



AUDIENCE RESPONSES TO NEWSPAPER COVERAGE OF FLOODS IN CHINA: VICTIMS VERSUS ONLOOKERS

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ABSTRACT

Framing studies show a favourable portrayal of the China government's flood management but how does newspaper coverage shape readers' perceptions and attitudes towards floods? This research examines the audience responses to newspaper coverage of floods in China from the perspective of victims and onlookers. The specific objectives of the study are to: (1) determine the themes in the participants' narratives about flood incidents and the association of these themes with the affective, behavioural, and cognitive aspects; and (2) compare the responses of victims and onlookers to flood news reporting. The study involved semi-structured interviews with 20 participants living in China (13 flood victims and 7 onlookers who did not experience flood). The deductive thematic analysis of the interview transcripts was guided by the affective-behaviour-cognitive (ABC) model of attitudes. The interviews revealed the emotional reactions of flood victims versus the cognitive engagement of onlookers. Flood victims looked to and trusted the national newspaper, People's Daily, for flood-related news while onlookers preferred regional newspapers for more localised coverage and critical content. The findings show that both victims and onlookers are aware of media control and the role of big data algorithms to push selected national news but still trust newspapers over social media as sources of information during flood crises.

Keywords: Flood, newspaper, audience response, media, China

INTRODUCTION

Almost every day, the media brings news of natural disasters in various parts of the world, such as earthquakes, landslides, volcanic eruptions, floods, cyclones, and other catastrophic events that claim thousands of lives and cause extensive property damage. China is particularly prone to widespread flooding that causes significant socioeconomic losses as well as ecological and environmental destruction (Sun et al. 2024). The media act as a “vital arm of government” in times of disaster (Graber 1984: 286) to disseminate the latest updates and garner citizen support

for government efforts in disaster relief. The government may conduct press conferences, which are broadcast on radio and television, shared on social media (e.g., Facebook), and published in newspapers for public consumption. “In the context of flood management, the media occupy an intermediate position between decision-makers and the population” because the media selects which issues to promote to the audience and how to frame them, which then shapes what the audience perceives as a priority (World Meteorological Organization 2015: 3).

The issue is whether newspapers are still relevant as a news source during disasters in the digital age. Allan and Thorsen (2009) assert the importance of traditional newspapers during crises when misinformation is rampant. Newspapers are believed to provide more in-depth coverage and contextual analysis than other forms of media (Houston et al. 2012). Walters’ (2022) interviews with journalists of 16 newspapers in the United States show the newspapers maintain the journalistic values of speed, objectivity, and fairness. The depth of reporting in newspapers can help the public understand the full impact of floods, including long-term consequences and citizens’ roles in mitigation and preventive efforts. However, social media has overshadowed newspapers as an information source on floods in some countries like Australia (Bunce et al. 2012) and Malaysia (Aisha et al. 2015; Hussin et al. 2015). The younger generation tends to use social media to share information during crises (Maxwell 2012). This shift in communication behaviour has prompted newspaper organisations to evolve, transitioning from traditional print formats to digital platforms to reach a broader, tech-savvy audience.

In China, the media is state-controlled, and mainstream newspapers like *People’s Daily* are the voice box of the government. The framing research in China shows positive portrayal of state capacity in handling floods. The flood reporting is often episodic rather than thematic, highlighting destroyed villages, casualties, and heroic rescue scenes (Xu 2016). Similarly, Repnikova (2017) demonstrates that human-interest news rarely challenges state authority. *People’s Daily* published articles with a strong positive valence despite the disruption caused by floods to the livelihood of the people, the economy, and the environment (Li and Ting 2024). The responsibility frame portrayed the government as compassionate and responsible in flood management. When there are negative comments, the authorities used censorship methods, selective transparency and framing to control public discourse and maintain social stability (Repnikova 2019). Even the online edition of *People’s Daily* on WeChat (rnrwbwx) carries largely positive news, a finding obtained by Wu and Pan (2022) who analysed 36 news reports. Their analysis showed that the strategies to engage the audience are using forward-referring terms in the headline to make the audience feel close to the event and the people affected by the event, and putting a human face on the issues. However, these findings were based on analysis of media framing. Little is known about how the audience in China and other countries respond to the news reports due to limited research in this area.

Researchers have studied readers’ reactions to newspaper reporting on crises other than flood, particularly war (Lichy and Bailey 1972), COVID-19 preventive actions (Nwakpu et al. 2020), and welfare reform (Shen and Edwards 2005). Thus far, Bunce et al. (2012) has shown that in the sudden Queensland flood, people turned to social media for support and news, and the reliance on social media for flood news is confirmed by two Malaysian studies (Aisha et al. 2015; Hussin et al. 2015). People relied on WhatsApp and Facebook to obtain real-time updates, check the safety of family members, and request or offer help despite doubts about the authenticity and reliability of social media information (Hussin et al. 2015). Hussin et al. (2015) found that the participants’ experiences and feelings expressed during the interviews were similar to those reported in the newspaper, *Malay Mail Online*. However, these studies examined flood victims’ experiences during flooding but did not specifically focus on their reactions to flood news.

In China, there are no studies on audience reaction to flood news framing, which is why the present study is crucial in filling in the knowledge gap. The past studies have focused on structural resilience and flood mitigation rather than on audience responses to newspaper reporting. Provincial capitals, such as those in the Haihe River Basin, generally exhibit higher resilience due to stronger infrastructure and administrative capacity (Zhang et al. 2021). Other research emphasises the importance of reliable flood risk assessment and non-economic pre-disaster measures such as insurance and policy coordination (Jia et al. 2022; Wang et al. 2022).

Although some studies have examined public trust in Chinese media, indicating that the Chinese public generally trusts television (Zhang et al., 2014) and state media (Xu 2013; Xu et al. 2024) and that active social media users tend to distrust local governments (Chen and Sun 2019; Xu et al. 2022), existing studies primarily focus on general media trust or social media behaviour, leaving a gap in understanding audience reactions to traditional print media during disasters. This gap is particularly significant in the Chinese context, where state-controlled newspapers play a key role in shaping public discourse on disaster events. Thus, there is an urgent need for empirical research that examines the public's affective, cognitive, and behavioural responses to flood news in newspapers.

The study examines audience responses of Chinese readers to newspaper coverage of floods in China from the perspective of victims and onlookers. The specific objectives of the study are to determine the themes in the participants' narratives about flood incidents and the association of these themes with the affective, behavioural, and cognitive aspects; and to compare the responses of victims and onlookers to flood news reporting. Addressing these research objectives, this study analyses how public responses to floods may be shaped by newspaper coverage using Rosenberg et al.'s (1960) affective-behaviour-cognitive (ABC) model of attitudes to explore affective, behavioural, and cognitive reactions. Instead of categorising topics brought up by participants in a bottom-up approach, using this theoretical framework gives structure to the narratives as it identifies the domain of the public's concerns towards flood. In this article, onlookers are defined as individuals who do not personally experience floods or suffer from the disaster. However, they may have family and friends who are directly affected by the flooding.

THEORETICAL FRAMEWORK OF STUDY

The theoretical framework of the study is Rosenberg et al.'s (1960) ABC model of attitudes. In this model, attitudes are conceptualised as multidimensional constructs comprising three key components: affect, behaviour, and cognition. The ABC model has been instrumental in shaping research on attitudes, providing a framework that has been widely applied across various disciplines (Ajzen 1991; Eagly and Chaiken 1993; Schwarz and Bohner 2001). Thus far, Rosenberg et al.'s (1960) ABC model of attitudes is employed to investigate behaviours such as consumer decision-making for fashion products (Edy et al. 2021), and willingness to donate organs (Guo et al. 2022). However, the present study is the first to employ the ABC model to investigate responses to flood coverage, providing greater granularity in understanding these responses across affective, behavioural, and cognitive dimensions.

Affect refers to emotional reactions towards an attitude object, which can significantly influence decision-making processes. Zajonc's (1980) work highlights that affective responses often occur spontaneously, suggesting that emotion may not be preceded by cognition. On the contrary, Schwarz and Clore (1983) argue that individuals often use their current emotions as heuristic cues to make judgments (cognition) and form attitudes in the affect-as-information theory. If this is the case, the sequence of cognition and emotion may be less important than understanding

their interplay in forming attitudes. Next, behaviour involves actions or intentions related to the attitude object, with behavioural intentions often serving as strong predictors of actual behaviour. Finally, the cognition component of Rosenberg et al.'s (1960) ABC model of attitudes originally focused on beliefs and knowledge.

Rosenberg et al.'s (1960) ABC model of attitudes is appropriate to use in the present study to analyse the full range of public reactions to flood coverage in a controlled media environment, addressing not only emotional responses towards government actions (affect) but also behavioural choices of media type—national, regional, or social media (behaviour)—and cognitive understanding of flood events (cognition).

METHOD OF STUDY

The descriptive study explores how readers respond to newspaper coverage of floods. The reader responses in the study were elicited using semi-structured interviews with 20 participants from China: 13 flood victims and seven onlookers. The selection criteria are individuals above 18 years old living in China. Whether or not they have experienced a flood is not an inclusion or exclusion criterion, as the perspectives of both groups towards newspaper coverage of floods need to be studied to understand how the same kind of news might trigger different responses. The readers' background and dispositions influence how frames in the news are received, and this constitutes the individual-level consequences of framing (de Vreese 2005).

Table 1 shows that 14 out of 20 participants are female and six are male. Most have a stable income of over 2,000 RMB. Over 70% of the participants have at least a degree. The participants' occupations include teachers, journalists, and social workers, but there are also students and retirees.

Table 1: Demographic characteristics of participants in China ($n = 20$)

Code	Gender	Age (years)	Occupation	Education	Monthly salary
A1	Female	24	Student	Diploma	Below RMB2,000
A2	Female	54	Retired	Diploma	Below RMB2,000
A3	Female	37	Associate professor	PhD	RMB6,000–RMB7,999
A4	Female	39	Lecturer	Master	RMB6,000–RMB7,999
A5	Female	43	Associate professor	Master	RMB8,000–RMB9,999
A6	Female	28	Government officer	Degree	RMB2,000–RMB3,999
A7	Female	28	Primary school teacher	Degree	RMB2,000–RMB3,999
A8	Female	80	Retired	High school	Below RMB2,000
A9	Female	36	Kindergarten teacher	Diploma	RMB6,000–RMB7,999
A10	Male	31	Lecturer	Master	RMB6,000–RMB7,999
A11	Female	35	High school teacher	Master	RMB6,000–RMB7,999
A12	Male	30	Decorator	Diploma	RMB6,000–RMB7,999
A13	Male	25	Student	Degree	Below RMB2000
B1	Female	41	Lecturer	Master	RMB6,000–RMB7,999
B2	Female	29	Student	Degree	Below RMB2,000

(continued on next page)

Table 1: (continued)

Code	Gender	Age (years)	Occupation	Education	Monthly salary
B3	Male	28	Not working	Master	Below RMB2,000
B4	Male	34	Lecturer	Master	RMB6,000–RMB7,999
B5	Female	66	Retired	High school	Below RMB2,000
B6	Female	26	Journalist	Master	RMB6,000–RMB7,999
B7	Male	31	Journalist	Master	RMB1,0000 and above

Note: A1 to A13 are participants who experienced flood while B1 to B7 are participants who did not experience flood.

Chinese was chosen as the interview language to ensure participants could express themselves naturally and comfortably in their native language. This choice also minimised potential miscommunication. Semi-structured interviews were conducted using the following guiding questions:

1. Have you experienced a flood? (How did the flood affect you? Could you tell me your personal story?)
2. Can you tell me about your experiences reading the newspaper during the recent floods?
3. Which newspaper did you read?
4. Why did you choose to read this newspaper?
5. At what point did you decide to read this newspaper about floods?
6. Can you tell me how you choose newspaper articles about floods to read?
7. Do you read flood news through social media?
8. What sorts of things did you read to learn about the floods?
9. Can you tell me what you did with the information you found?
10. Can you tell me your understanding of the flood crisis before and after the flood?

The participants were recruited through the first researcher's network and included relatives, friends, and classmates. The interviews were conducted both online via WeChat (a Chinese social media platform) and offline in face-to-face meetings, and audio-recorded. The decision to use WeChat as the primary tool for qualitative research is primarily due to its widespread use and familiarity among Chinese users, making it an ideal platform for conducting interviews within the cultural and contextual framework of China. Additionally, WeChat offers voice and video call functionalities, as well as compatibility with both computer and mobile devices. This versatility allows researchers to engage with participants through the desktop app while simultaneously recording the interaction using a mobile device. Existing research supports the effectiveness of using WeChat in studies. For example, Zhang et al. (2019) utilised WeChat to recruit participants for a health behaviour study, highlighting its effectiveness in reaching diverse demographic groups and improving response rates. Montag et al. (2018) found that, although there is limited literature on the application of WeChat in social research, its use for recruiting participants for surveys or in-depth interviews is increasingly prevalent in China. WeChat interviews provided a comfortable and flexible environment for the participants.

The study was conducted from March to June 2024. Interviews typically lasted about 20 minutes, but participants who experienced flood disasters tended to talk more than those who not experienced floods or did not frequently read newspapers. The interviewer skipped questions when the interviewee addressed them without being asked. The interviews were transcribed, and the total word count was 17,301 Chinese characters or 10,600 words when translated to English by the first researcher. In this article, only English excerpts are included.

Thematic analysis was guided by Rosenberg et al.'s (1960) ABC model of attitudes to identify the themes and sub-themes in the participants' interviews, and the participants' choice of newspapers as sources of flood news. For example, statements expressing emotional responses such as "fear when the water rose" were coded under affect, while responses about media preferences like "I always check national newspapers for updates" were categorised under behaviour. Cognitive insights such as "realising poor drainage caused the flood" were assigned to cognition. These codes were then refined into broader themes, ensuring alignment with the ABC framework. For instance, emotional reactions like "worry and heartbreak" were sub-themes under affect, while behavioural patterns like "choosing national newspapers" were under behaviour.

Both researchers performed the data analysis to code the themes. Researcher 1 identified 42 themes, while Researcher 2 identified 35 themes. The total number of themes from the two researchers is 77, which is used as the denominator in the calculation. Upon comparison, 28 themes were found to overlap, indicating similarity in their interpretations of the data. The number of similar themes was multiplied by two. The reliability rate was calculated using the following formula:

$$\frac{\text{Number of similar themes (i.e., 56)}}{\text{Total number of themes coded by two researchers (i.e., 77)}} \times 100$$

The percentage of similarity was determined to be approximately 72.73%. This percentage reflects a substantial level of agreement in the identification and classification of themes. Discrepancies between the researchers' coding (e.g., what constitutes the human interest frame) were resolved through discussions with reference to the definitions.

RESULTS

In this section, results on the themes in the participants' narratives about flood incidents, and the association of these themes with the affective, behavioural, and cognitive aspects are described.

Flood Victims' Narratives

Table 2 shows that the three key themes in the narratives of 13 flood victims about flood incidents are: (1) interest in what is happening during the flood, (2) worry about the consequences of the flood, and (3) admiration for the rescue efforts.

Table 2: Themes in interviews with flood victims ($n = 13$)

Key theme	Sub-theme	Example
Interest in events occurring during the flood	1. High water level	i. Injury ii. Swimming in the water
	2. Progress of rescue effort	i. People not getting help ii. Injuries and deaths
	3. Disruption to transport	i. Subway stopped ii. Cars float like boats
	4. Evacuation to centre without facilities	
Worry about consequences of flood	1. Experience psychological trauma	i. Cannot sleep when it rains ii. Have uncertainty and trauma iii. Shock at seeing dead bodies
	2. Have health problem after flood	
	3. Experience serious economic loss	i. Lose job ii. Pay for car repair iii. Crops destroyed
Admiration for rescue effort	1. Impressed by government and people's help	
	2. Amazed at cooperation among agencies	

The first key theme is interest in events occurring during the flood. The flood victims were interested in events occurring during the flood because, as humans, they probably needed to search for such information to establish physical and emotional safety during the floods. The flood victims recalled the dangerous water levels and inconvenient situation they were in because of the floods. Participant A1, a female student described how she was wading in floodwaters that reached waist level in her dormitory located on the ground floor when she slipped. She suffered a serious back injury and “was unable to contact the outside world” for some time. Her words indicate her despair and fear, in case no one came to her rescue. Her emotions towards the flood are fear and helplessness, a response that falls under the affect dimension of the ABC model. Other participants recalled seeing people swimming in flood waters that kept rising.

For me, the dormitory area I was living in was flooded, the lowest floor was completely submerged in flood water, the flood water reached the waist when I was walking, I slipped and suffered a severe back injury at that time, and I was unable to contact the outside world. (A1)

Relating flood incidents go hand-in-hand with a description of rescue efforts. Participant A7, a primary school teacher aged 28 years old felt that she wanted to help flood victims as others came to her aid when her house was flooded in the past. She was particularly worried about students living in low-lying areas and wondered if they were getting help. Her compassion and willingness to help others demonstrated a mix of emotional response and a call to action, indicating how past personal experiences influenced current attitudes.

When I see the news about the flood now, I am more concerned about whether the victims are getting help and whether there is any way to help them. (A7)

Having experienced floods themselves, the participants looked for newspaper articles that provided human interest stories. For instance, A3, a female associate professor at a university who experienced floods in Shandong province, said that she pored over news on flood-related injuries and deaths but skimmed over impersonal information about water levels. A3's news search behaviour suggests that journalists should prioritise the human interest element in their news reporting to attract the audience's attention.

If the headline is about "Homes flooded, residents injured", I will read it in depth. If the headline is about "Multiple rivers swollen, water department initiates emergency response", I may not read it in depth. (A3)

A number of participants described the inconvenience caused by the flood, as the subway and roads were submerged under water. The inconvenience was not merely a matter of being confined to one's home or the evacuation centre. Participants like A10, a male lecturer, said that an important qualifying examination was cancelled because the transport system had broken down. In addition, he suffered disruptions to the water supply, electricity supply, and life in general for a week. He was only able to sit for the examination some months later when the situation returned to normal.

When I was in Zhengzhou 720, I was supposed to take an exam. Due to the heavy rain on that day, the exam was postponed, the whole city was paralysed, the subway was forced to stop operation, the community was cut off from water and power, and many communities were flooded, forcing the interruption of life order. It took a week for the life order to return to normal. (A10)

A major activity during flood rescue was to transport people to evacuation centres, which were mostly schools and community centres turned into temporary premises for housing flood victims. Participant A9, a female kindergarten principal said that they were sitting around "like refugees" in the school, indicative of the loss of dignity she felt. There were no toilet facilities. Her sharing during the interview highlights the negative emotions experienced due to poor facilities at temporary flood shelters. Despite floods being a regular occurrence in China, the response mechanisms were not as efficient and adequate as hoped.

The staff moved us to a school, which was full of people, everyone sitting like refugees, with no food or toilets to go to, many of them lying on the ground together for the night. (A9)

Next, the second key theme is worry about the consequences of floods. The flood victims were worried about the flood and its consequences. They were emotional when they recalled the psychological trauma they experienced during and after the flood. Even months or years after the flood, some participants could not sleep if it rained heavily for a few days for fear of another flood. Participant A6, a female government officer, experienced the well-known serious flood on 20 July 2021 in Zhengzhou. The flood cast such a traumatic psychological shadow on her that she stayed awake whenever there was a storm. When the flood happened, A6 was in a shopping mall and she had to spend the night there. She saw the flood water sweeping people across the floor of the mall. Some other participants expressed shock at receiving social media messages with photos of dead bodies.

I want to say ... people who may have experienced July 20 will have psychological shadows. People around me, including myself, now feel afraid as long as the rain is big. (A6)

The flood victims were also concerned about the after-effects of the flood on health, such as the dirty water entering their homes, bringing with it diseases. Those who experienced the 21 July 2021 Zhengzhou flood were particularly worried about hygiene, like A2, a retired female office worker. At that time, the COVID-19 disease was severe in China.

For me, I was very afraid of the growth of bacteria after the floods, and then there was the corona-virus, and I was very worried about the hygiene after the floods. (A2)

The worry about the consequences of flood extended to serious economic loss. Participant A7, a female primary school teacher, highlighted her anxiety at not attending the job interview. She said, “I’m doing the same job every month for half the salary”. The earlier excerpt from A10 showed that he was responding to the interview questions using his logical mind. But A7 felt that she was short-changed in her career because of the flood. Participant A7 missed the interview to be employed as a teacher in that particular school. She later secured a teaching job in a primary school but earned only half the salary she expected. She regretted losing a golden job opportunity due to the flood. The participants also talked about how farmers lost their crops and income for the year when the vegetation was submerged underwater.

The flood had a significant impact on me. At that time, I was taking the teacher’s exam, and because of the flood, the interview for the job I wanted was delayed, which made me very anxious. As a result, I took a job that was not very satisfying and permanently missed out on that job opportunity, which offered a salary twice that of my current job, that means I’m doing the same job every month for half the salary. (A7)

Finally, the third key theme is admiration for rescue efforts. This was a specific response arising from interest in events occurring during the flood, when the flood victims realised the immense effort involved to manage the flood and assist the flood victims. Such admiration reflects recognition of the dedication of frontline workers and the coordination required during emergencies. It also reinforces a sense of social solidarity, as victims and onlookers alike become more aware of the human and institutional capacities mobilised to respond to large-scale crises. For example, despite the negativity surrounding the recall of the flood incidents, some flood victims were able to see the positive side of the flood management by the government. Participant A8, a female aged 80 years old, recalled that the last time she experienced floods was in 1998. She endorsed the timely action of the government to manage the flood: “Here comes the People’s Liberation Army”. Participant A8 delivered fertilisers to farmers in her call of duty, but she also personally donated money to help them. Those who joined government initiatives to be on the rescue front were amazed at the cooperation among agencies to deliver food and move the people to safety. The flood victims who received help also expressed gratitude for the help given by the government and the civilians. These positive narratives concur with the positive valence of news articles in *People’s Daily* on floods in China (Li and Ting 2024; Repnikova 2019).

Here comes the People’s Liberation Army to the rescue... At that time, I worked in the sub-district office and volunteered for the flood. I sent fertilizer to other families who had difficulties, and donated money to farmers who had no money. (A8)

Overall, the narratives of the flood victims reflected the use of cognition when they recalled their experiences of the flood incidents. Their affective responses came to the fore when relating their worry about the consequences of the flood and admiration for rescue efforts. Some participants described what happened to them, while others described their actions in rescue initiatives.

Narratives of Onlookers

Table 3 shows the two key themes in the narratives of seven onlookers, that is, emotional distress and increased awareness. Onlookers, being human, are concerned about the physical and emotional safety of flood victims during the floods. Their emotional responses are shaped by witnessing suffering, reading news updates on the flooding, and a growing awareness of the broader social and environmental impact of such disasters.

Table 3: Themes in interviews with onlookers ($n = 7$)

Key theme	Sub-theme	Example
Emotional distress	1. Feel weird at the beginning	
	2. Worry, upset and heartbreak	
	3. Moved by the rescue effort	
Increased awareness	1. Realise challenges to government	i. Importance of cooperation ii. Infrastructure shortage iii. Citizen initiatives
	2. Realise destructive impact on environment	
	3. Aware of causes of flood	

The first key theme is emotional distress. Although the onlookers had not personally suffered floods, they were also emotionally distraught as they witnessed the unfolding of the flood events. In the interviews, some participants reported feeling weird at the beginning, but their feelings turned to worry, upset, and heartbreak when they saw the flood situation worsening. Participant B1, a female lecturer, found it amusing to see photos circulated on social media of people scooping water or swimming in the flood water. She did not realise that the flood situation would escalate and cause fatalities. The participants were moved by the suffering of flood victims and the efforts of people involved in rescue efforts. Watching the flood disaster unfold, seeing people lose their homes or belongings, or witnessing others in danger caused them to feel fear, sadness, helplessness, or anxiety. In the context of China, emotional expression and public empathy are often guided or shaped by state-endorsed narratives. The emotional distress reported by participants reflects not only personal empathy but also the mediated experience of disaster, which is amplified through journalistic storytelling, imagery, and headlines. Thus, newspapers in China are not just channels of information but key actors in shaping public emotion and societal understanding during crises.

I saw photos online of people using buckets to scoop water out of their shops, and some even swimming in the water. My colleagues and I couldn't help but laugh, finding it a bit amusing... Later, as we learned that the rain was getting increasingly severe and people were trapped in low-lying areas with their lives in danger, we realised the seriousness of the situation and started worrying about those affected by the rain. (B1)

The second sub-theme of emotional distress is worry, upset, and heartbreak. Participant B1 talked about her worry about people trapped in low-lying areas while other participants like B4, a retired farmer, talked about the horrible feeling of seeing photos of people who drowned. At the time of the flood, her daughter and son-in-law were living in Zhengzhou, and she was constantly worried about their safety. She was in a state of panic when her calls went unanswered for hours. She also received photos of dead bodies on the subway through social media, adding to her distress.

My niece sent me a photo showing many people who died on the subway, covered with cloths on the platform, and the water in the subway reached neck level. It was terrifying because my daughter and son-in-law were in Zhengzhou. I called my daughter until 1:00 a.m., but no one answered, and I couldn't sleep all night. (B4)

The third and last sub-theme of the emotional distress of flood for onlookers is moved by the rescue efforts. Participant B7, a journalist, described the heartwarming actions taken by the government during the disaster relief process to even provide counselling. This participant was on duty to interview flood victims and report the evacuation efforts.

In July 2021, I went to interview people in a local flood-stricken area. I followed the regional government officials and documented the relocation of flood victims to shelters. I reported on the locations of the displaced people, the supplies provided by the government, and the meetings held to address the disaster. What warmed my heart and surprised me was that the government also provided psychological counselling for the victims after the disaster. (B7)

The second theme that emerged from the interviews with participants who did not experience floods in China is increased awareness, and the sub-themes are the realisation of challenges to the government (importance of cooperation, infrastructure shortage), the realisation of impact on the environment, and awareness of causes of flood.

The first sub-theme of increased awareness of floods is the challenge faced by the government. One participant (B6) saw for himself how hard it was to coordinate cooperation among various departments when he followed the disaster relief workers into the mountainous area during a flood. The participants also expressed the need for citizen initiative to prepare for floods instead of relying on the government. However, other participants were not as understanding of the constraints faced by the government in flood prevention and emergency response. There were subtle elements of blame for the lack of infrastructure to mitigate floods. Participant B1's criticism is particularly courageous, given the hesitancy among participants to openly comment on government policies and their implementations.

Although I had no one I knew, I could not help but feel sad for their tragic sufferings, and I was also angry about some tragedies caused by inadequate infrastructure construction. The government departments also had problems in the prevention and emergency response when dealing with disasters. (B1)

The second sub-theme of increased awareness highlights the destructive impact on the environment. For instance, participants such as B3 acknowledged that their concerns should extend beyond personal property and safety to include the destruction of nature. Participant B3 also realised the importance of not ignoring weather forecasts.

In my opinion, we should always pay attention to the weather forecast, do not go out when it is not necessary in the rainstorm, do not take into account the loss of personal property when the flood comes, it is important to save your life, and get out of the dangerous place as soon as possible. In recent years, there are more and more extreme weather, such as the sudden outbreak of heavy rainfall in inland cities like Zhengzhou, which shows that we need to pay more attention to environmental protection, reduce the destruction of nature, and maintain the balance of nature. (B3)

The third sub-theme of increased awareness is of the causes of flood. As the participants did not experience floods personally, two participants (B3 and B4) could distance themselves from the natural disaster and talk about flood science. They looked for scientific information about the causes of floods, like information about geography and meteorology. They talked about how

clearing forests for construction leads to soil erosion and landslides, and causes more areas to be subject to flooding. These participants could afford to have a cognitive interest in the subject matter, a distinctive difference from the narratives of flood victims, which were high on the affective dimension.

I prefer to know how the flood is formed, meteorological and geographical conditions and other scientific articles from newspaper articles. (B3)

Overall, the narratives of onlookers showed empathy with flood victims. As floods are widespread in China, these participants had family and friends who were directly affected by flooding. However, being spectators in the disaster enabled them to engage with flood news using their cognition. They assessed the flood situation based on news reports and rationalised the causes and effects of the flood on the people and the government. Their perspective was that of a bystander, distanced from the trauma of having their houses flooded. Few reported taking action to help flood victims. In comparison, more flood victims reported participating in rescue efforts as they were appreciative of the government and fellow citizens coming to their aid. Their recall of the flood incidents was also more vivid than that of onlookers, although some of them were recalling flood incidents that happened years ago.

Views on Media Role from the Perspective of Flood Victims

This section presents results on responses of victims and onlookers to flood news reporting. Flood victims obtained flood news from national newspapers because of the authoritativeness of the flood news and alerts, and the news feed on social media. On the one hand, there were participants like A1, a female undergraduate student, who said that national newspapers were more credible and reliable in offering comprehensive and essential official information to help them understand and respond to the crisis. She believed in *People's Daily* as it is the main voice box of the ruling government, that is, the Central Committee of the Communist Party of China.

The *People's Daily*, described as “the official newspaper of the Central Committee of the Communist Party of China” and “the largest newspaper in China”, was regarded as having a high level of authority compared with other newspapers, particularly in reporting the impact of floods and predicting their future development. (A1)

On the other hand, there were other participants like A3, a female lecturer, who believed that big data algorithms push national news to people in disaster-stricken areas as part of the government agenda. This might explain why most of the flood victims interviewed said that national newspapers like *People's Daily* helped them to stay informed during the floods.

It is not that I choose authoritative platforms such as CCTV News, but that these platforms will automatically push to me, and the content I read is pushed to me by big data. (A3)

Next, A2, a retired female government officer, also said that the news feed directing her towards flood news from national newspapers. She was very aware of governmental control on media, influencing topics that are given salience and the selected aspects that are highlighted. For example, the impact of the news on the reactions of the public.

For me, when the disaster comes, I am also in a state of no signal. After confirming that it is safe, I will choose to turn on my mobile phone to check the disaster situation, and there is no need to specifically look for relevant news, because as far as my experience is concerned, when the flood comes, there will be a lot of news pushed on the mobile phone, and there will be reporters from various mainstream media reporting the disaster

situation on the scene. And the government has strict control over every piece of news that comes out, I guess it's called, um... They pay attention to the impact of public opinion behind the news, which is the reaction of the people after the news is introduced. (A2)

The public in China reacts by sharing news they received on Weibo with others very quickly. For example, B4, a male lecturer, said that Weibo was the starting point of public opinion in China. However, not many participants highlighted social media as an information source on flood news, indicating that in China, newspapers still reigned supreme.

I've seen it on Weibo. Weibo is a major platform for public opinion in China, where many social events are reported, I decided to search for related reports after seeing relevant news on Weibo. It is easy to gather relevant information on social media, and I will share this information with people I know well and inform my family and friends. (B4)

The flood victims in the study wished that the newspapers could give warnings of impending floods. Participant A13, a male student, reasoned that newspapers should report more red alerts like “flash flood warnings” because timely and accurate warnings can help people prepare for and respond effectively to floods, potentially reducing damage and saving lives.

For me, as soon as I learned that the weather observatory issued a flash flood warning, I immediately began to pay attention to the relevant reports, hoping to be prepared in advance and keep abreast of the outside world. (A13)

Views on Media Role from the Perspective of Onlookers

The interviews with onlookers showed that their sources of flood news were both the national newspaper and the regional newspaper. Like the flood victims, B1 trusted *People's Daily* because it was the most authoritative newspaper in China, as it is the voice box of the Central Communist Party of China. In addition, B1 also reads *Henan Daily* because the reports are more trustworthy and localised since it is a regional newspaper. These participants did not talk about algorithms pushing news from certain newspapers to them.

For me, I will choose to read *People's Daily* and *Henan Daily*, because *People's Daily* reports are very authoritative. I am from Henan, and I also like to follow the news released by *Henan Daily*. In addition, the rainstorm happened in Zhengzhou, Henan Province, and the report of *Henan Daily* is more timely. (B1)

Based on the interview results, *People's Daily* fulfilled the Chinese people's expectations of being a reliable information source for flood news, as it is sanctioned by the government. However, onlookers also liked to read flood news in regional newspapers because they describe places and people they might know.

Taken together, the views of flood victims and onlookers concur on the trust in the national news. Some participants believed that the news feed on their mobile phones is curated by algorithms driven by big data but this is not the majority view. In China, social media platforms are a means to disseminate flood news originating from newspapers and help to further the reach of the newspapers in reaching a bigger audience.

DISCUSSION

The study on audience response to newspaper coverage of flood news in China shows predominant emotional reactions of flood victims versus the cognitive engagement of onlookers who did not directly experience floods. Flood victims relied on *People's Daily* for flood news while onlookers preferred regional newspapers. These key findings are discussed next.

First, flood victims were emotionally vested in the flood news as their lives, homes, and belongings are in danger but onlookers engage with the flood news on a cognitive plane, as seen in the context of Rosenberg et al.'s (1960) ABC model of attitudes. This study's findings add granularity to existing findings on public reactions during floods. For example, Hussin et al. (2015) did not separate the responses into victims and onlookers. The present study revealed the distance in engagement of flood victims and onlookers with flood news, reflected in the emotional and cognitive reactions.

The interview results on the positive attitudes of the Chinese people towards the government's flood management concur with the favourable portrayal of the authorities' actions in framing studies (Repnikova 2019; Li and Ting 2024). The online portal of *People's Daily* has a picture of President Xi Jinping, which further accords official endorsement of the news published by the national newspaper. The frequent news articles on the president and other officials visiting flooded areas and talking with the flood victims portray the current leadership's hands-on approach to mitigating the devastating effects on the citizens (Li and Ting 2024). During difficult times, flood victims might find it more reassuring to read *People's Daily* as it gave them a sense of hope that the flood situation was under the watchful eyes of their government. Past studies (Xu 2013; Xu et al. 2024) show that the trust placed in the state media explained why flood victims seek out national newspapers. When interpreted using Rosenberg et al.'s (1960) ABC model of attitudes, national newspapers satisfied the affective needs of flood victims who needed reassurance that the government is taking care of them.

The findings show the appeal of regional newspapers to onlookers who found it educational to read about climate change and environmental protection, as well as the complexities of flood management. Examples of regional newspapers in China are *Zhengzhou Daily*, *Jinghua Shibao*, and *Beijing Ribao*, which are targeted at readers in certain localities. Based on Repnikova's (2019) analysis, *Beijing Ribao* carried more critical content than *Jinghua Shibao*, such as infrastructural weaknesses, which worsened the impact of the storm in poorer areas. *Beijing Ribao*'s news reporting is still largely pro-government as it is still an official newspaper of the Communist Party of China at a regional level. However, readers could discern the critical content, although minimal, making regional newspapers their primary source for flood-related news.

Second, the national newspaper seemed to be the lifeline for flood victims to understand the situation and feel the support of the government in alleviating their sufferings. In Malaysia and Australia, social media is the main news source during floods (Aisha et al. 2015; Bunce et al. 2012; Hussin et al. 2015). The public in China appeared to trust newspapers more than social media to deliver reliable and timely flood news, contrary to the findings in other countries. In fact, the Chinese participants doubted the accuracy of social media information and verified them using official newspaper reports. This could be because 9 of the 20 participants were highly educated and were either students or lecturers in universities, which made them more alert to fake news on social media. They were accustomed to prioritising credible and verified sources. In China, the narrative consistently emphasised by authorities reinforced the idea that only official media is trustworthy, further deepening scepticism towards the authenticity and objectivity of information circulated on social media. On the contrary, although Malaysians

are aware of fake news on social media (Hussin et al. 2015), they also do not trust newspapers because they believe that the news is whitewashed. Social media is admittedly more sensational and is quicker in drawing the attention of people to urgent matters. This emotional engagement draws participants into the issue, compelling them to further explore the event. However, once their emotional response is triggered, they tend to shift towards a cognitive response by seeking out trusted news sources for in-depth analysis and reliable factual information. Thus, social media's sensationalism serves as a catalyst for emotional reactions, while traditional news sources provide the context and depth necessary for cognitive understanding.

CONCLUSION

The present study showed that some readers were aware of state control of the media and were critical of flood response mechanisms but most were bought over by the positive rhetoric of the government. The media fostered public trust in the government by positively reporting on the efforts of government officials and rescue workers during disaster relief. It called on victims to cooperate with government actions and follow its directives during times of crisis.

Based on the findings of the present study, two suggested calls to action are proposed. First, in a crisis like floods, newspapers can use social media platforms to grab attention and disseminate reliable flood updates. In China, even amidst the prevalence of social media, newspapers like *People's Daily* and *Zhengzhou Daily* remain the primary sources of trusted information. Hence, established newspapers should take advantage of social media to provide updates. Second, newspapers affiliated with the government should provide a balanced perspective on floods by including other voices. In recognition of the need to have a controlled media environment in China, these newspapers can manage how the negative sentiments are reported so that newspapers are a preferred source of information.

The study has several limitations. Personal or personal professional contacts were among the participants of the study. However, knowledge of the study did not affect their views in the interviews as this study was not a social experiment whereby certain information is not disclosed to participants until the debriefing stage. Another limitation is that the participants recruited might not have experienced floods in recent weeks to a few years ago. This study did not standardise the period in which they experienced floods due to the constraints of time and resources to travel to specific locations of recent floods in China. The recency of flood experiences might influence the emotional and cognitive engagement with floods in the interviews. Future studies can investigate on-the-ground reactions to flood news immediately after a flood is over to obtain more vivid responses to further understand the effect of how the passing of time may affect the recall of flood experiences and views. Future research should investigate how social media, particularly viral opinions, influences government attention and action. This is because Repnikova (2019) has indicated that the government responded to negative views on social media and managed public discourse. Such investigations will produce insights that shed light on how social media and newspapers can drive the political agenda.

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COMPLIANCE WITH ETHICAL STANDARDS

The ethics clearance for the study was granted by the 11th Human Research Ethics Committee (Non-medical) meeting of Universiti Malaysia Sarawak, 2/2024, HREC(NM)/2024 (1)/75. The participants were informed about the purpose of the study, the gist of the interview questions, and the recording of interviews. Their informed consent was obtained.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

NOTES

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