A Simulation of Marriage Data compared to Real Marriage Data in Toronto*

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September 20, 2024

The Covid-19 Pandemeic caused economic slowdowns in multiple sectors in Toronto. This paper aims to discover if the Marriage industry was one of the affected sectors. A Null-hypothesis of no change in the number of marriages was modeled with a random poisson distribution with Lambda of 10. It can be rejected if the data taken from Open Data Toronto looks significantly different.

1 Introduction

You can and should cross-reference sections and sub-sections. We use R Core Team (2023), Gelfand (2022), and Wickham et al. (2019).

The remainder of this paper is structured as follows. Section 2

2 Data

Below is a graph reflecting the number of marriages per month from 2011 to 2025 across all sectors of Toronto (Figure 1), from Gelfand (2022).

From the years 2011 through 2020, we can observe similar trends and the amount of marriages month over month and year over year. During 2020 and the following years, a significant decrease in the amount of marriage licences is also observable. A simple conjecture is that the decrease was caused by the lock-downs in response to the Covid-19 pandemic. A sudden spike in the number of marriages c. March 2022 aligns with when many social distancing restrictions were loosened in Toronto.

*Code and data are available at: https://github.com/Richard-Guo1/Marriage_Liscence_Stats.git.

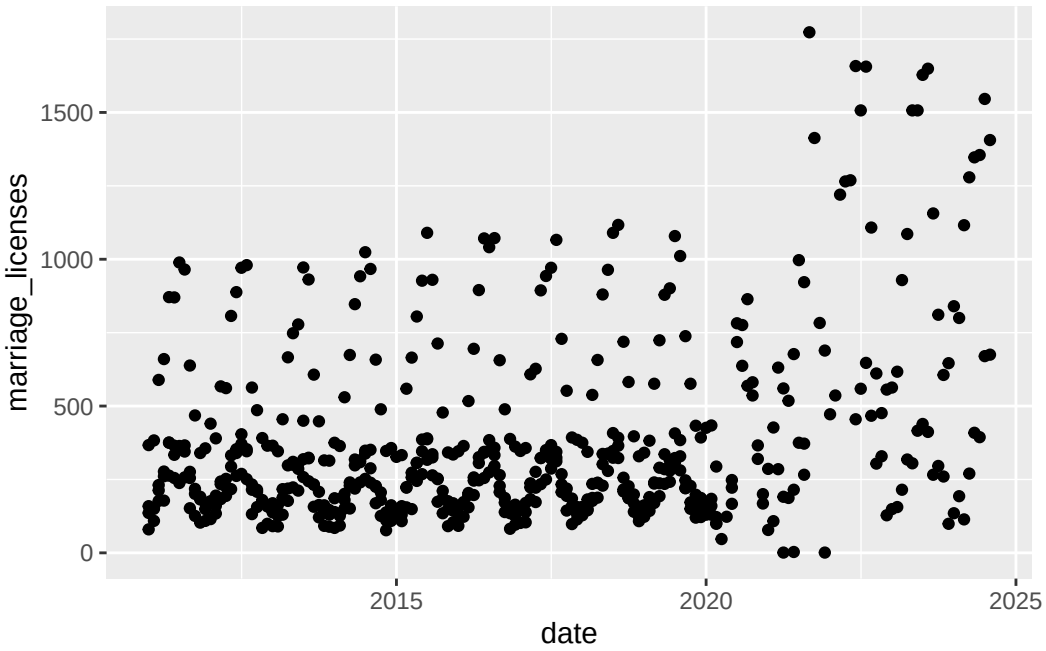

Figure 1: Number of Marriages per Month in Toronto

And also planes (**?@fig-planes**). (You can change the height and width, but don't worry about doing that until you have finished every other aspect of the paper - Quarto will try to make it look nice and the defaults usually work well once you have enough text.)

3 Discussion

3.1 First discussion point

If my paper were 10 pages, then should be be at least 2.5 pages. The discussion is a chance to show off what you know and what you learnt from all this.

3.2 Second discussion point

3.3 Third discussion point

3.4 Weaknesses and next steps

Weaknesses and next steps should also be included.

Appendix

A Additional data details

References

Gelfand, Sharla. 2022. *Opendatatoronto: Access the City of Toronto Open Data Portal*. https://CRAN.R-project.org/package=opendatatoronto.

R Core Team. 2023. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. https://www.R-project.org/.

Wickham, Hadley, Mara Averick, Jennifer Bryan, Winston Chang, Lucy D'Agostino McGowan, Romain François, Garrett Grolemund, et al. 2019. "Welcome to the tidyverse." *Journal of Open Source Software* 4 (43): 1686. https://doi.org/10.21105/joss.01686.