

# Lab 5: Birth Ratios

Fill in your full name

2025-10-22

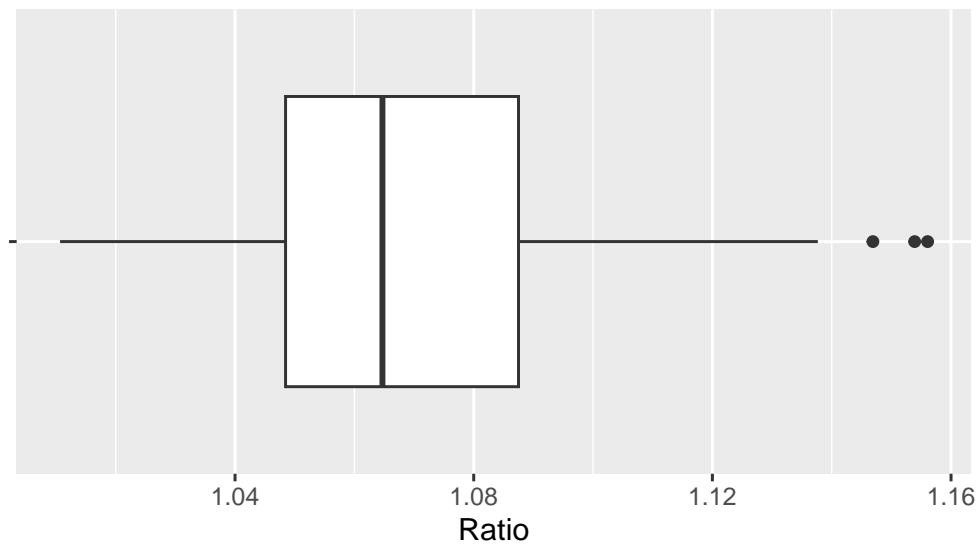
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## Visualizing and quantifying the distribution

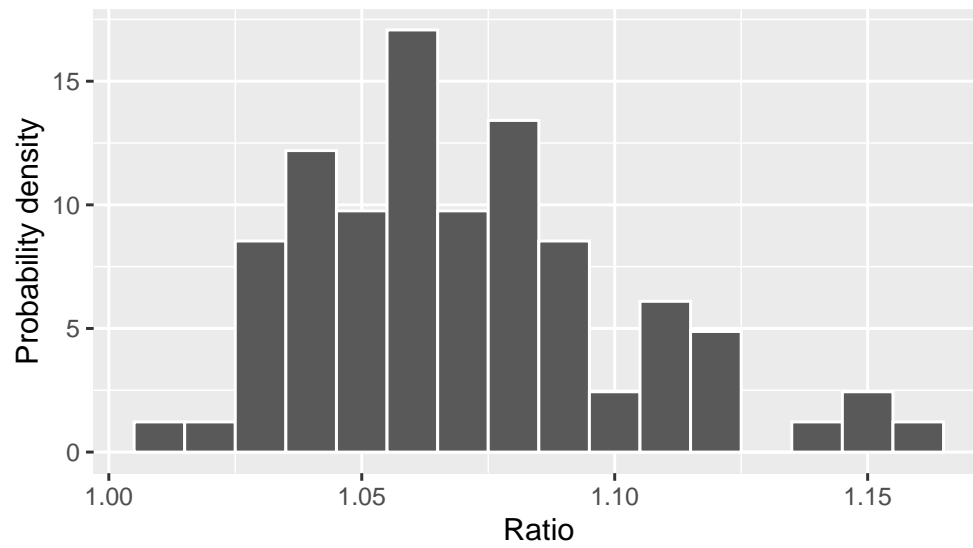
Exercise 1

Exercise 2

Arbuthnot birth ratio (Males/Females): Boxplot

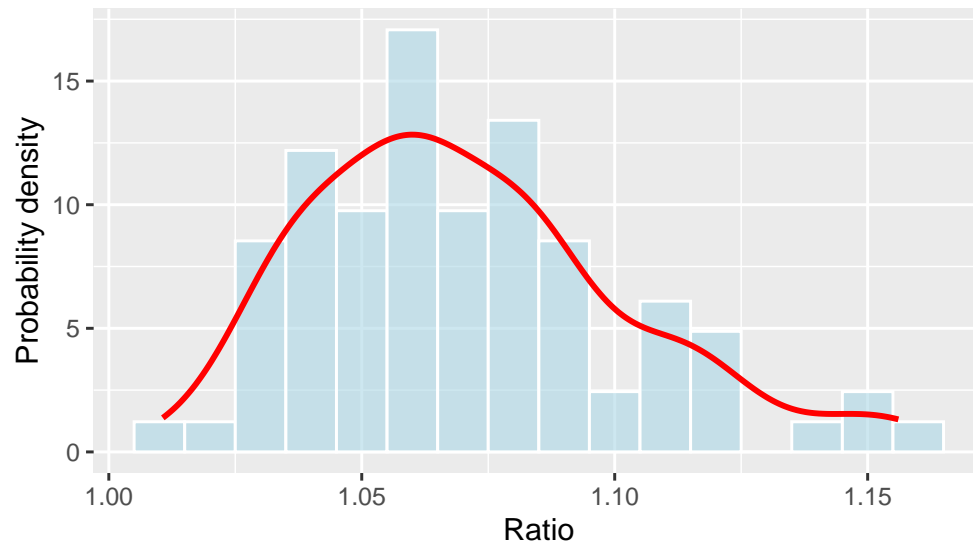


Arbuthnot birth ratio (Males/Females): PMF



### Exercise 3

Arbuthnot birth ratio (Males/Females): PMF + Density



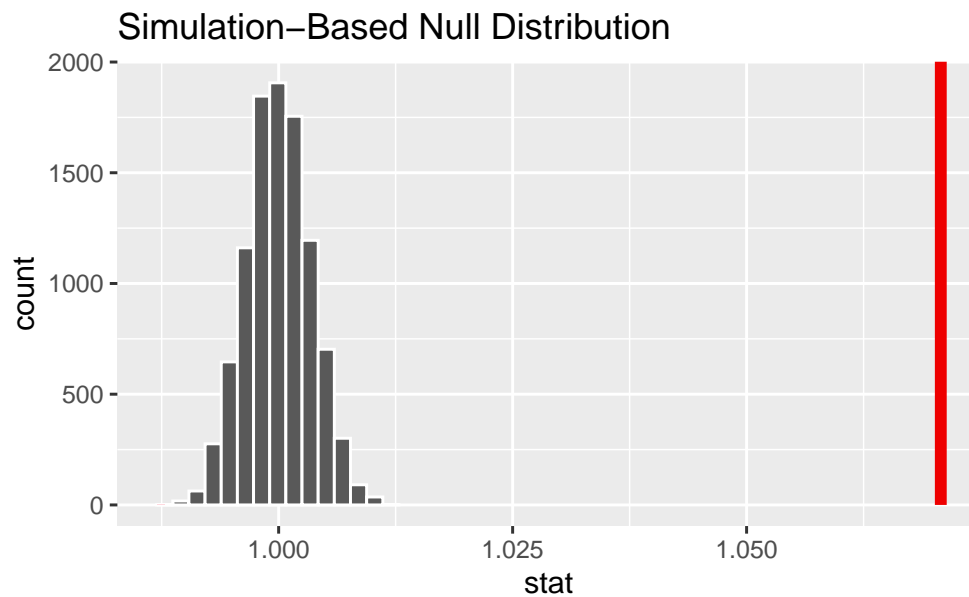
### Exercise 4

mean	median	sd	iqr	min	max
1.070748	1.064704	0.0312537	0.0390408	1.010673	1.156075

## infering a trend

### Exercise 5

p_value
0



-The null hypothesis assumes that the average ratio of male to female births is 1, meaning there's no real difference between them. The alternative hypothesis suggests that the ratio is not exactly 1. Because this is a two-sided test, both higher and lower differences are considered. If the p-value ends up being less than 0.05, we reject the null hypothesis and say that the difference between male and female birth ratios is statistically significant.

### Exercise 6