

# Users' Behaviour under the Uneven Gender Ratio of Social Media Platforms

## —Taking Hupu and Xiaohongshu as Examples

Hanzhe Chi<sup>1,†</sup>, Renhao Liu<sup>2,\*</sup>, Jingye Pan<sup>3,†</sup>

<sup>1</sup> School of European Language and Culture Studies, Dalian University of Foreign Languages, Beijing, 100085, China

<sup>2</sup> International college Beijing, China Agricultural University, Beijing, 10083, China

<sup>3</sup> College of Humanities, Xi'an Conservatory of Music, Fuzhou, 350000, China

<sup>†</sup>These authors contributed equally.

**ABSTRACT:** Up to now, in order to satisfy the increasingly abundant needs of users, there have been many kinds of social media applications, some of which are targeted at specific gender groups. Xiaohongshu and Hupu are two social media platforms in China, which are dominated by female and male users respectively over the past decade. Apart from the difference in function and form, the most important difference between the two platforms is the gender difference of the target audience, which is obvious. This article will take these two social platforms as examples and adopts quantitative research method to ask questions about users' behaviours through questionnaire survey, so as to understand users' behaviours when gender ratio is imbalanced. Research shows that users have a universal understanding of gender differences on the platform, and most of them are close to the dominant gender group in user behaviour. In the background of new media, if the community structure is not changed, social platforms with large gender differences among users will regularly deepen gender stereotypes, and users' sense of belonging will also fluctuate.

## 1. INTRODUCTION

Gender is one of the factors that affect social media users' behaviour. Users of different genders may choose different platforms to use, or make different actions on a same platform. At the same time, some platforms may service for all genders, or only for female/male. Female-dominated social platforms mainly reflect and meet the life needs of young women. Here, this study takes Xiaohongshu as an example for analysis. Xiaohongshu is an integrated shopping and UGC (User Generated Content) community platform, serves as an important reference and booster in today's female consumption. According to data provided by professional institute, Xiaohongshu active users are younger, with female users as the majority, accounting for 90.41%. Male users account for 9.59%. At the same time, the top focus of the crowd is makeup (6.13%), skincare (6.03%), dress (4.66%), dinner (3.66%), weight loss (2.79%) [1]. With the rise of "SHE economy", Xiaohongshu users, mainly young women, have shown great consumption potential and demand. By contrast, this study finds a male-dominated social platform, Hupu, and selected it as another example for analysis. Hupu is a sports vertical virtual community platform for young men, with users mainly male, accounting for 95.4%, while female users account for 4.5% [2].

Nowadays, Internet environment has a huge user base

\*Corresponding author. Email: 2020314130314@cau.edu.cn

and information sources worldwide. According to the 2020 China Internet Development Report, the number of Internet users in China accounts for 32.17% of the total number of Internet users in the world [3]. On the other hand, in this era of new media, users have moved from being "Receivers" of information to "Producers", meaning that everyone can produce content and monetize it. Unlike the public opinion environment dominated by mainstream media in the past, ordinary people can gain popularity as long as the content is recognized by users in the community. The low acceptance of social networks makes more and more people swarm into social networks, making it the main participant. In this context, users have a wide variety of behaviours in social networks.

With the development of social media and the increasing activity of women on the Internet, many scholars have studied about the gender differences in social media users' behaviour. Due to people's cognitive problems and limitations, the early Internet environment was dominated by man [4]. Women have always made up a relatively small percentage of Internet users, slightly less than men [5]. Nowadays, the awakening of women's self-awareness, more and more women start to actively participate in the Internet community and gradually become part of the mainstream group of online social groups. In the age of social media, women are stronger than men in information transmission ability, interpersonal communication ability and communication willingness.

Women are born with the desire to express themselves, and they have a better communication style and empathy, which allows them to communicate and share more willingly [6]. Therefore, this communicative nature of women can be brought into full play in the relaxed atmosphere of the contemporary Internet. As a result, there have been a wave of social networking platforms aimed at female while many platforms only aimed male in the past time.

Therefore, this part will enter into the user behaviour research from the feminist perspective. Social platforms provide a gathering place for women to sort of becoming an online community. Social platforms provide a place for women to share and reinforce common values and exchange experiences that are hard to find offline. This satisfies female users' need to connect and socialize. Consumer social platforms have become an important way for women to defend their rights and speak for themselves. In China, women mainly use Microblogs as their social media platforms and are active voices on them. Women will add topics and post posts on Weibo to complain about the unfair treatment they or the women around them have suffered, including gender discrimination, sexual harassment, sexual assault, and other incidents [7]. Therefore, social platforms have gradually become the carrier of the rise of feminism in China.

Women have their unique social patterns on social platforms. Women tend to enhance the original relationship connection and promote the stability of the relationship on the Internet. Men, on the other hand, tend to get things done on social platforms and get things done under the goal-driven influence [8]. So women may pay more attention to what others think. In terms of the use of social platforms, women tend to show their relationships with friends. For example, taking photos of friends in their own space, or take photos of friends as their profile pictures [9]. In terms of attitude, female users are more conservative. Female users are more likely to only interact with people they know and are familiar with, value their privacy more, and reduce their full exposure on social media [10].

In order to study the gender differences between social media platforms, platform users' behaviour is also an important research topic that researchers should focus on. The main motivation of use social media platforms is often considered to be self-presentation, sense of belonging, need for popular and reducing boredom [11]. In addition to these motivations, users' behaviour is also influenced by various factors, including personality, culture and gender. On social media platforms, users post textual information, photographs, short videos, links or other content to meet their various needs, and these behaviours "projecting gendered identities" [12]. The gender identity exists on all social media platforms but is more pronounced when the platform has an uneven gender ratio. As two social media platform with large differences in gender ratio, Xiaohongshu is regarded as a platform for young female while Hupu for young male.

Many studies of Xiaohongshu focused on "SHE economy" [13], user behaviour of social e-commerce platform [14], or based on Use and Gratifications

Approach to explore the demand function of the audience on UGC community [15]. However, these researches still have several limitations, researchers studied the function of the UGC community and the activity of feminism on Xiaohongshu, but didn't study the relationship between them. In fact, the open function of UGC community is important for the free expression of feminism. Furthermore, researchers are not concerned about the characteristics of male users of Xiaohongshu, who are rarely in a minority situation. Meanwhile, there are few studies of Hupu users' behaviour. As a virtual community, Hupu users can build and maintain the value identity among virtual groups in the process of use [16]. In Ni Guan's research, she compared the Tencent Sports and Hupu users. The result shows that male users of Hupu tend to gain information and emotional resonance, while female users tend to gain confidence and social connections [17]. These aspects can help us understand the users' behaviour of these two social media platforms, Xiaohongshu and Hupu.

Researchers learn much of the background information and existing results from the above researches, but there still exist some research gaps. Although there are many literatures about the users' behaviour and motivation of social media platforms, and also analyze the gender differences among social media users, few studies focus on the changes in users' behavior on social media platforms with uneven gender ratio. Moreover, for such platforms with uneven gender ratio, there are many literatures focus on the function of those social media platforms, while few literatures focusing on the gender differences present in such platforms. Therefore, this research hope to study users' behaviour under the uneven gender ratio of social media platforms to further understand the factors of the resulting behaviour changes of social media users and fill the gaps in this research field. Additionally, the research also can provide experience to the operators of social media platforms, help them have a better understanding of the users' behaviour, they can improve the function of the platforms that are in line with user preferences. In order to achieve the expected purposes, this study selected two social media platforms, Xiaohongshu and Hupu, as the main research objects: Xiaohongshu is mainly used by female, and Hupu is mainly used by male. In this paper, researchers will study users' behaviour under the uneven gender ratio of Xiaohongshu and Hupu through questionnaire.

## 2. METHODOLOGY

Under gender-based factors, this study examines user behavior on social platforms. This topic intends to use quantitative research to examine audience behaviour. Surveys were used to collect data for the research. For in-depth and intuitive investigation, a questionnaire survey is practical. Based on the data mentioned in the introduction, developed questionnaires for users of these two social platforms. To make a comparative study possible after data collection, the two questionnaires had similar frames and question settings. The purpose of the survey is to assess how gender influences user behaviour and direct

survey questions to users. Users vary in their ages, education levels, and occupations, using gender as a primary factor and other aspects as secondary factors.

The questionnaires are designed on [www.wjx.cn](http://www.wjx.cn), which is an online questionnaire design platform in mainland China. An important source of audience to fill out the questionnaire is obtained by sending them on Xiaohongshu and Hupu. The other audience members who fill out the survey come from social media networks. During the distribution period of 5 days, questionnaires were distributed through Hupu, Xiaohongshu, and other platforms. A total of 118 questionnaires were received after 5 days, and 118 of them were valid. In total, 76 questionnaires were collected regarding Xiaohongshu, and 42 questionnaires regarding Hupu users. The two papers that are designed are based on Xiaohongshu and Hupu which have different characteristics of social platforms. The analysis of the questionnaire should provide the expected result that gender plays a major role in various users' choices of corresponding social platforms and different experiences with social platforms. Whenever all the answers to a questionnaire showed a pattern of regularity or all the answers were selected, the questionnaire was considered invalid and removed from the research. The preliminary analysis of the data from the questionnaire showed that all of them contributed to the category of valid questionnaires.

### 3. RESULT

Most of the questions were identical in both questionnaires. There are 15 questions in this category to ask about the impact of gender differences on user behaviour. In addition, due to the differences between the two platforms and their functions are not absolutely the same, this study also sets several questions that are more consistent with and specific to the platform in the details of the investigation of some user behaviours. There are two questions of this sort. Due to the complexity of the questionnaire setting, this section will be divided into two parts. For similar questions in the two questionnaires, different degrees of analysis will be performed on each result and comparisons will be made between platforms. And the questions about the user behaviour of the two questionnaires will be explained by each platform.

First, 76 people participated in the Xiaohongshu questionnaire and 42 participated in the Hupu questionnaire. 85.53% of Xiaohongshu users are female and 66.67% of Hupu users are male. It is very clear that female users dominate Xiaohongshu and male users dominate Hupu. Among users of Xiaohongshu and Hupu, 18-25 years are the main user groups, accounting for 90.79% and 80.95% respectively. By contrast, the number of users under 18, 26-30, 31-40, and over 40 is much smaller, with the proportion ranging from 0% to 7.14%. As for education level and occupation, Xiaohongshu and Hupu have the most undergraduate education users, accounting for 90.79% and 80.95% respectively. Users who have obtained junior college education account for 6.58% and 7.14%, and the users who have only received high school education and master's education are the least, accounting

for less than 5%. Among them, full-time students account for 89.47% and 71.43% of platform users. Excluding Hupu users, the number of individuals or freelancers is slightly higher, reaching 14.29%, while the number of employees of other enterprises and workers of party, government, organs and public institutions fluctuates between 2% and 7%. The above results demonstrate that although the functions of the two platforms are distinct to some extent, the age, schooling level and occupation of users are approximately the same except for the great contrast between genders. The users are mainly concentrated among full-time students aged 18-25 without a stable source of income.

Users are more or less aware of gender differences on their platforms. In the question "Do you have any experience with the phenomenon that there are more men and fewer women on the platform/more women and fewer men on the platform?", more than 58% users of Xiaohongshu and Hupu chose "comparatively feel about this phenomenon" and "deeply feel about this phenomenon". It is worth discussing one point, in the question "Do you think there is more freedom of speech in community interaction because Hupu users are more male than female?", 61.9% of Hupu users selected "no", implying that they did not believe the huge gender difference would make their online social activities easier. In Xiaohongshu, more than half of the users default that other users are female (53.95%); however, the similar problem reached 71.43% in Hupu, which means that more than 70% of Hupu users will assume that the other party is male, and the gender difference is more obvious. This also results in users preferring Hupu to the Xiaohongshu platform because the community is "dominated by male users" (78.57% prefer Hupu). By contrast, Xiaohongshu is favoured by relatively few users for this reason (63.16% prefer Xiaohongshu). Gender specific attacks have been viewed on both platforms, but users believe that the numbers are small. Around 50% of users have experienced or witnessed minimal sexism on the platform, and around 20% have either "not seen" or "seen frequently."

Users interact with each other. On both platforms, about 60% of users believe that the gender of other users has no effect on personal interaction, and 30% believe that the gender of users has an effect on personal behaviour. This shows that groups within the community are aware of gender differences, but still generally accept users of the other gender. Compared with members of the same gender, users on both platforms generally believe that users of the opposite gender do not make them feel more approachable and trustworthy. During the interaction, 92.11% and 71.43% of users chose "no". But an interesting finding was that Hupu users also rated same-gender users as less approachable and trustworthy; on the other hand, 60% of Xiaohongshu users believe that same-gender users are friendlier. Communities with more men and fewer women, such as Hupu, are more likely to give their users a sense of belonging and identity than communities with more women and fewer men, such as Xiaohongshu. Meanwhile, while both platforms recognize the existence of users of the other gender, they still prefer to interact with users of their own gender.

For some targeted questions, the results will be presented separately in this section. First, Xiaohongshu is a note-sharing social platform where people can share a large number of personal feelings and experiences about life, beauty, makeup and food for the reference of other users. People can also buy goods on this platform and follow their favourite bloggers to get the latest news. Among Xiaohongshu users, male users most frequently browse notes about fashion (72.73%), photography and photo editing (54.55%), sports and fitness (45.45%). Female users most frequently browse notes about beauty makeup and skin care (83.08%), fashion (76.92%), travel and food (73.85%) and photography and photo editing (53.85%). There are also home decoration, pets, art, games, education and other sections. By contrast, there were no significant gender differences in users note-posting behaviour, both male and female users concentrated on the three sections of travel food (23.86%), photographic retouching (21.05%) and beauty fashion (14.47%), and 48.68% did not publish notes. Hupu is a social platform in the form of a forum that integrates sports, games, digital and other male-oriented themes. Among Hupu channels, some of the channels that male users browse and interact with most in the community are basketball (50%), games (50%), film and television entertainment (50%) and animation (42.86%). Meanwhile, female users mainly browse and interact on the game channel (57.14%). None of the female respondents browse or interact on the football channel, digital equipment channel or car channel.

But the difference between these two platforms is that Hupu does not have the concept of "Follow" or "Subscribe". Therefore, this questionnaire added two more questions to the questionnaire for Xiaohongshu: 1. Are the users you follow mainly male or female? 2. Are most of your subscribers male or female? The results show that both questions were dominated by women (92.11%).

#### 4. DISCUSSION

Through the above data analysis, it is clear that the uneven gender ratio of social media platforms does have a certain impact on users' behaviour. In a further discussion, a deeper analysis of social media platforms and users' behaviour under this phenomenon is conducted.

The community structure dominated by vertical content is more likely to lead to an uneven gender ratio of users. Since its inception, Hupu has been operated as a male-dominated community, but the gender ratio of Xiaohongshu is balancing year by year. The main factor of the change of gender ratio is whether the community structure changes or not. This research found that Hupu operates in the community structure of the vertical topic forum, it has not changed the operation mode of the platform during these years, and always targets young male who are interested in the certain forum topic. By contrast, Xiaohongshu is consciously changing its uneven gender ratio situation, trying to become a social media platform with a even sex ratio. In the beginning, Xiaohongshu is a platform only for young female who interested in overseas e-commerce shopping. In 2017, it begin to change the community structure from shopping

community to the UGC community and it launched the "MCN" program (Male Content Incentive Program) in 2021, bring in a great number of male content creators in digital, fashion, finance, sports, automobile and other many fields. After that, the gender ratio of Xiaohongshu is balancing gradually. Thus, this study can see that vertical content communities with specific and clear target groups are more likely to lead to uneven gender ratio.

Another phenomenon is that there are a lot of gender stereotypes on social media platforms. When many users in these social media platform talking about a certain group, they form the gender stereotypes of the whole group based on their habits or some one-sided information. For example, when talking about idol fans, many users think that idol fans is a very crazy feminine group due to the crazy behaviours of one part of female fans. Many users use this to form a stereotype of female: crazy and vulnerable to such entertainment information. But the reality is that there are so many male fans of the idol fans, and they often show amazing purchasing power, which cannot be ignored in the fan community, but the presence of gender stereotype has left these male fans ignored by the mass. By contrast, there are also many female users who are not interested in idols. Another example is that when users mention NBA fans, many users subconsciously regard NBA or competitive basketball game as a male-only hobby, thus making NBA fans a male stereotype. In fact, competitive basketball game also has its female audience, but these audiences are influenced by gender stereotype and are often not included in the group to which they actually belong. It can be found that this behaviour of forming the gender stereotype is one-sided, and the other gender in these groups is marginalized by gender stereotype.

In addition, users in different gender have their different sense of belonging in their gender-group. For female users, with the awakening of feminism awareness in recent years, many users are aware of the weak position of women in the society. The awakening of this consciousness makes it more common for female users to develop a sense of group among the same gender users during community interaction, and it leading to the wide spread of slogans like "girls help girls" on social media platforms. Coupled with the long-term existence of female stereotypes like "harmless", "weak" and "gentle", female users are more likely to relax their vigilance to other female users subconsciously. However, there are still various different opinions in the female group, which makes the female users unable to have too much sense of belonging to the whole female group. By contrast, in most community interactions, male users consider neither the opposite gender nor the same gender credible. But male users feel more belonging and identify to their gender groups because when they consider that the interests of their gender group are damaged, they will more strengthen their awareness of their sense of belonging in their gender-group. They are more united on social media platforms and want to safeguard the shared group interests.

## 5. CONCLUSION

It can be interpreted that the results of this study are influenced by the uneven gender ratios of the platform, which are mainly caused by vertical community structures, and accompanied by gender stereotypes. Users are aware of the uneven gender ratio on these platforms, and their behaviour is affected by this fact, according to this study. In such platforms, gender is more likely to be used to divide groups, so users are more inclined to interact with members of the same gender group. Similarly, gender differences cause users of the platforms to prefer different content. The vertical theme forum's community structure is more likely to cause an uneven gender ratio, so if these platforms want to change their gender imbalance, then they must change their community structure first. Furthermore, many social media users have formed stereotypes of different genders. People tend to categorize themselves and others based on their gender rather than their interests. It is also observed that, among the female users, there is a wide range of opinions, which makes it difficult for them to feel that they belong to the female group as a whole. Compared with female users, male users are more likely to feel belonging to their social group, and they are more likely to reinforce their sense of belonging in the group if they believe the interests of their gender have been compromised. In spite of this, the study is still limited in its universality of findings because the user groups of the main research objects are only Chinese users, so the results may not apply to other regions as well. While this study has limitations, it is valuable in the sense that it filled a hole in knowledge of how gender factors affect users' behaviour. This is a vital finding in the understanding of how social media platforms affect users' behaviour. A further study of users' behaviours in communities of uneven sex ratios should further explore the underlying causes of their behaviour. For example, female users with different views of feminism may behave differently in these communities. Additionally, comparing differences in user behaviour between uneven gender ratio platforms and other platforms is important to research. Future studies may address these assumptions.

## REFERENCES

1. G. Qian, Active User Portrait Trend Report (Xiaohongshu Platform), Melon number, 2021.
2. Tecdat, Hupu Community Forum data crawler analysis report, 2019.8.1, retrieved 2022.3.29 from: <http://tecdat.cn/>.
3. Internet Society of China, 2020 China Internet Development Report, 2020.
4. A. Paul-Hus, C. R. Sugimoto, S. Haustein, V. Larivière, Is there a gender gap in social media metrics?, 15th International Conference on Scientometrics & Informetrics, 2015.
5. M. Duggan, N. B. Ellison, C. Lampe, A. Lenhart, M. Madden, Social Media Update 2014, Pew Research Center's Internet & American Life Project, 2015.
6. Q. Lin, Research on the online social behaviour and motivation of Chinese women, South China University of Technology, 2016.
7. P. Zhang, Women comedians, activists and feminists fighting back against sexual assault, sexism and stereotypes in China, South China Morning Post, 2021.
8. R. E. Guadagno, R. B. Cialdini, Online persuasion and compliance: Social influence on the Internet and beyond, *The social net: The social psychology of the Internet*, New York: Oxford University Press, 2005, pp. 91–113.
9. A. Lenhart, M. Madden, Social networking websites and teens, Pew Internet and American Life Project, 2007.
10. N. L. Muscanell, R.E. Guadagno, Make new friends or keep the old: Gender and personality in social networking use, *Computers in Human Behaviour*, Vol.28, 2012, pp.107-112.
11. Q. Yao, H. Ma, H. Yan, Q. Chen, Analysis of the individual behaviour of social network users from a psychological perspective, *Advances in Psychological Science*, 2014.
12. S. C. Herring, S. Kapidzic, Teens, Gender, and Self-Presentation in Social Media, *International Encyclopedia of the Social & Behavioral Sciences*, 2015.
13. K. Lian, Z. Chen, H. Zhang, From the Perspective of Feminism: Market Positioning of Xiaohongshu, 2021 5th International Seminar on Education, Management and Social Sciences, 2021.
14. Y. Fan, Research on user behaviour of social e-commerce platform - Taking "Xiaohongshu APP" as an example, Shandong Normal University, 2019.
15. X. Zhao, Explore the demand function of the audience on UGC based on Use and Gratifications Approach - Take "Xiaohongshu APP" as an example, *Research on Transmission Competence*, 2018, vol.2, no.23, pp.243.
16. B. Hu, D. He, The construction and maintenance of the value identity of the virtual community members - Hupu as example, *China Publishing Journal*, 2020, pp. 34-40.
17. N. Guan, Comparative study of Tencent Sports and Hupu Sports app users - Based on Use and Gratification Approach, Summary Compilation of Paper Abstracts of The 11th National Sports Science Conference, 2019.