

My title\*

My subtitle if needed

First author

Another author

21 February 2022

#### **Abstract**

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

## **1 Introduction**

You can and should cross-reference sections and sub-sections. For instance, Section 3. R Markdown automatically makes the sections lower case and adds a dash to spaces to generate labels, for instance, Section 6.1.

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

## 2 Replications

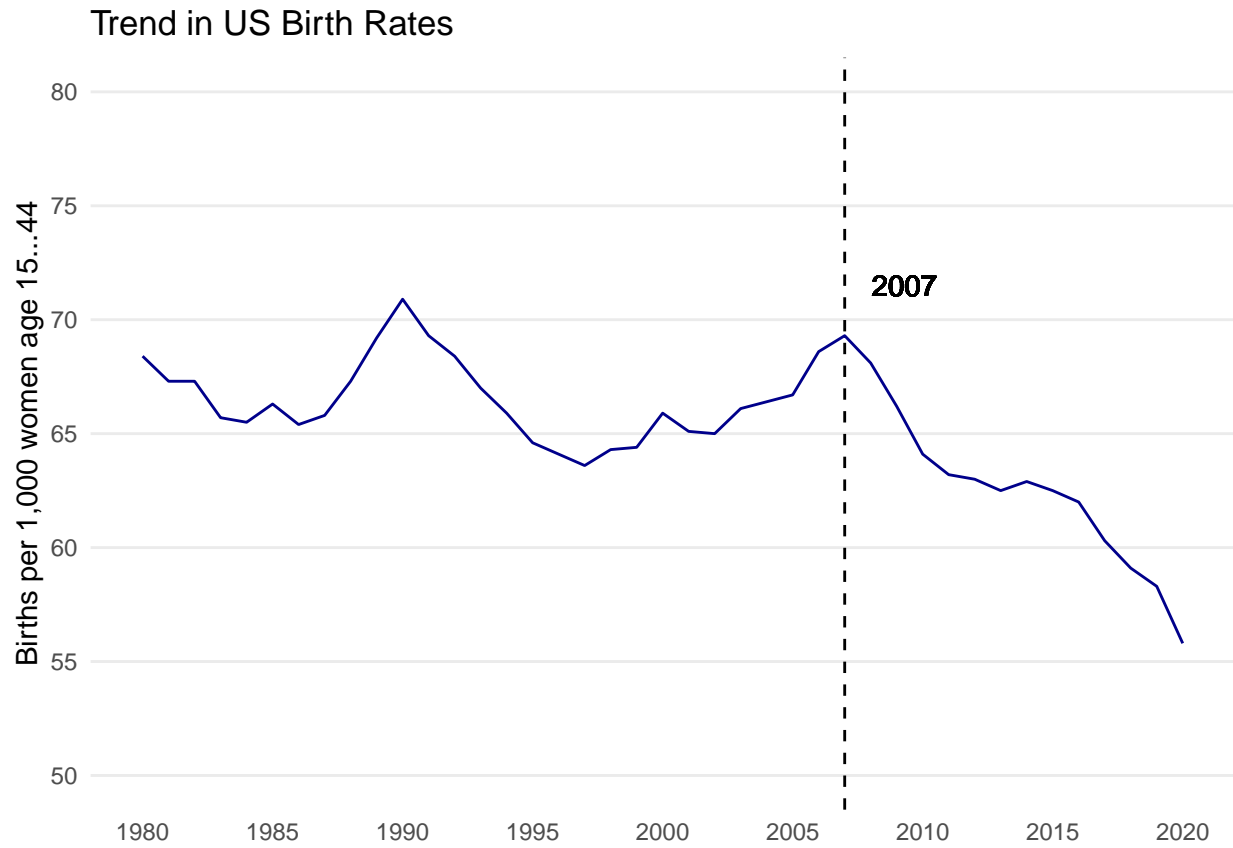


Figure 1: *Source:* Birth Rates collected from CDC Vital Statistics Births Reports for 2015, 2019 and 2020. See Data Appendix for additional details.

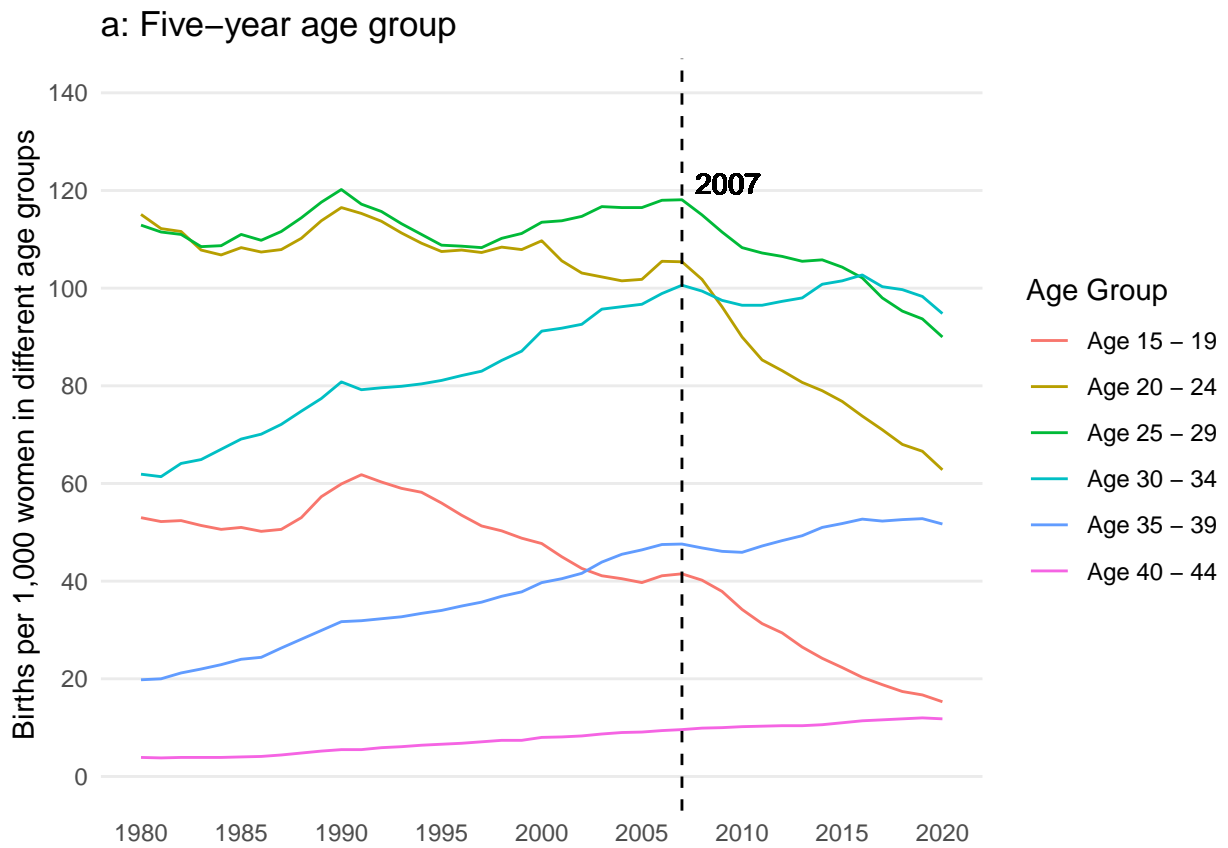


Figure 2: *Note:* Birth rates by age group are gathered from CDC Vital Statistics Births Reports. The Data Appendix provides detailed information on the specific data source.

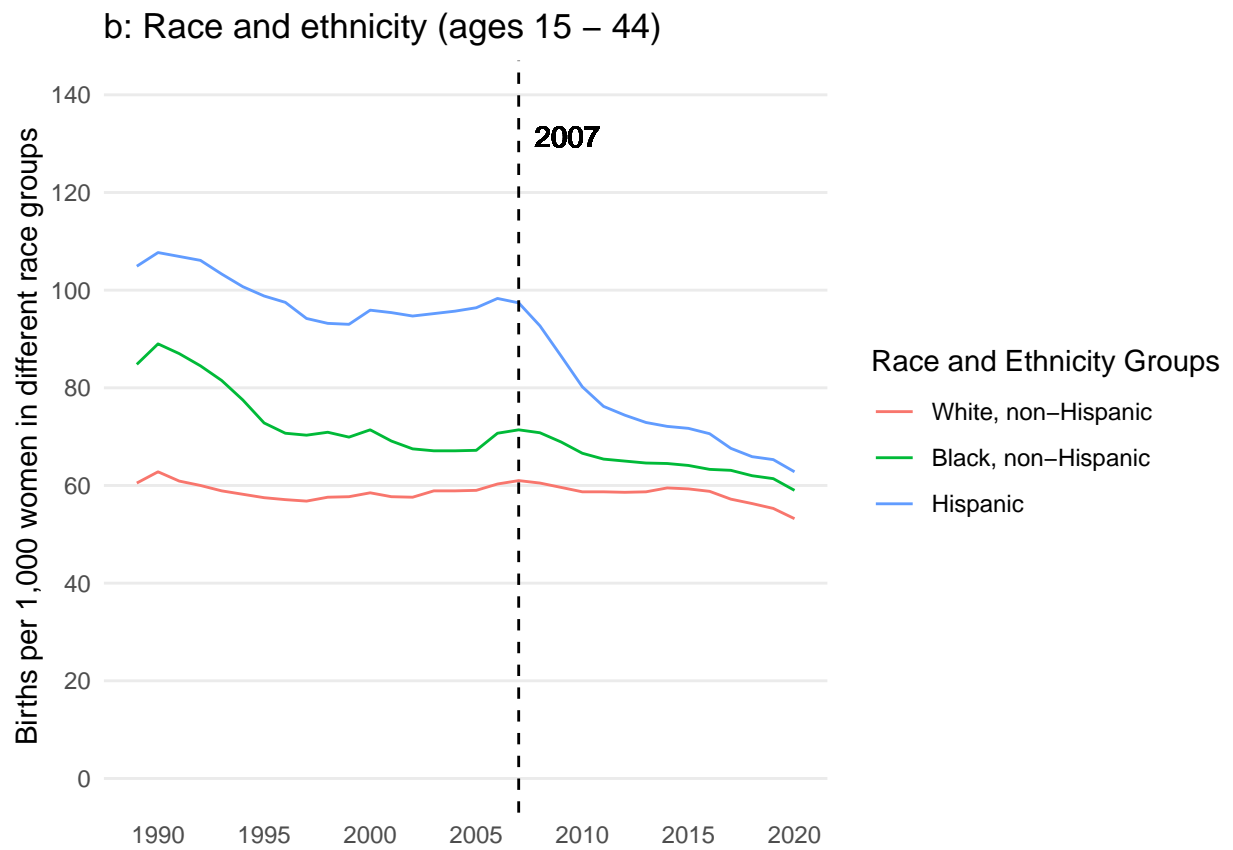


Figure 3: *Note:* Birth rates by race and ethnicity are gathered from CDC Vital Statistics Births Reports. The Data Appendix provides detailed information on the specific data source.

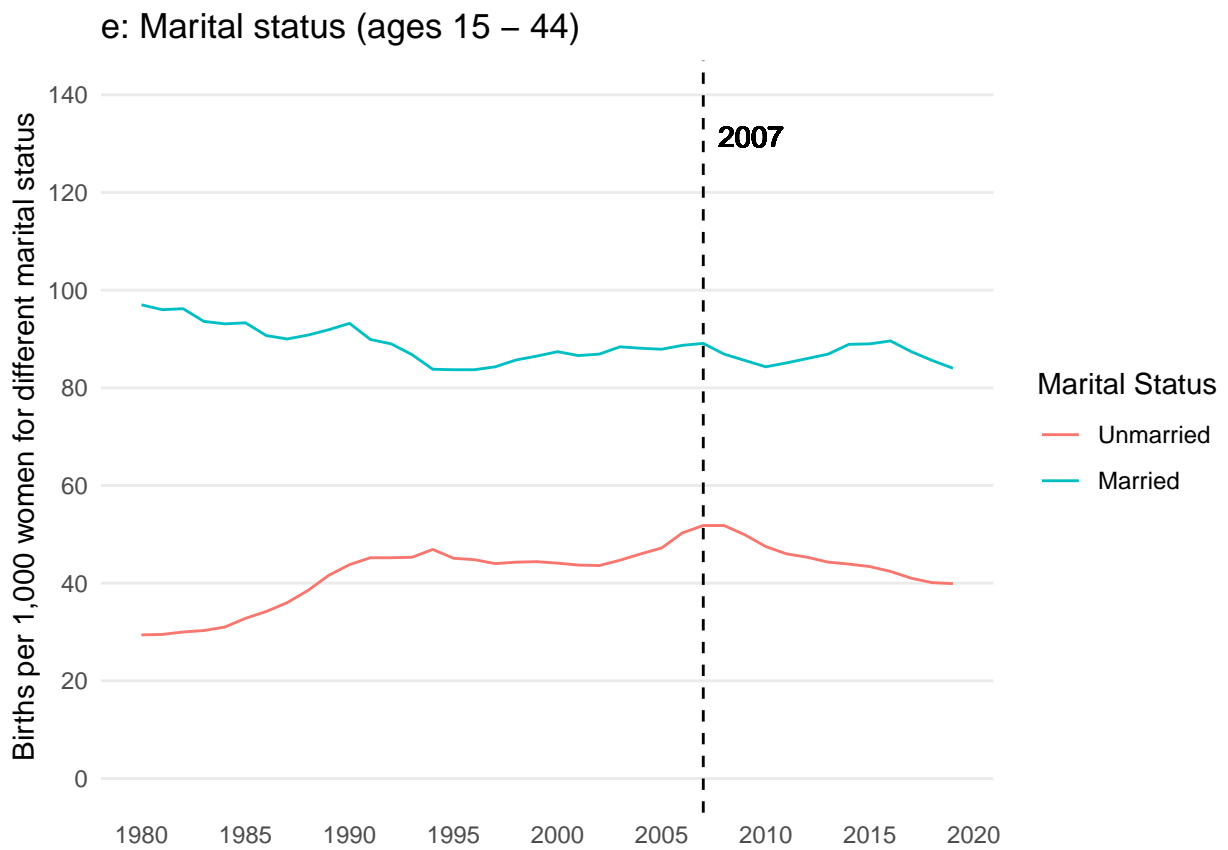


Figure 4: *Note:* Birth rates by marital status are gathered from CDC Vital Statistics Births Reports. The Data Appendix provides detailed information on the specific data source.

### 3 Data

Our data is of penguins (Figure 5).

```
## Warning: It is deprecated to specify `guide = FALSE` to remove a guide. Please
## use `guide = "none"` instead.
```

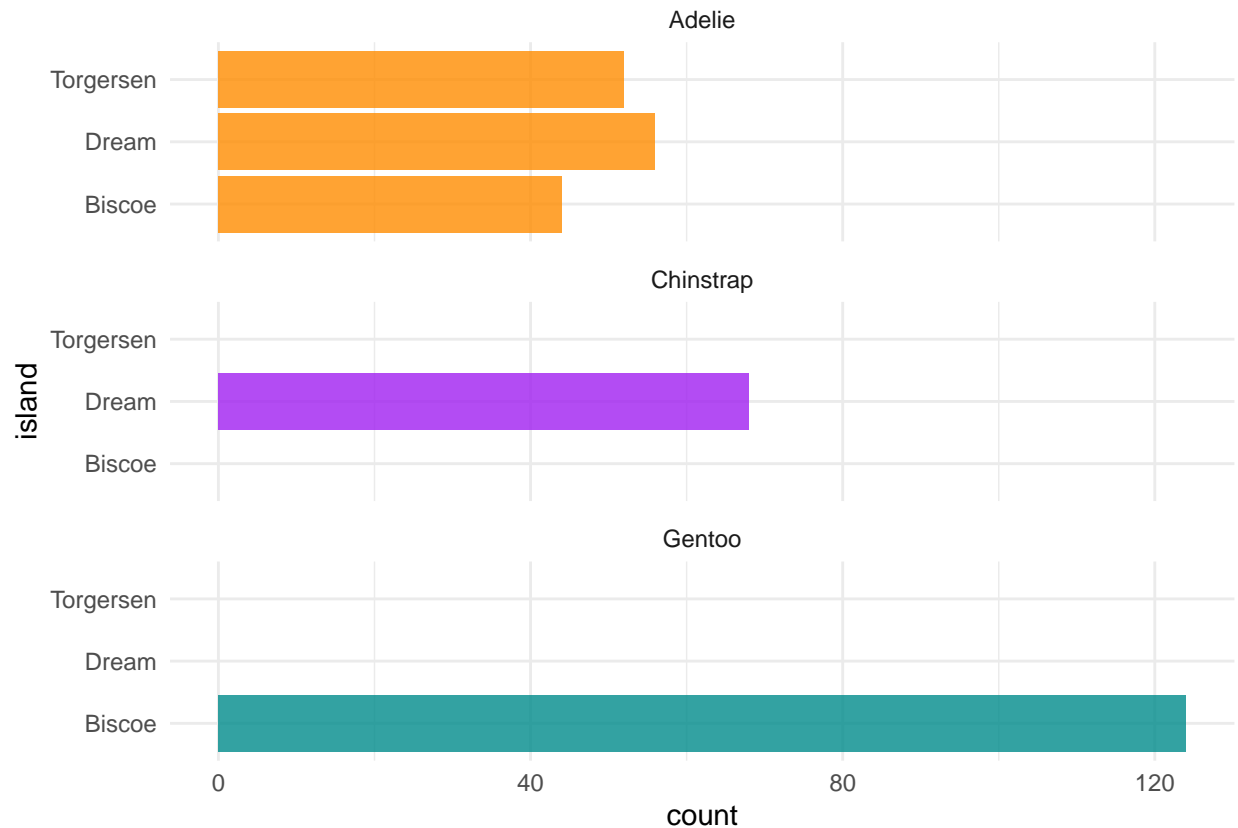


Figure 5: Bills of penguins

Talk more about it.

Also bills and their average (Figure 6). (Notice how you can change the height and width so they don't take the whole page?)

```
## Warning: It is deprecated to specify `guide = FALSE` to remove a guide. Please
## use `guide = "none"` instead.
```

Talk way more about it.

### 4 Model

$$Pr(\theta|y) = \frac{Pr(y|\theta)Pr(\theta)}{Pr(y)} \quad (1)$$

Equation (1) seems useful, eh?

Here's a dumb example of how to use some references: In paper we run our analysis in R (R Core Team 2020). We also use the `tidyverse` which was written by Wickham et al. (2019) If we were interested in baseball data then Friendly et al. (2020) could be useful.

We can use maths by including latex between dollar signs, for instance  $\theta$ .

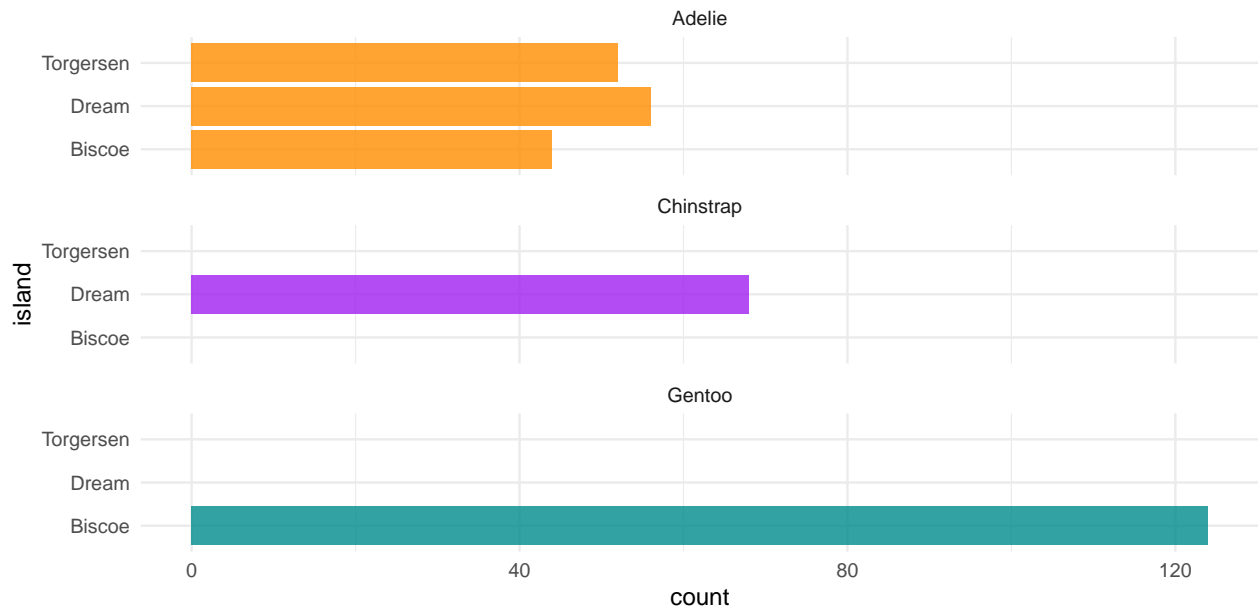


Figure 6: More bills of penguins

## 5 Results

## 6 Discussion

### 6.1 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.

### 6.2 Second discussion point

### 6.3 Third discussion point

### 6.4 Weaknesses and next steps

Weaknesses and next steps should also be included.

## Appendix

### A Additional details



## References

- Friendly, Michael, Chris Dalzell, Martin Monkman, and Dennis Murphy. 2020. *Lahman: Sean ‘Lahman’ Baseball Database*. <https://CRAN.R-project.org/package=Lahman>.
- R Core Team. 2020. *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>.