The Impact of Attitudes on the Gender Wage Gap*

My subtitle if needed

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This study examines the impact of societal attitudes towards women's income, GDP, and education level on the gender wage gap. Through statistical analysis of data from various countries, we find that negative attitudes towards women's income significantly exacerbate the gender wage gap, notwithstanding the mitigating effects of higher education levels and GDP. Our findings highlight the critical role of societal attitudes in economic disparities between genders, suggesting targeted interventions for policymakers. This research underscores the complexity of the gender wage gap and the importance of addressing societal attitudes to achieve gender equality in the labor market.

1 Introduction

The gender wage gap, the average difference in pay between men and women, persists as a prominent issue in labor economics, reflecting broader societal inequalities. Despite significant strides towards gender equality, disparities in earnings remain a stubborn challenge worldwide. The causes of the gender wage gap are multifaceted, involving complex interactions between economic, social, and educational factors. Traditional economic explanations such as differences in occupation, industry, work experience, and education have been extensively studied. However, these factors do not fully account for the persistent wage discrepancies, suggesting the influence of more intangible elements, such as societal attitudes towards women's roles in the workforce and the economy.

Recent research has begun to explore the impact of these societal attitudes, proposing that they may significantly influence economic outcomes for women. This paper seeks to contribute to this emerging body of research by examining how attitudes towards women's income, alongside

*Code and data are available at:https://github.com/alainahu/gender_wage_gap

GDP and education level, predict variations in the gender wage gap across different contexts. Social psychology research has revealed the importance of attitudes on behavior. By integrating data on societal attitudes with economic and educational indicators, this study aims to uncover the nuanced ways in which these variables interact to affect the economic valuation of women's labor. The estimand is the impact of societal attitudes toward women's income, GDP, and education on the gender wage gap.

Our research paper begins with the Data section (Section 2) to visualize and further understand the measurement, source, methodology, and variables we are examining. Then, we introduce the Model (Section 3) used to understand the relationships in the data and report the findings in the Results section (Section 4). Finally, we include the Discussion (Section 5) of the findings, summarizing the takeaway and future of this research.

2 Data

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

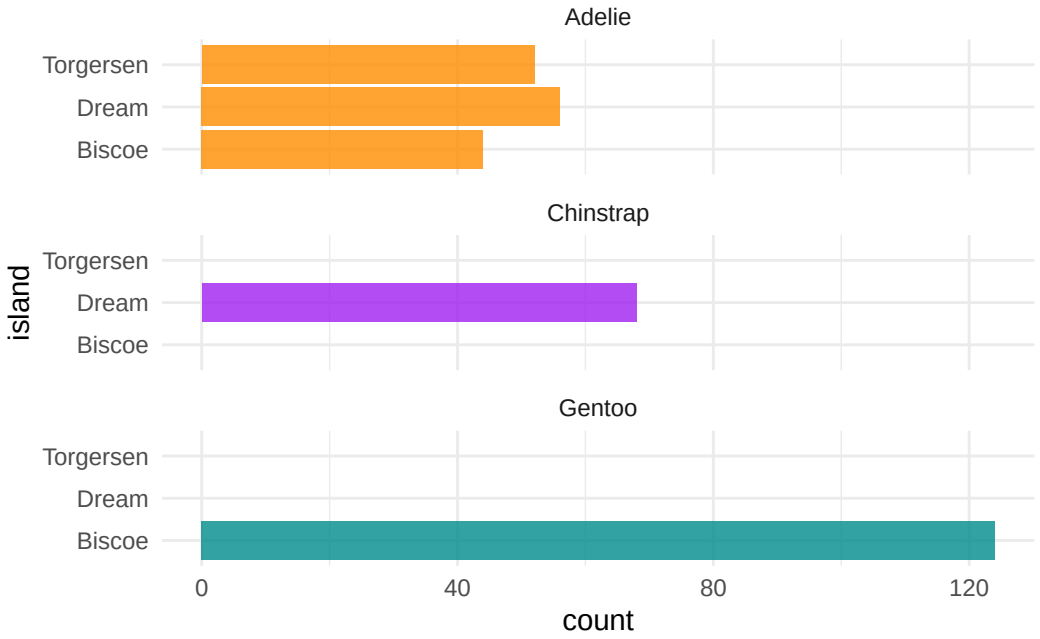


Figure 1: Bills of penguins

Talk more about it.

And also planes (Figure 2). (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.)

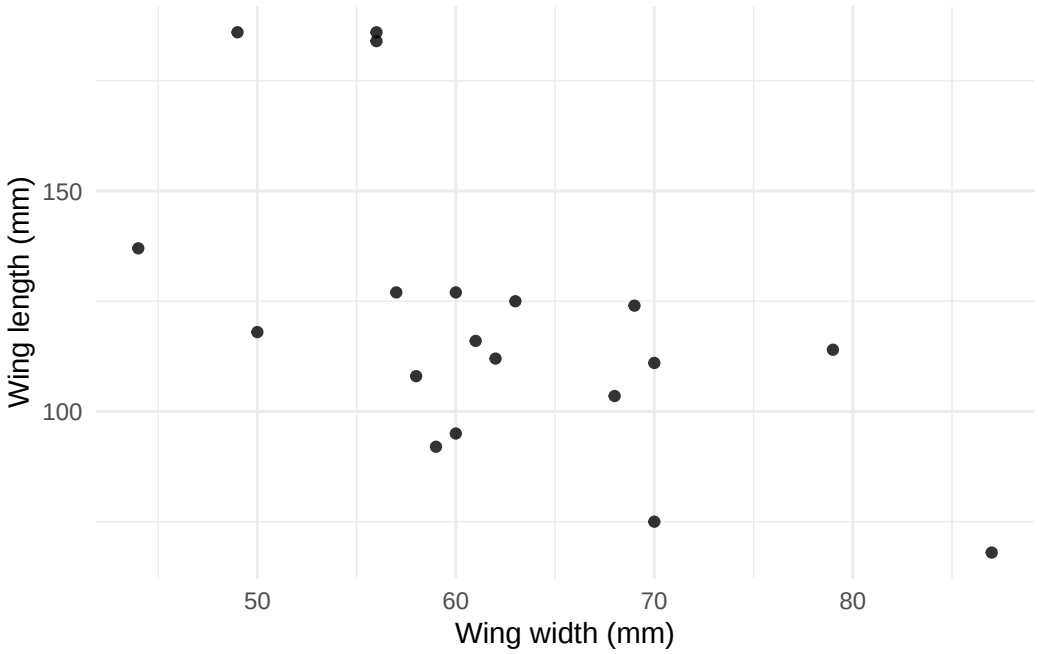


Figure 2: Relationship between wing length and width

Talk way more about it.

3 Model

The goal of our modelling strategy is twofold. Firstly,...

Here we briefly describe the Bayesian analysis model used to investigate... Background details and diagnostics are included in Appendix B.

3.1 Model set-up

Define y_i as the number of seconds that the plane remained aloft. Then β_i is the wing width and γ_i is the wing length, both measured in millimeters.

$$y_i|\mu_i, \sigma \sim \text{Normal}(\mu_i, \sigma) \tag{1}$$
$$\mu_i = \alpha + \beta_i + \gamma_i \tag{2}$$
$$\alpha \sim \text{Normal}(0, 2.5) \tag{3}$$
$$\beta \sim \text{Normal}(0, 2.5) \tag{4}$$
$$\gamma \sim \text{Normal}(0, 2.5) \tag{5}$$
$$\sigma \sim \text{Exponential}(1) \tag{6}$$

We run the model in R (R Core Team 2023) using the `rstanarm` package of Goodrich et al. (2022). We use the default priors from `rstanarm`.

3.1.1 Model justification

We expect a positive relationship between the size of the wings and time spent aloft. In particular...

We can use maths by including latex between dollar signs, for instance θ.

4 Results

Our results are summarized in Table 1.

5 Discussion

5.1 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.

5.2 Second discussion point

5.3 Third discussion point

5.4 Weaknesses and next steps

Weaknesses and next steps should also be included.

Table 1: Explanatory models of flight time based on wing width and wing length

	First model
(Intercept)	1.12
	(1.70)
length	0.01
	(0.01)
width	−0.01
	(0.02)
Num.Obs.	19
R2	0.320
R2 Adj.	0.019
Log.Lik.	−18.128
ELPD	−21.6
ELPD s.e.	2.1
LOOIC	43.2
LOOIC s.e.	4.3
WAIC	42.7
RMSE	0.60

Appendix

A Additional data details

B Model details

B.1 Posterior predictive check

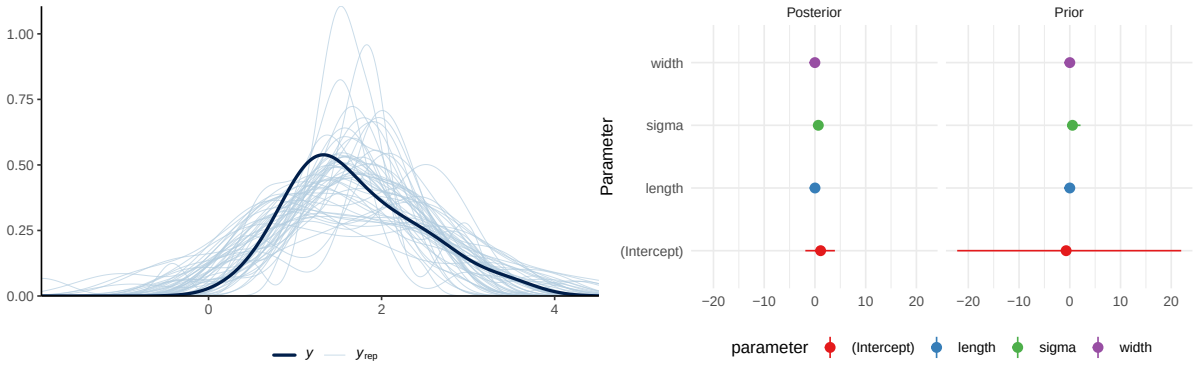
In Figure 3a we implement a posterior predictive check. This shows...

In Figure 3b we compare the posterior with the prior. This shows...

B.2 Diagnostics

Figure 4a is a trace plot. It shows... This suggests...

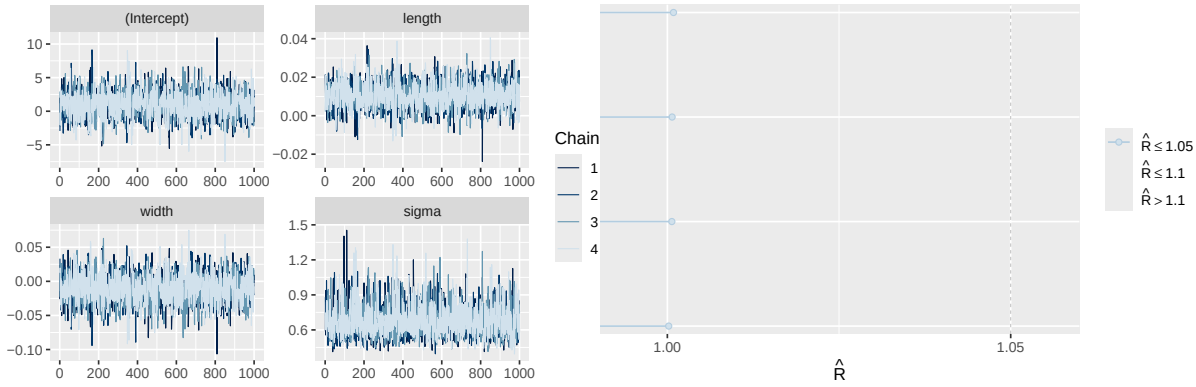
Figure 4b is a Rhat plot. It shows... This suggests...



(a) Posterior prediction check

(b) Comparing the posterior with the prior

Figure 3: Examining how the model fits, and is affected by, the data



(a) Trace plot

(b) Rhat plot

Figure 4: Checking the convergence of the MCMC algorithm

References

Goodrich, Ben, Jonah Gabry, Imad Ali, and Sam Brilleman. 2022. "Rstanarm: Bayesian Applied Regression Modeling via Stan." https://mc-stan.org/rstanarm/.

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/.