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Framing government during COVID-19 pandemic: comparing Sino-US newspapers in issue attention cycle and hierarchical government representation

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Despite growing cross-national studies on pandemic news and government representation, less is known about government news framing with longitudinal, cross-national, and hierarchical government (national vs. local) comparisons. Based on a content analysis of 647 government news in four newspapers in China and the U.S., this study found that during the COVID-19 Pandemic, the government was framed quite differently in issue attention phases, government measures, news sources, news topics, news frames, and news attitudes. Firstly, longitudinal comparisons showed event-based media attention and flow of government measures, which indicated common news value and different governance legitimacy in two countries. Secondly, cross-national and hierarchical comparisons of news framing found that the Chinese government was more positively and uniformly represented, while American news media framed a negative and diverse government comparatively. Hierarchies of power structure led to differentiated framing of national and local governments. Party-controlled news and authoritarian regime of China, as well as market-orientated news and the federal regime of U.S., were also discussed. The findings not only expanded the research contexts of political news framing, but also provided deep insights on cross-national, dynamic, and hierarchical comparisons in government news. Empirically, it enriched practical guidelines for journalism and government in future emergencies.

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Introduction

The COVID-19 Pandemic was more than a public health emergency which turned into a political crisis, consequently creating a rare opportunity for portraying a positive image of governments (Simons 2020). Under radical uncertainty, the government must take measures to handle challenges and problems during a major emergency. However, how can public safety and economic development be balanced? Should there be a lockdown or should personal liberty be maintained? Many existing studies investigated the variation of government responses in different countries (Anttiroiko 2021; Loner et al. 2023; Zhou and Xin 2021) and the underlying causes, such as political and cultural contexts (Wang and Mao 2021). Growing research has focused on news related to government, politicians, or political partisanship during the COVID-19 Pandemic (Hart et al. 2020; Lilleker et al. 2021; Van Aelst and Blumler 2022), but less is known about how governments were covered in different political contexts.

Although government took many effective measures to cope with an emergency, there were still big divergences between government responses and the public perceptions of government measures (Simons 2020). It implied that media played a vital role in public attitudes towards government (Bolsen et al. 2014). For instance, the media politicized the COVID-19 Pandemic by emphasizing the prominence of political actors (Morani et al. 2022), which further affected public perceptions of risk, trust in government, and the final prevention behaviors (Esaiasson et al. 2021). As Bennett (1996) suggested, news representations of politics were influenced by political norms (e.g., promoting political accountability), economic norms (e.g., reporting efficiently and profitably) and journalistic norms (e.g., objectivity, fairness). The differences of political systems and journalistic cultures would create a structural bias in government news (Van Dalen 2012).

As the epicenters of the COVID-19 Pandemic in early phases, China and U.S. operated within entirely different political contexts and media systems (Wei et al. 2020), which likely influenced how governments were represented in news coverage. According to the 2025 World Press Freedom Index, the two countries ranked markedly differently in terms of press freedom—57th for the U.S. and 178th for China (Reporters Without Borders 2025). In China, state-led media have become important tools for enlightening masses' awareness and enhancing their support for the ruling party (Cho and Wang 2021; Zhao, 2011). The role of the state, rather than the market, remained central in Chinese media studies. During the initial phases of the pandemic, to maintain the regime stability, Chinese government downplayed the severity of coronavirus and emphasized heroic efforts of the government in containing the outbreak (Liu and Xu 2021). The state-led media only highlighted the positive sides of government responses. Although social media provided an alternative narrative, featuring grassroots stories and questioning the government's initial delays, the state quickly regained control over the coronavirus narrative (Zeng 2022). By contrast, the U.S. exemplified a more liberal media system (Hallin and Mancini 2004). American media operated with relatively limited direct government control, instead performing a "watchdog" function over those in power. During the pandemic, President Trump maintained hostility toward the administrative state and mainstream media, a stance that was unique in American history (Meyer-Gutbrod and Woolley 2021; Rutledge 2020). On one side, the Trump frequently presented views contrary to those of councils and experts, disparaging the federal bureaucracy, which undermined the federal response to the pandemic (Rutledge 2020). On the other hand, the Trump Administration persistently attacked the legitimacy of mainstream media, including restricting access to

the press and extensively using Twitter to communicate political news (Mourão et al. 2018), leading to a growing rift between the President and the press. Consequently, China and U.S. media framed their government in the COVID-19 pandemic in contrasting ways, with more positive reporting in China but more negative portrayals in U.S. (Sing Bik Ngai et al. 2022).

As Entman (2003) suggested, administration was not a unit actor but consisted of various players, which further affected the media coverage. In terms of multi-level governance structures, China and US demonstrated significant differences (Liu et al. 2021). Under an authoritarian regime, the Chinese local government must comply with the strategic decisions of the central authority (He et al., 2020). Although the central and local governments in China blamed each other for the initial slow response, the central government scapegoated and punished local officials for incompetence, quickly reclaiming its dominance in the pandemic response (Liu and Xu 2021). Therefore, the Chinese government worked as an antivirus unit efficiently (Jing 2021). The centralized political system facilitated the advantages of higher levels of government in propaganda (Kuang 2018). While under a democratic and federalist system, the U.S. state government retained political autonomy in local affairs. When responding to the pandemic, many divergences laid in U.S. federal and local governments (Berman 2020). During the early stages of the COVID-19 pandemic, significant disagreements arose between the Trump administration and state governments over issues such as the necessity of social distancing measures and the timing for lifting movement restrictions (Callahan 2021). During the pandemic, the Trump administration reshaped federalism through transactions with governors and inter-state competition, using behavior-based rewards and punishments, which eroded any certainty in government responses (Bowling et al. 2020). Decentralization of power in federalism guided media to more equally divide their attention among different levels of government (Vos and Van Aelst 2018). However, less attention was paid to how media framed domestic hierarchical (national vs. local) government, especially in cross-national and pandemic contexts.

Given the aforementioned literature gaps, the current study aimed to reveal differences in how newspapers covered government across different political contexts and domestic hierarchical government (using China and the United States as examples) during the COVID-19 Pandemic. In addition, to assess news variation in different pandemic phases, the "issue attention cycle" which referred to the ups and downs attention of an issue from the public or mass media (Downs 1972), was adopted in this study. Particularly, by combining the view of "hierarchical government" and "issue attention cycle", our study tried to examine: (1) whether media issue attention cycle varied between China and U.S.; (2) how government responses differed across issue attention cycle and in Sino-US news; and (3) news framing (i.e., news sources, news topics, news frames, and news attitudes) differences of hierarchical (national vs. local) governments. In order to achieve these goals, a quantitative content analysis was conducted in this study.

Literature review and research questions

Government framing in pandemic. It is no doubt that the government played an important role in containing the COVID-19 Pandemic (Adolph et al. 2021). A comparative study found that Asian countries showed proactivity and diligence, while Western countries were more reactive during the COVID-19 Pandemic (Anttiroiko 2021). As previous scholars have noted, examining socio-political factors provided valuable insights into

the divergent governmental responses across countries (Loner et al. 2023; Yuen et al. 2021). For instance, Carter and May (2020) argued that hesitation to abrogate individuals' rights might explain the slow reactions of democratic governments.

In China, to maintain its legitimacy and reduce public question, the central government employed bolstering as key communicative strategies through mainstream media, including diversion by shifting attention to past successes, ingratiation through praising stakeholders for their contributions, and victimization by portraying itself as a victim of the crisis (Liu and Xu 2021). Through close coordination with the central government, local governments emerged as front-runners in crisis management, demonstrating the effectiveness of multi-level governance (Zhou and Xin 2021). Moreover, the government actively cited medical experts—such as renowned pulmonologist Zhong Nanshan, who had gained international recognition for his role in managing the SARS outbreak—to lend scientific credibility to its actions and to foster public trust (Liu and Xu 2021).

In contrast, the U.S. experienced persistent and escalating tensions between federal and state governments, as well as between the White House and medical experts, throughout the pandemic. Trump frequently made statements contrary to the scientific community, including downplaying the severity of the pandemic and emphasizing economic growth as a more important objective (Callahan 2021). These conflicts were amplified by media coverage, which contributed to the dissemination of misinformation and further eroded public trust in both government and media (Yang and Bennett 2022). In this context, the pandemic was instrumentalized by politicians to serve their personal interests (Loner 2023; Martella and Bracciale 2022). These studies have consistently emphasized that the political system was a key antecedent in government responses.

During a public emergency, media played a crucial role in conveying updated policies and regulations from government to citizens. A growing body of research has confirmed that media selectively covered government for political and ideological purposes (Abbas 2022; Yu and Liu 2023). In authoritarian China, the media system adhered to the principle of “the Party’s control over the media,” with production of news under government controls and censorship (Chan 2019). While in the U.S., the American media had high level of autonomy and of journalist professionalism, often conceptualized as an independent ‘fourth estate’ to offer critical reports (Hallin and Mancini 2004). Yu and Liu (2023) argued, the divergence between the U.S. media and the federal government became increasingly pronounced during the pandemic.

Media often selectively used news sources or emphasized some aspects of events, which resulted in different comprehension by the audiences (Lee and Basnyat 2013). The term “framing” provided a theoretical perspective to comprehend news reports. By strategically giving voice to powerful sources, news changed audiences’ attitudes towards the issue (Van Leuven et al. 2015). A comparative analysis of pandemic news found dominance of political sources across countries (Vos and Van Aelst 2018). News topics, news frames, and news attitudes were also selectively presented in news as framing strategies (Sing Bik Ngai et al. 2022). The political power and system were taken as significant dominances of news framing (Van Dalen 2012), which affected the responsibilities and roles of government in media reports (De Bruycker 2019).

As Entman noted, framing is:

To select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, a causal interpretation, a moral evaluation and/or treatment recommendation for the item described. (Entman 1993: p 52).

Issue-specific frames and *generic* frames were two general typologies in framing studies. The former focused on a particular topic or issue while the latter could be applied in different cultural contexts (De Vreese 2005). *Conflicts, economic consequences, human interest, morality and attribution of responsibility*, were the most frequently used generic frames in previous studies (Gao et al. 2023; Jinah et al. 2024; Semetko and Valkenburg 2000). In addition, uncertainty, reassurance, and new evidence frames were commonly used in health communication (Lee and Paik 2017). Considering the aim of this work, five generic news frames: economic consequences, conflict, attribution of responsibility, human interest, and reassurance were selected.

Despite a growing number of government measures and news framing literature, how news covered government, especially domestic hierarchical government in different regimes, was still unanswered. Guided by framing theory, a cross-national comparison might help to investigate whether or how COVID-19-related news were politicized. Focus on government news (i.e., news about government) framing in cross-national and hierarchical comparisons originally provided a unique perspective to understand government presentation.

Hierarchical government in China and U.S. As aforementioned, China’s authoritarian regime differed from the U.S. democratic regime, leading to different political power distribution in the two countries (Liu et al. 2021). As He et al. (2020) argued, party-leading governance in China supported a top-down control, which enabled national and sub-national governments to act as a “whole-of-government” during wartime, such as SARS and the COVID-19 Pandemic (Cai et al. 2022). Higher-level governments exercised absolute authority over lower-level ones, rendering local governments primarily implementers of central policies. Although there were contradictions in the disclosure of the pandemic’s severity by the central and local governments in January 2020, by February 2020, the central government adopted a scapegoating strategy, holding local governments accountable for their incompetence and inefficiency. This enabled the central government to regain control over the local responses and assert dominance over the pandemic narrative (Liu and Xu 2021).

However, existing federalism determined distinct roles and powers for federal and state governments in the U.S. (Berman 2020). The Department of Homeland Security’s National Response Framework mandates that the leading role in crisis management be at the lowest level possible. As a result, the local government became more central to crisis response (Callahan 2021). The federal government was limited to taking centralized actions, and states had the flexibility to handle local affairs, including public health crises (Gordon et al. 2020). The pandemic sharpened hierarchical divergences, revealing the weakness of fragmented authority in a federal system (Carter and May 2020). While the U.S. federal and local governments both took many measures to combat the pandemic, they seldom had united actions. Tensions among different levels of government in the U.S. reached a peak under the Trump administration, such as when and how long to social distance, when states could close and reopen (Callahan 2021). In addition, Trump punished states (or governors) that angered the president and rewarded those that pleased him, resulting in internal chaos within the federal system during the pandemic (Bowling et al. 2020). This pattern hampered the nation’s ability to respond effectively and efficiently.

Previous studies found that power fragments formed different public attitude towards each government level, which might result in trust discrepancies in different hierarchies (Muñoz 2017). Wu and Wilkes (2018) concluded that China was the only country

where citizens trusted the national government more than the local government in 11 Asian societies. Differently, Americans trusted state governments more than the federal government (Blendon et al. 1997). A similar pattern of trust was found in the U.S. during the COVID-19 Pandemic (Weinberger-Litman et al. 2020). Except for government performance and cultural contexts (Esaiasson et al., 2021), a growing series of communication literature theoretically and empirically confirmed the influence on media consumption on political trust (De León et al. 2023; Meng and Li 2022). As Van Aelst (2022) suggested, the degree of media criticism and polarization directed at the government during times of crisis could directly affect the rally-around-the-flag effect—that is, the increase in public trust and support for government. In this sense, the less critical and negative the media coverage of the government, the more likely it was to enhance public support.

Due to different media systems in China and U.S., framing strategies of government also varied (Cho and Wang 2021). As the mouthpiece of government, Chinese state-run media followed the power hierarchy, which meant negative news about local governments was tolerated by the central government, while only positive news about the central government was presented (Kuang 2018). That is, Chinese local governments were framed more negatively than central governments. With our current knowledge, existing studies on American media paid more attention to partisanship rather than hierarchical governments (Hart et al. 2020). Yang and Bennett (2022) found that political polarization and partisan media in the U.S. hindered the formation of a common public sphere with consistent messaging about COVID-19 crisis. Right-wing news outlets, such as Fox News, downplayed the severity of the pandemic and co-produced disinformation with President Trump over an extended period in order to maintain public engagement. In contrast, left-leaning media were more likely to cite medical experts and advocate for stricter governmental responses. According to the Pew Research Center (2020), both national and local news outlets were the major sources for American public to get pandemic information. However, whether the differences of news framing existed in domestic hierarchical governments' representation was not examined. Comparisons of hierarchical government news framing contributed to a better understanding of the interaction of politics and media from a unique perspective.

Issue attention cycle. During this global health emergency, the Sino-US timelines of the pandemic differed. On December 31, 2019, a cluster of cases of “viral pneumonia” was firstly reported in Wuhan, China. Human-to-human transmission of coronavirus was officially confirmed on January 20, 2020. However, the U.S. president declared a public health emergency on April 12, 2020, from which all states in the U.S. entered “major disaster” situations. As previous research argued, media attention was dynamic with the new cases and government policy responses (Arendt and Scherr 2019; Harjuniemi 2023). Government measures differed among different phases of the epidemic (Adolph et al. 2021), a longitudinal comparison may deepen our understanding about how news covered these variations.

Issue attention cycle referred to that an issue initially received media attention, remained the focus of public attention for some time, then gradually exited from public view (Downs 1972). Such a process was related to the nature of the problem itself, public perception of the problem, and the techniques used by journalists in reporting. Downs initially summarized five stages of an issue, the later scholars simplified it and divided it into three phases: waxing interest, maintenance, and waning interest (McComas and Shanahan 1999). The theory was based on the assumption that media attention produced cyclical peaks and troughs over time (Shih et al. 2008).

Existing studies have continuously applied the “issue attention cycle” to capture the changes of media coverage, such as health communication studies (Budak et al. 2023). Different epidemics had different attention cycles, and attention would increase with the emergence of some important events during the disease (Shih et al. 2008). Oh et al. (2012) argued that the U.S. and South Korea had different issue attention cycles during the H1N1 pandemic. Thomas et al. (2020) confirmed that news frames changed with the pandemic phases: more economic consequences frame in early stage but more attribution of responsibility and morality frame in latter stages. In addition, news topics and news tones shifted in different time periods (Fox 2021). As Wirz et al. (2022) argued, media system was an important factor affecting media attention. Despite growing cross-national studies on pandemics and pandemic news (Gabore 2020), further exploration of longitudinal comparisons in cross-national news framing was scarce.

Research questions. Many scholars have worked on news framing and government in different cultural contexts, while it was still limited in the findings of government representation in cross-national comparisons, different hierarchies, and issue attention phases. Therefore, this study proposed the following research questions to fill these gaps in existing literature:

RQ1: Did issue attention cycles differ between Sino-US government news during the COVID-19 Pandemic?

RQ2: Did government measures differ in different issue attention phases in Sino-US government news during the COVID-19 Pandemic?

RQ3: Did news sources, topics, frames, and news attitudes differ between Sino-US government news during the COVID-19 Pandemic?

RQ4: Did news sources, topics, frames, and news attitudes differ between national and local government news in each country during the COVID-19 Pandemic?

Method

Sampling. A quantitative content analysis was conducted to examine how news media covered the government during the COVID-19 Pandemic. Given the role of print newspapers in political agenda setting within hybrid media systems (Langer and Gruber 2021), and the finding that the public tended to place greater trust in print media than in digital media during the pandemic (Newman et al. 2020: p.88), print newspapers from both countries were selected as the focus of this study. Since news coverage was influenced by the distance between media and center of power, pandemic evolved and the outlets audience size (Parmelee 2014; Santos-Gonçalves and Napp 2022; Zhang and Cheung 2022), the location and circulation of newspapers served as key selection criteria.

In China, *People's Daily* (PD) and *Hubei Daily* (HD) were selected as national media and local media respectively. Based in Beijing, PD is the most authoritative and widely read national daily in China and is owned and managed by the central government. Following its recent digital transformation, PD reached over 1.5 billion global audiences (*People's Daily* 2025). HD is located in Hubei province, the most severely affected province in China at the early phase of the COVID-19 Pandemic. HD focuses on local news in Hubei province and has over 135 million subscribers across print and digital platforms, making it the largest news outlet in this province (*Hubei Daily* 2025). Both newspapers were party-controlled media in China.

Correspondingly, considering the geographical location and readership of newspaper, the *Los Angeles Times* (LAT) and *New*

Table 1 Operational definition of variables.

Variables	Attributes	Variables	Attributes
Hierarchies of Government (.92) (Record only one type.)	The central government of China The local government of China The federal government of the U.S. The local government of the U.S.	News Frame (.80) (Record the only dominant news frame.)	Economic frame Conflict frame Attribution of responsibility frame Human interest frame Reassurance frame
News Sources (.82) (Record all kinds of news sources.)	Government News media Public institution Companies Medical experts Politicians Medical staff Public figures People infected or in infected areas	News Topics (.73) (Record the only dominant news topic.)	Dynamic data news on COVID-19 Medical research on COVID-19 Government measures Government's statement Social concerns on COVID-19 Personal story-telling in COVID-19 International news on COVID-19 People's livelihood in COVID-19 The economic consequence of COVID-19
Government Measures (.79) (Record all kinds of government measures.)	Rescue Popularize knowledge Social distancing Information disclosure Promote medical R&D International collaboration Guarantee medical resources Make policies	News Attitude (.81) (Record the only dominant news attitude.)	Non-ascertainable Negative Neutral Positive

Numbers in parentheses for each item referred to the intercoder reliability.

York Daily News (NYDN) were selected as national and local newspaper respectively in the U.S. Located in Los Angeles, LAT is the largest metropolitan newspaper on the U.S. West Coast and one of the most prominent national newspapers in the country, paying significant attention to national politics (Peng 2004). We acknowledge that selection LAT may limit the representativeness of the broader American news discourse at national level, since it is not the most influential national newspaper in US (Pew Research Center 2023). NYDN primarily covers local news from New York City, a major pandemic epicenter in the eastern U.S., allowing for analysis of local newspaper coverage of the crisis. Notably, both LAT and NYDN are market-oriented press.

The sampling period was from January 21 to April 21 in 2020 in China, and from April 12 to July 12 in 2020 in the U.S., consistent with the COVID-19 epidemic timeline in each country. We started on January 21, 2020, in China, because human-to-human transmission of the novel coronavirus was confirmed by the Chinese National Health Commission a day ago. Correspondingly, on April 12, 2020, all U.S. states declared a statement of “Major Disaster” on that day. We set a timeline of three months in each country.

Words related to COVID-19, including “新冠病毒” (coronavirus) and “新冠疫情” (coronavirus pandemic), as well as words related to government containing “政府” (government) and “疫情防控” (epidemic prevention and control, a term used specifically to describe government actions in the Chinese context) were searched as keywords in *People’s Daily* and *Hubei Daily* in Chinese database CNKI. “White House”, “government”, “Trump”, “coronavirus” and “COVID-19” were used as keywords in *Los Angeles Times* and *New York Daily News* in LexisNexis. Considering the date of reports and sufficient sample size, a systematic random sampling method, i.e., sampling every other day, was employed (Oh et al. 2012). We solely included content-based news and excluded editorials, advertisements, comments, entertainment news, sports news, and other unrelated news. Finally, we acquired 674 pieces of

government news. Considering coding criteria of hierarchical government in this study, the total number of data analysis was 647 news articles, of which 206 items were from *People’s Daily*, 154 from *Hubei Daily*, 117 from *Los Angeles Times*, and 170 from *New York Daily News*.

Coding procedure. Derived from previous literature and preliminary coding in the current study, we constructed detailed coding categories and manuals. Eight coding categories were included: (1) name of newspaper; (2) news timeline; (3) hierarchies of government; (4) news sources; (5) government measures; (6) news frame; (7) news topics; and (8) news attitudes (see Table 1). Categories of news sources, government measures and news topics were coded inductively. Operational definitions of news frames, and news attitudes were derived from framing-related studies (De Vreese 2005; Luther and Zhou 2005; Oh et al. 2012; Semetko and Valkenburg 2000). The unit of analysis was each news report.

Intercoder reliability. Following the recommendation of Lacy et al. (2015), we pre-tested news reports in four newspapers from the standard content analysis. Several rounds of intercoder reliability evaluations were employed by using separately small samples by two trained Chinese coders. Disagreements were resolved through discussions among the coders and a tutor. As Wimmer and Dominick (2005) suggested, we randomly selected 10% of the Chinese reports ($n = 36$) and 10% of the U.S. reports ($n = 29$). Cohen’s Kappa values yielded reasonably good intercoder reliability in all variables ranging from 0.73 to 0.92 (see Table 1).

Results

Issue attention cycle

Issue attention cycle in Sino-US government news. Based on daily news frequency, we identified the issue attention cycle in Sino-US news. As seen in Fig. 1, we divided Chinese news attention into

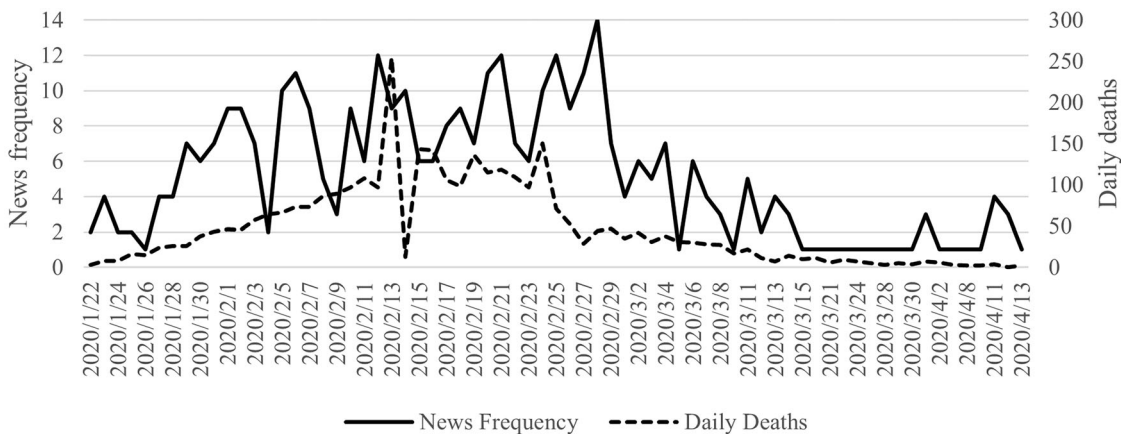


Fig. 1 Spread of COVID-19 and issue attention cycle in China. The line chart showing the government news frequency (solid line, from 0 to 14 pieces per day) and daily death from COVID-19 (dashed line, from 0 to 250 people per day) in China during January 21 to April 21 in 2020. Two news attention phases are divided based on news frequency. China and US daily deaths data from: <https://covid19.who.int/region/wpro/country/cn> and <https://coronavirus.jhu.edu/map.html>.

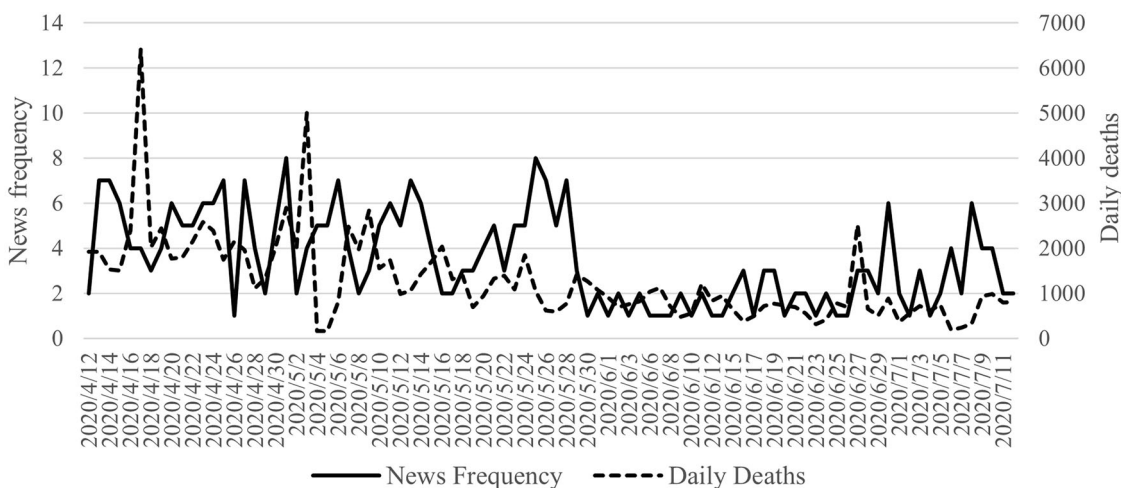


Fig. 2 Spread of COVID-19 and issue attention cycle in the U.S. The line chart showing the government news frequency (solid line, from 0 to 14 pieces per day) and daily death from COVID-19 (dashed line, from 0 to 4000 people per day) in the U.S. during April 12 to July 12 in 2020. Three news attention phases are divided based on news frequency.

two phases. The waxing phase was from January 22 to February 29. The waning phase was from March 1 to April 13. Taken together, news frequency was consistent with the variation of COVID-19 daily deaths.

As shown in Fig. 2, we identified three-issue attention phases in U.S. news. The first waxing phase was from April 12 to May 30, the waning phase was from May 31 to June 29, and the second waxing phase was from June 30 to July 12. Overall, news frequency changed in line with COVID-19 daily deaths. A comparison of Sino-US revealed that the U.S. average daily news frequency (3.12 per day) was less than China's (3.91 per day).

Government measures in different issue attention cycle. Cross-tabs analysis and chi-square test indicated that government measures varied significantly in different issue attention phases. Compared to the U.S., the Chinese government significantly took more actions to rescue, to promote medicine research and development, to international collaboration, and to guarantee medical resources. However, the U.S. government paid more attention to information disclosure and making policies. Cross-national differences in popularizing knowledge and social distancing were not significant (see Table 2).

A longitudinal comparison in each country manifested that more government measures to rescue, to popularize knowledge, to social distancing, and to guarantee medical resources were shown in the Chinese waxing phase compared to the waning phase. In the later stage, news more focused on international collaboration. In the U.S., more government measures to rescue, and to guarantee medical resources were adopted in the first waxing phase. Making policies was more frequently depicted in later phases.

Framing hierarchical government

News sources. Table 3 demonstrated that Chinese news significantly used fewer sources from news media, public institutions, medical experts, politicians, public figures, and people infected or in infected areas compared to the U.S. Although the frequency of government was high in both countries, the difference between China and the U.S. was not significant.

To further test differences in various levels of government, we compared hierarchical governments in China and the U.S. respectively. Chinese local government was presented in news by significantly using more sources from the government,

Table 2 Sino-US government measures in different issue attention cycle.

	China			US				Sino-US
	Waxing (N = 360, df = 1)	Waning	χ^2	Waxing1 (N = 287, df = 2)	Waning	Waxing2	χ^2	χ^2 (N = 647, df = 1)
R	57.9%	45.3%	3.79*	45.1%	23.3%	34.2%	7.779**	14.114**
PK	24.2%	6.7%	11.191**	19.4%	39.5%	44.7%	15.746**	-
SD	58.9%	42.7%	6.374**	62.6%	51.2%	60.5%	-	-
ID	20.4%	14.7%	-	45.6%	44.2%	52.6%	-	54.917**
PR&D	16.8%	13.3%	-	9.2%	2.3%	2.6%	-	11.521**
IC	12.3%	21.3%	4.002**	1.9%	0%	0%	-	33.495**
GMR	47.0%	33.3%	4.509**	32.0%	18.6%	7.9%	11.269**	20.716**
MP	43.9%	48.0%	-	56.3%	67.4%	68.4%	-	14.114**

*means $p < 0.1$, **means $p < 0.05$.
R Rescue, PK popularize knowledge, SD social distancing, ID information disclosure, PR&D promote medical R&D, IC International collaboration, GMR Guarantee medical resources, MP Make policies.

Table 3 Sino-US government news sources in different hierarchies.

	China			US			Sino-US
	Central (N = 360, df = 1)	Local	χ^2	Federal (N = 287, df = 1)	Local	χ^2	χ^2 (N = 647, df = 1)
Government	80.8%	99.1%	37.814**	83.6%	95.6%	11.606**	-
News media	43.8%	2.8%	93.286**	59.4%	45.3%	5.638**	73.76**
Public institutions	12.3%	3.7%	9.558**	39.1%	46.5%	-	116.103**
Companies	8.2%	18.7%	7.702**	12.5%	17.0%	-	-
Medical experts	8.9%	3.3%	5.249**	41.4%	22.6%	11.671**	73.862**
Politicians	8.2%	2.8%	5.358**	78.9%	81.1%	-	381.416**
Medical staff	2.7%	7.0%	-	6.3%	5.7%	-	-
Public figures	11.0%	0.0%	24.543**	43.8%	8.2%	49.141**	53.744**
People infected or infected areas	1.4%	12.6%	14.822**	14.1%	26.4%	6.544**	22.228**

*means $p < 0.1$, **means $p < 0.05$.
Percent values refer to the proportion of each variable in news. Government news was divided into central/federal and local government news.

Table 4 Sino-US government news topics in different hierarchies.

	China			US			Sino-US
	Central (N = 360, df = 8)	Local	χ^2	Federal (N = 287, df = 9)	Local	χ^2	χ^2 (N = 647, df = 9)
DDN	0.0%	0.0%	104.104**	1.6%	5.0%	30.858**	168.489**
MR	0.0%	0.5%	-	9.4%	4.4%	-	-
GM	16.4%	25.2%	-	10.2%	25.8%	-	-
GS	43.2%	48.6%	-	23.4%	18.9%	-	-
SC	3.4%	4.2%	-	5.5%	10.1%	-	-
PS	0.7%	11.7%	-	18.8%	8.2%	-	-
IN	34.9%	0.0%	-	0.8%	0.0%	-	-
PI	0.0%	4.2%	-	6.3%	10.7%	-	-
EC	1.4%	4.7%	-	6.3%	8.2%	-	-
Others	0.0%	0.9%	-	18.0%	8.8%	-	-

*means $p < 0.1$, **means $p < 0.05$.
DDN dynamic data news, MR medical research, GM government measures, GS government statements, SC social concerns, PS personal story-telling, IN International news, PI people's livelihood, EC economic consequences.

companies, and people infected or in infected areas than the central government. Chinese central government news significantly cited more sources from news media, public institutions, medical experts, politicians, and public figures than local government news. No significant difference was found in medical staff.

Concerning U.S. news coverage, local government was significantly presented with more sources from government and

people infected or in infected areas compared to the federal government. Federal government news selected more sources from news media, medical experts, and public figures. No significant difference was verified in public institutions, companies, politicians, and medical staff.

News topics. Table 4 revealed that Chinese news featured a significantly higher proportion of government measures,

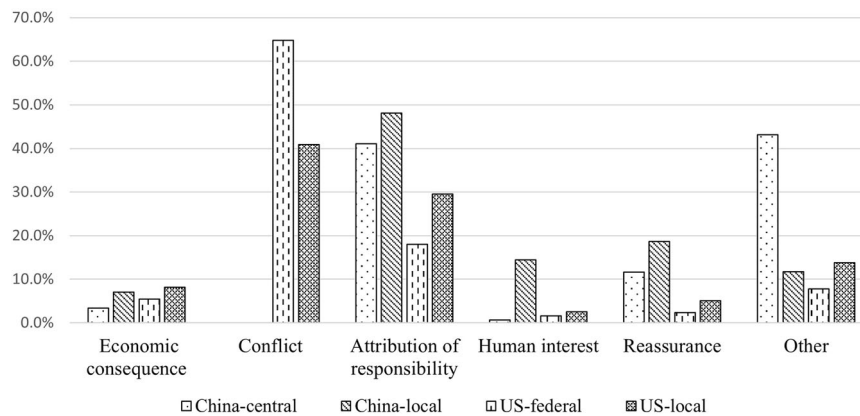


Fig. 3 Sino-US news frames in hierarchical government news. The bar chart illustrating the percent of economic consequence frame (from 3.4% to 8.2%), conflict frame (from 0 to 64.8%), attribution of responsibility frame (from 18% to 48.1%), human interest frame (from 0.7% to 14.5%), reassurance frame (from 2.3% to 18.7%) and other frames (from 7.8% to 43.2%). Different patterns represent different categories of hierarchical government news, in order of Chinese central government news, Chinese local government news, U.S. federal government news and U.S. local government news.

government statements, and international epidemics news. There was no dynamic data news report in Chinese government news. However, U.S. government news reported diverse news topics, including dynamic data news, medical research, social concerns, personal story-telling, people's livelihood, and economic consequences.

Referring to hierarchical governments, more than one-third proportion (34.9%) of Chinese central government news focused on international news. Nevertheless, no proportion of this topic was presented in local government news. The remaining eight topics featured a larger proportion in Chinese local government news. Accordingly, more diverse news topics were presented in news about local government. Particularly, neither topics on medical research nor people's livelihood news were presented in central government news.

More topics about medical research, government statements, personal story-telling, and international epidemic news were reported in U.S. federal government news. There were fewer topics about dynamic data news, government measures, social concerns, people's livelihood, and economic consequences in federal government news. Similar to China, news portrayed U.S. local government with no international news.

News frames. Chinese news adopted a larger proportion of attribution of responsibility frame, human interest frame, and reassurance frame than the U.S. On the other hand, U.S. news presented the government with more economic consequence frame and conflict frame compared to China. A chi-square test revealed that the difference between Sino-US was significant ($\chi^2 (df = 5, N = 647) = 255.173, p < 0.05$).

As shown in Fig. 3, compared to the central government, Chinese local government news applied a larger proportion of economic consequence frame, attribution of responsibility frame, human interest frame, and reassurance frame. The difference was statistically significant ($\chi^2 (df = 4, N = 360) = 59.434, p < 0.05$). Especially, there was no conflict frame in Chinese news. A significant difference was also verified between U.S. federal and local government ($\chi^2 (df = 5, N = 287) = 16.501, p < 0.05$). A higher proportion of conflict frame, a less proportion of economic consequence frame, attribution of responsibility frame, human interest frame, and reassurance frame was found in federal government news.

News Attitudes. Cross-tabs analysis indicated that differences of news attitudes between Sino-US government news were

significant ($\chi^2 (df = 3, N = 647) = 320.584, p < 0.05$). Chinese news portrayed the government with a higher percentage of unascertainable and positive attitude compared to the U.S. While U.S. news portrayed the government with a larger percentage of negative and neutral attitudes. Particularly, no negative and neutral attitudes were presented in Chinese government news.

As showed in Fig. 4, differences of hierarchical governments in China ($\chi^2 (df = 3, N = 360) = 12.063, p < 0.05$) and US ($\chi^2 (df = 3, N = 287) = 46.282, p < 0.05$) were both significant. Compared to central/federal government news, local government in China and the U.S. was portrayed with more positive attitudes.

Conclusion and discussion

Main findings. From aspects of issue attention cycles as well as hierarchical governments, the comparisons revealed that the government was framed significantly differently in issue attention phases, government measures, news sources, news topics, news frames, and news attitudes. Overall, the Chinese government was more positively and uniformly represented, while U.S. news framed a more negative and diverse government comparatively.

As discovered before, issue attention cycle was found highly event-based (i.e., pandemic daily deaths) (Shih et al. 2008). An up-and-down trend in news frequency was found in China. However, there was a second waxing phase after the waning phase in U.S. news. At the first waxing stage, the Sino-US government both paid attention to rescue, social distancing and medical resources. The orientation of two countries' measure shifted to make policies in the waning phase, which confirmed the importance of government policies in the resilience of society. The cross-national comparison found that the Chinese government took more substantial measures, such as actions to rescue and to guarantee medical resources, while the U.S. government took more informative and institutional actions, such as actions to disclose information and make policies.

A multifaceted framing strategy was examined in different countries and different government hierarchies respectively. Compared to China, more kinds of news sources, news topics, conflict news frames, and negative attitudes were found in U.S. government news. Correspondingly, Chinese news relied more on governments as news sources, more focused on government-related topics, and presented no conflict frames and negative attitudes. Sino-US government news both cited a very high proportion of government as sources. In addition, government measures and government statements became critical news topics.

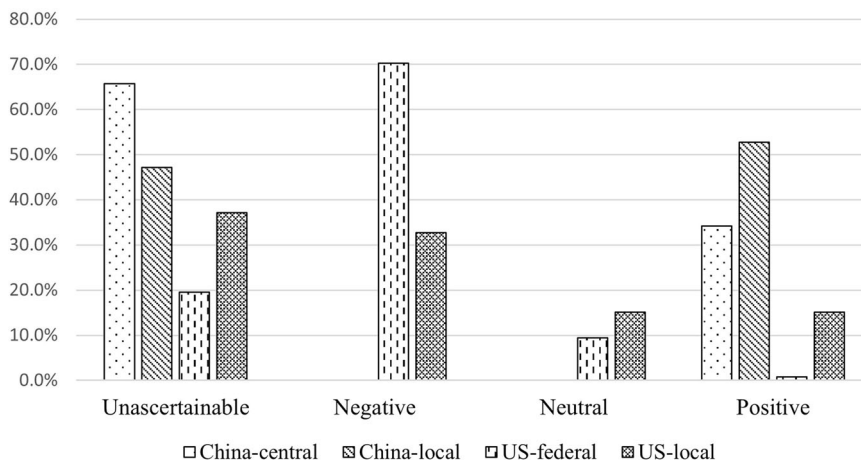


Fig. 4 Sino-US News Attitudes towards Hierarchical Government. The bar chart illustrating the percent of unascertainable attitude (from 19.5% to 65.8%), negative attitude (from 0 to 70.3%), neutral attitude (from 0 to 15.1%) and positive attitude (from 0.8% to 52.8%). Different patterns represent different categories of hierarchical government news, in order of Chinese central government news, Chinese local government news, U.S. federal government news and U.S. local government news.

Concerning hierarchical government news framing, more diverse sources, more abundant topics, fewer types of frames, and fewer positive attitudes were presented in Chinese central government news. In the U.S., more diverse news sources, more conflict frames, and more negative attitudes were shown in federal government news. That’s to say, both Chinese and American local governments were portrayed more positively. In general, there was coherent media reporting on China’s hierarchical governments but a divergent representation in the U.S.

Theoretical contributions. Focusing on political communication issues in public health emergency, this study comprehensively examined Sino-US government framing strategies with longitudinal, cross-national, and hierarchical government comparisons in a pandemic context. News sources, news topics, news frames, and news attitudes were discussed as a more holistic framing strategy to present governments. It enriched current understanding of government framing strategies from different attention phases, different political contexts and different hierarchies of government. In addition, this work provided practical references for news media and government responses in future emergencies.

Firstly, it compared the government news framing of China and U.S. in the context of major emergencies, which expanded the research contexts of government image construction under different political cultures and media systems. The findings revealed that Chinese and American media have a common “eliteness” news value when reporting their own governments in emergency, i.e., quoting a large number of government information sources and reporting more government measures and government statements (Mellado et al. 2021; Zhang and Cheung 2022). It also showed systemic differences between party-controlled media and market-oriented media. As the state-run press, Chinese news media worked as “mouthpieces” of government and devoted more attention to reassuring the public and promoting social stability through positive reports (Liebman 2005; Li and Zhang 2018). With limited freedom in news coverage, Chinese media remained committed to producing ideologically consistent narratives (Thomson et al. 2024). Comparatively, American news media were independent of the government and played the role of “watchdog”, emphasizing free expression of opinions (Hallin and Mancini 2004). The press

largely followed in profit orientation and the traditional journalistic values of truth and the responsibility to offer accurate and critical reportage (Hussain and Jehangir 2023). Therefore, the government was constructed more negatively on American media, consistent with the findings of previous studies (Sing Bik Ngai et al. 2022; Zhang and Cheung 2022).

Secondly, based on perspective of issue attention cycle, this study dynamically revealed the longitudinal changes of government news at different stages of emergency, enriching the relevant studies on political news framing with dynamic analysis instead of static description. Event-based media attention was consistent with domestic reality (Deng and Yang 2021), which implied common news value in the two countries (Guo 2012). A longitudinal comparison showed how government news framing strategies changed at different stages even under the same political culture and media system. Government measures reflected the political culture and different governance legitimacy (Christensen and Ma 2021). In Confucian culture, collectivism orientation was deeply rooted (Yang et al. 2019), which provided legitimacy for the Chinese government to take forceful measures. But in U.S., the provision of democratic rights exerted profound impacts on government legitimacy (Gilley 2006). Thus, Chinese government had been taking draconian measures, such as controlling social distancing, based on high legitimacy (Christensen and Ma 2021). However, the U.S. government transferred from governance to self-governance, such as popularizing knowledge and information disclosure in later phases. With the flow of government measures, the media also adjusted its framing strategies.

Thirdly, this work innovatively compared hierarchical governments to explore how news media reported central/federal and local governments under different political power hierarchies. Our findings have enriched and improved existing studies on government news reports and government image construction, which provided more in-depth insights on how a newspaper constructed hierarchical governments. As Vos and Van Aelst (2018) argued, the media hierarchy was a mirror of the political power hierarchy. Considering the top-down political system in China, there were clear boundaries between central and local government news. Criticism of government was also top-down (Wu and Wilkes 2018). Central authorities didn’t censor everything but permitted some negative reports about local government. In contrast, local leaders tried their best to minimize negative news (Kuang 2018). Contrary to previous studies, more

positive attitudes were presented in pandemic news about the Chinese local governments. During the Pandemic, local governments were responsible for implementing the decisions of the central leadership and developing strategies (Zhou and Xin 2021). Pragmatic local government gained more positive attitudes. Comparatively, U.S. federal government politicized the Pandemic but did less to rescue the public (Abbas 2022), which led to negative news attitudes. A series of misleading statements and public remarks that contradicted medical experts issued by the Trump administration further intensified public distrust in the federal government (Callahan 2021; Yang and Bennett 2022). The finding echoed Weinberger-Litman's (2020) study, which indicated that Americans put their trust in local government.

Empirical contributions. In addition to theoretically developing political communication research, the findings of this study also enriched practical guidelines for journalistic practice and government in future emergencies. It provided sufficient empirical evidences for news media in different political and cultural systems to report governments in major emergencies. News media should play a guided and constructive role, such as using official information sources, timely conveying government measures, and relieving social tensions. At the same time, news media needed to avoid completely complying with the government (like Chinese media), or excessively politicizing the major emergency (like American media). Chinese news media are suggested to use more diverse news sources and topics rather than focusing too much on official sources when reporting major emergencies in future.

Secondly, regardless of different political systems, government news in major emergencies should be updated with time and proactively set news agenda timely. In the early stage of a pandemic, news media could focus more on government dynamics. When the public crisis was in control, media should pay more attention to economic development and social recovery.

Lastly, in major emergencies, the central government, as a macro decision-maker, and local governments, as actual executor, could improve themselves in two ways, say, government measures and interaction with news media. In terms of the former, the government should take different measures according to the development of emergency. As to the later, government should actively guide news media to build more positive image of the government. Moreover, national media need to report the central government from a more neutral point of view, and local media could enrich local government coverage, such as more diversified news sources and news topics.

Future studies. Despite its theoretical and practical contributions, this study has several limitations that merit further research. First, the exclusive focus on government news in print newspapers may limit understanding of the broader media landscape, especially as social media and television became the public's main sources of COVID-19 information (Newman et al. 2020, p 12). Future studies could incorporate multiple platforms to capture a more comprehensive picture. Second, only one newspaper was selected for each level of government, which may introduce selection bias and limits the generalizability of the findings to other news outlets. Further research should include a larger and more diverse sample, using automated content analysis to better uncover framing patterns. Third, this study focused solely on media representations of government actors, neglecting other key voices such as medical and scientific experts. Future research should consider a wider range of actors to reflect the complexity of crisis communication. Fourth, the sampling period covered only three months, a short span of the entire COVID-19 pandemic, limiting access to the later stages of pandemic in many countries. Further

studies are encouraged to extend the time frame to enhance applicability of the conclusions. Lastly, the study examined only media content without examining its effects. Future research could explore the interaction between media, government, and the public across different levels to test the validity of the findings and investigate how government-related news influences public perceptions and behaviors.

Data availability

The datasets generated during and/or analyzed during the current study are available in the [figshare] repository, [<https://doi.org/10.6084/m9.figshare.30314968>].

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Author contributions

XL and XT designed and conceived the study. Specifically, XL contributed to data collection, writing—original draft, writing—review and editing, project administration, and funding acquisition. XT contributed to data collection, data analysis, and writing—original draft. Both authors have made a substantial and direct contribution to the study and approved the final version of the manuscript.

Competing interests

The authors declare no competing interests.

Ethical approval

This article does not contain any studies with human participants performed by any of the authors.

Informed consent

This article does not contain any studies with human participants performed by any of the authors.

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