

Perceived Power and Submissiveness of Gendered Entities

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Introduction

“Insofar as it mirrors the world, literature reflects the prevalent social attitude toward women...” - Cynthia Griffin Wolff, 1972

How literature portrays men and women reflects society’s views on gender. Investigating perceived power levels of gendered entities in writing could provide a pulse to monitor in the pursuit of achieving gender equality. In the 21st century, there are more writers and readers than ever before in human history. Every internet user that posts to a social media site or comments on a blog post is a writer. The barriers to global publication are extremely low, and digital writing lends itself easily to data collection and analysis, making now a better time than ever to examine the way humans are portraying the power levels of gender through their writing.

This study proposes to investigate levels of perceived power of male and female entities in both a work of fiction and the social commentary surrounding it. To explore this, I chose two related sources of writing: the texts of *The Wheel of Time* series of novels by Robert Jordan, and the r/WoT subreddit on the popular internet community site reddit.com. I will only consider the first eleven books in *The Wheel of Time* series. Books 12 – 14 were written or completed by another author, Brandon Sanderson, and I would like to limit the study to one author’s voice in order to maintain consistency and view changes over time.

This study proposes to answer the following questions: Is there a difference between the perceived power levels of male and female characters in the *Wheel of Time* series? How do the average levels of gender powers differ

between the series itself and the posts and comments on the subreddit? Do power levels differ between books in the series, and do they show a trend over the course of publication (1990 - 2005)?

The findings of this study should be relevant to anyone interested in observing gender inequality in popular culture and examining social attitudes toward gender. The impacts of such understanding could span from satisfying simple curiosity to helping inform policy or curriculum aimed at narrowing the gender equality gap.

This study will rely on part-of-speech and dependency tagging using the Spacy module in Python and a power lexicon from Sap, Prasetyo, Holtzman, Rashkin, & Choi (2017) to quantify the relationships between entities and the actions they take or experience. Success in the study will mean that clear conclusions can be drawn about those aggregate relationships, regardless of whether any preconceived hypotheses are proven correct. The risks involved in undertaking this research are that incorrect conclusions could lead to poorly informed decisions on the parts of policy makers and leaders, but the payoff is clear: a better understanding of the way literature reflects social views and the evolution of gender power dynamics over the last 30 years.

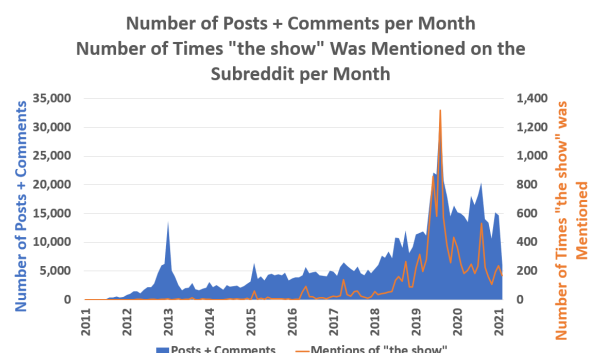
Data

To investigate the perceived power of different genders in popular literature, I used the full texts of the first eleven books in *The Wheel of Time* series, the only books written exclusively by Robert Jordan. They were published from January 1990 to October 2005 and vary in length from 122,150 to 315,163 words, for a total of 3,266,474 words.

To explore popular opinion in reference to this body of work, I collected posts and comments from the r/WoT subreddit using the PushShift API in Python for the dates of October 1, 2010 through February 20, 2021. A limitation of this method is that reddit posts and comments can be in reference to any of the Wheel of Time books, including the ones written or finished by Brandon Sanderson, and to other adjacent activities, such as the upcoming television series. Over the timespan of data collection, there were 786,067 total posts and comments with text, totaling 38,585,042 words.

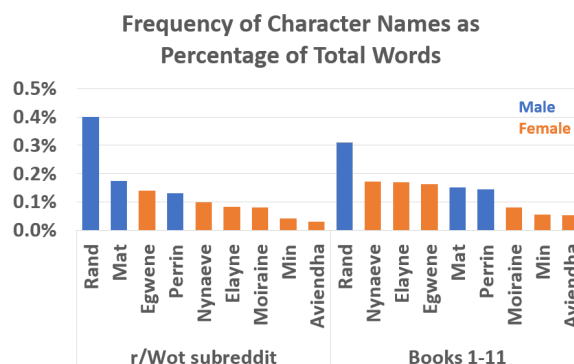
Exploratory Analysis

I explored the data by measuring the frequencies of certain words and phrases to see if I could identify any patterns or behaviors over time in the reddit content and over the course of the series in the books. I especially wanted to see if the amount of discourse on reddit was being inflated by the upcoming television series. In the graph below, it is easy to see the spikes and increases in activity on the subreddit on and after the months when new information about the show was released. By measuring the frequency of the phrase “the show,” I was able to capture show-related discussions over time. This is an indication that the topics on reddit are not restricted to the books only. A more detailed version of this graph can be found in the appendix.

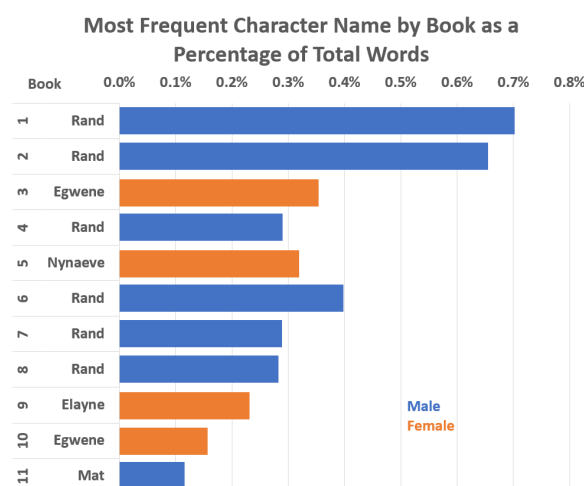


I also wanted to home in on the main characters of the books to see if the frequencies of their names in the books overall differed from their frequencies on the subreddit. One challenge of this task was accounting for the many common misspellings and nicknames used in the online forum. Unsurprisingly, the main character of the series himself (Rand) has the highest frequency in both the series overall and the subreddit. The graph below shows the overall frequencies of the main characters in the subreddit compared to the books,

as percentages of total words. Female characters are some of the most frequently mentioned in the books compared to the subreddit where male characters are mentioned more frequently than females. It should be noted that, especially on reddit, frequency does not equate to popularity. This graph only plots frequency of names, not sentiment towards the characters.



What I did not expect was that some of the books featured other characters more heavily than Rand. Only 6 of the 11 books featured Rand more prevalently than other characters, and 4 featured a female character most heavily. In the graph below, you can see the most frequent character by book, with female characters in orange and male characters in blue. Again, frequencies are shown as percentages of total words. What struck me most about this visualization was the fact that the first books featured the main character set more heavily than the later books, which became very diluted by the sheer volume of secondary and tertiary characters introduced over the course of the series. An expanded version of this graph that includes frequencies for each character by book can be found in the appendix.



Methodology

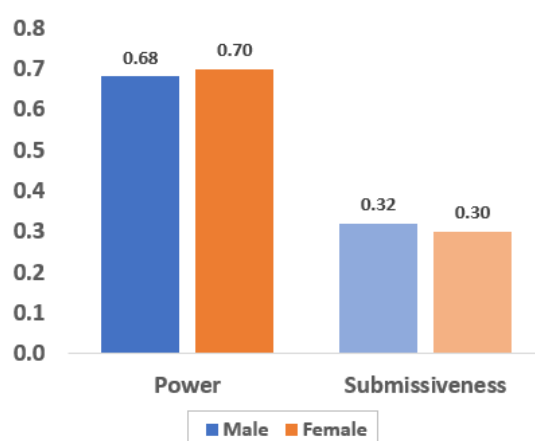
I analyzed power and submissiveness of male and female entities by the following method, borrowing techniques and a lexicon previously used by Sap, Prasetyo, Holtzman, Rashkin, & Choi (2017). I parsed sentences using the Spacy module in Python, which assigned parts of speech to words and also assigned dependency relationships between those words. I examined each sentence to see if the object or subject of the sentence was male (he/him/his) or female (she/her/hers). For such sentences, the verb checked to see if the action being taken denoted power or submissiveness on the part of the subject or object, or both. For example, “she rescued him” would denote power on the part of “she” and submissiveness on the part of “him.” Instances of power and submissiveness were tallied separately by gender and then divided by total number of instances. For example, if out of 10 sentences, there were 8 instances of female power or submissiveness detected and 2 of the instances denoted female power, then the percentage of female power would be $2/8$, or 0.25, for those 10 sentences.

This analysis of male and female power and submissiveness was conducted for three data sets. The first was the posts and comments from the r/Wot subreddit, the second was the full texts of books 1 through 11 of The Wheel of Time series, and the third was a collection of posts and comments from the r/books subreddit, which was used as a control group. Levels of male and female power and submissiveness were then compared across these three groups, as well as across the 11 books in the series.

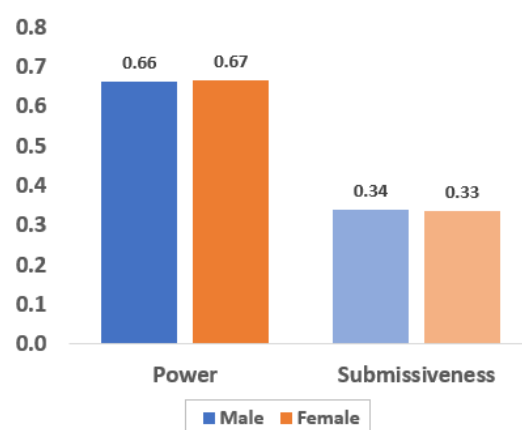
Results

The r/Wot subreddit and books 1-11 had very similar results. In both groups, female entities are perceived as more powerful and less submissive than male entities on average. The difference between genders was greater in the subreddit than the books, but in both groups the difference was very slight. In the r/books subreddit control group, I observed an opposite phenomenon, with males being perceived as more powerful and less submissive than females on average, and the gap between genders being greater than in the study groups. A horizontal version of these graphs with the groups compared side-by-side on the same axes can be found in the appendix.

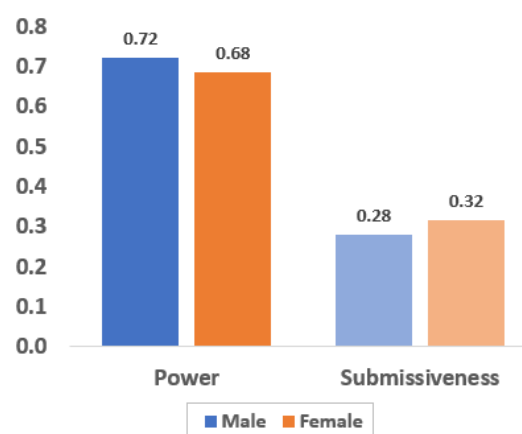
**Power and Submissiveness
by Gender
r/Wot subreddit**



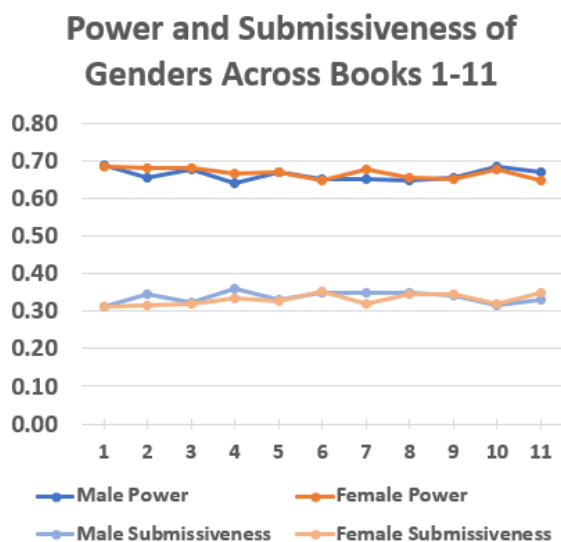
**Power and Submissiveness
by Gender
Books 1 - 11**



**Power and Submissiveness
by Gender
r/books subreddit**



When viewed across books 1 through 11 of the series, power and submissiveness show steady horizontal trends with fairly constant levels over the course of publication. As can be seen in the graph below, power and submissiveness percentages for male and female entities was equal in books 1, 3, 5, 6, and 10. When male and female power was not equal, it was more often female entities who came out ahead. Female entities had more perceived power than males in books 2, 4, 7, and 8. In books 9 and 11, males were perceived as more powerful than females, the exceptions in the series overall.



Conclusion

The main question proposed by this study was about the difference between the perceived power of male and female entities in The Wheel of Time series and whether that difference corresponded to a similar pattern in the social discourse surrounding it online. I was surprised by just how closely the subreddit mirrored the books series, by how equally the genders are perceived in both, and

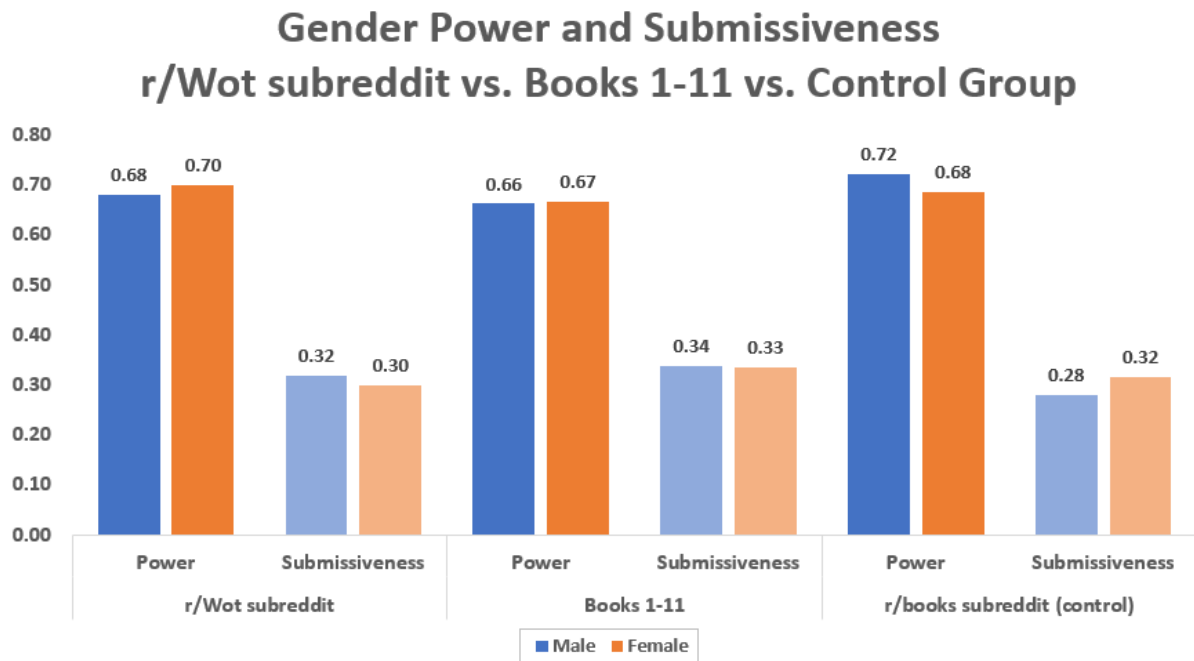
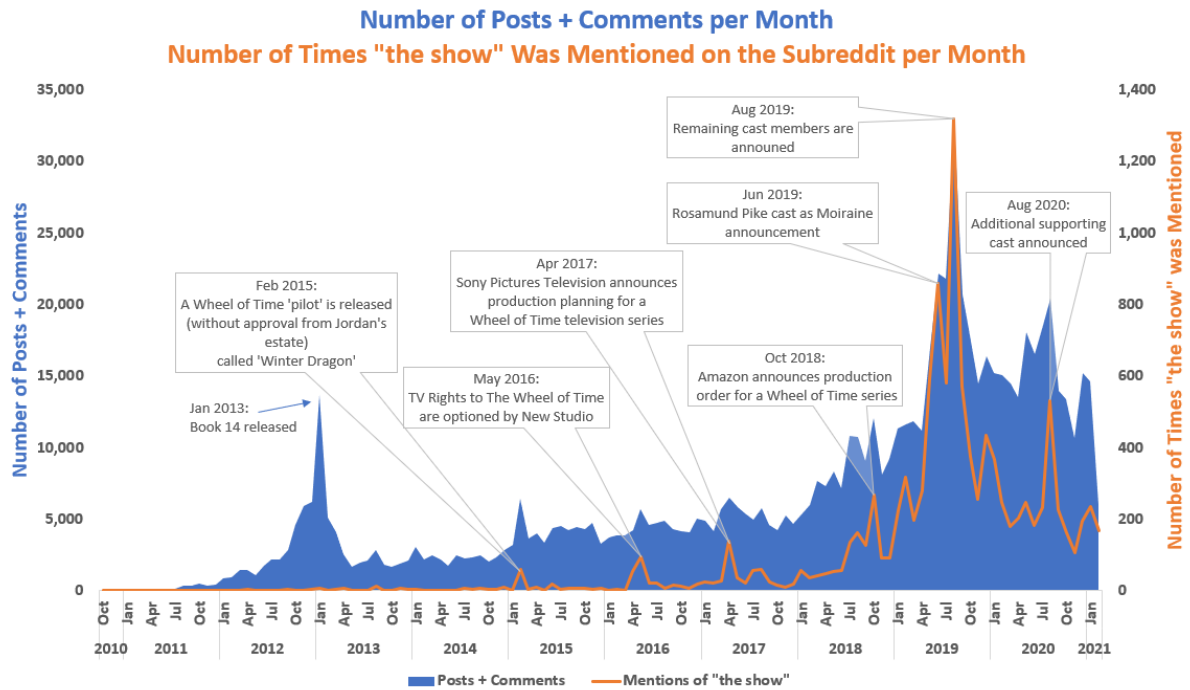
how female power was higher than male power in the subreddit. It would be interesting to know the ratio of male to female reddit users in both the r/Wot and r/books subreddits in order to give context to these results, something which was not possible to study using my methods.

Many opportunities for further research exist in the area of perceived power, both within the context of The Wheel of Time series and popular literature on the whole. One limitation of my methodology was my dependence on gendered pronouns (he, she, him, her, etc.) instead of character names. In future studies, it would be informative to create sets of all male and female characters in the series and add them to the male and female entity lexicons used in the Python analysis. However, this would be a very large undertaking due to the vast number of characters in the series overall.

References

- Sap, M., Prasettio, M. C., Holtzman, A., Rashkin, H., & Choi, Y. (2017). Connotation Frames of Power and Agency in Modern Films. *Proceedings of the 2017 Conference on Empirical Methods in Natural Language Processing*. <https://doi.org/10.18653/v1/d17-1247>
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- Jordan, R. (2012). *The Complete Wheel of Time Series*. Tor.

Appendix



Frequency of Character Names by Book as Percentage of Total Words

