RedFame

Studies in Media and Communication
Vol. 14, No. 3; September 2026
ISSN: 2325-8071 E-ISSN: 2325-808X
Published by Redfame Publishing
URL: http://smc.redfame.com

The Role of Rhetorical Questions in English-Language Chinese News Headlines on Public Health

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Received: December 1, 2025 Accepted: April 27, 2026 Online Published: April 30, 2026

doi:10.11114/smc.v14i3.8234 URL: https://doi.org/10.11114/smc.v14i3.8234

Abstract

Emotions and curiosity among readers can be used as tools to develop interest in public health issues, especially among international readers in contemporary times. This study examines how rhetorical questions in English-language headlines in Chinese online news persuaded readers during the COVID-19 pandemic. Using both framing and thematic analyses, the qualitative corpus of 20 interrogative headlines published in China Daily and Global Times between 2019 and 2024 was analysed. Drawing on Aristotle's rhetorical appeals (ethos, pathos, and logos) and framing theory, this study identifies three persuasive themes: Risk and Uncertainty, Responsibility and Governance, and Solution and Science. Overall, the findings suggest that question-form headlines might enhance readers' judgment, emotional responses, and information-seeking behaviour regarding public health. However, the results should be interpreted with caution given the limited dataset; the study offers exploratory insights into rhetorical persuasion in transnational health communication.

Keywords: Covid-19 headlines, persuasion, media framing, rhetorical questions, and public health communication

1. Introduction

International readers are often drawn to Chinese news, published in English. In this context, rhetorical questions used to persuade readers could be positioned to evoke emotion and curiosity. To validate this, Lai and Farbrot (2014) state that rhetorical questions in newspaper headlines must capture attention and engage readers, thereby influencing their decision-making. In this context, forming opinions about public health, especially during pandemics such as COVID-19, shapes the perceived threat, scientific evidence, and authority that underlie social appeals. According to Zou (2020), international readers tend to maintain a diasporic identity (sense of identity developed in individuals for those who live outside their native land yet maintain a social, emotional, and cultural connection with the latter) by sharing information in the public forums, informing on newer versions of journalism to influence civic management and emotional microenvironments. This suggests that both diasporic and international readers use this grammatical structure in headlines to inform people about vaccine safety, shifts in legislative policies, and controversies related to governance. Hence, the global readership is largely driven by rhetorical implications, as reflected in publications by reputable outlets such as Global Times and China Daily. Often, public understanding during any health crisis is shaped by media framing. According to Ogbodo et al. (2020) and Palm et al. (2021), public risk perception, behavioural compliance with public health measures, and emotional responses are influenced by news headlines, as demonstrated by studies on COVID-19 communication. Hence, readers can interpret complex health information from headlines as a cognitive shortcut. Contextually, rhetorical questions serve as a distinct linguistic strategy that not only invites readers to engage in evaluation and reasoning but also frames uncertainty and attributes responsibility.

1.1 Problem Statement

Although several researchers have examined the media framing of COVID-19 and the persuasive role of news headlines, the number of papers explaining the specific use of rhetorical questions in English-language Chinese news outlets has been sparse. Existing studies, such as Palm et al. (2021) and Ogbodo et al. (2020), have examined framing patterns in news coverage or emotional appeals in crisis communication. The interrogative form, or the ways in which headlines pose

questions, has received little attention as a persuasive tool for communicating public health information to the masses. In particular, there are fewer studies on how rhetorical questions in English-language Chinese news platforms frame risk, governance responsibility, and scientific solutions during the COVID-19 pandemic. Addressing this gap, the present study explores how rhetorical questions function as persuasive mechanisms within the framing of public health issues.

1.2 Research Significance

This study, in particular, has three distinct contributions to the growing body of research. Firstly, it provides theoretical grounds by linking macro-level framing outcomes to micro-discursive form, highlighting how a specific grammatical tool may encourage particular persuasive recommendations. For instance, a comparison could be drawn between soliciting a technical explanation and making urgent demands in this context. Secondly, the English-language headlines reflect the transnational communication format adopted by Chinese outlets, showing how media on international platforms perceive public sentiment in the face of a global crisis. This also underlines how the media can shape diasporic information practices. Thirdly, the practical implications of this study indicate that engagement with public health protocols might be encouraged by rhetorical questions, while they could also amplify fear if misinterpreted or misinterpreted. Overall, this study contributes notably to understanding how headline framing can shape the audience's interpretation of public health information.

1.3 Research Aim

To investigate the role of rhetorical questions as a persuasive tool in public health in online news headlines published in English-Chinese.

1.4 Research Question

What is the function of rhetorical questions in English-language Chinese news headlines about public health during COVID-19?

For investigation, the research question has been subdivided into three sub-questions:

1. ***RQ-1: How do rhetorical-question headlines in English-language Chinese outlets frame uncertainty and risk about COVID-19, and which persuasive appeals do they primarily address?***
2. ***RQ-2: How do these question-headlines allocate responsibility, frame governance choices?***
3. ***RQ-3: How do interrogative headlines invite scientific explanation or solution-oriented reasoning?***

1.5 Theoretical Framework and Its Operationalisation

Aristotle's rhetorical appeals and Chong and Druckman's frame elements were combined to address the research questions. Aristotle's Rhetorical Theory has been used to highlight the persuasive capacity of language (Rapp, 2002). In this study, rhetorical appeals are operationalised as analytical categories applied to headline discourse. Here, ethos refers to references that may encourage institutional legitimacy, credibility, and authority (Rapp, 2002). Logos refers to the appeals based on scientific explanation, factual reasoning, and evidence (Rapp, 2002). Pathos refers to the emotional cues, such as reassurance embedded in headline wording, as well as to fear/uncertainty (Rapp, 2002). These categories help identify the persuasive mechanisms underlying interrogative headlines. Each COVID-19 headline will be analysed using rhetorical appeals such as credibility (ethos), logic (logos), and emotion (pathos). In addition, the Framing Theory by Chong and Druckman (2007) complements the rhetorical analysis by explaining how the interpretation of social issues is structured due to media texts. As suggested by Chong and Druckman (2007), frames help define problems, provide moral evaluation, attribute causes, and suggest solutions. Hence, in this study, these four frame elements were used to show how "frames" in the media modulate the audience's understanding and perception of issues. Each headline was coded for appeals (primary/secondary) and the presence of one or more frame elements; the codebook and sample-coded items are in Appendix B. This mapping enabled addressing RQ1 by looking at whether interrogative headlines highlight pathos and risk frames (uncertainty), RQ2 explores whether these headlines stress on ethos within responsibility or governance frames to identify accountability. In addition, RQ3 identifies whether the headlines invite solution-oriented framing and logos. Therefore, the combination of these two frameworks shows how the structure of interrogative-form headlines determines what qualifies as an actual problem, who is responsible, and what types of solutions are expected.

2. Method

2.1 Research Design

The research design selected for this study is an exploratory purposive case study (qualitative approach); the sample is meant to provide illustrative examples rather than statistical generalisation. Both frame analysis and thematic analysis were used to analyse the headings from English-Chinese newspapers published online, such as the Chinese Daily and Global Times. The depth of interpretive coding and the present findings have been situated as illustrative, which is why only 20 headlines were chosen.

2.2 Data Collection

Sampling and Selection

During the sampling and selection process, the online archives of reputable newspapers, such as China Daily and Global Times, were used to retrieve COVID-19-related headlines published between 2019 and 2025, ensuring data timeliness. Keyword combinations such as COVID-19, coronavirus, gear, vaccine, and interrogative markers (why, will, did, are, how) were used to screen the articles. The inclusion-exclusion criteria were applied. The articles specifically focused on pandemic-related information, were published between 2019 and 2025, and were in English, so that a wide range of audiences could read them. Each headline was noted for its URL, publication date, a short excerpt, and whether it was in the public domain, to ensure that no ethical risks or private/confidential data were involved. Additionally, only whole-length articles and question-form headlines were explicitly selected. After searching both websites, approximately N=150 articles focused on COVID-19 were screened for relevance to pandemic-related public health communication and interrogative structure. After applying the inclusion criteria, a final purposive sample of 20 interrogative headlines was retained for qualitative analysis. This sample was intentionally exploratory, as it offers illustrative cases for in-depth analysis of rhetorical and frame elements, rather than addressing claims at the population level. The headlines that contained no information on COVID-19 or question forms were excluded.

2.3 Data Analysis

Two complementary qualitative methods were used to analyse the headlines. The framing analysis proposed by Chong and Druckman (2007) was used to identify relevant frames (Table 1 in the Appendix). According to Chong and Druckman (2007), the analytical structure was based on four frame elements. Firstly, the problem definition was explored to identify the issue highlighted as the major problem. Secondly, a causal interpretation was performed to identify the agents responsible for the issue. This is followed by a moral evaluation to understand the implications of the normative stance, and finally ends with treatment recommendations that indicate responses and solutions to the problems.

2.4 Codebook Development

A codebook was developed that highlights examples and definitions of the four frame elements and the three rhetorical appeals. The initial draft was refined and examined by a pilot subset comprising at least 5 headlines. Finally, each element in the codebook was listed as a phrase mapped to the common variants. For instance: mutation/new strain" was mapped to causal interpretation, while "rise/resurgence" was mapped to the problem. Each headline, along with the lead excerpt, was read, and the codes for each of the four elements were identified. The dominant (primary) and, wherever applicable, co-occurring (secondary) rhetorical appeals were recorded. All the codes and notes were documented in an Excel spreadsheet. The reliability of the codebook was enhanced by iterative coding.

2.5 Thematic Analysis

The selected headlines were qualitatively interpreted, thematically analysed, and manually colour-coded to identify emergent themes based on trends in the data (see Table 2 in the appendix). Adeoye-Olatunde and Olenik (2021) point out that this technique offers sufficient scope for the investigator to investigate the associated knowledge in depth by focusing on specific themes of the study. To this end, Braun and Clark (2019) proposed a protocol to identify commonalities in headlines and explore their patterns, thereby identifying emergent themes (moral positioning, emotional engagement, and indirect persuasion). The process involved familiarisation with data, generating initial codes, searching for themselves, reviewing themes, defining and naming themes, and producing the interpretive report. This ensures that the qualitative data extracted can be represented innovatively through thematic analysis, thereby presenting analytical data in a particular field (Lester et al., 2020). All the ethical guidelines were duly followed, and authorship of the evidence was duly validated. Additionally, the conceptual integrity and clarity of this study were maintained by Beauchemin et al. (2022), who provided an abstract reasoning underlying the themes and formed the basis of empirical evidence.

3. Results

Different frame elements in interrogative headlines correspond to the following three emergent themes: Risk and Uncertainty, Responsibility & Governance, and Solution & Science, which serve as persuasive devices in English-language Chinese outlets during COVID-19. Authority and trust-related cues correspond to ethos, especially where headlines foreground institutional legitimacy within the Responsibility and Governance frame. Empathy, gear, and emotional urgency, such as affect-laden wording, correspond to pathos and are most highlighted in the Risk & Uncertainty Frame. Evidence-oriented cues, such as timeliness, data, and expert comment, correspond to logos and are most prominent in the Solution and Science frame. Based on thematic analysis, "hopeful recovery", "moral responsibility", and "collective safety" answer the rhetorical questions, guiding the audience to respond emotionally and morally about the behaviours essential for public cooperation.

3.1 Theme 1: Risk and Uncertainty

Eight out of twenty sampled headlines were coded under the theme -Risk and Uncertainty (Table 1, Appendix A). This theme comprises headlines that introduce ambiguity in development, predict supposed threats, or raise the prospect of resurgence. Such headlines frame potential developments as tentative threats and foreground uncertainty, possibly encouraging readers to seek information or engage further with the accompanying article.

3.1.1 Framing anatomy

With specific reference to how meaning is constructed in headlines, several frames delineate the implications for public health. The first of them is problem definition. Here, the most ambiguous hazards, such as resurgence, reversals in legislation and policies, and emerging viral strains, are framed as problems. These problems are highly specific to a particular time and region. The second element is 'causal interpretation', in which biological causes (e.g., importation, mutation) or policy choices are identified as sources of the problem. These frames could also highlight potential policy lapses and enable the dissemination of information across borders. However, in some cases, the causal factors are implicitly stated, which increases ambiguity and uncertainty about them. The third frame is moral evaluation, where headlines invite normative judgments (fairness, accountability). The treatment recommendation is the fourth element, where headlines or accompanying articles propose responses (e.g., increased surveillance, testing, policy clarification).

3.1.2 Persuasive operation and rhetorical appeal

The headlines under Risk & Uncertainty are primarily pathos-oriented, using affective language to signal potential threats and to highlight the urgency in the headline discourse. The interrogative form often creates an information gap that calls for clarification in the article. Logos comes across secondarily, where headlines reference data or scientific findings. Finally, the ethos is invoked particularly when sources of authority are referenced to contextualise or notably diminish the sense of alarm (Appendix A, H2, H6, H7).

3.1.3 Interpretive Consequences and Implications

In the headline discourse, Risk and Uncertainty headlines highlight perceived threats and uncertainty (Appendix A, H3, H6; Zhou, 2020). Because interrogative wording emphasizes uncertainty, it simultaneously amplifies attention and draws increasing attention to evolving developments and precautionary measures such as mask use and testing. However, their effects were not established by this corpus alone, and are conditional. On the contrary, exposure to affect-laden interrogatives in a repetitive manner adds to the fear/stigma if not offered with concrete scholarship and corrective reporting. These interrogative forms stress perceived threat, which might stimulate public discussion in transnational information spaces. This aligns with the fact that emotional microenvironments and safe spaces are managed by the news circulated by the transnational audience. Here, affective framing serves as a persuasive rhetorical strategy in headline discourse. Such engagement can be linked to precautionary behaviours (e.g., testing) and increased vigilance, though the public health value and direction of such behaviour cannot be determined solely from the headlines. On the other hand, the stigma, fear, and taboo among the audience could be amplified due to repeated exposure to the same question with equal urgency. This could also intensify the sensation associated with interpretation if not cautioned against evidence-based reporting.

Therefore, the implications of research are highlighted prominently. Risk and Uncertainty explain why fact checks and data serving as factual content to calm the audience need to be paired with interrogative headlines. Also, it becomes imperative to investigate whether these headlines create fragmented information networks among diasporic readers and to what extent pathos-related questions translate into behavioural differences. This includes drawing comparisons to panic and increased information-seeking. On ethical grounds, the attention-grabbing quality of questions must be balanced by the outlets, with an added responsibility to reduce the number of unwarranted alarms.

3.2 Theme 2 — Responsibility & Governance

Six of the twenty sampled headlines were coded under the theme: Responsibility and Governance (table 1, Appendix A, H4-H5, H16, H17, H18). This theme situates public health issues within political, institutional, and moral registers, thus foregrounding accountability and legitimacy, as well as authority and institutional credibility. These headlines serve as tools for evaluation, especially when issuing judgments about actors or testing matters on competence, fairness, and policies. This problem is framed as a governance issue, in which legitimate actors, enforcement measures, and policy decisions are implemented. Causal attribution in these headlines often targets national/international decision-makers (such as international actors or political processes) and frames outcomes as the result of policy choices, rather than as a consequence of uncontrollable hazards. The third frame is moral evaluation, in which the issue is highly normative, with headlines that attract testimony about accountability, discrimination, mismanagement, and fairness. The fourth frame is a treatment recommendation that demands transparency, accountability, and the review of policies that are implicitly required to be followed. However, in some of the cases, the engagement might be diplomatic, and the recommended response may be discursive.

3.2.1 Rhetorical appeals and persuasive operation

Responsibility & Governance headlines predominantly mobilize ethos-oriented appeals to legitimacy or institutional trust and credibility, and may position institutions as either contestable or credible, depending on the framing (Appendix A, H4, H17). When questions on governance evoke civil-liberty concerns or injustice, pathos appears as a secondary appeal. Wherever timelines or comparative data are used to evidence the claims, logos is invoked.

3.2.2 Interpretive Consequences and Implications

Public health overlaps with identity-based narratives and political agendas. Thus, these headlines that question responsibility and governance are potentially useful for such readers. For instance, implies that the questions that posit restrictions on travel and associated guidelines as prejudiced, invite empathy for migrants and diasporic individuals, and also inform epidemiology-based policies. Whereas the' trust in authority and institutions' is shaped by politically charged headlines that frame the institutional action in critical and evaluative ways. Hereby, the duality in communication regarding the role of health in journalism is highlighted in this theme, which involves participation in political debates and the dissemination of epidemiological facts.

These findings suggest that discursive attention to accountability and legitimacy is shaped by governance-focused interrogatives, which may modify it within public debate. While some headlines may construct narratives that instigate in-group cohesion among diasporic readers, others direct scepticism towards foreign actors. In the future, research should assess how these frames affect attitudes and whether moral framings differ across outlets.

3.3 Theme 3: Solution & Science

Six out of twenty sampled headlines correspond to Solution & Science, focusing on vaccine hesitancy, safety protocols during COVID-19, evidence on procedural answers, and facts about food products and their relation to the immune system. This theme exposes information gaps and public uncertainty, thereby emphasizing a logos-oriented explanatory framing. The first frame defines the problems and is known for reporting on the safety and effectiveness of interventions offered by science. Secondly, a gap in information may spread misinformation, especially on social media platforms, undermining scientific certainty and disrupting causal interpretation. Thirdly, the moral evaluation involves assuming responsibility for protecting and informing readers through scientific evidence, ranging from constructive to typically neutral.

3.3.1 Rhetorical Appeals and Persuasive Operation

Solution & Science headlines are primarily logos-oriented, as they provide readers with cues about the expectations they should have for data, expert comment, and procedural explanations to decrease uncertainty. In this manner, the information might be convincing through appeals to reason and by promising accurate information that alleviates uncertainty about specific guidelines and safety measures. Secondarily, pathos is emergent, where emotional reassurance is sought to address vaccine hesitancy. Additionally, secondary ethos is especially relevant when outlets recommend sources to validate the claims (Appendix A, H2, H12).

3.3.2 Interpretive Consequences and Implications

Interrogative, logos-oriented headlines may encourage information-seeking and fact-checking that can help correct misinformation, though causal effects on trust or behaviour are not established in this study. Such headlines may be perceived as mediating devices that introduce complex scientific information to international audiences. Moreover, the genres should be checked for factual accuracy and validation, with the question forms serving as cues that clarify the information. In the future, the level of penetrance of logos-oriented questions in headlines will indicate the extent of misconceptions and whether epistemic trust interferes with their persuasive effect on the audience. Researchers should further investigate and assess how clarity in methodological framing complements the headlines in this category, and compare it with oversimplified or misleading information.

4. Discussion

4.1 RQ1: How Do Rhetorical-Question Headlines in English-language Chinese Outlets Frame Uncertainty and Risk about COVID-19, and Which Persuasive Appeals Do They Primarily Address?

The major finding of this section is that, in the sampled corpus, interrogative headlines often emphasize public health hazards and are coded primarily as appeals to pathos, aimed at resolving existing problems in safety, resurgence, and policy shifts. These headlines frame uncertainty and risk through interrogative structures, which may encourage information seeking and the evaluation of public health guidance. Ogbodo et al. (2020) state that headlines often highlight uncertainty and use affective language rather than claiming direct emotional effects on readers; this study suggests similar textual strategies in the sampled headlines. Zhou et al. (2022) note that people tend to be extremely worried and show heightened anxiety in behaviour when exposed to risk-framed messages during COVID-19. Such findings may indicate possible audience effects but do not suggest causal impacts that can be established from headline analysis alone. In this

purposive sampling, the interrogative wording creates a sense of immediacy and an information gap that the accompanying evidence can satisfy. This refers to a textual mechanism rather than demonstrated psychological outcomes. In line with Peng et al. (2022), compliance with protective behaviours, such as mask-wearing and sanitisation, is heightened when urgency/threat is perceived. However, this study does not talk of behavioural outcomes; it identifies the framing and rhetorical devices that might enhance perceived urgency. Guided by the frame-element model of Chug and Druckman (2007), the effectiveness of interrogative/rhetorical questions in headlines could be assessed. For instance, the mutation and lapse of policies could be termed as causal interpretation, as the headline explains the problem as a whole. This makes the frame available for analysis through the readers' cognitive focus. Aristotle further explains that if an article solves a problem with data, the primary appeal would be pathos, with logos supporting it secondarily. As Rapp (2002) discusses, rhetorical appeals serve as discursive strategies that frame the presentation and interpretation of information. Accordingly, interrogative headlines in the sampled corpus might be perceived as rhetorical devices that stress uncertainty while shifting attention to evidentiary or subsequent explanatory content within the article.

4.2 RQ2: How Do These Question-Headlines Allocate Responsibility, Frame Governance Choices?

Headlines coded under Responsibility & Governance prioritise questioning legitimacy, accountability, and policy choices, rather than describing uncontrollable hazards. Analysis shows that ethos-oriented moves are evident in these interrogatives, as they situate decision-making and institutional credibility integral to the frame. The frames of governance and responsibility indicate that the media often indulges in scaremongering, exaggerating the threat posed by newer variants (Hayek, 2024). This can be used for both politicization (linking political points to the COVID response) and ethnicization (linking ethnic groups to outbreaks) (Ogbodo et al., 2020). In addition, the government conveys the public health crisis by reframing legislative activities as interrogatives that invoke public judgment and moral evaluation. Hayek (2024) points out that the media defines the crisis as a measure of the government's expectations and relies on blame-shifting to influence public opinion. This study documents the textual presence of such framings rather than estimating their socio-political impact. Chong and Druckman (2007) situate the problem at the centre of governance in a contextual framework. From Aristotle's perspective, ethos is applicable provided that the chosen outlets are credible, the resources are persuasive, and the rhetorical question induces scepticism in readers' reasoning across the globe (Rapp, 2002). However, there are mixed findings regarding how the media frames questions about governance and responsibility. Koivula et al. (2024) note that public health measures are often delegitimised and further polarise social groups through politicised questions. Hence, the findings in the sampled corpus suggest comparable frame elements and thus motivate further research on evidence.

4.3 RQ3: How Do Interrogative Headlines Invite Scientific Explanation or Solution-Oriented Reasoning?

Solution & Science headlines in the sampled corpus are logos-oriented, thereby attracting explanations of protocols, data, and experts' opinions, as well as procedural explanations such as fact checks and vaccine timelines. At the textual level, such interrogatives serve as prompts for explanatory content, framing scientific questions the article seeks to answer. Palm et al. (2021) echo that safety and efficacy reduce hesitancy among readers towards vaccination programs and enhance perceptions of vaccination safety. In addition, Peng et al. (2022) emphasise that culturally appropriate messages and credible information (logos) are combined with framing to increase the uptake of protective behaviours. Furthermore, Aziz (2022) classifies similar headlines within the fact-checking domain that interrogate scientific facts as a fact-checking genre. However, the presence of logos cues in headlines alone does not guarantee precise downstream effects, as the effectiveness of these cues depends on the framing and quality of the follow-up content. Rather, logos-oriented interrogatives might correct misinformation. Here, Chong and Druckman (2007) describe these headlines as an ‘information gap’, in which the scientific action is considered the treatment of concern (e.g., vaccination, RT-PCR). Considering logos, the primary appeal in this context, the uptake of misinformation is significantly reduced, and trust in institutions prevails. However, Sudharsanan et al. (2022) warn that framing strategies may have mixed effects on vaccine intentions and misinformation, highlighting that headline analysis should be mapped against content quality assessments and audience measures to draw stronger conclusions.

5. Conclusion

The study investigated 20 interrogative headlines from two English-language Chinese outlets to identify how question-form headlines mobilise rhetorical appeals and frame public health issues. Purposive sampling resulted in three thematic frames, viz. Risk and Uncertainty, Responsibility and Governance, and Solution & Science. These themes draw upon pathos, ethos, and logos, respectively, at the textual level. The emergent threats during COVID-19 draw the audience towards emotional arousal and perceived threats, whereas Governance and Responsibility reflect on reshaping public health from the standpoint of moral judgment and legitimacy. These results indicate that interrogative headlines are flexible rhetorical devices that structure the definition of problems, causal interpretation, moral evaluation, and treatment recommendations within headline discourse. Importantly, claims about audience reception, behavioural effects, or broader

media-system dynamics are beyond the scope of the present headline analysis and require empirical audience or experimental research to validate. Additionally, Solutions & Science helps reduce uncertainty and misinformation by providing scientific data. Interrogative questions function as flexible rhetorical devices that can frame public health issues through emotional, moral, or informational cues. In the future, researchers should focus on article-level content analysis and audience responses using headline/frame mapping. This suggests that evidence interacts with textual devices, reception, and source credibility to produce measurable effects.

5.1 Limitations and Future Research

Headlines were selected as the unit of analysis, which, on the one hand, was substantial but proved to be only partially communicative. Furthermore, the full rhetorical context of evidential news articles is not captured by headline analysis alone. Additionally, the study uses a small purposive sample of 20 English-language Chinese headlines from two outlets; it does not qualify for statistical generalisation due to its shortened empirical breadth. Moreover, analysis of headlines alone excludes audience-reception measures and multimodal context, such as article bodies and images, thereby underscoring the ambiguity of the frames or contexts within the full news reports. This study analyses rhetorical structures and textual analyses, which make the behavioural outcomes, readers' perceptions, and emotional responses comparatively interpretive and not evidentially verifiable within the scope of this study. In the future, researchers need to use additional outlets published in languages other than English, such as Xinhua English and the South China Morning Post (English edition), to identify temporal differences in the prevalence of pandemic-related parameters and in policy changes. In the future, researchers must explore additional outlets and languages, expand the corpus, and combine audience/experimental methods with content analysis. In addition, researchers could extend the analysis beyond visual imagery and full article content to enable a more comprehensive view of how framing/rhetorical strategies operate across different levels of news discourse.

Acknowledgments

Not applicable.

Author contributions

All authors contributed equally:Conceptualization, Methodology, Software, Validation, Formal Analysis, Investigation, Data Curation, Writing - Original Draft, Writing - Review & Editing, Visualization, Supervision, Project Administration

Funding

There were no financial supports or funding sources for this project.

Competing interests

No potential conflict of interest was reported by the author(s).

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Redfame Publishing.

The journal’s policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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