

# Cognitive Gender Differences in Comments to Gender-Related Hot Topics on Chinese Social Media

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**Abstract.** In contemporary society, issues of women's rights and gender equality have always been a focus of attention. Despite some progress made over the past few decades, gender inequality persists across various fields, sparking a series of feminist movements and actions. In China, a unique gender equality concern—the "bride price"—has garnered significant attention. As part of traditional Chinese wedding customs, the bride price symbolizes the groom's respect for the bride. Nevertheless, in modern society, the escalating bride price amounts have led to differences in perceptions and competitive mindsets, making it a significant point of conflict within marriages. This paper analyses the commentary content on topics such as childbirth, the workplace, sexual assault, and the bride price on China's social media platform, Weibo. Using textual analysis, it examines the emotional differences and content variations in comments between genders. The research reveals that female bloggers (67%) are more engaged in discussions related to gender issues than males (33%). Word frequency analysis shows similar concerns across topics, but men tend to prioritize material and financial aspects, "when discussing bride price. Women, on the other hand, express dissatisfaction through personal experiences, while men tend to consider the issue from their own perspectives.

## 1 Introduction

The history of feminist thought and activism in Europe can be traced back to at least the early 1600s [1]. Gender issues, in the wake of the rise of feminist consciousness, have been given increasing attention from the public, particularly from feminist groups. By the early 1900s, feminists began to lead liberation movements in Asia [2]. Nevertheless, the forms of the feminist movement have changed over time. At that time, feminist activists drew the government's attention to the challenges faced by women mainly by attending relevant meetings Unlike in the past time through participation in international meetings, in the 21st

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century, social media have functioned as an online democratic platform, enabling free to speak and creating possibilities for feminist movements. According to Digital 2023 Global Overview Report, there are already about 4.76 billion active social media users worldwide. The interactive and highly visible nature of social media has a favorable impact on triggering users' online behaviors, such as likes, comments, and shares, which are effective in sparking discussions and understanding individuals' thoughts on gender-related topics [3].

Sina Weibo, as one of the largest social media platforms in China, has reached 605 million monthly active users and 260 million daily active users by the end of 3rd quarter of 2023. It is not just a generator of hot spots, but also a forum for the discussion of hot topics and events, and contributes to topic diffusion across the web. The media form of Weibo is mainly text and also supports multimedia like video and pictures. Additionally, the "hot search list" is one of the characteristics of Weibo. This feature enables individuals to view the real-time heat of a topic or event, which can facilitate discussion and development of it.

In recent years, gender-related topics have become a highly-debated issue on social media platforms, especially on Weibo. Weibo focuses on setting topics that could highlight women's vulnerability and provoke gender confrontation [4]. And it brings forth gender-related concerns, including gender violence, women's fertility, and women's employment into the public sphere. Geographically speaking, gender concerns may vary. In China, maternity, gender equality in the workplace, sexual violence and high bride price are gender-related hot topics on social media. Maternity has always received great attention from the government and the public. Although the government has implemented related policies to encourage childbearing, willingness to have children is on the decline, which may be partly attributable to the widespread of the Internet. The public can receive different views on fertile issues on social media platforms, as well as the popularization of knowledge about fertility, both of which can influence the public's perceptions. Additionally, gender differences are a significant factor in influencing employment rate. According to the World Bank, China's labor force participation rate for women aged from 15 to 64 is showing a declining trend. Evidence points to women's difficulties in balancing childbearing and careers, and gender discrimination against women in enterprises both exacerbate women's career dilemmas. Gender-based violence can be broadly categorized as sexual violence, political violence, and domestic violence. Social coverage of sexual violence and domestic violence often have the tendency to cause a collective outrage on social media. Among most of the gender-related topics, high bride price is the key social problem characterized by traditional Chinese practices. The bride price is the amount of money given by the man to the woman's family when they tend to get married, which generally represents the degree of the groom's values and respects the bride. Nevertheless, in recent years, the amount of the bride price has been gradually developing increasingly unreasonable, especially in rural areas.

By browsing the content and comments of Weibo posts under gender-related topics, it can be revealed that there are gender differences in cognition and views on gender issues. Therefore, exploring the differences in online comments' sentiments varied by gender has research significance in knowing the real impact of feminist thought.

## **2 Literature review**

Over more than a century of relentless effort and arduous struggle, women around the world have successively initiated three waves of women's movements to promote research and development on women's rights. The first wave began in the latter half of the 19th century and reached its peak in the early 20th century. This movement aimed to achieve gender equality in various aspects through the establishment of relevant laws, such as women's suffrage and education rights. The second wave emerged in the 1960s and 1970s, focusing on workplace equality and reproductive rights. Building on the foundation of the first wave,

this movement had broader goals and a wider scope, significantly altering women's status in society. The third wave started in the 1980s, shifting attention to issues overlooked or neglected by the second wave, emphasizing problems involving multiple races, diverse cultures, and various values, and stressing diversity and individual differences [5]. In the digital age, the women's movement has entered the fourth wave, utilizing the internet and social media for dissemination and mobilization [6]. These waves not only have a temporal continuity but also show a hierarchical development in their topics.

Despite the different waves of the women's movement at various periods, each advancing women's rights, the rise of social media has brought new opportunities and challenges. On the one hand, social media provides a broad platform for the women's movement, increasing its visibility and participation [7]. For instance, in October 2017, the exposure of Hollywood mogul Harvey Weinstein's sexual harassment scandal by American media sparked the #MeToo movement. This global anti-sexual harassment campaign, relying on social media, successfully mobilized, organized, and elicited widespread public attention and discussion through the interaction of social media and mainstream media [8]. The immediacy and broad reach of social media allow the issues of the women's movement to spread quickly and resonate. On the other hand, social media also brings new challenges, such as the spread of online violence and misogyny [9]. These negative factors may weaken the influence of the women's movement, impacting its reputation and causing psychological and emotional harm to participants, leading some to fear involvement in the movement.

Current research uses various methods to analyze the effectiveness of the women's movement's dissemination on social media, including quantitative analysis, social network analysis (SNDA), text analysis, and discourse analysis [10, 11]. Quantitative analysis typically measures the breadth and depth of information dissemination by collecting large amounts of data; social network analysis studies the dissemination paths and influential nodes of information in social networks [12]. Text analysis, through sentiment measurement and qualitative analysis of texts scraped from platforms, explores the deep meanings and emotional characteristics of social media discourse; discourse analysis, using sentiment analysis and word frequency analysis, examines the impact of negative and positive tweets on netizens' emotions. These studies indicate that social media plays a significant role in mobilizing public participation, spreading feminist awareness, and facilitating social change [7].

Specific case studies show that comments on the women's movement on social media often exhibit clear gender differentiation [13]. For instance, in discussions of the #MeToo movement, male comments tend to be more questioning and oppositional, while female comments more often express support and share personal experiences [14]. These studies reveal the critical role of gender differences in the dissemination of the women's movement and suggest that gender factors should be considered when formulating dissemination strategies. For example, enhancing the sense of participation and belonging among female users can improve the dissemination effectiveness and social impact of the women's movement.

There are many social science studies on the feminist movement and gender differences, but there are few studies that analyze the deep social phenomena reflected by the comments of both sexes on posts on women's issues.

This article aims to examine how gender-related social practices are presented and discussed on Chinese social media by analyzing user comments of different genders on four specific topics: childbirth, workplace gender discrimination, exorbitant bride price and dowry, and sexual assault and harassment. The goal is to understand the significance and contentious points of gender issues in Chinese society today, along with the attitudes and perspectives of different genders.

The motivation for this article includes the increasing social attention to gender issues in China, the role of social media as a platform for public discourse, and the importance of gender-based comparative analysis. By studying social media discussions, the article seeks to provide insights into public attitudes and reactions, offering a new perspective on social practices and public opinion. Additionally, it aims to highlight the differences in viewpoints between genders, which may reflect their distinct social positions and roles and reveal underlying conflicts and resonances.

This article is significant in several ways. Theoretically, it enriches the framework of gender studies and sociology by exploring the new characteristics and trends of gender issues in the digital age. Practically, its findings can guide policymakers, educators, and social activists in understanding public views and needs, helping them formulate targeted policies to promote gender equality. Socially, it aims to raise awareness and understanding of gender-related issues, encouraging deeper discussions and reflections, thereby fostering social progress. In summary, this article explores gender issues in Chinese society through social media comment analysis, providing valuable insights for academic research and practical problem-solving.

### **3 Methodology**

When evaluating the data of Weibo posts on feminist topics such as fertility, sky-high bride price, sexism, and sexual assault & harassment, we mainly analyzed them from two dimensions: reading volume and interaction volume. (Number of reads: # Topic # Number of times and total number of reads in various scenarios within the Weibo platform. Number of interactions: The number of posts and the total number of interactions on Weibo by users with #topic#, including retweets, comments, and likes). According to the official topic data of Weibo, the reading evaluation data of the four topics each exceeded 100 million, and the interaction evaluation data exceeded 10,000. The relatively low number of sexist interactions may be due to the sensitivity and complexity of sexist issues, but the amount of interaction also shows that some netizens are willing to have in-depth discussions and reflections on the topic.

Based on the above evaluation, these four microblog topic posts all have high attention and participation. They involve issues of general concern to society and have triggered extensive discussion and reflection among netizens. From the data point of view, the reading volume and interaction volume of these topics posts have reached a high level, indicating that they have a greater impact on society.

This study adopts the research method of text analysis and selects four topics that have aroused hot discussion on social media and easily caused confrontation between men and women -- fertility, sexual assault & gender-based violence, workplace gender discrimination, and sky-high bride price as the research objects. The post content is retrieved and summarized by searching the topic keywords related to these four topics on Weibo.

Searches include hashtags, user gender, account type, number of followers, post links, post comment content, likes, retweets, and number of comments. The dataset comprises a total of 797 textual entries, categorized into 257 related to birth, 171 to sexual assault, 128 to sexual violence, 241 to workplace gender discrimination, and sky-high bride prices and dowries. During the data collection period, it could be found that there were differences between the gender and the real situation of the users. In order to make the data more reliable, this study conducted data cleaning for each comment by manual analysis. Some obvious gender errors have been corrected, and official posts and comments are not counted in gender statistics.

The analysis methods are mainly word frequency analysis and emotion analysis. Firstly, the overall data of the posts on the four topics were summarized and drawn into tables and

bar charts to analyze the proportion of men and women participating in the topics. The text contents of the four topic data were mapped and the initial emotion analysis was carried out. Then, the comments of female bloggers on the four topics were divided into phrases and word frequency analysis. Draw a relationship graph to analyze the lexical situation and reasons for male and female bloggers' comments. Finally, the comments of bloggers on the four topics are divided into positive, negative and neutral emotions and an emotion-type analysis is carried out.

## 4 Results

### 4.1 Participation in Gender-related Topics

According to the results of data collection, there are 67% of the comments from female bloggers and 33% from male bloggers, which markedly shows that women pay more attention to gender-related topics than men. During the data collection of time, it was found that the gender of users on Weibo did not fully correspond to the real situation. Therefore, we manually analyzed the content of each comment and correct some of the obvious gender errors to ensure the reliability of the data results. Additionally, official posts and comments are not included in the gender statistics.

### 4.2 Word Frequency Analysis of Comment Content

This study finally selected the top five high-frequency words of both genders with research significance to demonstrate the difference between men's and women's focus on the same topic. Table 1 indicates that, in addition to the topic of the sky-high bride price, men and women have more similar concerns about fertility, sexual harassment, and workplace gender discrimination topics. Men's comments on the topic of the bride price mainly focus on material and physical aspects, like "Properties", "Costs" and "Price".

**Table 1.** Word Frequency of Gender-related Topics' Comment.

Gender-related Topic	Gender	Words	Word Frequency
Fertility	Male	Doctor	16
		Duckbill pincer	15
		Anaesthesia	7
		Otolaryngology	7
		Child	6
	Female	Doctor	73
		Duckbill pincer	59
		Otolaryngology	44
		Risks	26
		Problems	25
Sexual harassment	Male	Tools	19
		Violence	8
		Student	5
		Victim	4
		Harm	3

	Female	Aggressor	3
		Victim	10
		Rape	4
		Aggressor	3
		Small girl	3
		Culprit	3
Workplace gender discrimination	Male	Maternity	10
		Enterprise/Company	8
		Costs	3
		Plight	3
		Equity	3
	Female	Family	10
		Child	7
		Positions	6
		Maternity	5
		Company	4
Sky-high bride price	Male	Parent	14
		Properties	13
		Costs	13
		Marriage	11
		Price	9
	Female	Son	10
		Husband's family	7
		Country	5
		Importance	4
		Problem	4

### 4.3 Sentimental Analysis of Comment Content

Overall, the percentage of emotion types has no evidence of difference between male and female comments, with both negative emotions being the most prevalent. By further summarizing and analyzing the content of comments on four gender-related topics, this study found that men and woman showed different attention, emotions and attitudes, which makes it more difficult to get real solutions to those gender issues.

Specifically speaking, most female bloggers tend to express their dissatisfaction with gender inequality by recounting their own experiences and feelings. For example, on the topic of fertility, 67% of female bloggers who express negative emotions are more likely to share their painful birth experience or gynecological examination experience and hope to be treated more humanely by their doctor. With regard to sexual harassment, 78% of female respondents are disappointed with the handling of such incidents and the lack of sex education. In terms of workplace discrimination, dissatisfaction with the current employment situation takes the lead, with 53% of female bloggers indicating age and maternity discrimination against female job seekers as their primary concern.

While male bloggers are still more likely to think about existing gender quality issues from their own perspective, rather than considering for women. A significant proportion of men (60%) acknowledge the discomfort of fertility but also consider women over-sensitive. On sexual harassment, a resounding 78% of men believe that women should defend themselves. Moreover, in terms of workplace gender discrimination, nearly 50% of men view maternity benefits for women as unfair and detrimental to the company's interests.

It should be separately noted that the most representative of the sentiment analysis of the four topics is the topic of the sky-high bride price. In terms of the sky-high bride price, some of the negative men view it as an act of robbery, others think it is disrespectful for men, as it is often used to support the financial need of women's siblings. Nevertheless, women have different ideas. Women perceive the bride price more as a guarantee of married life by the man and as compensation for the woman's fertility. As mentioned above, it is evident that topics such as the sky-high bride price, which involves the interests of both men and women, would further intensify gender conflict at the present time.

## **5 Discussion**

### **5.1 Participation**

The number of female bloggers in the four topics is much higher than that of men, which can reflect that women have higher participation and are more active in discussing feminist topics. The reasons are as follows: The attractiveness of women's topics: Women's topics themselves are easy to attract wide attention and discussion, which is related to the multiple roles and various problems that women play in society; Emotional resonance: When female bloggers discuss women's topics, they are often able to understand and feel women's emotions and experiences more deeply, which makes female audiences more willing to pay attention to and participate in the content of female bloggers; Shaping of social roles: With the progress of society and the improvement of women's status, more and more female bloggers are participating in various fields of society, including the field of we-media. By sharing their experiences and insights, they promote the dissemination and discussion of women's topics.

At the same time, this also brings a series of positive effects, promoting the wide dissemination of women's topics: due to the extensive participation and dissemination of female bloggers, women's topics get more attention on social media, and help to promote the solution and improvement of these issues. Increase women's confidence and influence: By sharing their experiences and opinions, female bloggers not only gain more attention and recognition but also gain greater confidence and influence and bring other women along; Promoting gender equality: The broad participation of female bloggers promotes the process of gender equality in society and helps to break down traditional character stereotypes and prejudices.

### **5.2 Comments**

Comments by male bloggers on the topic of bride price focused on material and physiological aspects may be influenced by multiple factors. The first is the influence of social and cultural background. In many societies, men have been given more financial responsibility and financial support roles by society. As a result, men are more likely to associate financial issues with their own social status and responsibilities, which is reflected in their comments.

The second is the impact of cognitive bias. Men may be more susceptible to gender role stereotypes, leading to a greater focus on material and physiological issues in comments. This bias may affect the way they understand and express women's issues, making them more



inclined to focus on topics related to traditional gender roles, such as fertility and family economics.

Moreover, androgynous phenomena may exacerbate this bias because society has different standards and expectations for the roles and behaviors of men and women in many areas, which may affect the content and emphasis they express in their comments.

### **5.3 Emotion**

In analyzing the emotional types of male and female bloggers, especially focusing on the themes of childbirth, sexual harassment, workplace discrimination, and exorbitant bride prices, significant gender differences were observed. The reasons for these conclusions are mainly due to several factors. Firstly, the different social roles and expectations, with women often expected to be more emotional and sensitive, while men are expected to be more rational and practical. These social role expectations influence how men and women perceive issues and express their emotions. Secondly, the difference in personal experiences is a significant factor. Women have more personal experiences with childbirth, sexual harassment, and workplace discrimination, leading them to express their emotions more directly and intensely. Men have relatively fewer experiences with these issues, thus focusing more on the impact on their interests. Additionally, traditional culture and gender education differences result in different thinking patterns and emotional expressions when men and women face issues.

The impacts of these conclusions are multifaceted. On the positive side, these emotional expressions prompt society to pay more attention to women's rights and emotional needs, pushing for policy improvements. It also raises public sensitivity and awareness of gender issues, promoting gender equality. However, these emotional expressions might also lead to gender opposition and conflicts, increasing social division. Excessive emotional outpouring might obscure the essence of the issues, affecting rational problem-solving.

To further promote social progress, achieve gender equality, and social harmony, several measures are needed. Firstly, strengthening gender equality education, especially in schools and families, to cultivate the next generation's awareness of gender equality. Secondly, encouraging more women to participate in social affairs to enhance their social status and influence. Moreover, promoting positive examples and successful experiences of gender equality through media and public platforms is an effective measure. Additionally, encouraging rational discussions and diverse perspectives to reduce the impact of emotional statements. Establishing and improving relevant laws and regulations to protect gender equality and reduce discrimination and unfair phenomena is also necessary. Finally, providing more psychological support and emotional counseling channels to help women better cope with emotional stress.

## **6 Conclusion**

In conclusion, the data reveals a significant gender imbalance in attention to gender-related topics, with women bloggers accounting for 67% of comments. Despite some overlap in concerns, men tend to focus more on material aspects of the bride price issue. Data cleaning ensured reliability, excluding official posts. Word frequency analysis highlighted differences in focus, emphasizing the need for inclusive discussions to address gender disparities. When delving into gender-related issues, despite similar emotional expressions, men and women exhibit distinct perspectives and attitudes. Women tend to voice dissatisfaction with gender inequality by sharing personal experiences and feelings, while men are more likely to consider issues from their own perspective, often overlooking women's standpoints. This divergence is particularly apparent in topics like the "sky-high bride price" that involve the



interests of both genders, further intensifying gender conflict. Therefore, we need more inclusive and open discussions to find effective ways to address gender issues.

In today's society, the active participation of female bloggers in feminist topics significantly embodies the rise and increasing influence of women's voices. By sharing personal experiences and perspectives, they not only enhance the visibility and discussion of women's issues, but also further strengthen women's power in society. This active engagement undoubtedly contributes significantly to promoting gender equality and eliminating gender biases. Research has found that when discussing topics like bride prices, male bloggers tend to comment from a material and physiological perspective, reflecting the influence of social and cultural backgrounds, cognitive biases, and gender role stereotypes. This tendency may exacerbate gender inequality and limit a deeper understanding and resolution of gender issues. The significant emotional differences expressed by male and female bloggers on topics such as childbirth, sexual harassment, workplace discrimination, and bride prices further reveal the impact of gender roles and expectations on individuals' emotional expressions. While these emotional expressions help draw attention to women's rights, excessive emotionalization may also lead to gender polarization and misunderstandings, affecting the rational resolution of issues. To promote social progress and gender equality, we need to take a series of measures, including strengthening gender equality education to cultivate people's sense of equality and respect for differences, promoting rational discussions and dialogues to avoid emotionality and biases from influencing our understanding of issues, and improving relevant laws and regulations to protect women's legitimate rights and provide a solid legal foundation for gender equality.

## Authors Contribution

All the authors contributed equally and their names were listed in alphabetical order.

## References

1. M. O. Karen, *European feminisms, 1700-1950: a political history*. Stanford University Press. (2000).
2. S. L. Weldon, A. Lusvardi, K. Kelly-Thompson, S. Forester, *Feminist waves, global activism, and gender violence regimes: Genealogy and impact of a global wave*. Women's Studies International Forum. (2023).
3. S. A. Dutceac, M. Bossetta, N. Holmberg, D. Niehorster, *The cueing power of comments on social media: how disagreement in Facebook comments affects user engagement with news*. Information, Communication & Society. **25**(8), 1115-1134, (2022).
4. D. Yan, Q. Jiang. *The Generation Mechanism and Reflection of the One-sided Phenomenon of Gender Vulnerability Issues-Visibility Analysis of Male Vulnerability Issues on Weibo Platform*. Hunan Normal University. (2023).
5. E. Evans, *The Politics of Third Wave Feminisms: Neoliberalism, Intersectionality, and the State in Britain and the US*. Palgrave Macmillan. (2015).
6. E. Munro, *Feminism: A Fourth Wave?*. Political Insight. (2013).
7. K. Mendes, J. Ringrose, J. Keller, *Digital Feminist Activism: Girls and Women Fight Back Against Rape Culture*. Oxford University Press. (2019).
8. Z. Li, *#MeToo Movement: A Study of a New Social Movement Based on Social Media*. Zhejiang University. (2021).

9. E. A. Jane, *Misogyny Online: A Short (and Brutish) History*. Sage Publications. (2016).
10. J. Ni, *Research on Emotional Contagion of Social Bots on Twitter—Taking #MeToo Movement as An Example*. Shanghai International Studies University. (2023).
11. S. Jackson, M. Bailey, B. F. Welles, *#HashtagActivism: Networks of Race and Gender Justice*. MIT Press. (2020).
12. W. L. Bennett, A. Segerberg, The logic of connective action: Digital media and the personalization of contentious politics. *Information, Communication & Society*. **15**(5), 739-768. (2012).
13. C. Zeng, *On Feminism Stigma Communication in Weibo and Its Influence Factors*. Shanghai International Studies University. (2022).
14. N. Thompson, "Tweeting #MeToo: Examining the Impact of Social Media on the Advocacy of Sexual Violence Survivors." *Journal of Gender Studies*. **27**(1), 1-12. (2018).