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How to avoid the spread of internet science rumors: A text analysis based on the origin of COVID-19

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ABSTRACT

Internet rumors spread rapidly across the cyberspace due to the virtual characteristics and speed of the media platform, which can increase public anxiety and disturb normal social order while presenting the event in an unscientific manner. In this paper a text analysis of the most-viewed articles as well as their comments and remarks is conducted, based on the two major rumors about the origin of COVID-19 that went viral in China recently, namely the American conspiracy theory and Wuhan Institute of Virology leak theory. A key word and sentiment analysis is conducted, using the NLPIR big data semantic intelligent analysis system. It explored the relationship between the two rumors, and identified the focus and emotions of the internet media and public towards these rumors. The study found that, in addition to focusing on the novel coronavirus, online rumor reports and public messages were also affected by the characteristics of the rumor itself, and the public's thinking about the leak theory of Wuhan virus was after the American conspiracy theory; the focus of public attention is mainly on coronavirus, Shi Zhengli, conspiracy, the United States and Wuhan Institute of Virology; meanwhile, the scientific recognition of the article is low, which is greatly affected by the emotion of the article itself. Most citizens can't think independently when facing complex network information, nor can they reasonably distinguish falsehood, which result in speeding up the spread of rumors. To increase the public's ability to identify scientific rumors, in this paper we proposed approaches to prevent the spread of rumors from the three perspectives of school-based network information education, social science-based network information propagation and national governance of network information transmission.

1. Introduction

After the outbreak of coronavirus, the Party Central Committee and the State Council attached great importance to it. The State Council's joint prevention and control mechanism held a teleconference on January 20 to fully deploy the prevention and control of the novel coronavirus epidemics. The World Health Organization (WHO) identified and named the coronavirus 2019-nCov, hereinafter referred to as the novel coronavirus, and defined the event as a public health emergency. With the increasing threat of the novel coronavirus pneumonia to the country and the world, more and more experts, scholars and media are paying special attention to the origin of the coronavirus. The top international journals Nature and Science have published comments on the novel coronavirus, calling once again on the world to pay attention to it. On January 24, more than 1,000 cases were confirmed in China. On February 11, WHO renamed the novel coronavirus as COVID-19, and on the same day, the International Committee of Taxonomy recommended that it be named SARS-COV-2. On March 3, the Chinese Academy of Sciences issued a paper on the origin and continuous evolution of SARS-COV-2. The online remarks of the novel coronavirus have caused fierce public discussions, and social media such as WeChat and Weibo are the mainstream carriers. With the rapid development of the network, the information presents a geometric exponential growth. A huge amount of information has emerged on various online media. However, whether this information is scientific and objective, and whether the public has a high degree of recognition of unscientific speech is worth studying. Due to cognitive bias, identification ability, and

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information asymmetry, many publics do not have the ability to think independently and scientifically distinguish falsehood from complex and diverse Internet speech. Scientific rumors have also spread rapidly. Recently, the US conspiracy theory and the Wuhan virus leak theory, which are about the origin of the novel coronavirus, have been spreading rapidly on the Internet, causing great public concern and heated discussion. The types of Internet rumors spread are mainly social and political, and WeChat and Weibo are the main media for rumors spread （Wei，2020）. According to Qingbo's public opinion analysis of Qingbo's Large Database, WeChat media accounted for the largest proportion of 26.97% of the media distribution reported in this incident, followed by clients and Weibo. Internet rumors are no longer spread verbally, but more quickly and widely. The spread of rumors will not only affect the normal life and work of citizens, but severe cases will aggravate social panic and trigger a social information crisis (Lv,2013). Rumors add factors of instability to a stable political ecology, reduce citizens 'trust in the government, distort citizens' perceptions, and increase social unrest. By exploring the status of scientific rumors in the Internet spread and the public's emotional response, we can clearly understand the mechanism, dissemination links and processes of rumors to better dispel and avoid rumors. Therefore, this research is based on the spread of the public opinion on the origin of the coronavirus, and attempts to solve the following questions: How are the rumors of the origin of the coronavirus reported and transmitted? Is the public recognizable of unscientific statements in articles? How to avoid the impact of unscientific speeches caused by coronavirus on the public?

2. Literature review

Since the age of the We Media, the Internet has been a field of social and information dissemination. Everyone can make speeches on the Internet. The spread of speech is no longer traditional word of mouth, but it is spread rapidly through digitalization. Rumors are even more so, even faster than the speed of true news. Compared with traditional crimes, the harm of Internet rumors to society has an indirect characteristic, which weakens people's evaluation of the social harm of Internet (Lian,2015). Netizens maliciously add false information to the original rumors, thereby generating more rumors on the Internet (RuXian,2014). Can people keep in faith not to believe rumors and spread rumors? American sociologists GW Aalbert and L Postman summed up a rumor formula R = I x A. R is Rumor; I is Important; A is Ambiguous (Zhang&Zhu,2019). From this perspective, highlighting rumors can easily attract attention and ambiguity. Chao Naipeng and Guo Xiaoan(Chao&Huang,2004；Guo&Huang, 2010)and others believe that online rumors are pseudo-scientific statements that are not based on facts and spread in the specific environment of the Internet. They emphasize that rumors are news that has not been confirmed or disproved by authorities, and put forward the anonymity of network dissemination. Huang Yifeng (Huang,2010) and Peterson (Warren& Noel,1951) and others proceeded from public interest and focused on rumors as a behavior in a special period, a contagious collective behavior, which is generated by the masses around the unproven exposition or interpretation of things, events or issues of public interest; they emphasize that rumors are unproven forms of certain events of public interest that spread quickly through huge information chains. Rumors are subjective and false information, and they are not based on objectivity (Wang, Zhao&Huang,2014). The researcher's definition highlights the link between rumors and facts, emphasizing the pseudo-scientific nature of rumors, which cannot withstand scrutiny and corroboration. The reason why speech is called rumor is that the speech itself is more or less factual deviation, and the event is an event that people have paid close attention to recently. In the spreading process, those who are malevolent add more rumors to the rumors, causing it difficult to control later. Nekovee and others treated rumors as a public mental infection similar to the spread of epidemics (Nekovee, Moreno&Bianconi,2007). Ding Ying proposed four stages of spreading Internet rumors: incubation period, budding period, outbreak period, and elimination period (Ding,2019) emphasizing that there are deep social contradictions behind the generation of rumors, which has led to people's distrust and even indignation of government and other powers. Also, some researchers have divided the spread process of rumors into three stages: generation, dissemination and dissipation (Zheng&Zhao,2017). They believe that rumors will eventually dissipate, but the high-speed spread of rumors will cause a series of "secondary disasters" and contaminate the network transmission space as well as increase the factors of social instability and reduce public trust in the government.

Regarding how to avoid rumors, most researchers emphasize strict external interventions, such as the formulation of relevant laws and regulations, the government's timely disclosure of the truth of the incident, and the improvement of the network supervision system, etc. They proposed social collaboration to eliminate rumors and gather multiple social forces to respond to rumors to the emergence, spread, and dissemination of rumors in multiple ways, social media(Jing&Jiang, 2019) ， emphasizing socialization and collaboration, and calling for whole people participation. Research has pointed out that various rumor-repellent platforms fights his own battle. If the various network rumor-repellent platforms are integrated, the so-called wisdom to seek one place and make efforts to one place, will effectively restrain the spread of rumors. Liu Xian(Liu,2015) and Du Zhiqiang(Du&Zhi,2019;Knapp,1944)and others emphasized the supervision mechanism of network laws and regulations, accelerating relevant national laws and regulations, improving network supervision, strengthening the awareness of network associations, strengthening the political ideological education of netizens, and severely punishing rumor production Communicators to suppress the spread of online rumors. Some researchers have also started from the media and based on government management and the Internet to strengthened the disclosure of government information and improve the network rumor system (Yu,2014). Nicholas emphasized the research and development of network technology, combining with the government to establish a rumor prevention mechanism to curb rumors (Wen, Jiang &Xiang,2014). Research also proved that pushing rumor dispelling information to network users had been proven to be an effective way (DiFonzo,2012). It should be noted that there are billions of online media users. According to the 2018 WeChat Annual Data Report, in 2018, 1.01 billion users logged in to WeChat every day and sent 45 billion WeChat messages daily. Among the users, the post-90s generation who were 18-24 years old were the main force, up to 37.59%. It is difficult to control the spread of rumors only by strict external intervention. Therefore, while improving the management of information dissemination on the Internet, strengthening the school's network security education for the main force of WeChat users and improving the promotion of social network information security will effectively avoid the negative effects of rumors.

3. Methods

In this study, two major rumors of the origin of the novel coronavirus, namely the American conspiracy theory and the leak theory of Wuhan virus, were selected as the research objects to collect text data in the network dissemination. In the past two months, coronaviruses have ravaged many countries around the world. People

are also thinking about the source of this new type of coronavirus while fighting the virus. On January 31, 2020, researchers from the Indian Institute of Technology published a paper on the preprinted website BioRxiv, claiming that an HIV-like insert was found in the novel coronavirus 2019-nCoV spike protein, thus inferring the possibility that the novel coronavirus was an artificial virus. Meanwhile, U.S. Republican Senator TOM Cotton claimed that the novel coronavirus was leaked from the Wuhan Virus Laboratory in China. On February 2nd, the US Huffing Post published an article refuting US rightist TOM Cotton's statement that the novel coronavirus was leaked by Wuhan virus. On the same day, Indian researchers withdrew the above-mentioned research article on coronavirus. Shi Zhengli from Wuhan Institute of Virology, Chinese Academy of Sciences, posted in his circle of friends that the novel coronavirus had nothing to do with the laboratory. On February 3rd, Nature published the latest research results of Shi Zhengli and her collaborating team, revealing that the new coronavirus may be caused by bats. Later, South China Agricultural University and Guan Yi's team respectively found that pangolin was the intermediate host for the virus transmission. According to media reports, on February 27, Zhong Nanshan, an academician of the Chinese Academy of Sciences, mentioned that the virus first appeared in China, but its source might not be in China. In early March, a paper published by the Chinese Academy of Sciences' scientific and technological essay platform showed that Patient No.0 of novel coronavirus had nothing to do with South China seafood market, and Taiwan's entertainment programs also interpreted the origin of the five major types of viruses. WeChat interacts with subscribers through the WeChat public account platform, which not only has a huge audience, but also has the characteristics of timeliness of information dissemination and the convenience of user interaction (Luo&Wang,2019). Text analysis of relevant articles on the WeChat platform will help present the characteristics of Internet rumors and take active and effective measures to avoid them.

This research is divided into three stages: First, the keywords and sentiment analysis of the NLPIR Big Data Semantic Intelligent Analysis System (NLPIR) are used to conduct textual research on the hot debate articles to understand the development trend of the public opinion and the Internet Media coverage. WeChat is already one of the most popular social software in the majority of social media, and one of the mainstream media for dissemination of knowledge and speech. Searching the keywords "Wuhan virus leaked" and "American conspiracy theory" in Wechat, 100,000 readings are based as a benchmark to intercept the top 30 reading articles and analyzed a total of 60 articles. Based on word frequency, word length, part-of-speech, location, Internet high-frequency words and other features, the computer automatically weights the importance of the text, and sorts the weight of the selected words in descending order. With the article sentiment analysis function of the NLPIR software, the sentimental status of coronavirus-related public opinion in network transmission is further clarified. In the second stage, text analysis was conducted based on the comments and messages of 60 articles spread on the Internet to explore the public's attention and personal emotions to the incident under the influence of online media. A person's point of view and cognition may be disturbed by the outside world, which gives the possibility of network dissemination. This is especially true for articles with a high reading volume, which can better reflect the focus of the people. Therefore, text and sentiment analysis is performed on the intercepted high-reading articles and comments as a carrier, and the weights of keywords are calculated by software-based text mining and are arranged in descending order to show the objective impression of the masses in online dissemination. The third stage: Reproduce the dissemination process of the two public opinions based on the WeChat index. The WeChat Index is an official mobile terminal for big data analysis provided by WeChat based on WeChat search, public account and public circle of friends. The dynamic index of the search keywords can be visualized, which is convenient for observing the trend of the term's heat over time. This study aims at the 60 high-viewing hot articles and messages and comments on WeChat articles, which are intercepted based on the American conspiracy theory and the leak theory of Wuhan virus about the origin of the coronavirus, to perform text analysis. NLPIR intelligent semantic analysis software is adopted to perform keyword weight analysis and sentiment analysis, combined with WeChat index visualization to analyze the dynamic changes of the keywords' heat and to clarify the following issues: First, what are the characteristics of network dissemination in the American conspiracy theory and Wuhan virus leak theory? Second, what is the focus of public attention on the spread of these two rumors? Third, what is the relationship between the American conspiracy theory and the Wuhan virus leak theory?

4. Results

The NLPIR big data semantic intelligence analysis system is used to sort the focus articles of WeChat search "American Conspiracy Theory" in descending order of reading. Based on 100,000 readings, the top 30 articles of reading are intercepted for keyword and sentiment analysis. The top 20 keywords are analyzed. Among these 30 articles, up to 90% of the articles spread negative emotions. Sort the keyword weights in descending order (Table 1). Coronaviruses and viruses were found to be the most advanced. Conspiracy theory and Shi Zhengli ranked third and fifth, and among the keywords, keywords related to the United States and Wuhan Institute of Virology were also prominent. This shows that the primary concern in the process of network transmission is the nature of the incident. Some rightists in the American conspiracy theory directed the conspiracy to the virus, which was artificially created and leaked by Wuhan Virus. There have also been statements linking the SARS coronavirus to the new coronavirus. The countries involved in the whole rumor and argumentation process are mainly the United States and China, but also other countries, such as Japan, Russia, and India. In terms of individuals, Academician Shi Zhengli of Wuhan Virus Institute is more prominent, and Rothschild has also been involved. Further analysis found that Academician Shi Zhengli's vocalization in the online media was a positive act of rumor and proof. This shows that in the face of rumors and conspiracies, someone needs to stand up to face the rumors, overthrow them, and return a scientific and objective fact to the public. From the 7th infection and the 13th epidemic, online communication calls on all sectors of society to pay attention to the epidemic.

Table 1 Top 20 keyword weights in U.S. conspiracy thesis chapters

Sort	Key words	Weights	frequency	Sort	Key words	Weights	frequency
1	Coronavirus	222.85	513	11	may	55.30	171
2	virus	150.29	1383	12	what	54.94	129
3	Conspiracy theory	123.43	234	13	epidemic	53.15	163
4	United States	101.18	438	14	propagation	48.78	185
5	Shi Zhengli	80.41	87	15	laboratory	48.15	187
6	China	77.50	302	16	can	47.55	115
7	infection	64.31	230	17	Humanity	41.69	149
8	the study	60.35	203	18	country	40.75	85
9	New coronavirus	60.20	197	19	paper	40.41	161
10	SARS virus	58.86	87	20	Wuhan Institute of Virology	40.41	23

Key words and sentiment analysis of the comments and messages of 30 high-volume articles in American conspiracy theory, and found that the article attitude is more positive than the emotion revealed by the article itself. The public showed negative and negative emotions in 13 articles, accounting for 56.67% of the total, and another 36.67% showed positive emotions, which was a pick-up from the positive emotions of the article itself. Although the public may not be affected by the emotion of the article when reading the Internet article, more people are negatively affected by the Internet communication and show the same negative emotions as the Internet communication process. Further analysis found that the most obvious public emotional performance was evil, good, fear and joy. Good and happy because someone speaks and someone argues. Emotions of evil and fear are manifested in the unknown fear behind conspiracy theories. Sort the keyword weights of comments and messages in descending order (Table 2). The first thing is still the coronavirus event itself, followed by conspiracy theory and the United States, showing the public's concern about the nature of conspiracy theory, and the conspiracy theory of the United States. Highly heated discussion. Next is No. 6 Shi Zhengli, whose article demonstrates the impossibility of conspiracy theory, and the public's discussion of Academician Shi Zhengli is also a scientific understanding of conspiracy theory itself. From the belief of the 9th place and the rumors of the 12th place, it can be seen that the public accepts the conspiracy theory lower. But as can be seen from the 14th laboratory, the public is still affected by the media. It can be seen that while the Internet media is rapidly disseminating information, the emotions of the rumors themselves are also rapidly spread, affecting the public mood, and it is imperative to strengthen the management of network communication.

Table 2 Top 20 keyword weights for reviews of American conspiracy thesis chapters

Sort	Key words	Weights	frequency	Sort	Key words	Weights	frequency
1	virus	111.57	325	11	epidemic	34.32	63
2	Conspiracy theory	108.83	134	12	rumor	33.99	63
3	United States	86.80	193	13	article	33.93	93
4	what	61.46	96	14	laboratory	33.38	63
5	Coronavirus	57.23	37	15	infection	33.37	71
6	Shi Zhengli	55.90	22	16	the study	33.36	50
7	China	49.89	120	17	may	33.03	104
8	can	45.25	69	18	Humanity	32.78	54
9	Believe	37.42	74	19	world	31.59	45
10	country	35.25	55	20	bat	29.15	48

Based on the 100,000 readings leaked by Wuhan Virus, the top 30 articles with high reading volume were selected for keyword and sentiment analysis. Positive sentiments accounted for 30% of the articles, and more than 20 articles were negative sentiments. The emotion of the article affects the public's emotional experience in the reading process. In descending order of keyword weights, coronavirus related keywords are still at the top. The second key word is Shi Zhengli. From the 4th conspiracy theory and the 7th American performance article, the thesis that the Wuhan virus was leaked was linked to the American conspiracy theory. At the same time, the keywords related to the Wuhan Virus Institute were ranked higher. Further analysis found that the article mainly revolved around the American conspiracy theory of coronavirus and the leak theory of Wuhan virus, which not only reflects the article's interest in coronavirus but also the accountability of coronavirus.

Table 3 Top 20 keyword weights of papers leaked by Wuhan virus

Sort	Key words	Weights	frequency	Sort	Key words	Weights	frequency
1	virus	154.25	1578	11	No	58.23	160
2	Coronavirus	140.58	418	12	China	57.79	196
3	Shi Zhengli	137.47	180	13	can	51.67	153
4	Conspiracy theory	84.15	171	14	may	44.45	192
5	the study	80.00	315	15	experiment	42.83	129
6	laboratory	76.63	477	16	Find	40.27	169
7	United States	71.16	300	17	what	39.99	103
8	Wuhan Institute of Virology	66.57	60	18	country	38.19	89
9	epidemic	65.41	198	19	get on	37.61	73
10	p4 laboratory	62.17	107	20	New coronavirus	37.30	178

Text analysis of 30 highly read articles and comments on the theory leaked by Wuhan virus was conducted to reflect the public's focus on public opinion and hot discussion issues. The public's attitude towards the article is more objective, and the countries in question are still concentrated in the United States and China. Among them, 40% of the public have made positive and positive comments and comments on the article. The focus of the article is also discussed in the comments, such as coronavirus, conspiracy. Theory, Shi Zhengli, etc. in descending order of keyword weights, the first is coronavirus, followed by intense discussions on conspiracy theories and academician Shi Zhengli. The comparison found that the discussion of the leak theory in the United States and the laboratory has declined, and the keywords of wild animals and biochemical weapons have also entered the public eye. Compared with online media, which mainly reports based on the incident itself, the public pays more attention to the origin of the virus while paying attention to the coronavirus. From the rumors of the thief called in the 17th and the rumors of 18, it can be seen that while some readers are thinking about the authenticity of the leaked theory of the virus, they are also linking the virus incident with conspiracy theory.

Table 4 Top 20 keyword weights for reviews of leaked articles in Wuhan virus

Sort	Key words	Weights	frequency	Sort	Key words	Weights	frequency
1	virus	109.86	1578	11	laboratory	40.97	84
2	Conspiracy theory	77.26	418	12	United States	37.94	105
3	Coronavirus	70.34	180	13	science	34.20	61
4	Shi Zhengli	58.46	171	14	biochemical weapon	33.85	17
5	China	56.54	315	15	may	32.37	94
6	wild animals	54.82	477	16	article	32.02	96
7	can	52.75	300	17	Thief shouting to catch a thief	31.90	13
8	what	46.31	60	18	rumor	31.55	60
9	the study	41.58	198	19	country	30.98	50
10	epidemic	41.02	107	20	evidence	30.72	69

Visually analyze the development of the "American Conspiracy Theory" and "Wuhan Lab Leakage Theory" through the WeChat index, and search and organize related WeChat indexes as the root of time. The study found that the development of the two types of rumors is obviously intermittent and phased (Figure 1). Before the two types of rumors attracted widespread attention, the public paid little attention to the leaked theory of Wuhan virus, with a WeChat index of 1,943,774 times. By January 30, 2020, U.S. Republican Senator TOM Cotton claimed that the new coronavirus had leaked from the Wuhan Virus Laboratory in China, and the public's attention to the conspiracy theory in the United States had surged to a maximum of 9038646 times. The public will then focus on it. Turn to the leak theory of Wuhan virus. Further analysis found that conspiracy theories in the United States pointed to the virus leaked and poisoned by the Wuhan virus. Then on February 2nd, due to the release of academician Shi Zheng's relevant comments, public opinion improved. The heat of conspiracy theories in the United States dropped and continued to decrease. On February 5th, there was a fierce discussion on the theory of Wuhan virus leak, which fell down the next day and continued to decrease. The discussion of the US conspiracy theory and the theory of Wuhan virus leak has not completely dissipated.

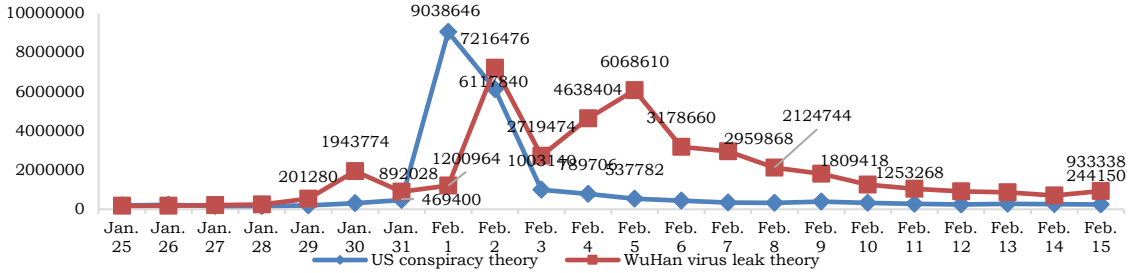

Fig 1 US conspiracy theory and WuHan virus leak theory key words WeChat index

5. Discussion and suggestions

Based on the NLPIR big data semantic intelligent analysis system, this research conducted a text analysis of 60 high-read articles on WeChat keyword search American conspiracy theory and Wuhan virus leak theory. It was found that two types of rumors emphasized the focus on the new type of corona virus in the spread of the Internet. At the same time, the public opinion of rumors was directed to Wuhan Virus Institute. More than two-thirds of the articles conveyed negative emotions, and Academician Shi Zhengli was the focus of this incident. Only a small number of members of the public are not affected by the article itself, and they are more objective and scientific about the nature of rumors. In addition, most of the public are affected by rumors. In the Wuhan Virus Institute and conspiracy theories, some members of the public even issued remarks about thieves. Emergence of U.S. conspiracy theories sparks public outcry over Wuhan virus. The concern of the leak theories, and the public opinion of the American conspiracy theory points to the Wuhan Virus Institute. The public's attention to the rumor has not completely dissipated so far. The long duration and far-reaching impact require scientific circumvention. Although cyberspace promotes freedom of expression, excessive freedom of expression brings the spread of false information and malicious personal attacks (Rowbottom,2006). In order to reduce the impact of such incidents on the stability of public society and the scientific nature of cyberspace, this article systematically framed the spread mechanism of the two types of network rumors that originated from the virus (Figure 2). Proposals for evading rumors have been made in three aspects: scientific network information publicity and national network communication information management.

First, strengthen school network information education. In today's big knowledge era, when science and technology and civilization are highly developed, online media plays an important role, so-called knowing the world without leaving the house. However, the information literacy of college students is relatively low, and the activities of student netizens are not restricted by social ethics and moral standards (Qin,2016). Strengthening students' scientific network information education not only improves students' ability to identify and view online information correctly, but also promotes the ability of students' parents or friends to identify online rumors from the side. It can also promptly curb rumors and curb the spread of rumors. First, the school strengthens the management of online information courses. Under the influence of traditional education, especially in less developed areas, students' media literacy and information literacy are relatively low. Information lessons are games lessons and computer lessons. Under the pressure of further education, teachers are more willing to teach exam-related knowledge. Student participation is not high, teachers are not enthusiastic enough, and even some schools do not offer online information security courses. Second, schools should improve online information education. At present, the school 's online information education has a single form. Schools can set up theme activities of scientific rumors, teaching students to look at issues scientifically and objectively in the face of unfriendly speech that has not been officially confirmed, and to improve students 'immunity to rumors; schools should actively promote the harm of online rumors, such as conducting essay writing activities, and deepening the education and depth of scientific rumors. On January 16, 2020, the Communist Party of China 's Ministry of Education issued a notice on the work plan of the education system on studying, propagating, and implementing the "Outline of Patriotism Education in the New Era". Face up to unscientific statements that endanger national security, damage national reputation, and interfere with social stability.

Second, strengthen the promotion of social science network information. Since the vocalization of the coronavirus, major communities have been advocating and propagating: do not spread rumors, do not believe rumors, and believe in the government and the party. In the face of complex and diverse information, not everyone has a high ability to identify the authenticity of the information. WeChat and Weibo 's high-traffic social media have published a rumor summary within a week at a specific time, but people have not paid much attention. For example, "Weibo that refutes rumors" has only 1.79 million followers; in contrast, social media stars have range followers ranging from millions to more than tens of millions. The public pays less attention to articles published by WeChat rumors than the public on Wuhan Virus Institute and conspiracy theories in the United States. Articles with more than 100,000 readings are even less than the high readings of Wuhan Virus. The huge contrast is thought-provoking. First of all, the community announced the truth in a timely manner and promptly removed rumors. Rumors stop at the wise, but there is a cognitive divide. The greater the psychological imbalance and cognitive imbalance, the greater the motivation for change (Tao, Liu&Dai,2019). Use community bulletin boards to promptly dispel rumors and post the facts on the bulletin boards in a timely manner. Pass on positive energy to people at all times and increase public trust in government. Second, strengthen network

morality education. Internet communication is to pass information to the public without distinction. The rumor itself has a certain amount of knowledge, but it deviates more or less from the facts. Stimulating the public's interest in reading, reposting comments, and even adding jealousy, the rumors spread quickly. The rumor has a time difference from its generation to its dissemination, which weakens the public's evaluation of the social harmfulness of the rumor. Therefore, society should actively publicize the dangers of rumors, deepen the effectiveness of online morality, and strive not to disseminate speeches without scientific basis or official statements.

Third, strengthen national network information management efforts. According to the "China Internet Development Report 2019", China has 829 million Internet users. The age of 10-39 is the main force of Internet users, accounting for 67.8% of the total, and the number of Internet users with junior high school education is up to 38.7%. WeChat daily messages reached 45 billion. The rapidity of network transmission cannot be imagined. If the management is not strict, a little carelessness will cause serious social harm. The study found that China's existing rumor-removing platform is in a state of its own politics (Jing,Jiang&Yang,2019). Some rumor-revealing platforms have little attention, have little influence, and lack timeliness(Wang&Yang,2014). It is imperative to comprehensively make use of the major rumor platforms to increase their strength and influence. Secondly, timely and due diligence to publish the truth and strictly observe the valve of the spread of network information will also help curb the spread of rumors and increase the credibility of the government. Finally, the state has formulated relevant rumor-prevention science videos to allow the public to look at issues objectively and evaluate issues scientifically through the popular science media, and to improve the public's scientific immunity to rumors.

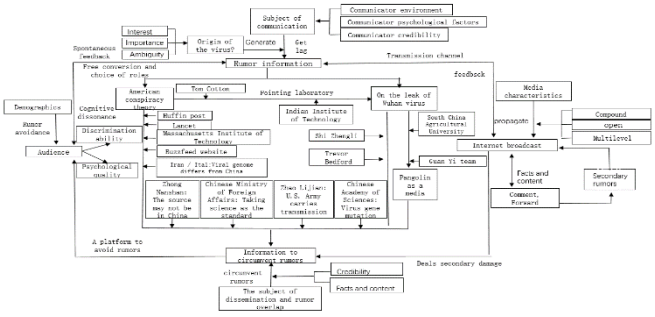

Fig. 2 model of network rumor avoidance process by the quantity of virus origin

In the spread of the two types of Internet rumors originating from coronavirus, the public has a low recognition of rumors and a deep analysis of rumors, which has led to their rapid spread, disrupted the normal order of cyberspace and distorted public recognition know. It is gratifying that when the rumors aroused great public attention, the official dismissed the rumors in time and the public opinion was calmed down. However, the rumor platform has not had a profound impact, and the supervision has not been enough. When rumors are spread on the Internet, highly immune students, active publicity and national network information management will effectively curb the further spread of rumors. Students can look at rumors scientifically and rationally, which is not only the basic quality of the students, but also the embodiment of the core values of socialism, as well as the patriotism of the students. Along with strict national control and social propaganda, the implementation of scientific network information education in education will add double insurance to scientific evasion of rumors.

6.Discussion

The research links rumor evasion with network transmission, and conducts text analysis based on the leakage theory of Wuhan virus and the American conspiracy theory caused by recent public security incidents that have attracted much attention. The purpose is to explore the rumors, the relevant situation of online reports, the focus of public attention, and the relationship between the two rumors. The study found that the primary concern of the Internet and the public is the coronavirus incident itself. Rumors point the finger at the Wuhan Virus Institute. The public's recognition of the rumors is low and they are largely disturbed by the Internet media. Most readers are affected by the sentiment of the article, and express similar emotions in the comments and comments. Rumors not only increase the anxiety of citizens, distort facts and guide public opinion, but also interfere with social stability and reduce the credibility of the government. The current network information management highlights serious external interventions and rarely starts from the users themselves. Therefore, this study puts forward three suggestions from the school, society and the country: strengthen the school's network information education, strengthen the social science network information publicity, and strengthen the national network information management. The rumor prevention strategy is mainly proposed around the main force of Internet users. The origin of the virus is inconclusive, and while the public is actively concerned, it should uphold an objective and scientific attitude, believe in science, and believe in the country. The public's accomplishment with scientific rumors and the prestige of the official media are the basic guarantees for proper handling of the incident.

Text analysis through the NLPIR big data semantic intelligent analysis system found that Shi Zhengli was in the top position in the ranking of keyword weights. Therefore, the limitation of this article is that only keywords and sentiment analysis are based on the American conspiracy theory and Wuhan virus leak theory. The research will focus on related articles published by Shi Zhengli for keyword and sentiment analysis, and expand the number of articles selected, trying to fully display the characteristics of the incident itself, deeply analyzing the harm of this rumor, and improving the immunity of citizens in the face of rumors.

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