

My title*

My subtitle if needed

Claire Chang

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First sentence. Second sentence. Third sentence. Fourth sentence.

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

Some of our data is of penguins (Figure [1](#)), from Horst, Hill, and Gorman (2020).

Talk more about it: The scatter plot displays the distribution of marriage licenses issued over time, showing a generally consistent pattern with a noticeable increase in the number of licenses issued starting around 2020.

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.)

```
# Load the necessary library
library(tidyverse)

# Assuming your data is in a dataframe called 'raw_data', inspect the data first
head(data)
```

*Code and data are available at: [LINK](#).

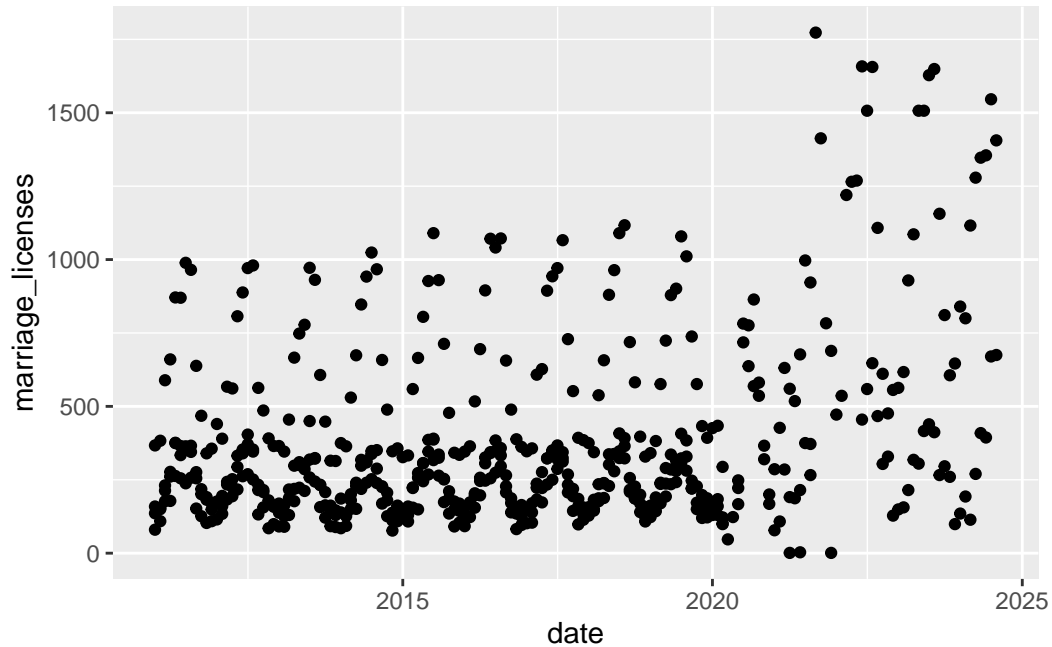


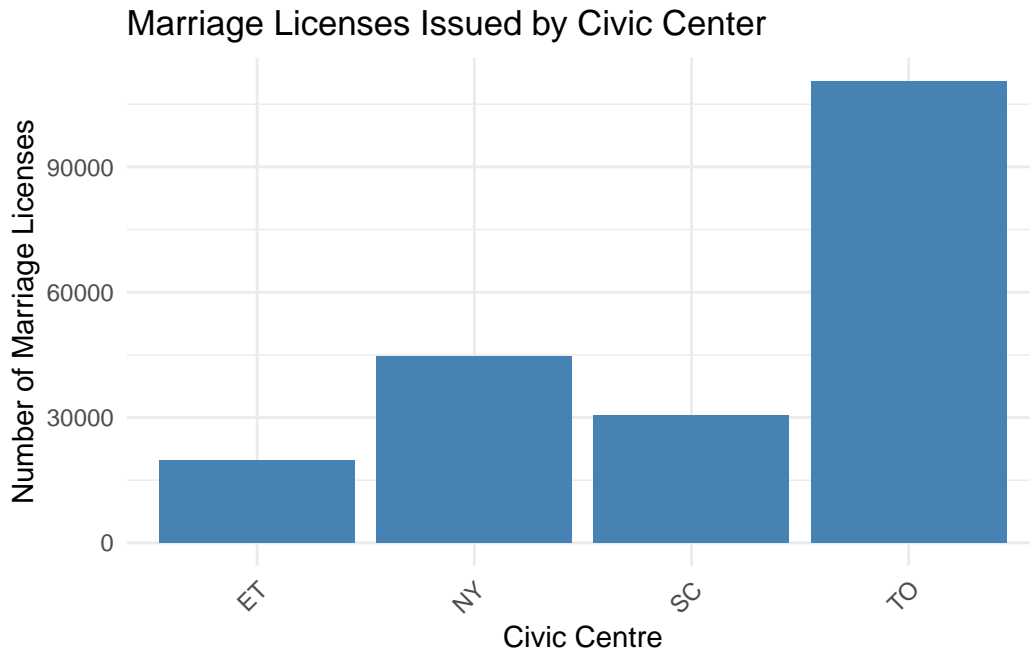
Figure 1: Bills of penguins

A tibble: 6 x 6

	id	civic_centre	marriage_licenses	year	month	date
	<dbl>	<chr>	<dbl>	<dbl>	<chr>	<date>
1	15381	ET	80	2011	01	2011-01-01
2	15382	NY	136	2011	01	2011-01-01
3	15383	SC	159	2011	01	2011-01-01
4	15384	TO	367	2011	01	2011-01-01
5	15385	ET	109	2011	02	2011-02-01
6	15386	NY	150	2011	02	2011-02-01

Create a bar chart: count of marriage licenses by civic center

```
ggplot(data, aes(x = civic_centre, y = marriage_licenses)) +
  geom_bar(stat = "identity", fill = "steelblue") + # Change 'steelblue' to any desired color
  labs(
    title = "Marriage Licenses Issued by Civic Center",
    x = "Civic Centre",
    y = "Number of Marriage Licenses"
  ) +
  theme_minimal() + # Optional: for a clean theme
  theme(axis.text.x = element_text(angle = 45, hjust = 1)) # Rotate x-axis labels if needed
```



The bar chart shows the distribution of marriage licenses issued at different civic centers. Toronto (TO) has a noticeably higher number of licenses compared to Scarborough (SC), North York (NY), and Etobicoke (ET), suggesting that TO handles a substantially greater volume of marriage licenses than the other locations.

3 Discussion

3.1 First discussion point

If my paper were 10 pages, then should 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>.
- Horst, Allison Marie, Alison Presmanes Hill, and Kristen B Gorman. 2020. *Palmerpenguins: Palmer Archipelago (Antarctica) Penguin Data*. <https://doi.org/10.5281/zenodo.3960218>.
- 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 Golemund, et al. 2019. “Welcome to the tidyverse.” *Journal of Open Source Software* 4 (43): 1686. <https://doi.org/10.21105/joss.01686>.