



GROUP 014

Gender Bias in Book Reviews: Analyzing Patterns in User Feedback

09 February, 2025

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Background

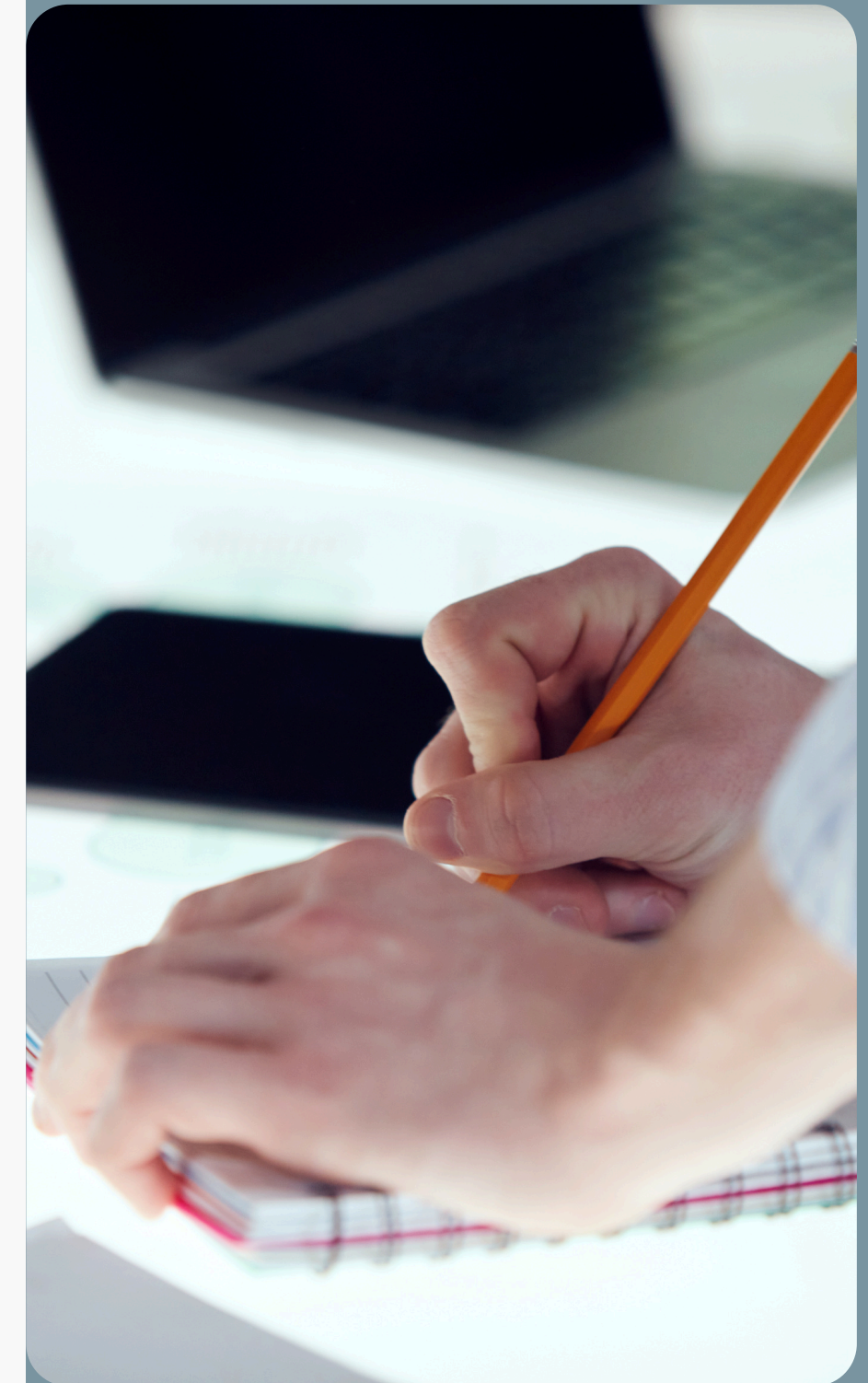
This study aims to examine whether gender bias exists in user-generated book reviews and how it affects authors' visibility and success. Online platforms like Amazon democratize book reviews but also reflect societal biases, often leading to more emotionally charged and polarized critiques for female authors.

Research Questions

- RQ1: Are books written by women authors rated or reviewed differently compared to books by men authors?
- RQ2: Is there a difference in the frequency or content of critical versus positive reviews for books written by male versus female authors?

Methodology and Data Analysis

- Dataset: User-generated book reviews.
- Sentiment Analysis: VADER and TextBlob for classification.
- Statistical Tests: T-tests and chi-square tests to validate differences.
- Content Analysis: TF-IDF and topic modeling to identify linguistic patterns.



Key Findings: RQ1



- The mean rating for books authored by men was 4.2, while books by women had a slightly lower mean of 3.8.
- Female authors exhibited greater rating variability with more instances of lower ratings.
- Boxplots and histograms confirm that overall rating distributions are consistent across genders, but subtle disparities exist.

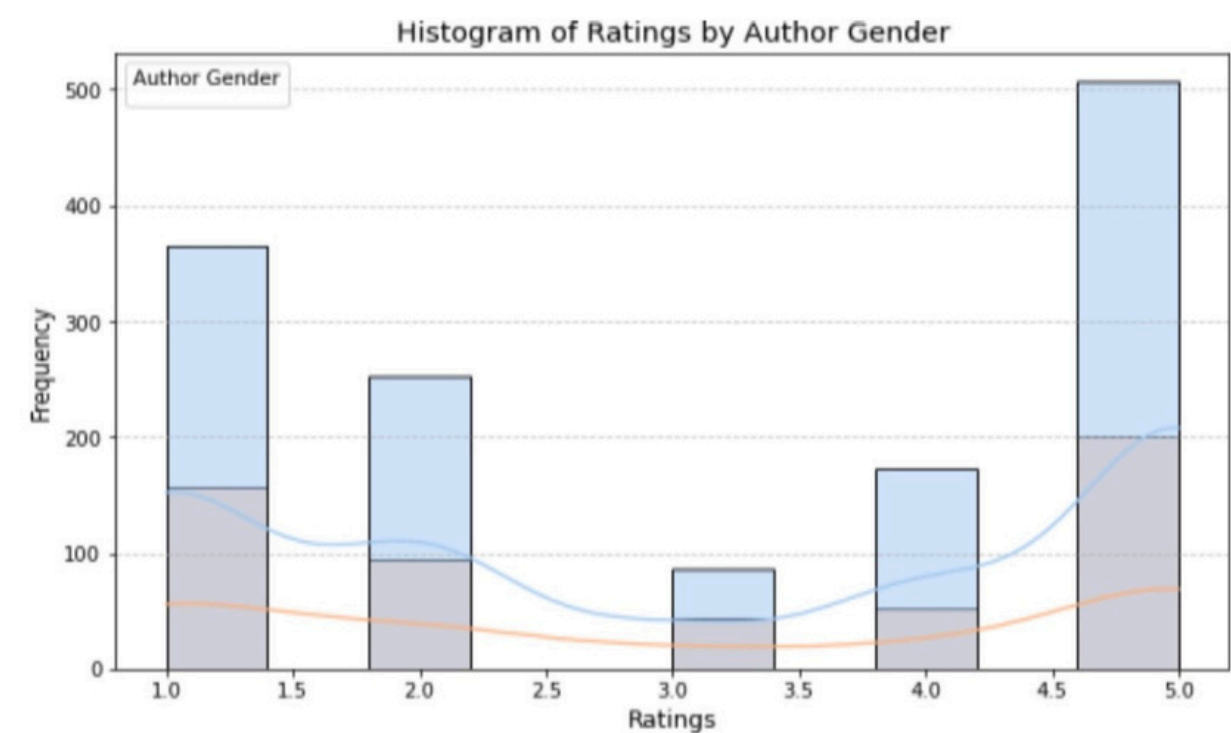
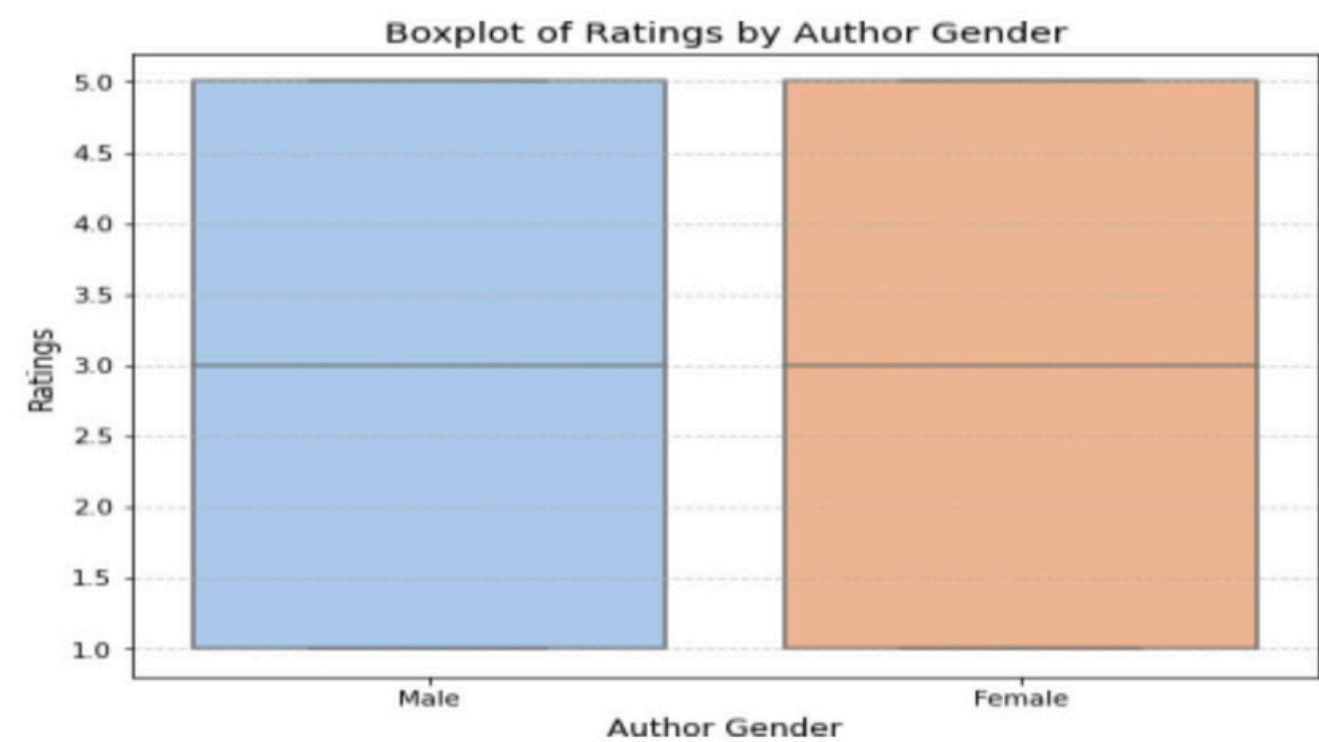
Key Findings: RQ₂



- Positive reviews accounted for over 70% of all reviews for both genders.
- Female authors received slightly more negative reviews (12.1%) than male authors (10.7%), but this was not statistically significant.
- Content analysis revealed gendered stereotypes: reviews of female-authored books emphasized emotional depth, while those of male-authored books focused on creativity and originality.

Data Analysis

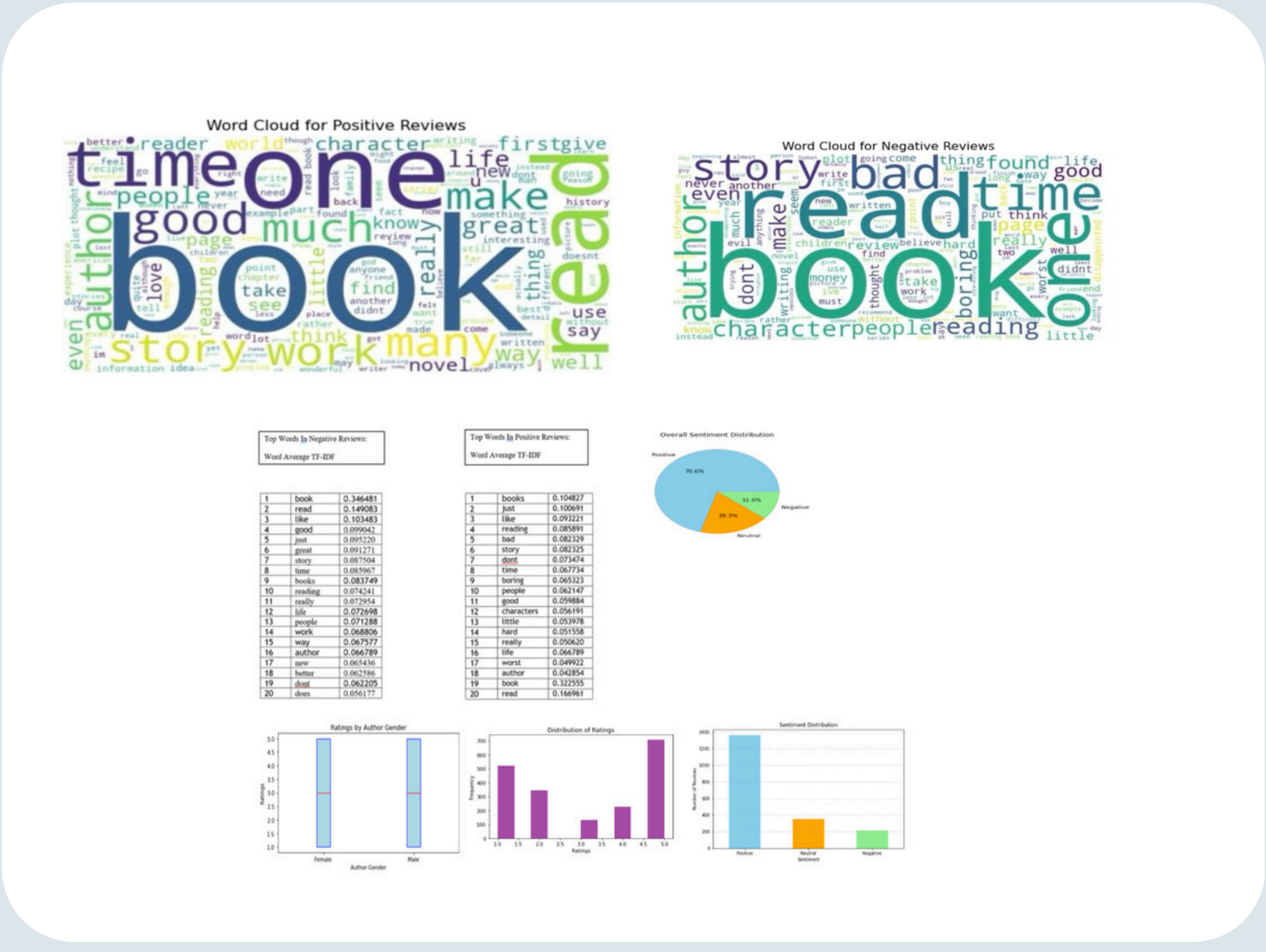
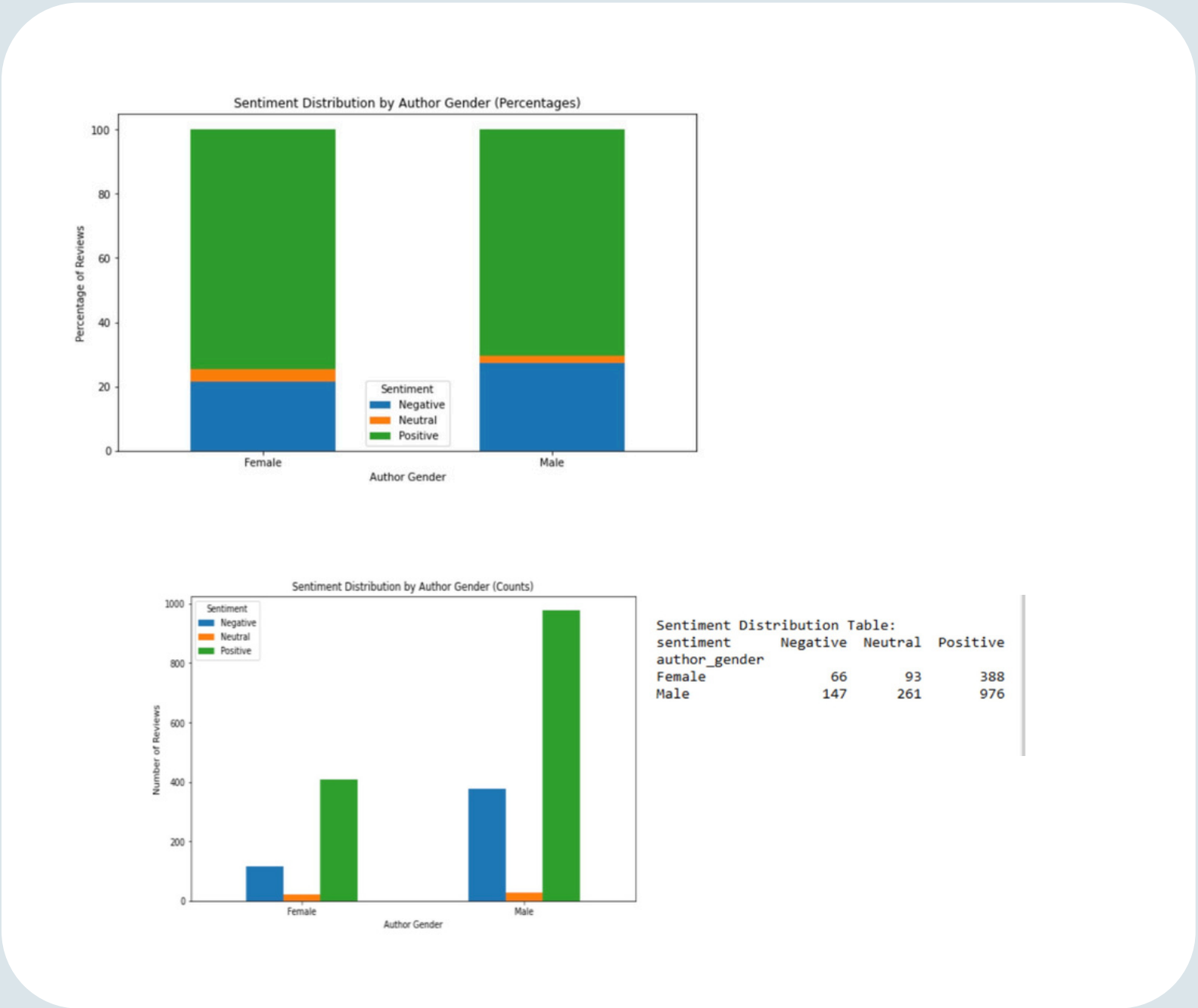
The visualization below answers Research QuestionsRQ1: Are books by female authors rated differently than those by male authors?



Gender	Mean (Rating)	Median (Rating)	Standard Deviation
Authors	3.15	3.0	1.68
Authors	3.09	3.0	1.7

Data Analysis

The Visualizations below answers Research QuestionsRQ2 : Are books by female authors rated differently than those by male authors?



Conclusion

- No statistically significant rating difference, but trends indicate systemic biases.
- Female authors face more polarized reviews and different linguistic critiques.

Future Research:

- Expanding datasets to include intersectional factors (race, genre, etc.).
- Longitudinal studies to analyze changing trends over time.