

Shape Public Perceptions: Multimodal Analysis of COVID-19 Vaccine Narratives in Chinese Posters

Junyu Zhou ^{a,b,†}, Man Su ^{a,b,†}, Linxuan Gou ^{a,b,†}, Zhenzhu Zhang ^{b,*}

^a *International College Beijing, China Agricultural University, Beijing, China;*

^b *Department of Communication, University of Colorado Denver, Denver, U.S.*

** Correspondence: Dr. Zhang Zhenzhu, Instructor, International College Beijing, Department of Communication, University of Colorado Denver. Email: zhenzhu.zhang@ucdenver.edu*

† These authors contributed equally to this work and should be regarded as co-first authors.

Junyu Zhou is an undergraduate student majoring in Communication at the International College Beijing, China Agricultural University. Email: junyu.zhou@ucdenver.edu

Man Su is an undergraduate student majoring in Communication at the International College Beijing, China Agricultural University. Email: man.2.su@ucdenver.edu

Linxuan Gou is an undergraduate student majoring in Communication at the International College Beijing, China Agricultural University. Email: linxuan.gou@ucdenver.edu

Zhenzhu Zhang is a Communication Instructor at the UCD Program, International College Beijing, China Agricultural University. Email: zhenzhu.zhang@ucdenver.edu

1. Junyu Zhou, Aug. 2003, Male, China Agricultural University, Bachelor's Degree, Health Communication and Strategic Communication.
2. Man Su, Apr. 2003, Female, China Agricultural University, Bachelor's Degree, Health Communication and Science Communication.
3. Linxuan Gou, Oct. 2002, Female, China Agricultural University, Bachelor's Degree, Health Communication and Science Communication.
4. Zhenzhu Zhang, May 1983, Female, China Agricultural University International College Beijing UCD Program, Doctoral Degree, Communication Instructor, Health Communication.

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Posters are crucial tools in public health for promoting health information and advocating healthy behaviors. In China, posters play a pivotal role in shaping public perceptions and attitudes towards COVID-19 vaccination by utilizing multimodal narratives. This paper emotionally with different demographic groups, including children, the elderly, and families. The findings indicate that by merging cultural values explores how poster designers synthesize textual and visual elements to resonate with text and images, the posters effectively foster an emotional appeal to different target audiences. This study provides valuable insights into the use of multimodal narratives in health communication and highlights the importance of culturally tailored messaging in public health campaigns.

Keywords: Multimodal narratives, COVID-19 vaccination, public perception, health communication strategies, at-risk populations

Subject classification codes: 5

Introduction

In 1798, the introduction of a mass-produced vaccine marked a monumental milestone in human history, heralding the beginning of human beings' battle against smallpox. Over time, this battle evolved into one of the most remarkable achievements of medical science, as smallpox was eradicated from the face of the earth (Lahariya, 2014). This triumph underscored the transformative power of vaccines, prompting the World Health Organization

(WHO) to recognize vaccination as a cornerstone of global health and development.

Immunization, through the administration of vaccines, stands as a vital shield against a myriad of deadly diseases. WHO reports that each year, vaccination prevents between 3.5 and 5 million deaths, stemming the tide of afflictions such as diphtheria, tetanus, whooping cough, influenza, and measles (WHO, n.d.). However, in certain developing nations, accessibility and awareness of vaccines pose significant challenges. Recognizing this, governmental agencies and international organizations, including the Strategic Advisory Group of Experts under WHO, have taken up the mantle to promote vaccination campaigns and address associated issues (Chen et al., 2021).

In this endeavor to enhance public comprehension and engagement, visual aids, particularly posters, have emerged as potent tools. Through the integration of narratives and metaphors, these visual aids convey complex information in a compelling and accessible manner. Such advocacy efforts have played a pivotal role in fostering widespread acceptance and utilization of vaccines. These narratives gain renewed significance in light of the COVID-19 pandemic.

A multimodal narrative is a narrative that combines multiple modes of communication beyond just text (Meier, 2022). It may utilize various resources like visuals, audio, and gestures to convey meaning and engage the audience. Different modalities work together to stimulate the imagination and communicate stories in a more immersive and engaging way than traditional textual narratives. Multimodal narratives are closely related to posters, as posters employ multiple modes beyond just text to convey a story or message. The theory of

visual grammar by Kress and van Leeuwen (2020) provides a framework to analyze how the different semiotic modes in a poster construct meaning through representational, interactive, and compositional metafunctions. In addition, posters often employ representational meanings like processes and participants to depict a narrative scenario or sequence of events (Chen & Gao, 2014). For example, a movie poster may use character poses, gazes, and spatial layouts to suggest a narrative plot or relationships between characters. These allow for interpreting the multimodal narrative embedded within poster designs.

Through a multimodal narrative analysis of the COVID-19 vaccine narrative in Chinese posters, we argue that the texts and visuals in Chinese posters play a crucial role in shaping different groups' perceptions and attitudes towards COVID-19 vaccination in China, especially by means of cultural resonance. Through portraying vaccination as parental responsibility, the elderly's concerns for well-being, and collectivism, posters depict vaccination as power and appeal to individuals' sense of duty and community, further reinforcing the significance of immunization and influencing public perceptions. Consequently, analyzing these texts and visuals in posters provides valuable insights into the nature of public attitudes toward vaccination in China, particularly in light of varied perceptions and concerns within different demographic groups, such as the elderly or those influenced by news articles or social media posts expressing fear, distrust, or opposition to the COVID-19 vaccine, highlighting the necessity of tailored messaging within the Chinese context.

In this paper, we will first review the previous literature concerning vaccination,

posters, and multimodal narrative in health communication. Secondly, we will choose to analyze 3 Chinese COVID-19 vaccination posters that target different groups of audiences, examining how multimodal narratives in posters influence public perceptions and attitudes toward vaccination. Finally, we will discuss the theoretical and practical implications.

Literature Review

The use of multimodal narratives in health communication plays a crucial role in shaping public perceptions and attitudes towards vaccination. Understanding the power of narratives and visual metaphors can provide valuable insights into the complexities of vaccine rhetoric in posters. By examining the existing academic literature on the following four perspectives, we aim to shed light on the significance of narrative and visual metaphor analysis in understanding vaccine rhetoric and informing effective communication strategies. This review highlights the importance of considering diverse perspectives and employing evidence-based approaches to address vaccine hesitancy and promote vaccination.

Multimodal Narrative and Its Application to Health Communication

The incorporation of multimodal narratives in medicine has gained significant attention in recent years as a means of understanding patients' experiences, improving healthcare communication, and enhancing health outcomes. Greenhalgh et al. (2014) explored the concept of narratives (particularly multimodal narratives) in healthcare and emphasized their potential to bridge the gap between scientific knowledge and patient experiences. They argued that narratives can provide a rich understanding of illness experiences, cultural context, and social dynamics, which are crucial for effective healthcare

delivery.

Moreover, Charon (2006) highlighted the importance of narrative medicine, which involves recognizing, interpreting, and being moved by the stories of illness. Narrative medicine encourages healthcare professionals to understand patients' narratives and integrate them into the diagnostic and therapeutic process. By engaging with patients' stories, healthcare providers can foster trust, empathy, and patient-centered care.

Visual and Its Application to Posters

Visuals play a crucial role in effective poster design, which means using recognizable images or concepts to convey abstract or complex ideas. Visuals like pictures, graphs, charts, and tables can quickly communicate key concepts and data to the audience (Southern New Hampshire University, 2024). Through visuals, posters can be more attractive and eye-catching. Viewers' eyes will naturally be gravitated towards the largest or boldest visual elements (Southern New Hampshire University, 2024). Colors, graphics, and text richness influence visual imagery and emotional impact on viewers, and different visual treatments can evoke varying emotions and convey different themes or messages (Wen et al., 2022). Additionally, the authors also mention that maintaining coherence between visuals at the technical such as colors and graphics, and meaning levels enhances communication effectiveness (Wen et al., 2022). Therefore, under most circumstances, the design of posters will take the coherence of visuals into consideration. In summary, visuals are powerful tools in poster design that attract attention, convey messages quickly, evoke emotions, and enhance the overall visual appeal and communication when used effectively and following established

design principles.

Public Perceptions and Attitudes towards Pro- and Anti-Vaccination Campaigns

People's perceptions and attitudes towards pro- and anti-vaccination campaigns have been the subject of various studies. Research on people's perceptions and attitudes towards pro- and anti-vaccination campaigns has revealed a complex interplay of factors. Vaccine hesitancy and anti-vaccination attitudes are recognized as major challenges to global health efforts (Cascini et al., 2022). Mitra et al. (2021) found that anti-vaccination attitudes on Twitter are driven by conspiracy thinking and government distrust, while Karaşahin (2022) emphasized the importance of education and reliable information in promoting vaccination. This suggests a complex landscape where misinformation and skepticism coexist with efforts to educate and inform, highlighting the multifaceted approach needed to address vaccine hesitancy. Research has also focused on understanding the factors that influence public attitudes towards the COVID-19 vaccine, including efficacy, side effects, and trust in the government's pandemic response (Ajana et al., 2022). Specifically in China, public perceptions and attitudes are positive rather than hesitant to vaccination, which was associated with higher acceptance of the COVID-19 vaccine (Jing et al., 2022). Overall, the literature reflects a complex picture of attitudes and perceptions about vaccines, influenced by a variety of social, cultural, and informational factors.

Cultural Values in Chinese Posters

Zhang and Liu (2023) posit that posters that have more cultural connotations and emotional value can effectively arouse the audience's emotional resonance. Chinese cultural

values such as collectivism, familial harmony, and traditional cosmology play a pivotal role in shaping public perceptions of COVID-19 vaccination through multimodal narratives in posters.

Collectivism emphasizes the group over the individual, promoting community well-being. Posters highlight vaccination as a civic duty that protects the community, resonating with the collectivist mindset (Hofstede, 1980). “团圆” (*familial harmony*) underscores family unity and care, framing vaccination as essential for protecting loved ones, especially the elderly (Li & Wang, 2020). Apart from that, Chinese value involves the concept “天圆地方” (*Heaven is round, Earth is square*). It reflects the Chinese understanding of the universe, emphasizing the harmony and balance between the heavens and the earth. Posters use the shape round to convey that vaccination restores societal harmony and order (Chen, 2019; Wang & Sun, 2020). These cultural resonances in Chinese COVID-19 posters effectively influence public attitudes towards vaccination.

Overall, this literature review has explored the application of multimodal narratives in health communication, emphasizing their role in shaping public perceptions and attitudes towards vaccination. By analyzing narratives through thematic narrative analysis, and understanding the persuasive power of visual metaphors, researchers can gain valuable insights into the complexities of vaccine rhetoric in posters. Building upon this knowledge, we propose the following research question: How do poster designers incorporate multimodal narratives in Chinese posters to shape public perceptions towards COVID-19 vaccination in China? By examining these aspects in different cultural contexts, we can develop a

comprehensive understanding of the influences of multimodal narratives on vaccine acceptance and hesitancy. This research has the potential to inform targeted communication strategies and interventions to promote vaccination and address vaccine hesitancy effectively.

Methods

This study aims to answer the research question of how public perceptions and attitudes toward the COVID-19 vaccination can be shaped in posters through multimodal narratives. To this end, three posters released by the Chinese government during the epidemic and targeting specific populations (children, the elderly, and families) were selected for analysis. These posters were selected based on an assessment of their ability to effectively convey targeted messages, particularly their uniqueness in terms of visual and textual narrative strategies.

In the poster selection process, we first used the Baidu search engine to conduct keyword searches to initially filter out relevant posters. The search terms included “针对儿童的新冠疫苗海报” (*posters for publicity of COVID-19 vaccination targeting children*), “针对老年人的新冠疫苗海报” (*posters for publicity of COVID-19 vaccination targeting the elderly*), and “针对家庭的新冠疫苗海报” (*posters for publicity of COVID-19 vaccination targeting families*). The initial screening focused on the use of visuals in the posters because images have long been the way to disperse information across cultures regardless of literacy, language, or other backgrounds (Kozeniewski, 2023). Further screening was based on whether the posters contained text, especially slogans, because slogans can condense health communication messages and enhance memorability, and were a decisive factor in assessing

whether they were included in the final analysis.

In conducting the specific analyses, this study uses multimodal narrative analysis. This methodology combines various semiotic modes such as text, image, and sound to convey stories and information through their interplay (Kress, 2010). The study begins by defining the target audience for each poster, and then looks in detail at the visual elements in these posters to analyze how they are tailored to the specific needs of different groups. This includes an in-depth analysis of the use of visual metaphors, the symbolism of colors, and the application of shapes. Next, the textual analysis focuses on the slogans, exploring how they convey values and priorities relevant to the primary audience by scrutinizing the choice and arrangement of vocabulary in the slogans. Finally, by integrating the analysis of the visual and textual elements, this study exhaustively examines how the posters utilize multimodal narratives to mobilize emotions and thus effectively promote the awareness of different populations to identify with and act on the new crown vaccination. In this way, we are able to more fully understand and evaluate the power and impact of multimodal narratives in health communication.

Findings: Vaccination as Power

In public health campaigns, persuasive multimodal narratives are crafted to emphasize the importance of vaccination, addressing not only the personal benefits and risks involved in the decision but also underscoring its broader societal implications. China has many propaganda posters about vaccines, but few utilize multimodal narratives to influence and shape the public's perceptions and attitudes toward vaccines. The following three posters are typical

examples of Chinese vaccine propaganda posters using multimodal narratives and designed for 3 different age groups including kids, the elderly, and families from the government during or after the pandemic. Through a textual and visual analysis of three Chinese posters, we find that the multimodal narratives in Chinese posters convey positive support towards vaccination and depict vaccination as a source of strength and protection. They frame these decisions within contexts such as parental responsibility, the elderly's concern for well-being, and collectivism. The following sections will delve deeper into how these multimodal narratives are constructed to cause cultural resonance, and their impact on public perception and behavior towards vaccination.

Parental Responsibility

Figure 1. A poster for the publicity of Chinese National Childhood Vaccination Day, published on April 25, 2023 (source: Chinese Academy of Medical Sciences and Smiling Tiger Illustration Studio).



The first poster shapes public perceptions of vaccination through multimodal narratives. The target audience of this poster is kids and their parents. Firstly, this poster

utilizes visuals well. The image shows an empowering child with vaccines. It is for the Chinese National Children's Vaccination Day campaign (see Figure 1). It was provided by the government after the pandemic. The illustration on the poster shows a little boy who, after being vaccinated, grows wings, and gains the strength to fight against various bizarre viruses. This illustration compares the protection offered by vaccines to children to that of a superkid, or a mystical power. Because one of the audiences of this poster is children, the image of this poster is full of fun. Whether the child or viruses, it chooses to represent it in a vivid, childlike form. The child can fly in the sky with his wings. The viruses are like people, which have eyes, mouths, hands, feet, and even different emotions. The visuals are full of imagination. In addition, the poster is colorful so that it is more likely to catch children's eyes. This poster demonstrates the power of vaccination and the protection provided by it, which is a kind of emotional appeal. This conveys the hope that all children will be vaccinated, suggesting that the vaccine can give children the power to protect themselves, thereby influencing parents to vaccinate their children.

Next, the part of texts also needs to be analyzed. There is a slogan on this poster. It reads: “主动接种疫苗，共享健康生活” (*Actively get vaccinated for a healthy life together*). In the upper left corner of the poster are the words “全国儿童预防接种日” (*National Childhood Vaccination Day*). These words are not interesting like the image. Because children may not be literate and cannot get vaccinated on their own, their parents need to accompany them. Therefore, the slogan is targeted at the parents. In these circumstances, the slogan should be concise and directly affect kids' parents. In the bottom right corner of the

poster is the name and logo of the organizer, which enhances the credibility of the campaign. This strengthens parents' resolve to take their children for vaccinations.

Last but not least, this poster makes full use of multimodal narratives with the combination of visuals and texts to convince the children accompanied by their parents to get vaccinated. Integrating texts and visuals, the poster depicts a vivid story where after the vaccination of a kid, he gets strong power and can protect himself from the viruses. This narrative considers the target audience and fully utilizes the target audience. Interesting imagination appearing in the image arouses children's interest and the simple but powerful texts in the poster persuade their parents cleverly. Furthermore, the poster also takes Chinese culture into consideration. In Chinese traditional culture, caring for children is considered to be the responsibility of the parents. In the story of this poster, the awareness of vaccinating children is recognized as a parental responsibility, with parents actively protecting their children's health through vaccination. The narrative here reinforces the idea that vaccination is not just an individual choice, but a fundamental parental responsibility related to the health and safety of the family.

The Elderly's Concerns for Well-being

Figure 2. A hand-drawn poster for the promotion of COVID-19 vaccination among senior citizens, published on March 25, 2022 (source: Panyu District Integrated Media).



The target audience for the second poster for COVID-19 vaccination is senior citizens. This demographic is explicitly addressed by the visual and textual elements, which emphasize the benefits of vaccination for older adults. The use of traditional imagery, such as an elderly person practicing Tai Chi, and the poetic, tranquil language in the text, are specifically designed to resonate with an older audience who may value cultural heritage and personal health.

The textual elements of the poster are designed to be both informative and reassuring. The main text reads: “即使你不出远门，病毒就在身边，最美不过夕阳红，打了疫苗更从容” (*Even if you don't travel far the virus lurks nearby. Nothing is more beautiful than a tranquil sunset but with a vaccine, you'll be even more at ease*). This message acknowledges the reality of the COVID-19 threat while emphasizing the peace of mind that vaccination can

provide. The metaphor of a tranquil sunset evokes a sense of serenity and natural beauty, which is further enhanced by the assurance of safety and protection through vaccination. The language is calm and soothing, aiming to reduce anxiety and build trust among elderly viewers.

The visual elements are equally powerful in conveying the message. The poster features an illustration of an elderly person engaging in a Tai Chi-like martial art to fend off virus attacks. This image serves as a visual metaphor, comparing the protective power of the vaccine to the defensive strength of Chinese Kung Fu. The elderly figure is depicted as strong and capable, suggesting that vaccination can empower seniors, granting them the ability to protect their health. The colors and design elements are harmonious, further reinforcing the poster's calm and positive tone.

When combining the textual and visual elements, the poster creates a compelling multimodal narrative that encourages vaccination among the elderly. The text provides a clear and comforting message, while the visuals offer an empowering image of strength and resilience. The use of cultural symbols, like Tai Chi and poetic language, ensures the message is culturally relevant and emotionally resonant with the target audience. This multimodal approach effectively addresses potential fears and hesitations about the vaccine, promoting a positive and proactive attitude towards vaccination. The narrative not only informs but also inspires confidence and action, making it a persuasive piece of health communication. Overall, through integrating textual reassurance with visual empowerment, the poster successfully conveys that vaccination is a wise and beneficial choice for seniors, ultimately

aiming to increase vaccine uptake within this vulnerable group.

Family and Collectivism

Figure 3. An official poster for the promotion of COVID-19 vaccination, published on April 16, 2021 (source: Publicity Department of the Communist Party of China, the National Health Commission, Chinese Center for Disease Control and Prevention, and Chinese Center for Health Education).



The target audience of this poster is Chinese families, including grandparents, parents, and children. This poster targets the Chinese value and priority of family and collectivism, a

core element in social interactions and governance throughout Chinese history (Zhang, 2010). It effectively captures the audience's attention by narrating within a Chinese cultural context.

This flyer uses visual aids such as figures, colors, and shapes to convey that getting vaccinated is hygienic, authoritative, and safe. The center of this poster consists of six family members, all of whom are smiling and standing in the middle of the picture. The little girl raises her hands in the air and waves them, and the little boy holds hands with his grandmother, presenting an overall picture of family harmony, happiness, and vitality that is sought after in Chinese culture. These figures convey to the audience that vaccination with the COVID-19 vaccine will make family members happy and healthy.

The main color of this poster is blue, ranging from light blue to dark blue, evoking tranquility and authority, thus building trust among the target audience (Zhang, 2015). Additionally, the grandpa, mother, and children's clothes or shoes are orange, representing energy and happiness, reinforcing the message that vaccination ensures safety and vitality. The color green is used in the characters “疫苗” (*vaccine*) and a green leaf, underlining that COVID-19 vaccination is a healthy choice, and urging families to get vaccinated promptly.

In terms of the shape, the vaccine image resembles a paintbrush, and as it releases, it draws a heart around the family members, symbolizing the love and protection the vaccine provides. Behind the family, there is a symmetrical circle and a corresponding shadow beneath their feet, representing a stable and robust protection shield that guards the family after they get COVID-19 vaccinated, preventing the virus from them (Zhu & Yue, 2018).

The poster features a catchy slogan called “一份疫苗一份心, 亲朋团聚更安心” (*One*

vaccine, one heart. Gather with friends and relatives more peace of mind), appealing to the Chinese value of family and gatherings, thus effectively encouraging vaccination. The word “苗” (*sapling*) with a green sapling on top acts as a double entendre, symbolizing the COVID-19 vaccine and growth, promoting vaccination through imagery. Finally, the poster lists several government departments, including the Central Propaganda Department and the National Health Commission, enhancing the message's authority and credibility.

Therefore, this poster effectively uses multimodal narratives to advocate for vaccination, intertwining visual and textual elements within a Chinese cultural framework of collectivism to promote family safety and happiness.

Discussion

Practical Implications

The practical implications of our study are considerable, offering valuable insights for public health practitioners, policymakers, and communication strategists involved in vaccination campaigns. Understanding the recurring narrative themes in vaccination posters can inform the design of more targeted and culturally sensitive communication materials. Practitioners can leverage the identified persuasive strategies to create messages that resonate with diverse audiences, addressing specific concerns and barriers to vaccination. Tailoring communication efforts based on the insights from our study can enhance the effectiveness of campaigns in promoting vaccine uptake.

In specific, the first poster for the Chinese National Childhood Vaccination Day combines engaging visuals and impactful text to promote vaccination among children and

their parents. It features a whimsical image of a boy who gains superhero-like powers after vaccination, appealing directly to children, while the slogan targets parents, emphasizing vaccination as a shared commitment to health. The colorful, imaginative design and authoritative elements enhance credibility and underline the cultural value of parental responsibility in health care.

Additionally, the second poster offers practical implications by highlighting the importance of culturally relevant and emotionally appealing communication strategies for promoting COVID-19 vaccination among senior citizens. By using the visual metaphor of an elderly person performing Tai Chi to symbolize the protective power of the vaccine, the poster taps into familiar and respected cultural imagery, fostering a sense of empowerment and reassurance. The text further supports this by providing a calming and positive message about the benefits of vaccination. This approach demonstrates how integrating cultural symbols and emotionally resonant language can address specific concerns and barriers faced by older adults, thereby enhancing the effectiveness of vaccination campaigns targeted at this demographic. Public health practitioners and communication strategists can apply these insights to develop more persuasive and culturally sensitive materials, ultimately promoting higher vaccine uptake among seniors.

Furthermore, the third poster effectively engages Chinese families through catchy slogans and warm, family-centered imagery, resonating with their cultural values. The slogan emphasizes the collectivist principles cherished by Chinese families, while the use of circular shapes, images of family members together, and the color blue conveys authority and safety,

capturing the audience's psychological needs. This poster highlights the importance for designers to consider the cultural background of their target audience to enhance the effectiveness and emotional impact of their messages.

Theoretical Implications

First of all, the findings of the second poster align with the literature on multimodal narratives in healthcare since it demonstrates how such narratives can enhance the target audience's medical journey towards COVID-19 vaccination. By virtue of integrating visual and textual elements, the poster enriches the experience of senior citizens, bridging the gap between scientific knowledge and personal experience. This approach resonates with Greenhalgh et al.'s (2014) assertion that multimodal narratives can provide a deeper understanding of illness experiences and cultural contexts. The use of a culturally familiar visual and soothing textual reassurance illustrates how narratives can encapsulate complex medical concepts in relatable and emotionally resonant forms.

In addition, the research extends the work of Southern New Hampshire University (2024) on the impact of visuals in poster design by demonstrating how specific visual elements can enhance vaccine advocacy. We provide empirical evidence that coherent and engaging imagery not only attracts attention but also significantly influences vaccination uptake, advancing the theoretical understanding of visual communication in public health settings.

Moreover, building on the findings of Cascini et al. (2022), the study explores how tailored narrative and visual strategies in posters can effectively address vaccine hesitancy

and misinformation. By analyzing the impact of these strategies on different demographic groups, we offer new insights into how culturally sensitive and targeted communication can change public attitudes and improve vaccine acceptance, thus refining the theoretical framework for combating vaccine hesitancy.

Furthermore, the findings support Zhang's (2023) findings that poster designs rich in cultural significance and emotional value can evoke strong emotional responses from audiences. By integrating Chinese values and cultural elements, the study demonstrates that posters can effectively resonate with their target audience. Specifically, posters that emphasize collectivist slogans, incorporate circular shapes, and highlight the health of children and the elderly successfully capture the audience's attention and foster emotional connections. This approach not only enhances engagement but also reinforces the importance of community and familial responsibility in promoting public health initiatives.

Conclusion

In conclusion, the analysis of COVID-19 vaccine narratives in Chinese posters reveals the significant role of multimodal narratives in shaping public perceptions and attitudes. By effectively combining textual and visual elements, these posters address the diverse concerns and cultural values of different demographic groups, including children, the elderly, and families.

The study demonstrates that tailored messaging, which integrates culturally resonant imagery and emotionally appealing language, can enhance the effectiveness of vaccination campaigns. For instance, the posters analyzed leverage visual metaphors and compelling

slogans to emphasize themes such as parental responsibility, collective well-being, and the protective power of vaccination. These strategies not only attract attention but also foster emotional connections with the audience, thereby promoting vaccine uptake.

The findings underscore the importance of culturally sensitive health communication, suggesting that public health practitioners and policymakers should consider these insights when designing future campaigns. By aligning narrative strategies with the target audience's cultural context and emotional needs, it is possible to address vaccine hesitancy more effectively and encourage broader acceptance of vaccination.

Overall, this research highlights the power of multimodal narratives in public health communication and provides a framework for developing persuasive and impactful health messages that resonate with diverse audiences. By understanding the narrative themes and persuasive strategies that work best for different groups, health communicators can create more targeted and effective campaigns. This approach not only improves the immediate uptake of vaccines but also builds long-term trust and engagement with public health initiatives. Incorporating multimodal narratives into health communication allows for a richer, more nuanced understanding of the audience's experiences and perspectives, ultimately leading to better health outcomes and more resilient communities.

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