A study on the factors influencing the willingness of covid vaccination in China based on media construction theory

Dai Zihui*

[1]**School of Zhejiang Sci-Tech University, Hangzhou 311199, China**

[*]**Corresponding author E-mail: 1124677317@qq.com**

Abstract: Vaccinations are in full swing, but many people appear to be vaccine-hesitant. And except mainstream media having reports on vaccination, a lot of information on vaccination also appears in social media and self-media. This paper explores the influence of different media on vaccination intentions through a questionnaire approach based on media construction theory. The study found that the mainstream media influences people's judgement and increases their willingness to vaccinate; the greater the frequency of media exposure, the stron ger individuals' willingness to vaccinate; access to positive information about vaccination also increases willingness to vaccinate; similarly, the more trustful the media exposure to vaccine reports, the stronger the willingness to vaccinate. Thus, clarifying individuals' media exposure to vaccination information provides a better understanding of how the media influences individuals' willingness to vaccinate, which in turn aids in promoting vaccination efforts.

Keywords: vaccination, media construction, vaccine hesitation Vaccination intentions media

1 Introduction

Since the outbreak of novel coronavirus pneumonia in 2020, the epidemic has had a huge impact on China and the world economy. China urgently launched the first eight emergency research projects, of which vaccine development was one of the main directions. On 31, December 2020, China's first new coronavirus vaccine, Sinopharm China Biologics New Coronavirus Inactivated Vaccine, was approved by the State Drug Administration for conditional marketing, and the country immediately launched free vaccination for all. Vaccination is regarded as one of the most effective measures for the prevention and control of epidemics, and the mainstream media have established a number of topics related to New Crown vaccination for epidemic prevention and propaganda. According to the State Council's joint prevention and control press conference, as of September 7, 2022, a total of 3.43396 billion doses of the new coronavirus vaccine had been reported nationwide, with a total of 132.773 million people vaccinated, and 1.270656 million people had been fully vaccinated, covering 92.40% and 90.13% of the country's total population, respectively. However, the author observed that different media platforms tend to publish different content about the covid vaccination, with the mainstream media tending to publish positive content to encourage the public to vaccinate themselves, while negative content

such as false information appears on social media and self-published media. Therefore, the author was curious as to whether and how the content on the different platforms had an impact on the public's willingness to receive the vaccine.

2 Literature Review

2.1 Current status of research: studies on the reporting of vaccination intentions

Since the outbreak of the novel pneumonia epidemic, the media have reported on the novel coronavirus pneumonia from different perspectives. However, different media platforms have adopted different frameworks, discourses and narratives, giving rise to multiple perspectives in the academic community.

Foreign scholars Wasserman, Herman; Chuma, Wallace conducted a content analysis of 681 front-page news stories on COVID-19 in 11 English-language publications in South Africa from a crisis communication perspective, noting that coverage of the COVID-19 period in South African newspapers was largely negative, although it did not provide misinformation. Mainstream media do not provide misinformation, but did provide disinformation on social media platforms. Foreign scholars Perez-Dasilva summarised and analysed false news on Twitter from an emotional communication perspective, pointing out that false information distracts people's attention. Reports in the media can influence people's willingness to get vaccinated. Foreign scholars Borah Porismita analysed different parties in the United States from a loss and gain framework, pointing out that the individual framework affects more people who are conservative in their use of the media and have negative attitudes towards vaccination.

Domestic scholar Sun Qiang found a relationship between media reports and people's emotions. He conducted a social network analysis of China's People's Daily Weibo tweets and comments in terms of agenda setting, and his study showed that both positive and negative media reports showed a significant correlation with positive public sentiment, and that negative media reports were more significant. The content of the different reports had a certain degree of influence on the audience's willingness to receive vaccinations. By analysing the big data of public opinion on five major Internet platforms, scholars Yu Guoming and Yang Ya pointed out that doubts about the safety and efficacy of vaccines affect the public's willingness to receive vaccinations. Domestic scholars Yu Guoming and Chen Xuejiao pointed out that media use and risk perception affect people's willingness to vaccinate from the perspective of the new communication communication pattern.

However, from the current studies, they focus more on the mainstream media and ignore social media and self-published reports on vaccination for the new crown.

2.2 Rationale: Media Constructed Reality Theory

The theory of media-constructed reality was first proposed by the famous American scholar Walter Lippmann in his book "Public Opinion". Since then, scholars at home and abroad have

paid much attention to it and have made a lot of research results.

In taking the relationship between media and reality as a research perspective, foreign scholar Newman put forward the view that the audience is an active, interpreting, constructing actor of meaning. From the perspective of constructivist epistemology, Grassfield proposed that people are not passive recipients of knowledge, and that constructs are formed primarily through interaction between people, refining and complementing the theory.

Starting from this theory, some scholars have analysed media coverage on people's willingness to vaccinate and found that different channels of media exposure have an impact on people's willingness to vaccinate. For HPV vaccination behaviour, some scholars point out that communication through social media and interpersonal communication is the most effective channel to influence vaccination intention. (Guo Xiao'an and Wang Tianyi, 2020) For information on the covid vaccination, some scholars found that people mainly use mainstream media to learn about vaccination information, thus influencing people's attitude and vaccination behaviour. (Du Zhitao and Luo Xiangying, 2022) In response to the reasons behind this, some scholars found that people consider mainstream media more authoritative and therefore trust mainstream media information more, which is an important channel for people's information exposure. (Yan Yan and Wen Jing, 2020) Some scholars also focus on commercial news websites and social media, but note that they have little impact on willingness to be vaccinated. (Du Zhitao and Luo Xiangying, 2022)

However, scholars have argued that social media and self-published media also have a greater impact on people's willingness to vaccinate, and existing research has focused on mainstream media, neglecting the impact of social media on vaccination willingness, and therefore leaving unanswered questions about what factors influence vaccination willingness.

2.3 Problem formulation

This paper attempt to answer the following questions, based on media construction theory: Does the public primarily access information about vaccination in novel pneumonia epidemic through online or offline channels? How does the public's exposure to vaccine information affect their willingness to receive vaccines? What is the impact of mainstream media, social media and self-media on the public's willingness to receive vaccinations?

3 Study design

This paper uses the research method of questionnaire survey in an attempt to answer the above questions. The process of data collection, collation and analysis was completed on 14 October 2022 and contained 17 questions, including 11 single-choice and 6 matrix questions. The main components were (1) Basic information determination: including age, gender, education, place of residence and income. (2) Independent variables: channels, frequency, content and credibility of people's media exposure. (3) Dependent variables: willingness to receive vaccination for the novel pneumonia epidemic was measured by three questions based on a related scale: "Vaccination

is a good way to combat the development of the epidemic and I am happy to cooperate" "I think vaccination is responsible for my own health and is very necessary" "I have already been vaccinated or will be vaccinated soon". This questionnaire was distributed through a combination of online and offline methods, through WeChat friend circle, QQ zone, Tencent questionnaire and offline.

Based on the above literature review, the corresponding hypotheses are presented here.

H1: The greater the exposure to mainstream media coverage, the greater the willingness to vaccinate.

H2: The greater the frequency of exposure to reports on vaccines, the greater the willingness to vaccinate.

H3: The greater the exposure to positive media content, the greater the willingness to vaccinate.

H4: The greater the trust in the media exposed to vaccine coverage, the greater the willingness to vaccinate.

4 Research Findings and Discussion

4.1 Characteristics of people's media exposure in relation to vaccination issues

A total of 157 questionnaires were collected, with more female respondents (70.7%), mostly young people, and 43.9% of the 18-24 age group.

4.1.1 Access to information on vaccination for the new crown

From the descriptive analysis, social media accounted for the highest percentage of access to information about the covid Vaccination at 38.2%, followed by hospital, community and school propaganda at 20.4%. Access from traditional media accounted for only 12.7%, demonstrating the important role of social media and offline publicity for vaccine promotion.

4.1.2 New crown vaccination information in the media

On the measure of satisfaction with vaccine information, more than 78% of respondents felt that current vaccine coverage met their needs, but 21% also still felt that vaccine coverage was inadequate. Of the survey respondents, 23.6% felt that current information on the latest status of novel coronavirus pneumonia remained inadequate, while 20.4% and 16.6% respectively felt that there was a need for increased coverage of the latest progress in the development of the novel coronavirus pneumonia vaccine and information on the hazards and risk factors of novel coronavirus pneumonia.

4.2 Vector exposure and willingness to vaccinate against the new crown

4.2.1 Mainstream media can increase people's willingness to vaccinate for new crowns

The mainstream media that people come into contact with include not only traditional media such as newspapers, radio and television, but also the two microblogs of official media such as People's Daily and Xinjing News. Compared to the previous mainstream media, which only had offline media contact channels, the addition of online channels, where information is jointly released online and offline, can increase the frequency of people's contact with mainstream media. Compared to social media and self-published information, the information in mainstream media is more authoritative and people have more trust in the information they publish. This is because the mainstream media enhance people's confidence in vaccination by inviting professionals, such as Zhong Nanshan and Zhang Wenhong, to elaborate on vaccination from a more objective level. In this questionnaire, a Pearson correlation analysis found that H1 holds true for the greater frequency of exposure to mainstream media coverage, the greater the willingness to vaccinate (r=0.387**,p=0.000**). The greater the trust in media exposure to vaccine coverage, the greater the willingness to vaccinate (r=0.431**,p=0.000**), then H4 holds.

4.2.2 Frequency of media exposure affects people's willingness to receive the new crown vaccination

With the development of self-media, people are able to learn about vaccination through a variety of channels other than the mainstream media. Compared to the grand narrative of the mainstream media, the information in self-media and social media is more focused on the individual. Through each individual experience, people are able to relate to themselves and empathise with them. As a result, people are more eager to learn about the vaccine, and thus have more comprehensive information about the new crown vaccination, which increases the desire to get vaccinated. In this questionnaire, a Pearson correlation analysis found that the higher the frequency of exposure to vaccine reports, the stronger the desire for vaccination (r=0.186**,p=0.000**), and then H2 holds.

4.2.3 Positive messages can boost confidence in getting vaccinated with the new crown vaccine

During the NSC vaccine outbreak, the media reported a lot of positive information about the NSC vaccine, which to some extent allayed people's concerns about its safety and efficacy. For example, on 23 July 2022, the public website of the Chinese government announced that the current leaders of the Party and State had completed the vaccination, which to a certain extent enhanced people's trust in the production of the vaccine in China. In this questionnaire, a Pearson correlation analysis found that H3 holds true for the higher frequency of exposure to positive reports of the vaccine, the stronger the willingness to vaccinate (r=0.229**,p=0.000**). The

validation of the hypothesis suggests that by effectively increasing the frequency of audience exposure to vaccine-related stories, especially positive ones, the willingness to vaccinate can be increased and is also an important influencing factor for the credibility of the media.

5 Conclusion

This study uses a questionnaire to theorise the current state of vaccination intentions among new vaccine recipients, in an attempt to answer the question of what causes "vaccine hesitancy" and how the content of vaccine coverage on different platforms affects people. The study found that frequency of exposure to mainstream media coverage, frequency of exposure to vaccine-related content, exposure to positive media content and exposure to more trustful media coverage of vaccines were all positively associated with vaccination intentions. This is mainly due to the fact that mainstream media is still an important media channel influencing people to receive the vaccine, that people have a higher level of trust in mainstream media, and that positive messages can, to a certain extent, allay people's concerns about the safety of the new vaccine.

During the epidemic, the media became our main channel for information about the new crown vaccine. In addition to the mainstream media, the internet has provided us with easy access to information and has made the flow of information more transparent. This includes both positive information that enhances people's understanding of information on the safety and efficacy of vaccines and negative information that evokes the perception of risk. So whether the content is negative or positive, it can go some way to increasing awareness of the issue. However, exposing people to more positive information can help promote willingness to vaccinate. This is because different media interpretations and reconstructions of the topic of vaccination are constantly influencing people's judgement and therefore their behaviour. It is also clear from this study that people are more likely to be exposed to positive information about vaccination in the media than negative information, which in part indicates a positive attitude towards vaccination against the new crown.

However, it is worth noting that although access to information has increased, information on the Internet is mixed, and even false and disinformative news appears. This study also found that exposure to negative information affects people's willingness to get vaccinated. Because the media is constantly reshaping our real world, once people receive too much negative information, or even false information, they first become suspicious of the safety and effectiveness of vaccines, which in turn affects vaccination behaviour. For example, individual media outlets have misinterpreted the well-intentioned reminder by Gao Fu, director of the China Center for Disease Control and Prevention, at the 11th Caixin Summit on November 14, 2020, that people should not rush to get vaccinated. As people's consciousness is constructed through information on the internet, which influences their own behaviour, any information on the internet is a cause for alarm. The relevant authorities should also regulate the online environment and increase the dissemination of positive information.

This study has some shortcomings due to funding reasons. For example, the small sample data and the impact of the epidemic meant that we only used an online questionnaire and did not

conduct offline in-depth interviews to explore the reasons behind the emergence of the behaviour. In future studies, researchers in different fields may need to keep an eye on the phenomenon of vaccination intentions, as well as expanding vaccine studies and events.

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