations and raise awareness to policymakers and other residents. The dataset I used was the Toronto Police's Annual Statistical Report on Homicides. The raw data includes homicides from 2004 to 2020 in each neighbourhood and includes homicide type. This includes shooting, stabbing, and other. The data also includes geo-spatial data that can be used to pin point specific homicide locations on a map. However, to protect the privacy of parties, the pin points are moved to the nearest intersection (TPS 2021a). As a result, homicide numbers by division or neighbourhood may be inaccurate as the exact number of homicides within geographical boundaries are not reflected (TPS 2021a). This means there is a possibility that this data could be biased depending on how much or little the Police offset case locations.

There are ethical implications to consider with this data. There is some ambiguity on what is considered a homicide case. The Toronto Police Open Data Documentation says that offences include first degree murder, second degree murder, and manslaughter. It also states, "Deaths caused by criminal negligence, suicide, or accidental or justifiable homicide (i.e self-defense) are not included." (TPS 2021b). It is difficult to determine 'justifiable' homicide as there are many factors to include such as available evidence and the context of the situation. Since this information was provided by Toronto Police Services, it is subject to extreme bias. As seen with recent protests demanding more accountability from Police institutions worldwide, there is a great lack of transparency when it comes to police brutality and racism within the force. Therefore, it is important to ask whether homicide at the hands of the police are considered in this dataset, or if they would rule cases as 'self-defense' and exclude it.

Another factor that could influence the dataset is whether or not the courts have decided on a ruling for homicide cases. There are cases that could be ongoing or verdict-less. Therefore, the number of deaths from homicide could not be accurately represented per year if cases are still awaiting trial.

2.2   Methodology

The materials used for data collection and processing is R (R Core Team 2021), knitr (Xie 2021), Open Data Toronto (Gelfand 2020), Tidyverse (Wickham 2021), ggplot2 (Wickham, Chang, et al. 2021), dplyr (Wickham, François, et al. 2021), janitor (Firke 2021), and bibtex (Francois 2020). I began by downloading the data from Open Data Toronto, then cleaning and extracting it. I wanted to look at data from the most recent years so I filtered the data to only show cases from 2013 to 2020. My plan was to analyze Toronto homicides by each type first, then look at which neighbourhoods had the highest rates. First, I created a table that focused on the types of homicides in Toronto and the total count throughout the years. Since the raw data did not include a total number per year, I added a new column that contained the sum of shooting, stabbing, and other homicides (Table 1). I plotted this onto a stacked bar graph to visualize the changes over the years and see which type had the highest frequency (Figure 1). After, I extracted a new data frame with the number of homicides from 2013 to 2020 for each Toronto neighbourhood. I created a new 'Total' column which added all of the deaths of each year for each neighbourhood. Then, I ordered the total column from smallest to greatest and found the six neighbourhoods with the highest counts. Next, I formatted this into a table and graph to visually show which neighbourhoods with the highest number of homicides over the eight years (Table 2)(Figure 2).

2.3   Homicide Types & Rates

Table 1: Number of Homicides by Type in Toronto from 2013 to 2020

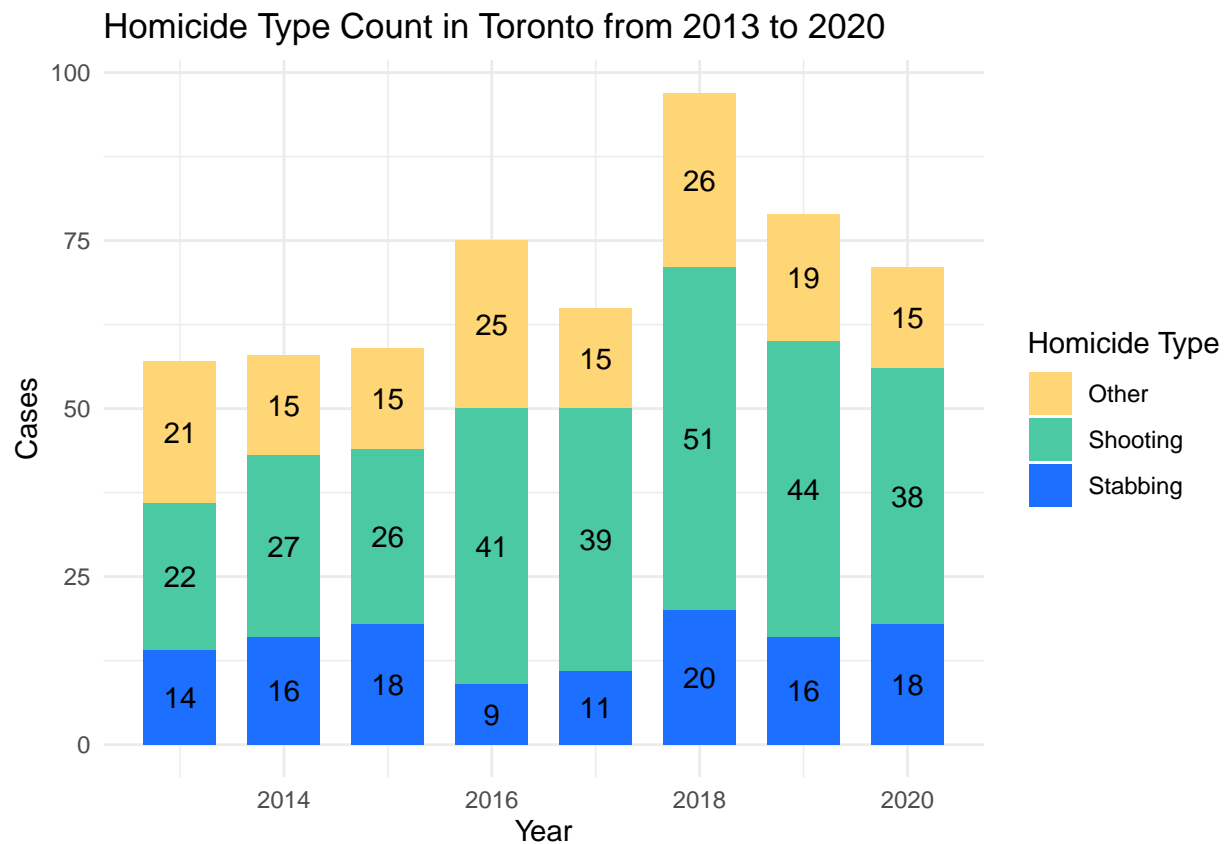|	Other	Shooting	Stabbing	Total
2013	21	22	14	57
2014	15	27	16	58
2015	15	26	18	59
2016	25	41	9	75
2017	15	39	11	65
2018	26	51	20	97
2019	19	44	16	79
2020	15	38	18	71

Figure 1: Homicide Type Count in Toronto from 2013 to 2020

Starting from 2013, the number of homicides steadily increase with a spike in 2018 where there was a total of 97 homicides. The years after show a slight decline, with 2020's total being 71. Perhaps the number of homicides in 2020 were smaller than the past two years due to the pandemic and lockdowns. One thing that remains consistent is that shooting related deaths have continually dominated homicide causes. In fact, it has increased over the years which can be an indicator that gun violence in Toronto is on the rise.

2.4 Neighbourhoods

Table 2: Greatest Homicide Counts in Toronto's Neighbourhoods from 2013 to 2020

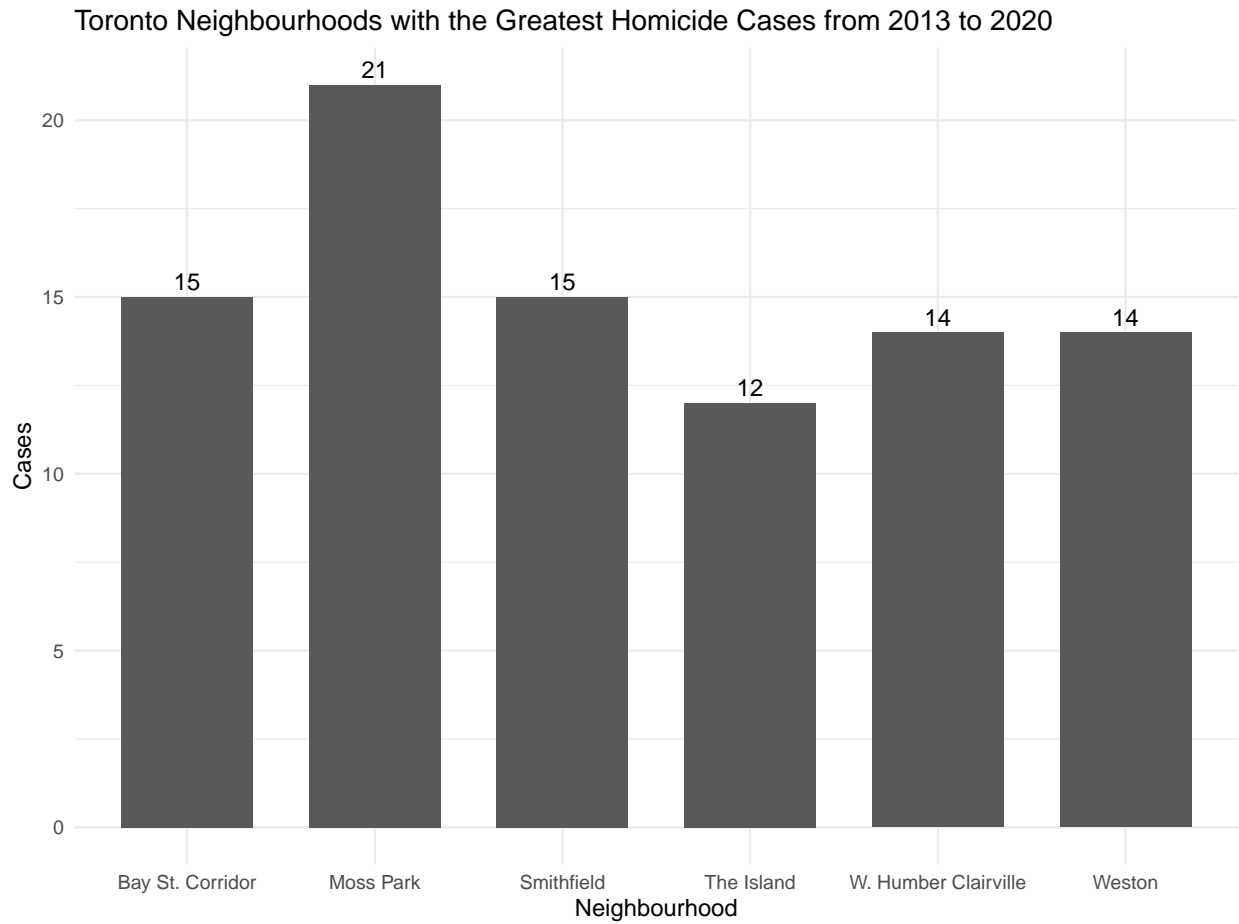|	2013	2014	2015	2016	2017	2018	2019	2020	Total
Waterfront Communities-The Island (77)	1	1	1	0	2	3	1	3	12
West Humber-Clairville (1)	0	0	3	4	0	2	2	3	14
Weston (113)	2	1	0	4	1	1	2	3	14
Bay Street Corridor (76)	1	1	4	1	0	3	4	1	15
Mount Olive-Silverstone-Jamestown (2)	2	2	3	1	0	2	3	2	15
Moss Park (73)	3	1	1	3	4	4	3	2	21

Figure 2: Toronto Neighbourhoods with the Greatest Homicide Cases from 2013 to 2020

The top six neighbourhoods with the highest homicide counts are Bay St. Corridor, Moss Park, Mt. Olive-Silverstone-Jamestown also known as Smithfield, The Island, West Humber Clairville, and Weston. Moss Park is at the top of the list with 21 homicide cases throughout the eight years. As a result, we can deduce that violence, especially gun violence is above average in these areas.

3 Discussion

3.1 Rising Gun Violence in Toronto

As seen in the graph "Homicide Type Count in Toronto from 2013 to 2020," in recent years, homicides due to gun violence is greater than 'other' and 'shooting' combined (Figure 1). Therefore, it is within reason to assume that this trend will only continue into the future. According to an article by the National Post, a large contributing factor is due to "gun culture" from the United States (Humphreys 2021). As a result, more guns are being smuggled across the border with an alarming statistic of 80% of guns being traced back to the United States (Humphreys 2021).

In a 2019 press conference, Police Chief Mark Saunders stated, "the city's recent gun violence has been connected to gang activity" (McGuffin 2020). A significant amount of Toronto shootings has been due to gang culture which centers on illegal drug trade (McGuffin 2020). It is important to note that this activity usually takes place in the city's poorest neighbourhoods. Many officials believe that the increasing economic inequality is fueling the rise in gang activity (McGuffin 2020). The cost of living in Toronto has grown dramatically, making it difficult for residents to make ends meet. This is consistent with my findings as all six neighbourhoods with the highest homicide rates are located in Toronto's poorest areas (See sub-section **??**).

3.2 Marginalized Neighbourhoods

Toronto's homicide rate is very closely related to neighbourhood and community makeup. In a study done by UofT Professor David Hulchanski, middle income neighbourhoods have decreased significantly with low income neighbourhoods continually rising (Hulchanski 2010). By 2005, more than 53% of Toronto neighbourhoods are low-income as compared to 19% from the 1970s (Hulchanski 2010). Therefore, this supports the correlation between increasing violence rates and economic inequality in Toronto. Furthermore, Hulchanski's research shows that 68% of low-income neighbourhood residents are visible minorities (Hulchanski 2010). Within these same neighbourhoods, we also see the highest homicide numbers. Therefore, we can interpret that violence, and more specifically gun violence, disproportionately affects minorities, lower income residents, and those living in poverty.

Hulchanski states, "Money buys choice. And People with the most choice are choosing to live in certain areas." (Contenta 2018). This brings attention to a greater problem that is systemic racism and how it enables white people and the affluent to live in high income neighbourhoods while continually pushing out marginalized groups. For example, Hulchanski's studies show that residents of low-income neighbourhoods have relatively high levels of education (Contenta 2018). Yet, half of the city's average gross income is $32,000, a price that makes living in Toronto extremely difficult (Contenta 2018). Therefore, it is appropriate to assume that there is a lack of housing and job opportunity due to discrimination.

Urban crime does not exist in a vacuum, there are a multitude of factors that are inextricably intertwined and contribute to the problem. Only by analyzing the nodes of this network, such as neighbourhood makeup, racial and economic inequality are we closer to understanding the pattern of Toronto's homicide rates and its continual increase.

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