Trends and Comparisons in Crimes on Two Canadian Campuses

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Introduction

Post-secondary education has become increasingly attractive in today’s society. More and more students are enrolling in universities, and it is not uncommon to see students studying at the libraries during irregular hours to focus on their studies. Most students have a laptop, phones and other types of expensive electronics in their possession, making them lucrative targets for crime. While there have been articles published on campus crime in the United States, there does not appear to have been any studies done on Canadian schools.

Using their information posted online, two universities will be analyzed and compared: University of Toronto (U of T), located in the heart of downtown Toronto, and York University (York U), located in North York, a suburb of Toronto. Crimes will be scaled to events per 10,000 students to eliminate the enrolment effect. These two universities were chosen because they publish all crime incidents in a clean and easy to extract manner online, while also providing supporting annual security reports that may help analyze the results. Other universities in Canada paled in comparison, and McMaster University in particular does not have their data sorted, and only has information from September 2014 to January 2015 (McMaster University). Microsoft Excel (2016) and R software have been used to analyze the data, as well as maps of each campus to show areas of concern.

Specifically, this paper will examine any correlations between specific crimes and crime rates. Some examples that will be used are the time of day, location, downtown vs suburb, and season. Unfortunately, neither of the universities collect identifying data such as race, gender or age of the victims nor the perpetrators. Table 1 contains general information from the investigated universities with stats taken from the Council of Ontario Universities.

Table 1. Information taken from CUDO on both universities

<table>
<thead>
<tr>
<th>Criteria</th>
<th>University of Toronto (U of T)</th>
<th>York University (York U)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrollment</td>
<td>59,400</td>
<td>53,000</td>
</tr>
<tr>
<td>Location</td>
<td>Downtown, Toronto</td>
<td>North York, Toronto</td>
</tr>
<tr>
<td>Campus Size</td>
<td>180 acres</td>
<td>457 acres</td>
</tr>
<tr>
<td>Male</td>
<td>45.21%</td>
<td>42.91%</td>
</tr>
<tr>
<td>Female</td>
<td>54.79%</td>
<td>57.09%</td>
</tr>
<tr>
<td>International</td>
<td>17.55%</td>
<td>13.36%</td>
</tr>
<tr>
<td>Excellent/Good Experience</td>
<td>76.30%</td>
<td>69.70%</td>
</tr>
<tr>
<td>Fair/Poor Experience</td>
<td>23.70%</td>
<td>30.30%</td>
</tr>
</tbody>
</table>
Methodology

Using ARIMA (1,1,1) time series plots, graphs and statistics, this study compared and examined the characteristics of campus crime. The study looked at data between 2011 and 2016 at both schools to discover trends and address questions such as the following:

- What crimes occur more in a city centre versus a suburban district?
- Do certain crimes occur more at night versus during the day?
- What locations, such as libraries or gyms, promote more or specific crimes?

The data was taken directly from the universities’ websites in January 2017, after both universities completed posting for the prior year. U of T data can be found at http://www.campuspolice.utoronto.ca/community-policing/activity-reports.htm, and York U data can be found at http://security.info.yorku.ca/wsil-reports/. This data was compiled, cleaned and sorted before being analyzed in R due to a few reasons:

- Source formatting not allowing a proper copy-paste
- Spelling errors in data such as locations or accidental characters
- Inconsistencies in building names (name of building vs building address)
- Streamlining categories between the two schools
- Removing crimes reported at another campus (York U’s Glendon Campus)

Crime in this paper from both universities is classified as follows: Arson, Assault, Break and Enter, Demonstration, Dispute, Disturb Peace, Drugs, Fraud, Harassment, Hate Crime, Indecent Act, Mischief, Robbery, Sexual Offence, Theft, Trespassing and Other. The “Other” category includes bylaw violations, fraud, liquor offences and motor vehicle offences. The universities also attach the day, the location and a description to the crime in their datasets. York University goes even further and attaches the time of day the crime was reported, which is extremely valuable in understanding crime on campus.

Common Assumptions

This thesis will begin by addressing common assumptions associated with crime. The data in subsequent sections will suggest whether these assumptions are actually valid.

Some would assume that more crimes happen at night than during the day. The reason this might not be true is because there are significantly less people on campus at night
than there are during the day. For someone performing mischief or damage, and perhaps trespassing or breaking and entering on campus on the other hand will most likely commit these crimes when there is a small amount of people on campus.

The more people there are on campus, the greater the amount of valuables such as high value electronics and bicycles there are on campus. Phones especially have a high value relative to their small size. The amount of people on campus also makes it difficult to keep track of the people passing by. Libraries and other study areas, including certain lecture halls, should have higher theft as students spend the most time here and may leave their valuables unsupervised to use the washroom or get food. The gym is a high target location because most people leave their items on the side or unattended while exercising. Locked or unlocked, the locker will be unattended, leaving opportunities for theft.

Noise complaints and crimes related to alcohol consumption are also most likely to occur at nighttime and in student residences. This assumption is because people are trying to sleep at these hours, and partying often takes place where people reside.

**Overview**

Looking at the overall data in Table 2 and Table 4, York University had 17.2% more crime than the University of Toronto from 2011 to 2016. York U had 7.24 times as many peace disturbances, 1.5 times as much mischief and 3.3 times as much harassment, all measured per 10,000 students in 2016. U of T on the other hand had 2.4 times as much trespassing and 1.18 times as much theft per 10,000 students in 2016. Hate crimes, which peaked in 2016 with 3.02 crimes per 10,000 students, has been a non-factor at U of T, which averages 0.17 crimes per 10,000 students from 2011 to 2016. The places with the highest amount of crime at both universities were libraries, residences, education centres and recreation/fitness centres.