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.

Table of contents

*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.

Our initial examination reveals the neighborhoods with the highest crime rates in 2019.

3 Results

Next, we explore the crime rates for the same neighborhoods in 2023.

The comparison between crime rates in 2019 and 2023 provides insights into the potential impact of the COVID-19 pandemic on crime trends.

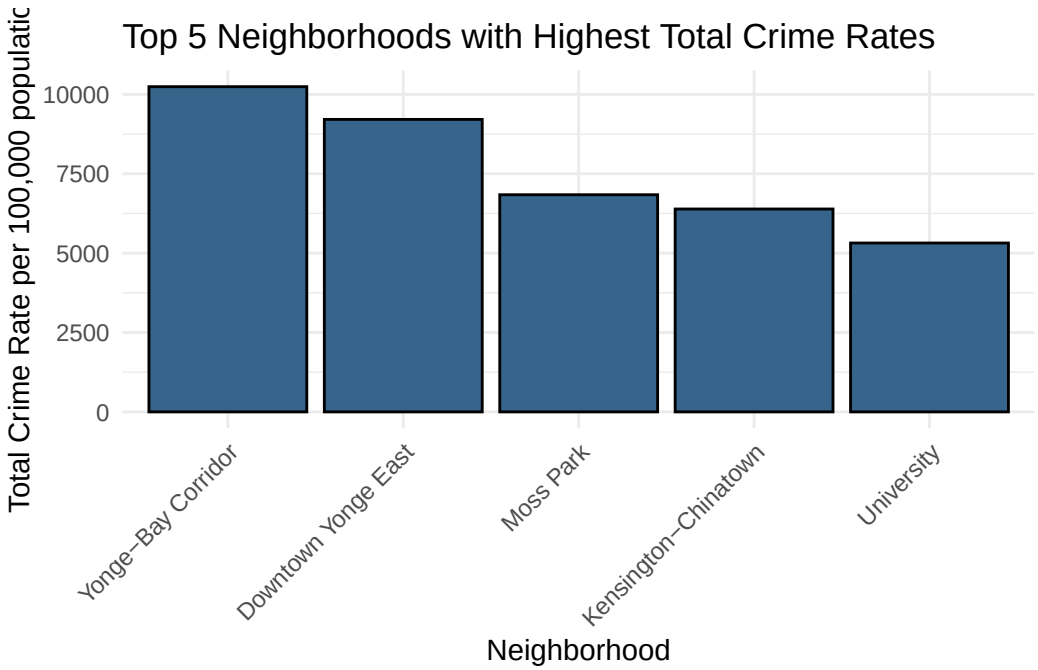
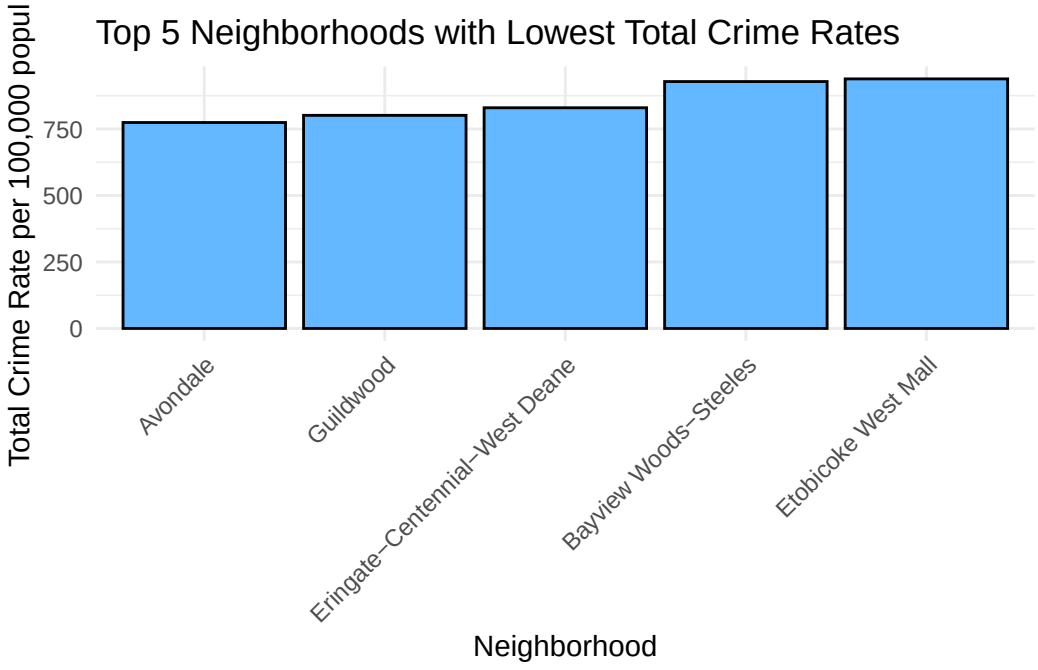


Figure 1: **?(caption)**



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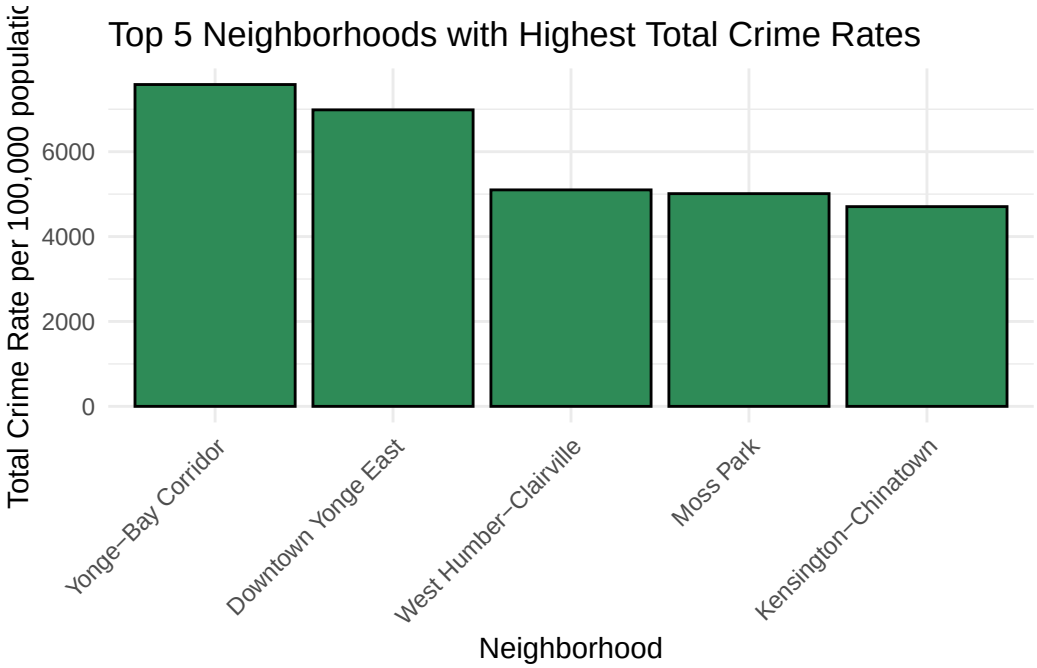

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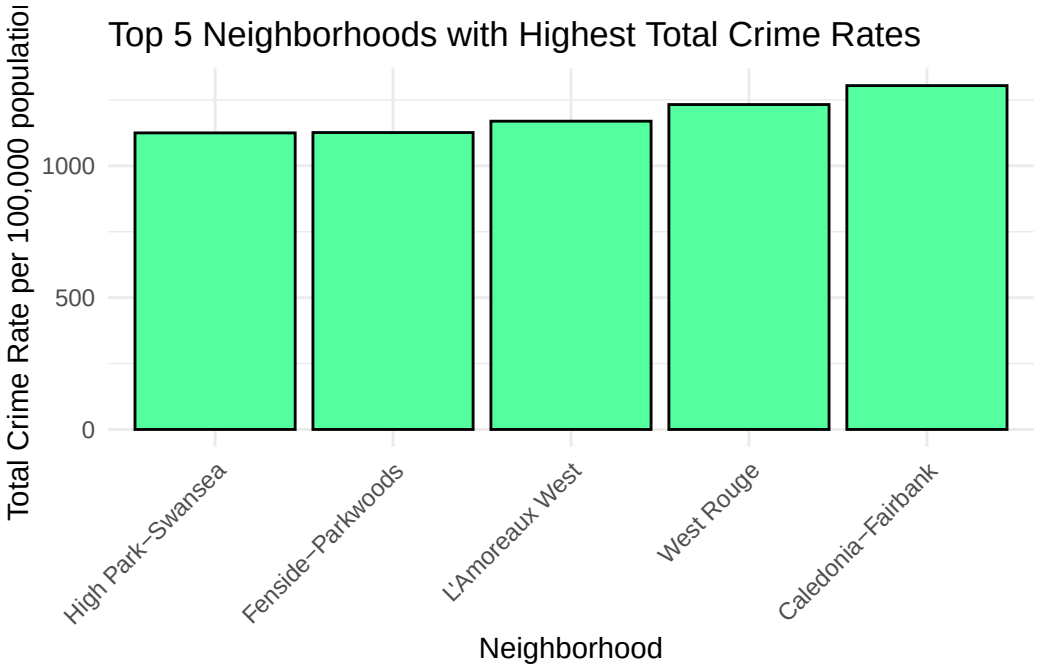

Figure 4: **?(caption)**

4 Discussion

4.1 Changes in Crime Rates

Our analysis indicates a shift in the top 5 neighborhoods with the highest crime rates in Toronto from 2019 to 2023. 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 socio-economic impact of the pandemic, changes in law enforcement strategies, and shifts in community dynamics.

4.3 Implications

Understanding the dynamics of crime rate changes is crucial for policymakers, law enforcement, and communities to address potential challenges and implement effective strategies.

4.4 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.

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