Factors Influencing the Online Attention to the 2022 Beijing Olympics and Paralympic Winter Games

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Abstract

This study aims to identify the factors influencing the online attention to the 2022 Beijing Olympics and Paralympic Winter Games. In order to accomplish the same, data of online attention to its Baidu index were collected. Factors influencing the online attention to the 2022 Beijing Olympics and Paralympic Winter Games included in this study are populations of the gross and regional permanent residents and young and middle-aged residents and the per-capita disposable income in the China Statistical Yearbook, and the Internet penetration rate in Internet Report. The results demonstrated that the online attention to the 2022 Beijing Olympics and Paralympic Winter Games would be significantly enhanced by increasing the Internet penetration rate and per-capita income. Simultaneously, young and middle-aged groups will also play a role in the remarkable enhancement of online attention. In addition, the large population base of the permanent residents will also help in improving it. There is a clear difference in the geographical distribution between North and South of China in terms of online attention.

Keywords: Online attention, 2022 Beijing Olympics and Paralympic Winter Games, Influence factors, Changes in the degree of concern

1 Introduction

At present, the Internet has become one of the important communication channels for the Beijing Winter Olympic Games. According to the 47th Statistical Report on the Development Status of China's Internet made by China Internet Network Information Center in February 2021, as of December 2020, the size of Internet users in China reaches to 989 million, and the Internet population accounts for 70.6% in the total population of China. The online news and videos about the Beijing Winter Olympic Games have received great attention from the Chinese Internet users, who get information related to the Beijing Winter Olympic Games from the Internet and search, follow and comment on Beijing Winter Olympic Games events and news through the Internet. It is the first time China to hold the Winter Olympic Games so it is necessary to explore the way to hold the event successfully. As the first "Double Olympic Games" city, Beijing is looking forward to a successful Winter Olympic Games, and a successful Winter Olympic Games may depend on lots of factors, of which the followers are an important part. It is possible to identify the attention and demand of nearly 1 billion people in China for the Beijing Winter Olympic Games. Therefore, this paper has carried out the influence of economic, income, and geographical characteristics on the attention of the Winter Olympic Games from the perspective of the followers, which not only constitutes a reference for holding the Beijing Winter Olympic Games but also sets examples for other cities that may hold similar events.

1.1 Impact of the Internet Penetration Rate on Online Attention to the 2022 Beijing Olympics and Paralympic Winter Games

The Internet penetration rates in countries with different economic strengths have exhibited an expanding and rising trend. The Internet penetration rate in the high-income countries increased from 58.67% in 2005 to 81.02% in 2015, in the middle-income countries from 7.49% to 39.8%, and in the low-income countries from 0.91% to 9.46%, and the world average Internet penetration rate increased from 15.79% to 44% [1]. The popularization of the Internet is a fundamental prerequisite for online attention. The higher the Internet penetration rate, the more opportunities residents have to use the Internet, and the more likely they are to notice and pay attention to the 2022 Beijing Olympics and Paralympic Winter Games.

1.2 Impact of the Regional Resident Population on Online Attention to the 2022 Beijing Olympics and Paralympic Winter Games

Four economic regions Beijing Tianjin Hebei, Yangtze River Delta, Pearl River Delta, and Cheng-Yu Economic Zone-are created for China's regional development, and they stably account for around 75% of the country's GDP [2]. The economy of the four economic regions promotes the growth of the Internet, which, in turn, boosts the regional economic growth, thereby making the four economic regions one of the great attractions to China's floating population. The higher the permanent resident population, the higher

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the network coverage, the lower the construction cost of network coverage, and the more funds available for Internet optimization and equipment renovations. This scenario leads to the phenomenon where the larger the permanent resident population, the better the network coverage, and the more netizens are present. Conversely, the apparent regional difference is that the slacker economic development and the smaller population lead to worse network coverage [3].

1.3 Impact of the Young and Middle-aged Population on Network Attention of the 2022 Beijing Olympics and Paralympic Winter Games

Internet users in China are primarily young and middle-aged people in the age group of 20–59 years, and they account for 72.2% of the total number of Internet users in China [4]. They mainly comprise the working people with disposable leisure time and a loose economic base. Considering the age of first employment and retirement, this age group of China's working population is mostly 19–58 years old, which is the closest to China's actual situation [5]. This population has the highest Internet use rate because they watch the news, TV series, and variety shows through the online platform when they cannot be on leave for a long trip, thereby making Microblog and network communication Apps become one of the leisure ways selected by people of this age group, and these people also comprise that group which is most likely to pay attention to the 2022 Beijing Olympics and Paralympic Winter Games through the Internet.

1.4 Impact of Residents' Per-capita Disposable Income Level on Online Attention to the 2022 Beijing Olympics and Paralympic Winter Games

Based on the report issued by China's Internet Network Information Center [4], in China's Internet population structure, the people with no income account for 10.8% of the total population.

9.6% of people account for income < 500 yuan.

5.7% of people account for income in the range of 501–1,000 yuan.

5.6% of people account for income in the range of 1,001–1,500 yuan.

6.4% of people account for income in the range of 1,051–2,000 yuan.

13.0% of people account for income in the range of 2,001–3,000 yuan.

19.6% of people account for income in the range of 3,001–5,000 yuan.

14.5% of people account for income in the range of 5,001–8,000 yuan.

14.8% of people have income >8,000 yuan.

The report highlights that the frequencies of network usage in the middle-income and high-income groups are higher than that in the low-income group. Consequently, the attention of middle-income and high-income groups to the 2022 Beijing Olympics and Paralympic Winter Games could be higher than that in low-income groups. In accordance with the disposable time in Leisure Theory, the high-income group may have more disposable time and leisure time to pay more attention to the 2022 Beijing Olympics and Paralympic Winter Games through the Internet. In addition, a study established that the increase in the level of disposable household income level increased the probability of purchasing network services [6].

1.5 The Impact of Geographical Distribution on the Online Attention of the Beijing Winter Olympic Games

In consideration of the character of snow and ice sports, it determines that the activities need to be carried out in a cold environment covered by snow and ice, as well as the adequacy volume of snow and ice constitutes the primary factor for the development of its activities. From the geographical distribution features of China, the north-south latitude span is wide, nearly 50 degrees. From south to north of China, there are five temperature zones, which are featured by diverse climate types. Different temperature zones may have different natural conditions, resulting in differences in the development and promotion of snow and ice sports. Therefore, the ice and snow resources and the degree of development may affect the online attention of the Beijing Winter Olympic Games.

In summary, with the continuous development of the network and the dramatic improvement of the mobile computing usage environment, the network information flow has transferred, in a rapid way, from the supplier-centered to the consumer-centered, and the existing studies focus on the macroscopic analysis or the supply-side perspective, while the literatures that are carried out from the consumer perspective is limited, moreover, most of the studies in this area are mainly qualitative studies, but the researches that are carried out through quantitative are limited. Therefore, this paper pays more attention to carry out the researches from the consumer-centered perspective, and tries to explore and study the situation, patterns, characteristics, and influence factors of Chinese netizens' attention to the Beijing Winter Olympic Games with Baidu search data, revealing the characteristics, demands and changing trajectories of Chinese netizens' attention behavior, and providing the basic reference materials for the promotion of the Beijing Winter Olympic Games and the sponsors of the Winter Olympic Games.

2 Methods

This study aimed to investigate the factors influencing online attention to the 2022 Beijing Olympics and Paralympic Winter Games. Of note, the research object, data source, keywords, influence factors, and data processing method have been applied to achieve this goal.

2.1 Research Objects

In this study, the research object was the online attention to the 2022 Beijing Olympics and Paralympic Winter Games, the Baidu index of the 2022 Beijing Olympics and Paralympic Winter Games was taken as the keyword, and the time from January 1, 2015 to December 31, 2019 was taken as the statistical period. The change of online attention and factors influencing the 2022 Beijing Olympics and Paralympic Winter Games during the statistical period were studied.

2.2 Keywords

Owing to the habit of searching the Internet search, netizens typically attain the relevant information they need through the keyword search. Therefore, while selecting the keywords in this study, the representativeness and accuracy of keywords were ensured. With the use of Baidu keyword mining tools, the global keyword search index of the 2022 Beijing Olympics and Paralympic Winter Games (4941) was higher than that of the Winter Olympics (2757), 2022 Olympics and Paralympic Winter Games (2247), and 2022 Beijing Olympics and Paralympic Winter Games (179). As the 2022 Beijing Olympics and Paralympic Winter Games are approaching, the whole Web index keeps increasing by the day, which also indicates that the attention of netizens is increasing by the day. Hence, to select the keywords in this study, the 2022 Beijing Olympics and Paralympic Winter Games with the highest Web index in the Baidu keyword mining tool were used as the keywords in this study.

2.3 Data Sources

The data regarding online attention were collected from the Baidu Index. Baidu Search is the world's largest Chinese language search platform, with 695 million search engine users in China. Baidu's search engine has a high penetration rate of 87.2% on mobile, while that on PC is 82.4% (Search Engine Use Report, 2019). Baidu Index is a website based on the records on the Baidu search engine and counting statistics about Chinese network users' search behaviors so that all users' search behaviors are presented in the form of data in the Baidu Index. Of note, we collected data on Economics, young and middle-aged population, collection of permanent resident population data from the China Statistical Yearbook issued by the China Statistical Office [7].

2.4 Influence Factors

Online attention is a new social phenomenon brought about by the popularization of the Internet and the increase in its users. The factors influencing online attention are a new research direction. Combining various relevant data and previous research analysis revealed that the current research on online attention is mostly conducted from the aspects of regional feature, economy, and population base. This study has referred to and used the spatial and temporal evolution of online attention to marathon events in China and also the four influence factors, including economic development level, Internet penetration rate, young and middle-aged population, and permanent resident population [8]. Besides the above-related factors, many other factors may affect the online attention to the 2022 Beijing Olympics and Paralympic Winter Games, including gender, educational background, and frequency of news reports. However, owing to the lack of quantification and authoritative statistical data, these influential factors have not been comprehensively included in the research scope of this study.

2.5 Assumptions

The Internet penetration rate may affect online attention.

The residents' per-capita disposable income level may affect online attention.

The young and middle-aged population may affect online attention.

The permanent resident population may affect the online attention.

The impact of geographic distribution on the generation of the online attention.

2.6 Data Processing

After conducting a descriptive statistical analysis on the distribution and evolution of the attention behaviors in search of the "2022 Beijing Olympics and Paralympic Winter Games" on Baidu using SPSS.24 and STATA16, we performed the correlation analysis and regression analysis on the influence factors.

3 Results

3.1 Changes in Online Attention

The attention of Chinese netizens stemmed from the time of the successful bid for the 2022 Beijing Olympics and Paralympic Winter Games. The data in the Table 1 come from the average 7-day search for the keyword of the 2022 Beijing Olympics and Paralympic Winter Games in the Baidu Index. After sorting out, SPSS.22 was used for descriptive statistical analysis, reflecting the change and trend of evolution of the distribution of the online attention among the public from January 1, 2015 to December 31, 2019.

The ranking list of provinces and municipalities with the greatest attention is as followed: Beijing, Jiangsu, Guangdong, Shandong, Hebei, Zhejiang, Henan, Sichuan, Shanghai, Anhui, Hubei, Fujian, Hunan, Liaoning, Shanxi, Shaanxi, Tianjin, Jiangxi, Heilongjiang, Jilin, Chongqing, Guangxi, Inner Mongolia, Guizhou, Gansu, Xinjiang, Hainan, Ningxia, Qinghai, and Tibet.

Regarding the change in annual attention of provinces and municipalities, the year 2015 (12,835) embraced the greatest change in the online attention among the statistical years. The reason is that on July 31, 2015, Beijing's successful bid for the Winter Olympic Games brought considerable online attention behaviors, and the online search attention behavior on that day was 1,40,2248 [9]. The great online attention did not begin to gradually recede to a stabilized level until around September that year. In 2016 (3006), online attention behaviors started declining year by year. The year 2017 (2841) witnessed the weakest online attention in history, while the attention behavior began to increase from the year 2018 (3856). The year 2019 (3854), however, noticed a marginal decrease compared with 2018.

Table 2 depicts the descriptive statistics reporting the observed value, average, standard deviation, minimum, and maximum of the sample. The observed value was 150, and there was no serious missing value. Considering the large standard deviation of the primary data a large degree of deviation occurred between the data. Thus, a logarithmic transformation was made, and the standard deviations of the variables were < 10; thus, there was no serious deviation value, making it plausible for the subsequent regression analysis.

The correlation analysis was performed first with the variables after logarithmic transformation, the results of

which are shown in Table 3 as follows: the first column shows the correlation coefficients between the online attention as the dependent variable and other variables, and a strong correlativity exists between them; however, the remaining few columns show that the correlation coefficients of different variables as the dependent variables and the coefficients were < 0.8, indicating no serious multicollinearity. To further validate this conclusion, the multicollinearity was tested, the results of which are shown in Table 4 as follows: the VIF value and Mean VIF value of each variable were < 10, illustrating that there was no serious multicollinearity again.

Table 1. Spatial distribution evolution trend of the online attention to the 2022 Beijing Olympics and Paralympic Winter Games

Area	Average 2015	2016	2017	2018	2019	Grand total
Eastern China	7,098	1,520	1,456	1,930	1,945	2,790
Middle China	3,445	813	787	1035	1017	1417
Western China	2,643	733	655	982	987	1,200
Beijing	772	247.9	255.7	349.2	347.5	394.5
Jiangsu	1,106.4	154.5	144.6	193.9	188.9	357.7
Guangdong	1,058.5	167.4	148.1	201.8	195	354.2
Shandong	918.4	152.5	143.9	193.4	190.5	319.7
Hebei	810.2	157.5	147.6	179.8	204.8	300
Zhejiang	847.8	147	138.9	179.4	180.3	298.7
Henan	813	126.2	118.8	149.7	149.8	271.5
Sichuan	615	136.3	114.5	154	147.9	233.6
Shanghai	458	139.4	132.7	169.4	171.8	214.3
Anhui	498.3	99.5	98.9	135.5	131.4	192.7
Hubei	448.9	111.6	105.2	140.5	143.9	190
Fujian	404.3	109.3	105.1	136.3	132.8	177.6
Hunan	428	101.1	97.7	130.5	124.9	176.4
Liaoning	367.6	109	107.3	143.4	140.2	173.5
Shanxi	384.1	101.3	99.4	126.5	118.8	166
Shaanxi	368.5	98.2	91.5	122.3	122.2	160.5
Tianjin	268.6	103.4	102.2	127.5	131.3	146.6
Jiangxi	330.3	86.6	85.3	115.1	115.1	146.5
Heilongjiang	292.6	98.7	89.5	120.6	118.3	144
Jilin	132.6	87.9	92.6	116.7	115.1	130.5
Chongqing	263.6	78.3	75.7	117.9	113	129.7
Guangxi	282.3	75.4	69.6	107.3	98.5	126.6
Inner Mongolia	235.6	81.7	79.2	104.4	104.9	121.2
Guizhou	187	59.1	55	81	82.5	92.9
Gansu	180.2	55.7	43.9	76.8	80.2	87.4
Xinjiang	140.4	39.8	36.6	65	71.6	70.7
Hainan	86.5	31.9	29.5	56	61.7	53.1
Ningxia	61.3	21.9	17	32.3	39.7	34.4
Qinghai	51.7	22.4	10.2	23.7	21	25.8
Tibet	24.1	5.1	5.1	6.7	11	10.4
Annual average grand total	12,835	3,006	2,841	3,856	3,854	

Table 2. Descriptive statistics of variables

Viable	Observed value	Average	Standard deviation	Minimum	Maximum
Online attention	150	171.963	185.360	5.100	1106.4
Internet penetration rate	150	56.020	4.023	50.300	61.200
Per-capita disposal income	150	26,340.540	11,084.310	12,254.300	69,441.560
Permanent resident population at year-end	150	4466.293	2875.536	324	11,521
Number of people aged 20–59 years	150	1,22,000	2,41,000	1863	12,90,000
ln online attention	150	4.758	0.924	1.629	7.009
ln Internet penetration rate	150	4.023	0.072	3.918	4.114
ln per-capita disposal income	150	10.112	0.348	9.414	11.148
ln permanent resident population at year-end	150	8.128	0.849	5.781	9.352
Ln number of people aged 20-59	150	10.501	1.456	7.53	14.069
Geographical Distribution (North of China = 1, South of China = 0)	150	0.577	1.352	0	1

Table 3. Correlation analysis among variables

Variable	(1)	(2)	(3)	(4)	(5)	(6)
(1) ln online attention	1.000					
(2) ln Internet penetration rate	–0.276	1.000				
(3) ln Per-capita disposal income	0.375	0.342	1.000			
(4) ln permanent resident population at year-end	0.693	0.010	0.167	1.000		
(5) ln number of people aged 20–59 years	0.822	–0.607	–0.088	0.572	1.000	
(6) Geographical Distribution (North of China = 1, South of China = 0)	0.501	-0.204	-0.211	-0.104	0.149	1.000

Table 4. Multilinearity test

Variable	VIF	1/VIF
ln Internet penetration	2.443	0.409
ln per-capita disposal income	1.171	0.854
ln permanent resident population at year-end	2.141	0.467
ln number of people aged 20–59	3.374	0.296
Geographical Distribution (North of China = 1, South of China = 0)	2.008	0.498
Mean VIF	2.282	——

3.2 Regression Analysis

Table 5 depicts the regression results of the full sample. The goodness-of-fit R-squared value was 0.905, suggesting that the model has a pretty high fitting precision. In addition, the F-test value was 344.933, and the P > F value was 0.000, suggesting that the model has passed the joint significance test. The coefficient corresponding to the log of the Internet penetration rate was 1.074, which is significant at the 5% significance level, suggesting that the increase in the Internet penetration rate would significantly improve online attention. In addition, the coefficient corresponding to the log of the per-capita disposable income was 1.039, which was significant at the 1% significance level, suggesting that with the increase in the per-capita income, people may have more leisure time and, in such a case, they may pay more attention to online contents. The coefficient corresponding to the log of the permanent resident population at year-end was 0.174, suggesting that the large base of the permanent resident population will also promote the increase in online attention. Finally, the coefficient corresponding to the log of the number of people aged 20–59 years was 0.518, suggesting that this age group also notably enhances online attention.

Finally, in terms of geographical distribution, the coefficient corresponding to the variable is 0.147 and is significant at the 1% significance level, indicating that the geographical distribution may significantly affect the online attention. Generally speaking, the population in the northern China pay more attention to the Winter Olympic Games, which may be related to their living habits, and the influence of the factor of geographical distribution needs to be duly considered.

Table 5. Regression results of the full sample

ln online attention	Coef.	St.Err.	t-value	P	[95% Conf interval]		Sig
ln Internet penetration rate	1.074	0.512	2.10	0.038	0.062	2.086	**
ln per-capita disposable income	1.039	0.074	14.13	0.000	0.894	1.185	***
ln permanent resident population at year-end	0.174	0.041	4.27	0.000	0.094	0.255	***
ln number of people aged 15–64	0.518	0.030	17.34	0.000	0.459	0.577	***
Geographical Distribution (North of China = 1, South of China = 0)	0.147	0.044	3.31	0.000	0.134	0.160	***
Constant	–16.926	2.054	–8.24	0.000	–20.987	–12.866	***
Mean dependent var	4.758		SD dependent var		0.924		
R-squared	0.905		Number of obs		150.000		
F-test	344.933		P > F		0.000		
Akaike crit. (AIC)	58.101		Bayesian crit. (BIC)		73.154		

Note. ***, **, and *, respectively, represent the 1%, 5%, and 10% significance.

4 Conclusions and Suggestions

4.1 Conclusions

Currently, the academic research carried out on online attention is becoming increasingly extensive. Based on the previous research, this study explored the factors that may influence the online attention to China's 2022 Beijing Olympics and Paralympic Winter Games. In contrast with the most studies where only the changes in online attention within 1 year were analyzed, this study analyzed the data regarding changes in online attention from 2015 to 2019, a study with a long time duration to ensure the integrity and reliability of the research data; this would be helpful in better revealing the laws and factors influencing the online attention to the 2022 Beijing Olympics and Paralympic Winter Games. In addition, the study on the 2022 Beijing Olympics and Paralympic Winter Games enriches the research perspective of the Winter Olympic Games from the perspective of online attention and provides a valuable reference for promoting and marketing the Winter Olympic Games.

Regarding the evolution and change in the spatial distribution of online attention, network attention is markedly influenced by relevant reports and hot events, which attract online users. The latest information regarding the Winter Olympics can be obtained by searching the "2022 Beijing Olympics and Paralympic Winter Game." Significant online attention was brought about by the hot news reports during February 19–25, 2018, such as "Shouldering Responsibilities, Looking Forward to the 2022 Beijing Olympics and Paralympic Winter Games," "Spare No Efforts to Prepare for 2022 Beijing Olympics and Paralympic Winter Games", Li Xiangning: "Looking forward to the breakthroughs of 2022 Beijing Olympics and Paralympic Winter Games." As sport is a mass cultural activity, it is bound to build a natural connection with mass media. The more developed the society is, the closer will be the relationship between sport and mass media. Moreover, the mass media accelerates the dissemination of the sport and extends its social coverage; this is a rule that the winter sports based on the 2022 Beijing Olympics and Paralympic Winter Games also conform to.

Regarding the Internet penetration, the coefficient corresponding to the Internet penetration rate was 1.074, witch is significant at the 5% significance level, thereby suggesting that the increase in the Internet penetration rate would significantly improve the online attention to the 2022 Beijing Olympics and Paralympic Winter Games, which also aligns with the hypothesis. Perhaps, this could be attributed to the fact that the people's life today has a full coverage of the Internet, which has formed an eco-environment characterized by the interdependence between people and the Internet. The lifestyle of people is constantly evolving with the development of science and technology, and access to information has shifted from traditional paper news and TV news to online news. In addition, people in the modern world are more inclined to watch news and events of personal concern from their mobile phones and express their views at any time as opposed to being restricted by time and place. Thus, the Internet penetration rate influences the online attention to the 2022 Beijing Olympics and Paralympic Winter Games. Hence, the development degree of network is one of the factors affecting the difference in online attention to red tourism [10]. Ji et al. established a significant correlation between the Internet penetration rate and the online attention to Xixi Wetland [11].

For the influence of per-capita disposable income of residents on the online attention to the 2022 Beijing Olympics and Paralympic Winter Games, the corresponding coefficient of per-capita disposable income of residents was 1.039, which has a significant level of 1%, suggesting that the improvement in the per-capita income level would significantly improve the online attention to the 2022 Beijing Olympics and Paralympic Winter Games; this is in line with the hypothesis and is primarily due to an increase in the in per-capita disposable income, which enables people to better meet the needs of daily life and have more leisure time to pursue spiritual needs and divert attention to the events of their interest. Besides, it is mentioned in Maslow's Hierarchy of Needs that people will move on to social needs after their physiological needs and safety needs are fulfilled, and it is known that the Internet is the largest social platform in modern society. Thus, the per-capita income level of residents may affect the online attention to the 2022 Beijing Olympics and Paralympic Winter Games. Moreover, the per-capita income level of residents in the tourism-generating region had the most significant influence on the online attention to Hengdian World Studios [12].

The coefficient corresponding to the log of the number of people aged 15–64 years for the influence of the young and middle-aged population on the online attention to the 2022 Beijing Olympics and Paralympic Winter Games was 0.518, also suggesting that this age group notably promotes the online attention, which is also consistent with the hypothesis. This is primarily attributable to two reasons. First, Chinese teenagers are overburdened with studies and hardly have leisure time to pay attention to online information. Second, although the elderly group in China has more leisure time, their ability and skills to accept the newly thriving technology are weaker than that of teenagers and middle-aged group because of the rapid growth of the Internet in China in recent years. Besides, the elderly are more accustomed to the traditional way of being informed, like TV news and paper news. Hence, the young and middle-aged population will affect the online attention to the 2022 Beijing Olympics and Paralympic Winter Games. Furthermore, the proportion of people aged 15–64 years significantly affected the online attention to regional marathon events [8].

Regarding the influence of the permanent resident population on the online attention to the 2022 Beijing Olympics and Paralympic Winter Games, the coefficient corresponding to the log of the permanent resident population at year-end was 0.174, suggesting that the large base of the permanent resident population will also promote the increase in online attention. This is primarily because the network flow of the events information will be more potent in the densely populated area. Simultaneously, the cross-penetration of local media and national media might enable Internet users to focus on the 2022 Beijing Olympics and Paralympic Winter Games for the first time. Moreover, once the resident netizens in densely populated areas receive the information,

they might also become the diffusers and disseminators of the information about the 2022 Beijing Olympics and Paralympic Winter Games. A similar conclusion can be drawn in cities with large resident populations, where more netizens become the information recipients of sports events, and then their role will be changed from information recipients to information diffusers [13], thereby generating more explosive information and, thus, enhancing the degree of network information diffusion of major sports events.

As for the geographical distribution on the online attention of Paralympic Winter Games, the coefficient corresponding to geographical distribution is 0.147 and is significant at the 1% significance level, indicating that the geographical distribution significantly generates effects on the online attention. In terms of geographical distribution, all Chinese provinces have formed ice and snow tourism highlights, growth points, and dependent products. The traditional ice and snow economic region of Northeast China remains strong, and the Beijing Tianjin Hebei region is rapidly emerging because of the preparation of the Beijing Winter Olympic Games. Due to constraints of natural conditions, the participants in the ice and snow sports in China are concentrated in a few northern provinces, and as a result, there is a clear geographical difference between the north and south in terms of the online attention. Dongsheng Wang and Tao Wen (2022) also bear a similar point, that the actual situation of the development of ice and snow sports in China shows an overall situation of strong in northern China and weak in southern China [14].

4.2 Suggestions

This study was conducted as per the data from Baidu and China's Statistical Yearbook. The data from other platforms besides the two should be able to significantly add to this study. In this study, the Internet penetration rate, per-capita income of residents, young and middle-aged population, permanent resident population, and other influential factors are analyzed. Based on our research, more variables may need to be included such that the study turns out to be more comprehensive. Statistical methods can be optimized to measure the attention through a comprehensive perspective, taking into account geographical differences such as individual geography by different methods.

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