Investigate the number of marriage licenses issued in the Greater Toronto Area since 2011: The number of marriages is not declining as reported*

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1 Abstract

"There is a growing trend of people opting not to marry or engage in romantic relationships. This report aims to investigate the total number of marriage licenses issued each year in the Greater Toronto Area from 2011 to 2023 and the total number of marriage licenses issued by different civic centers during this period to find if the report about declining marriages is true. I found that the number of marriage licenses issued of recent years in the GTA has remained stable except for 2020 and 2021, the two years most affected by the outbreak of the pandemic"

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*Code and data are available at: https://github.com/Northboi/GTA_Marriage_Licenses

2 Introduction

"Marriage is the result of love between two people and is an important part of building a family. Typically, a couple chooses to marry when they have established control over their current lives and are ready to embark on the next phase. However, it is increasingly common to hear of people opting not to marry or even fall in love. This trend may stem from a preference to focus on personal fulfillment every day, rather than taking on family responsibilities with a partner.(Siregar and Perangin-angin 2023) People's contemporary view of marriage is influenced by numerous factors, including the need for financial stability and a greater emphasis on personal happiness. The prevalence of marriage is not solely dictated by subjective factors; objective elements like the socio-economic environment also play a role. For instance, having less disposable income can make individuals feel insecure about their and their partner's future. Consequently, in times of economic instability, there might be a decline in the number of marriages. Additionally, the issuance of marriage licenses varies across cultural centers in different regions, reflecting the diverse economic and other external conditions of each area. Therefore, to accurately assess whether there is a real decrease in the number of people getting married today, as reported, we must consider these subjective and objective factors

The Marriage License Statistics Data for Toronto presents the number of marriage licenses issued monthly by civic centers in four regions of the Greater Toronto Area (GTA) from 2011 to 2023. These regions are East Toronto (ET), North York (NY), Scarborough (SC), and Toronto (TO). In Section 2.1, the dataset is first utilized to analyze the total number of marriage licenses issued annually over these 13 years. Figure 1 reveals that, apart from a notable decrease in 2020 and 2021 due to the pandemic, the issuance of marriage licenses in the GTA has remained relatively stable. Section 2.2 reintroduces this dataset to explore the distribution of licenses issued by cultural centers across the different regions during the same period. The analysis shows that the overall number of licenses issued by various centers has not decreased much in recent years, and there has been a marked increase in the Toronto area. This indicates that, excluding external factors like the pandemic, the number of issued marriages licenses has remained stable in GTA.

3 Data

3.1 The total number of marriage licenses issued each year in the GTA region

To investigate the number of marriage licenses issued in the Greater Toronto Area, I collected the Marriage License Statistics from Open Data Toronto(Gelfand 2022). The data set includes the number of marriage licenses issued each month by civic centers in four different regions of the Greater Toronto Area from 2011 to 2023. The data set includes 528 observations of marriage licenses issued each month by civic centers in four different regions of the Greater Toronto Area from 2011 to 2023. variables, and the three variables focused on in this study are

CIVIC_CENTRE, MARRIAGE_LICENSES, TIME_PERIOD.And after cleaning, I added a column called "Year". By using R (R Core Team 2020), and R packages "tidyverse" (Wickham et al. 2019), "dplyr" (Wickham et al. 2021), "janitor" (Firke 2021), and "knitr" (Xie 2021), readr (Wickham, Hester, and Bryan 2023), ggplot2(Wickham 2016), lubridate (Grolemund and Wickham 2011). And the following table (Table 1) is an extract of the first ten rows of cleaned dataset

Table 1: Table 1: Number of marriage licenses issued in GTA

id	Civic Centre	Number of marriage licenses	Time period	Year
11101	ET	80	2011-01	2011
11102	NY	136	2011-01	2011
11103	SC	159	2011-01	2011
11104	TO	367	2011-01	2011
11105	ET	109	2011-02	2011
11106	NY	150	2011-02	2011
11107	SC	154	2011-02	2011
11108	TO	383	2011-02	2011
11109	ET	177	2011-03	2011
11110	NY	231	2011-03	2011

In the first ten rows of the Marriage License Statistics data set shown in Table 1, the id is just the number of each data and has no meaning. Civic Center represents the area where the civic center is located. Time period represents the year and month when the marriage certificate was issued, and Year only represents the year. As I mentioned before, the concept of Year is introduced after cleaning the data to make it more convenient when drawing graphs.

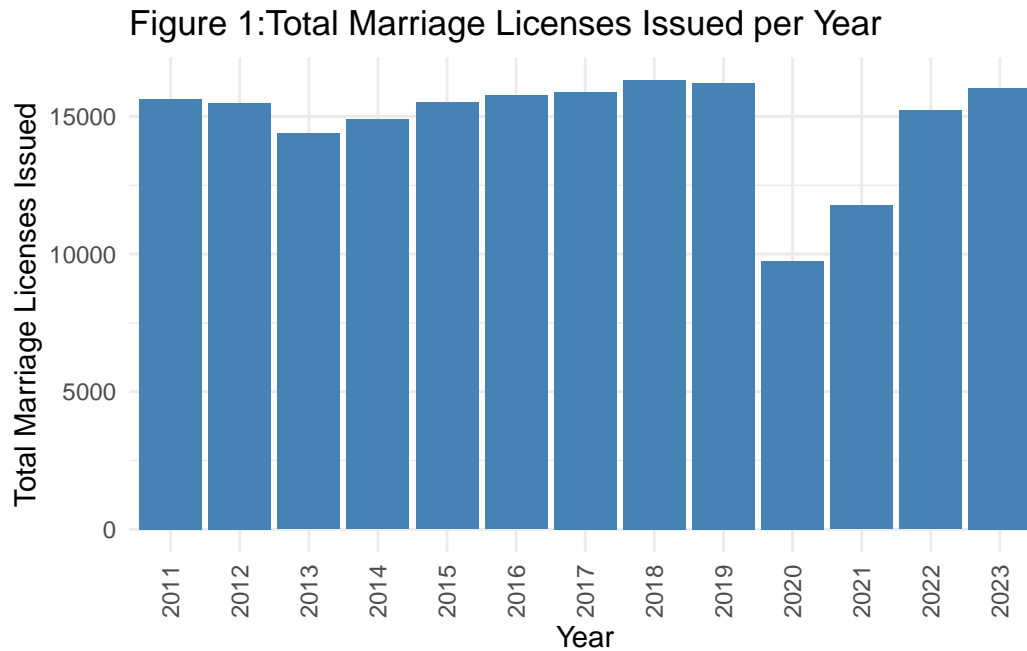Figure 1:Total Marriage Licenses Issued per Year

Figure 1 illustrates the total number of marriage licenses issued annually in the GTA region since 2011. From this figure, it's apparent that before 2020, the number of licenses issued each year was remarkably stable, averaging around 15,000, with a slight upward trend. However, there was a significant drop in 2020, with the number of licenses falling by nearly half. This decline can be attributed to the outbreak of the pandemic in 2020, which not only because of a long periods of quarantine but also because of the stopped operation of civic centers due to pandemic-related regulations. The modest recovery and still small amount of issuance of marriage licenses in 2021 can be seen as an aftereffect of the 2020 pandemic. The economic impact is further underscored by the unemployment rates in the Toronto area. Before the pandemic, the unemployment rate in the Toronto area reached 7.3% in March 2019(Brail and Kleinman 2022). After the pandemic, until July 2021, the unemployment rate reached 9.4% and was still higher than the pre-pandemic unemployment rate. This socioeconomic downturn, marked by high unemployment and reduced disposable income, likely deterred many individuals from marrying, as they struggled to ensure financial stability for themselves and their potential partners. However, by 2022 and 2023, the number of marriage licenses issued in the GTA region began to normalize, returning to pre-pandemic levels by 2023. Analyzing these data in the context of media claims that people are increasingly reluctant to marry, it becomes evident that this trend does not currently hold true for the GTA.

3.2 The number of marriage licenses issued each year in each region

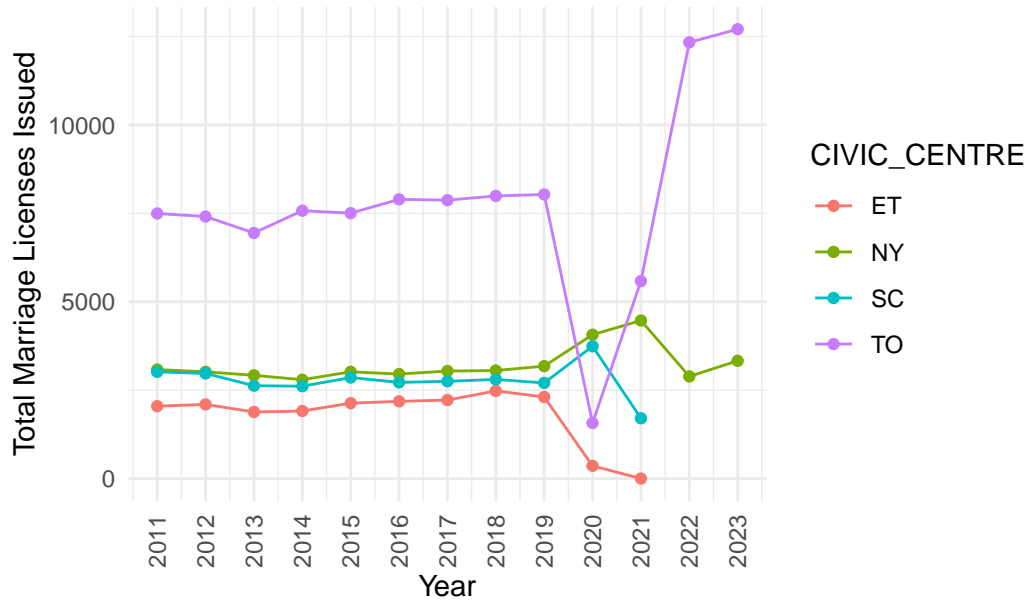Figure 2:Annual Marriage License Issuance by Region (2011

Figure 2 employs a line chart to depict the annual number of marriage licenses issued by each cultural center in the GTA from 2011 to 2023. Notably, data for East Toronto and Scarborough are available only up to 2021. This chart effectively illustrates the trends and fluctuations in license issuance at each center, a characteristic strength of line charts. Using 2020 as a pivotal year, we observe that prior to 2020, the issuance of marriage licenses by the cultural centers in all four regions was stable and consistent. However, post-2020, there was a marked increase in the number of licenses issued in Toronto, culminating in a peak in 2023. While the numbers for North York didn't show a significant rise, they did return to pre-pandemic levels by 2023. Although data for East Toronto and Scarborough post-2021 are missing, the surge in Toronto, where the issuance of marriage licenses in 2023 was approximately double that of the pre-pandemic period, and the recovery in North York suggest that the overall number of marriage licenses issued in the GTA in 2023 will likely equal or surpass pre-pandemic figures. This trend indicates an increasing inclination towards marriage, contrary to the declining interest suggested by media reports. Therefore, based on the data presented in Figure 2, the media's statement that 'people increasingly don't want to get married' does not seem to apply to the GTA as of 2023.

4 Discuss

The analysis of the 'Marriage License Statistics' data set indicates that the current number of marriage licenses issued in the Greater Toronto Area does not support the notion that

there is an increasing resistance to marriage. Contrary to this idea, as illustrated in Figure 2, the number of marriage licenses issued in Toronto in 2023 was nearly double. The overarching message of Section 2 is that the pursuit of marriage in the GTA remains strong. The significant drop in the total number of marriage licenses issued in 2020, as seen in both Figures 1 and 2, can be attributed to the pandemic and the subsequent economic downturn. The uncertainty and reduced disposable income of that period led many to postpone or forgo marriage plans. However, this decline appears to be a temporary response to an extraordinary situation rather than a long-term trend. Upon analysis, it becomes evident that the media's portrayal may not always align with reality, and some reports may be sensationalized to draw attention. Therefore, in order to get accurate results and summarize real trends, it is crucial to rely on reliable, authentic data and sources.

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