COVID-19 VACCINATION: A CASE STUDY FROM CHINA VIA WECHAT

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ABSTRACT
This research aims to examine the persuasive strategies used by the Chinese government to promote COVID-19 vaccination among healthcare workers and high-risk populations. The study analyzed 100 WeChat subscription messages promoting COVID-19 vaccination using the quantitative content analysis method. The findings suggest that the Chinese government utilized 'claim' strategy the most, followed by 'celebrity,' and 'consequence,' respectively. The study provides insights into common persuasive strategies for promoting vaccination uptake and highlights the importance of understanding cultural context in health promotion efforts. These findings provide implications for future vaccination promotion efforts in China and other countries facing similar challenges.
Keywords: Persuasive Strategies, COVID-19 Vaccination, Health-Care Workers, High- Risk Population

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INTRODUCTION

The new corona virus has become a global enemy, disrupting civil society and endangering lives, and is far more dangerous than it appears due to its hyper-contagious nature (Anderson, 2020). The WHO declared the outbreak a public emergency of international concern on January 30, 2020, and a global pandemic on March 11, affecting over 200 countries and territories (World Health Organization, 2020). According to Johns Hopkins University & Medicine (2023 as of 9:00 p.m. BST on May 16,) there were over 4.53 million confirmed cases of the COVID-19 worldwide, and nearly 300,000 deaths attributed to the COVID-19, which underscores the severity of the disease.

The COVID-19 pandemic first appeared in Wuhan, China in December 2019, has affected the lives of people worldwide including China. After a year of efforts, China developed the new corona vaccine, which was a significant contribution to the unmitigated condition. The Chinese Center for Disease Control and Prevention (CDC) has recommended priority groups for vaccination against influenza in China, including medical personnel, public health personnel, large event attendees and security personnel, vulnerable people and employees in crowded places, key site populations, and populations at high risk for influenza (World Health Organization, 2021). To encourage citizens to accept the vaccine, the Chinese government has made the vaccine free of charge (China Daily, 2020) However, there are still Chinese citizens who are hesitant to receive the vaccine due to fear of its effectiveness and potential side effects, among other reasons.

To address this issue, the Chinese government needs to use various persuasion strategies to convince its citizens to get vaccinated. Promoting COVID-19 vaccination among healthcare workers and high-risk populations is crucial, as vaccination can provide protection and reduce transmission.

This study aims to identify the persuasion strategies used by the Chinese government to promote COVID-19 vaccination among health care workers and high-risk populations in China. This study examined 100 health promotion messages selected from WeChat during the year of 2020-2022, using a quantitative content analysis, in visual, textual, and video formats. The study seeks to answer the research questions: "what persuasion strategies were used by the Chinese government to promote COVID-19 vaccination among health-care workers?" and "what persuasion strategies were used by the Chinese government to promote COVID-19 vaccination among high-risk populations?

As the world continues to struggle with the ongoing COVID-19 pandemic, empirical evidence and research on vaccination, particularly in China, have become increasingly crucial. The Chinese government has employed various persuasive tactics to encourage its citizens to get vaccinated against COVID-19, and analyzing these strategies can provide valuable insights for other countries facing similar challenges. Therefore, research on COVID-19 vaccination in China is particularly pertinent and can offer distinctive perspectives on how to effectively promote vaccination among diverse populations.

LITERATURE REVIEWS

Persuasion in Health Promotion

Health promotion is the process of enabling people to increase control over, and to improve their health (Nutbeam & Kickbusch, 1998). Health communication campaigns often use persuasive messages to influence attitudes and behaviors related to health promotion. Atkin and Salmon (2013) noted that persuasive messages are a critical component of health communication campaigns, and may include awareness messages, instructional messages, and focused messages such as rewarding appeals, negative appeals, positive appeals, and multiple appeals.

To reach a wider audience, health advocacy messages are often disseminated through a range of mediated communication channels, including traditional mass media, traditional small media, and interactive technologies. According to Atkin and Salmon (2013), experts suggested that effective health promotion campaigns focus on promoting more acceptable positive behaviors or products among key populations, using creative implementation of free publicity and leveraging networks, organizations, interpersonal, and social influences to control the behavior of key populations. Such campaigns should be characterized by theoretical guidance, rigorous evaluation, ongoing mass communication, and appropriate persuasive rewards to encourage adoption of advocated actions. Ultimately, successful use of persuasive strategies can positively impact the future of health promotion (Atkin & Salmon, 2013).

Persuasion in Vaccine Promotion

There was a previous study studying promoting rabies vaccines that can be referred to (World Organization for Animal Health, 2016). The study focuses on persuasion in promoting rabies vaccines. The framework for eliminating dog-induced human rabies has five pillars; socio-cultural, technical, organizational, political, and resource-oriented aspects. It also included awareness campaigns and responsible dog ownership. The most basic intervention is mass vaccination of dogs and humans, including pre-exposure immunization for key populations with close contact with dogs. Advocacy is crucial to establish a legal framework and compelling case for mass vaccination programs. Successful rabies elimination requires community involvement, long-term policies, and consistent vaccination of 70% of at-risk dogs. The study suggested to start small and promote vaccine banks to reach remote areas and at-risk populations (World Organization for Animal Health, 2016).

Health Promotion in WeChat

WeChat is a popular social media platform in China that has become a valuable tool for health promotion. WeChat provides a channel for the medical and health care industry to reach a wider audience and promote health awareness. Hanan (2022) emphasized the importance of how to effectively use WeChat public numbers to release timely information on public health events, notices, health science knowledge, and organize interactive quiz activities to promote the development of healthy habits. This study aims to investigate the role of "WeChat health promotion" in persuasion strategies for health care professionals and high-risk populations.

Persuasion Strategy - Claims and Celebrity

In persuasive communication, claims and celebrity endorsements are two widely used strategies to influence the audience. A claim is a statement made by the speaker that is intended to persuade the audience of a particular idea or belief. Claims can be factual, evaluative, or policy-oriented. For example, a factual claim would be "The earth revolves around the sun," while an evaluative claim would be "The earth is a beautiful planet." A policy-oriented claim would be "The government should provide free healthcare for all citizens."

Celebrity endorsements, on the other hand, involve the use of a popular figure to endorse a particular product, service, or idea. Celebrities are often seen as role models and trendsetters, and their endorsement can influence the audience's perception and behavior. According to research by Petty and Cacioppo (1981), the use of celebrity endorsements can increase the persuasiveness of a message, especially when the celebrity is seen as credible and trustworthy. However, there are also potential drawbacks to using claims and celebrity endorsements in persuasive communication. Claims can be challenged and refuted if they are not backed up by evidence or if they are based on faulty reasoning. Celebrity endorsements can also backfire if the celebrity's reputation is tarnished or if the audience perceives the endorsement as insincere or opportunistic. In conclusion, claims and celebrity endorsements are two commonly used strategies in persuasive communication. While they can be effective in influencing the audience, careful consideration should be given to their use and potential drawbacks.

Source Credibility Theory

The concept of source credibility is essential in understanding how attitudes are developed towards communication sources. It consists of three dimensions: trustworthiness, attractiveness, and expertness. (Wiener & Mowen, 1986) Trustworthiness refers to the perceived honesty and reliability of the source, attractiveness pertains to the source's physical appearance or personality traits, and expertness relates to the source's perceived knowledge or expertise in a particular area. The credibility of a source can influence consumer behavior, including purchase decisions. The perception of a celebrity's credibility can vary depending on the individual celebrity (Chetty, 2019).

Consequentialism

Consequentialism is a theory that judged things based on their consequences. It was first developed in the 14th century by philosophers such as Burleigh, Occam, and Brittain (n.d.) has since become an established branch of logic. Consequences are the reasons why something is important, and they can be either natural or logical. In this study, the authors investigate whether the use of consequences as a persuasion strategy can encourage COVID-19 vaccination among healthcare workers and high-risk populations on WeChat.

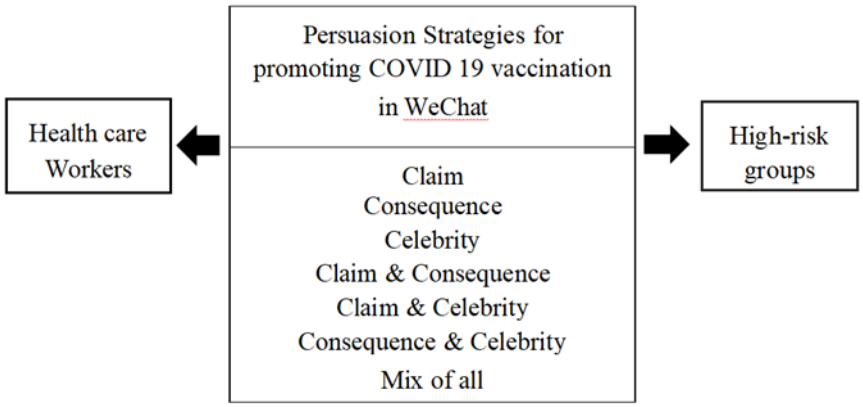

Figure 1 Conceptual Framework

RESEARCH METHODOLOGY

This study adopted a quantitative approach, using the quantitative content analysis to investigate the persuasive strategies used to convince Chinese citizens via WeChat to receive the COVID 19 vaccine. Content analysis is a research method to understand the content of messages - be they text, symbols, images or audio data - to determine textual meaning (Gheyle & Jacobs, 2017). Therefore, this approach is suitable for the purpose of this study, which is to examine which persuasive strategies the Chinese government used to promote vaccination among its citizens.

The study examined two groups of promotional messages; promotional messages for healthcare workers, and promotional messages for high-risk populations. Promotional messages were expected to convince those who work in healthcare or social care settings, while messages for high-risk individuals aimed to convince those with compromised immune systems. Judgmental sampling was used to select relevant articles promoting the COVID-19 vaccine on WeChat public accounts. This sampling technique was chosen because not all articles on WeChat were relevant, and judgmental sampling improves sample relevance.

Data Collection Procedure

The data collection procedure for this study involved the following steps:

1) Developed a coding scheme.

2) Searched for official WeChat account articles and selecting 100 promotional messages of COVID-19 vaccine in WeChat.

3) Selected a sample of 50 messages for each of two population groups (health care workers and high-risk populations).
4) Quantitatively coded the sampled messages by two coders based on the persuasive strategies outlined in the coding scheme.
5) Reported the coding results to answer the proposed research questions.

Table 1 Coding Scheme

Persuasion Strategies	**Sampled Data**							
	ID#1	**ID#2**	**ID#3**	**ID#4**	**ID#5**	**ID#6**	**ID#7**	**ID#8**
1) Claim								
2) Consequence								
3) Celebrity								
4) Claim and consequence								
5) Claim and celebrity								
6) Consequence and celebrity								
7) Mix of all three								

Based on the above coding scheme, quantitative content analysis of the WeChat was performed through WPS Excel. The samples of messages promoting the COVID-19 vaccination were coded by counting the frequency of persuasion strategies appearing in WeChat, and percentages were also calculated to describe the distribution of the data. The classification was based on seven categories of persuasion strategies. Finally, coding results for health care workers and high-risk population were compared for meaningful interpretation of the findings. In the study, the researchers subscribed to various national government subscriptions and received daily information related to the promotion of COVID-19 vaccines on their WeChat platform during the pandemic. They then selected all vaccine promotion messages and analyzed them using a coding scheme that included seven categories of persuasion strategies based on the Source Credibility Theory and the Consequentialism Theory. These categories included claim, consequence, celebrity, claim and consequence, claim and celebrity, consequence and celebrity, and a mix of all. The researchers used these categories to quantitatively analyze the data and answer two research questions about vaccine promotion among health-care workers and high-risk populations. By categorizing the messages, they were able to identify the specific persuasion strategies used by the Chinese government to promote COVID-19 vaccination among these target groups.

RESEARCH RESULTS

The study analyzed 100 promotional messages for the COVID-19 vaccine in WeChat, focusing on persuasive strategies used to promote vaccination. 50 messages were aimed at healthcare workers and 50 other messages aimed at high-risk populations. The finding revealed that, of 100 promotional messages, the most commonly used strategy was "claim," which accounted for 37% of the messages, followed by "celebrity" strategy accounted for 28% and "consequence" strategy accounted for 12%, respectively. The "consequence and celebrity" strategy was used the least, accounting for only 1%. The study suggests that these strategies can be useful for promoting vaccination to healthcare workers and high-risk populations (see Table 2).

Focusing on persuasive strategies used in promotional messages for healthcare providers, the findings revealed that ‘claim’ accounted for the highest percentage (40%). The second highest was celebrity (20%), followed by consequence (14%), claim and celebrity (12%), and claim and consequence (10%), respectively. The lowest percentage was consequence and celebrity and mix of all three (2%) (see Table 2).

At the meantime, the highest percentage of persuasive messages used for high-risk population was ‘celebrity’ (36%), followed by ‘claim’ (34%), consequence (10%), mix of all three (8%), claim and consequence (6%), and claim and celebrity (6%). Consequence and celebrity were not found (0%) (see Table 2).

Table 2 Frequency and percentage of messages using each persuasion strategy for healthcare workers and high-risk populations

Persuasion Strategy	Healthcare Workers (n=50)		High-risk populations (n=50)		Total (n=100)	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Claim	20	40%	17	34%	37	37%
Consequence	7	14%	5	10%	12	12%
Celebrity	10	20%	18	36%	28	28%
Claim & Cons.	5	10%	3	6%	8	8%
Claim & Celeb.	6	12%	3	6%	9	9%
Cons. & Celeb.	1	2%	0	0%	1	1%
Mix of all	1	2%	4	8%	5	5%

To sum up, the most commonly used persuasion strategy in WeChat for both health workers and high-risk people is the use of ‘claim’, followed by ‘celebrity’, and ‘consequence,’ respectively. The least commonly used strategy was a strategy that mixed of consequence and celebrity. It is important to note that these findings are based on 100 messages of WeChat subscriptions selected for this study.

DISCUSSION & CONCLUSION

The study found that the most common persuasion strategy used by the Chinese government when promoting COVID-19 vaccination to health workers and high-risk populations was the 'claim' strategy, followed by the 'celebrity' strategy,’ and ‘consequence’. The analysis indicates that the 'claim' strategy was the most frequently used persuasion approach, accounting for 37% of the total. This suggests that the Chinese government primarily focused on providing justifications for the necessity and correctness of vaccination to persuade health workers and high-risk populations.

The second most common strategy was the 'celebrity' strategy, which accounted for 28%. This indicates that the Chinese government also emphasizes the message senders or sources (government and the expert scientists) who are considered high credible among the general public.

Less commonly used were other strategies, including the 'claim and celebrity' strategy (9%), 'claim and consequence' strategy (8%), 'mix of all’ three strategies (5%), and a ‘consequence and celebrity’ (1%). This indicates that the Chinese government opted for a simple persuasive strategy rather than a more complex one when promoting vaccination.

There could be various reasons for this approach. Firstly, simplicity is often more effective, as suggested by Meng et al. (2021). By emphasizing key points in the messaging, the government could successfully convey the significance of vaccination and encourage a greater number of people to get vaccinated. Using complex language or technical terms could have led to misunderstandings or confusion among the target audience. In contrast, using simple language could have improved the audience's comprehension and motivated them to take the desired action.

The findings of the study were consistent with previous research on persuasive strategies for promoting vaccination uptake (Smith, Fox, & Jones, 2018, p. 735; Jones, Saksvig, Grieser, Young, & Johnson, 2019, p. 56), such as the effectiveness of celebrity endorsements and fear

appeals. However, the study also identified some differences in the effectiveness of certain strategies compared to previous research (Smith et al., 2018; Jones et al., 2019), which may be due to variations in the target population or cultural context of the studies.

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