Change in Crime Rates in Neighbourhoods of Toronto Before and After COVID-19*

Exploring Crime Rate Dynamics in Torontos Neighborhoods Amidst the COVID-19 Pandemic

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This study looks into how Toronto neighborhood crime rates have been affected by the COVID-19 outbreak. Using pre-pandemic and post-pandemic crime statistics, we determine the top five neighbourhoods with the highest overall crime rates. This research shows that, following COVID-19, crime rates in these communities decreased. The findings give policymakers and community stakeholders new information on the connection between a global health crisis and local criminal dynamics.

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*Code and data are available at: https://github.com/emisu36/Change-in-Toronto-Crime-Rates.git

1 Introduction

The COVID-19, the virus that affected everyone's daily life, forced changes into people's health and lifestyle, from masks to vaccines to social distancing. COVID-19 not only brought physical changes to prevent the spread of the virus but also the loss of economic output and impact on people's daily lives but salary and economic wise. According to the United Nations (n.d.), the COVID-19 pandemic has pushed "more than 34 million people into extreme poverty in 2020" alongside increase in poverty and inequality.

While there is lacking in ones life especially when there is nothing to do during lockdown or different stay-at-home suggestions, people may easily turn to robbery, crime or even violence. During the COVID-19 pandemic, an increase in domestic violence was found due to the increase time staying at home along with the different emotions emerging due to the sudden change by Bradbury-Jones and Isham (2020). Although the difference in lifestyle seems to cause negative impacts, there seems to be a general decrease in all crimes from a global analysis of how restrictions impacted crimes (Nivette et al. (2021)). Therefore, it is important to look into how COVID-19 affected the crime rates in different neighbourhoods of Toronto.

2 Data

Tools by R Core Team (2022), Wickham et al. (2019) and Firke (2023) is used to clean and analyze the data collected from Gelfand (2022).

We begin our analysis using crime data from Toronto neighborhoods. The dataset, obtained from Toronto Open Data Gelfand (2022), includes crime rates for various offenses in different neighborhoods. To focus on the top 5 neighborhoods with the highest total crime rates, we select and process the relevant data.

3 Results

The figures (Figure 2, Figure 1, Figure 4, Figure 3) are generated with the help of tools made by Xie (2014) and Zhu (2021).

The comparison between crime rates in 2019 and 2023 provides insights into the potential impact of the COVID-19 pandemic on crime trends.
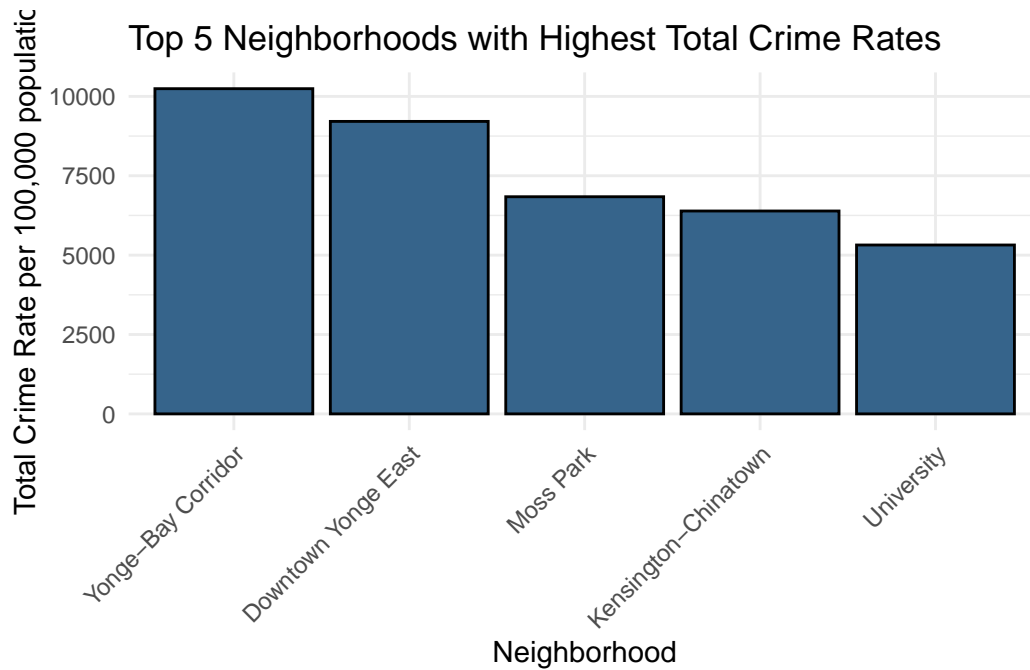
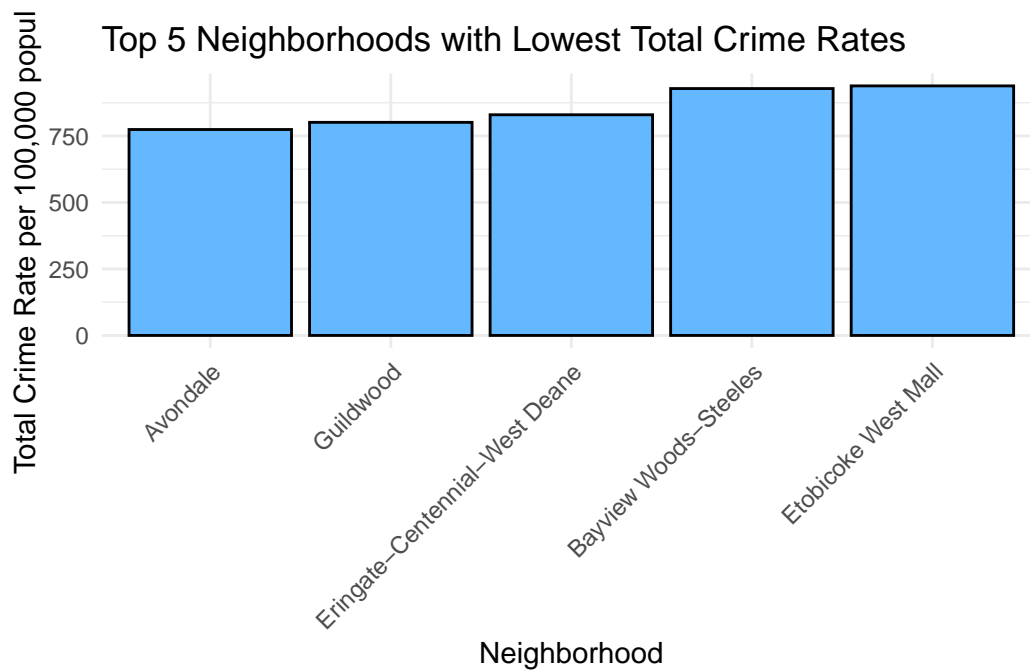Figure 1: Shows the 5 Neighborhoods in 2019 with the highest crime rates

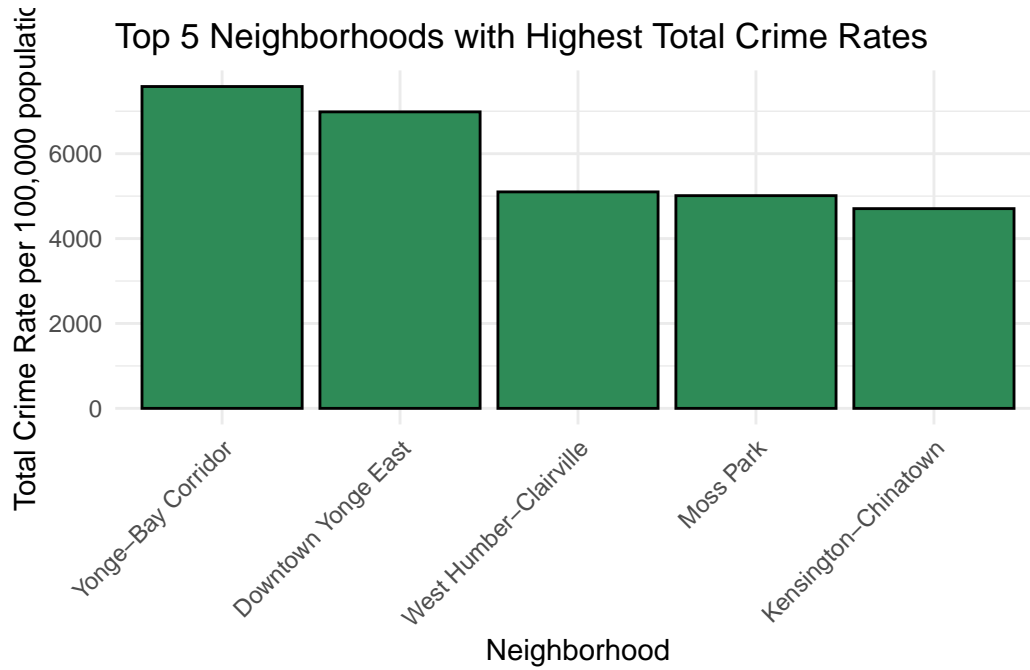Figure 2: Shows the 5 Neighborhoods in 2019 with the lowest crime rates

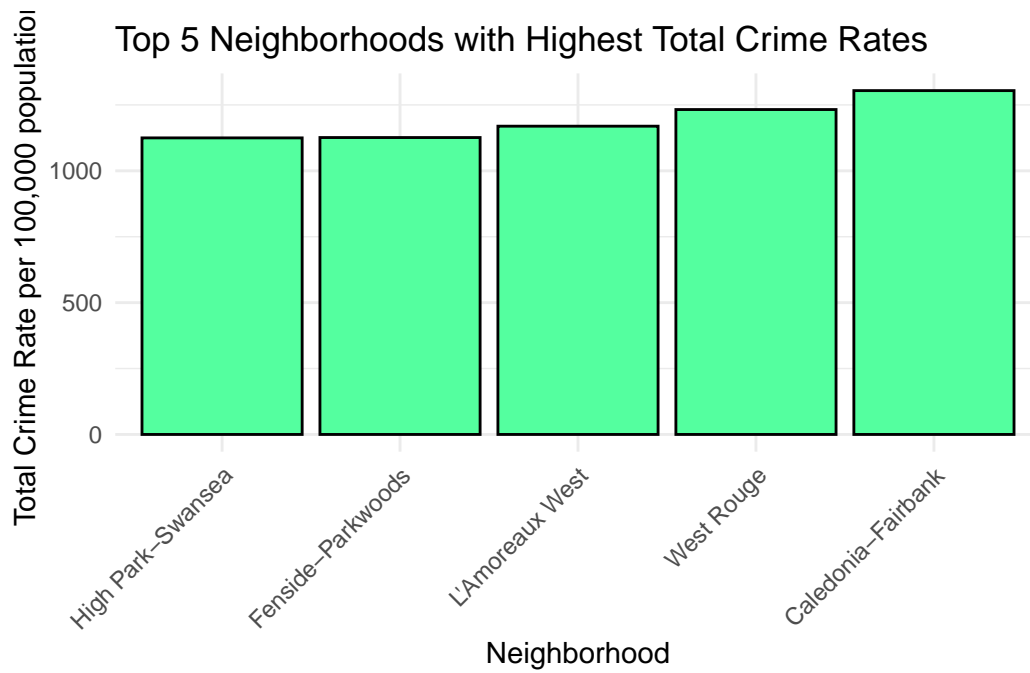Figure 3: Shows the 5 Neighborhoods in 2023 with the highest crime rates

Figure 4: Shows the 5 Neighborhoods in 2023 with the lowest crime rates

4 Discussion

4.1 Changes in Crime Rates

Using the Figure 1 and Figure 3 show that the neighborhoods with the highest crime rates stayed the same; however there is a decrease in crime rates in all five of the neighborhoods. When comparing the neighborhoods with the lease crime rates which is Figure 2 and Figure 3, there is a change in the neighborhood with the least crime rates alongside an increase in crime rates in the neighborhood. To explore this further, we need to delve into the specific changes observed in each neighborhood.

4.2 Possible Factors

Several factors could contribute to changes in crime rates, including the economic impact of the pandemic, changes in law enforcement strategies, and shifts in community dynamics. Staying at home more may have increased action at home but not to people on the outside. On the other hand, criminals who are used to doing crimes may have found new neighborhoods that are easier to succeed which explains the increase of crime rates in new neighborhoods.

4.3 Weaknesses and Next Steps

While our analysis provides valuable insights, it is essential to acknowledge the limitations of our study. Further research could explore additional factors influencing crime rates and conduct a more detailed analysis of specific crime categories. As this study is just an overview on the change of crime rates, it does not incorporate any possible causes of the change. It is also important to look into different aspects of the pandemic causing possible changes. These are all really interesting directions to look into.

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