

Audience Reactions to Reporting of Floods in Malaysia: Flood Victims and Non-Flood Victims

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ABSTRACT

This study examines compares audience reactions of flood victims and non-flood victims to newspaper reporting of floods in Malaysia. The objectives of this study are: (1) to compare the affective, behavioural and cognitive themes in the narratives of flood victims and onlookers about flood incidents, and (2) to describe participants' views on the roles of newspapers vis-à-vis social media as sources of flood news. Semi-structured interviews were conducted with 20 participants (15 flood victims and 5 non-flood victims). For logistics convenience, the participants were selected from Kuching and Kota Samarahan in Sarawak, Malaysia. Analysis of the interviews using the Affective-Behaviour-Cognitive (ABC) Model of Attitudes showed greater emotional engagement of flood victims with flood news compared to non-flood victims who were inclined towards cognitive responses. The flood victims had negative attitudes towards floods and blamed authorities for poor flood management. However, the non-flood victims' emotional responses were balanced between gratefulness that they did not suffer floods and worry as the victims. The flood victims' cognitive responses focused on economic, psychological and health effects of flooding while the non-flood victims rationalised that there was good government-citizen collaboration in flood management. Both groups hoped for personal stories in flood news but flood victims also wished for informative articles on flood warnings, safety measures and on-going flood mitigation initiatives. Regional newspapers were preferred as flood news sources compared to national newspapers but non-flood victims also enjoyed sharing social media updates on the floods. The study provides insights for newspapers to publish more engaging news articles on floods and enhancing its role to educate the public about flood mitigation.

Keywords: *Flood, newspaper, audience reaction, news consumption, Sarawak.*

INTRODUCTION

Nowadays, people get news on floods from newspapers and social media. Some of the most popular social media platforms in the United States (US) include Facebook, Instagram, Snapchat, Twitter, WhatsApp, and YouTube. The majority of young people in China (aged 19-30) use at least one social media platform (Sun et al., 2024). In Malaysia, social media has the potential for real-time public opinion monitoring, facilitating engagement between policymakers and citizens, and early identification of emerging issues (Latif et al., 2024).

However, printed newspapers still have a role despite the popularity of social media in the digital era even though the editorial standards of printed newspapers ensure reliability and engendering trust among readers (Savadogo, 2024). Walters' (2021) interviews with journalists of 16 newspapers in the US show the newspapers maintain journalistic values of speed, objectivity and fairness. A recent study by the Congressional Research Service (2024) highlights that despite the challenges posed by digital media, printed newspapers continue to play a significant role in providing reliable information to the public.

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In the case of flood news, several studies indicate that printed newspapers and social media have respective roles as news sources. In the 2011 Queensland flood in Australia, Bunce et al.'s (2012) interview with four Brisbane residents showed that printed newspapers brought news of flooding upriver in Toowoomba, a neighbouring city while social media served as a platform for community engagement. During the flood, residents used social media to check on the safety of flood victims. When the flood receded, individuals reassessed whether to continue or sever ties with people they interacted with during the flood. In Malaysia, loss of accessibility during floods causes newspapers to lose their relevance as a source of flood news updates (Aisha et al., 2015; Hussin et al., 2015; Yap et al., 2023). Aisha et al.'s (2015) study using questionnaires showed the reliance on social media during the East Coast floods despite reservations about the credibility of social media content. Similarly, Hussin et al.'s (2015) study showed that Kelantan residents turned to WhatsApp and Facebook for updates on flood conditions and the safety of family members during the 2014 flood. The interviews with 20 individuals showed that social media enabled flood victims to share their experiences and request assistance, and people not affected by floods responded by giving charity and suggestions to manage the crisis. In Sarawak, Yap et al.'s (2023) questionnaire data showed that 93% of 118 victims from two flood-affected villages relied on social media, particularly Facebook for flood information despite concerns about accuracy and reliability. The most sought-after content included eyewitness photos or videos, updates on road and traffic conditions, and weather warnings (Yap et al., 2023). Where flood news is concerned, social media has an advantage over printed newspapers in the immediacy of information.

Thus far, these three studies are the only ones focusing on views of flood victims and non-flood victims in Malaysia, and showed that social media is a more relevant source of news than newspapers (Aisha et al., 2015; Husin et al., 2015; Yap et al., 2023). However, the researchers did not specifically investigate the public's reactions to newspaper reporting of flood news. This is a less understood aspect of newspaper reporting compared to what is covered in newspapers about floods. Framing studies on flood reveal a focus on the rescue efforts. *Berita Harian* and *Free Malaysia Today* are inclined to focus on assistance given to victims (Hasan & Lee, 2024). As the flood crisis needs to be handled by various authorities, it is not surprising that the responsibility frame dominated in articles on flood in *The Borneo Post*, a popular English daily in East Malaysia (Li & Ting, 2024a). However, little is understood about audience reactions to flood news reporting due to lack of research. It is crucial to study on-the-ground reactions to newspaper coverage of floods to understand the expectations of the public, which can help newspapers maintain its relevance as a news source during crisis like floods. This study examines audience reactions of flood victims and onlookers to newspaper reporting of floods in Malaysia. The specific objectives of this study are:

- a) To compare the affective, behavioural and cognitive themes in the narratives of flood victims and non-flood victims about flood incidents
- b) To describe participants' views on the roles of newspapers vis-à-vis social media as sources of flood news.

THEORETICAL FRAMEWORK OF STUDY

The theoretical framework for this study is Rosenberg et al.'s (1960) Affect-Behaviour-Cognition (ABC) Model of Attitudes. This model conceptualises attitudes as multidimensional constructs, encompassing three primary components: affect, behaviour, and cognition. Affect refers to emotional responses towards an attitude object, which can profoundly influence decision-making processes. Behaviour refers to actions or intentions associated with the

attitude object, with behavioural intentions often acting as reliable indicators of actual behaviour. The cognitive component refers to beliefs and knowledge. In the context of reactions to flood news, the ABC Model of Attitudes captures emotional responses to government actions (Affect), decisions regarding media type selection - whether newspapers or social media (Behaviour) - and beliefs and suggestions on measures to take on flood management (Cognition).

To date, Rosenberg et al.'s (1960) ABC Model of Attitudes has been predominantly applied in areas such as consumer attitudes (Jiang & Kodono, 2024; Aronsson & Holst, 2024; Lin et al., 2024), attitudes towards students with disability (Leake et al. 2024), attitudes towards reading (Miftah et al., 2024), tourism (Chen et al., 2024; Li & Wen, 2024; Qiu et al., 2024). The present study represents the first application of the ABC Model of Attitudes to understand audience reactions to reporting of floods.

METHOD OF STUDY

The descriptive study involved thematic analysis of interviews with flood victims and non-flood victims to understand audience reactions to newspaper coverage of floods. In this paper, flood victims are referred to as A1, A2 and so on whereas non-flood victims are referred to as B1, B2 and so on.

Semi-structured interviews were conducted with 20 participants living in Kuching and Kota Samarahan in Sarawak, Malaysia: 15 flood victims, and five onlookers. For logistics convenience, the participants were selected from Kuching and Kota Samarahan in Sarawak, Malaysia. Table 1 shows the demographic information of interview participants. The selection criteria were individuals above 18 years old living in Kuching and Kota Samarahan. Whether or not they had experienced floods was not an inclusion or exclusion criterion as the perspectives of both groups towards newspaper coverage of flood needs to be studied to understand how the same news might trigger different responses because of their prior knowledge and experiences of floods. In the interviews, participants were asked which newspapers they read, and what they thought of the flood news reporting. 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). Dispositions refer to their attitudes towards floods such as feeling excited to play in the flood water (like when they were children) and feeling anxious at the rising flood water and the damage it would bring to their house and property.

Table 1: Demographic information of interview participants (N=20)

Code	Gender	Age	Occupation	Education	Monthly salary
A1	Male	31-40	Lecturer	Degree or higher	RM6000-RM7999
A2	Female	51-60	Lecturer	Degree or higher	Above RM10000
A3	Male	51-60	University professor	Degree or higher	Above RM10000
A4	Female	41-50	Lecturer	Degree or higher	RM4000-RM5999
A5	Female	41-50	Lecturer	Degree or higher	RM8000-RM9999
A6	Female	21-30	HR executive	Degree or higher	RM2000-RM3999
A7	Female	21-30	Student	Degree or higher	Below RM2000
A8	Male	51-60	Senior lecturer	Degree or higher	Above RM10000
A9	Male	61-70	Retired (hospital worker)	Degree or higher	Below RM2000
A10	Male	51-60	Care teacher	Primary 6 or lower	RM2000-RM3999
A11	Male	Below 20	Student	Form 5	Below RM2000

A12	Male	71 and above	Retired businessman	Degree or higher	Below RM2000
A13	Male	41-50	Administrative Assistant	Form 5	RM2000-RM3999
A14	Male	51-60	Pilot	Diploma	Above RM10000
A15	Female	71 and above	Counsellor	Degree or higher	Below RM2000
B1	Female	21-30	Student	Form 6	Below RM2000
B2	Female	21-30	Administrative officer	Degree or higher	RM2000-RM3999
B3	Female	21-30	Student	Degree or higher	Below RM2000
B4	Female	41-50	Human resource officer	Degree or higher	RM4000-RM5999
B5	Male	31-40	Teacher	Degree or higher	RM4000-RM5999

Note: A1 to A15 are participants who experienced flood. B1 to B5 are participants who did not experience flood.

Among the 15 flood victims, six were female and nine were male. They were from different age groups (one aged 19, two in their twenties, one in their thirties, three in their forties, five in their fifties, two above 60 years old). Over 70% of them have at least a degree. Most flood victims are either teachers or students, and the others included a pilot, retirees, a security guard, and a repair worker.

Among the five onlookers who did not personally experience floods, four were female and one was male. Three young women, aged 21-30, included two students and an administrative officer. Another woman, aged 31-40, was a human resource officer. The only man, aged 31-40, was a teacher. Semi-structured interviews were conducted using the following guiding questions:

1. Have you experienced 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 interviews were conducted in either Chinese or English, depending on the participants' preference. This choice also minimised potential miscommunication and allowed for richer responses. Ethics approval for the study was obtained from the university of the researchers, and granted by the Human Research Ethics (Non-Medical) Committee (HREC(NM)/2024 (1)/75).

The participants were recruited through the researcher's network and included family members, colleagues, neighbours, and other social contacts. Using personal or professional contacts as participants has the following advantages: easier access, ease of building trust, and higher possibility of obtaining more open and detailed responses. This approach can simplify recruitment efforts and enhance the depth of data collection. However, it also carries risks, such as potential bias in data collection and analysis due to pre-existing relationships. The participants were informed about the purpose of the study, the gist of the interview questions, voluntary participation, confidentiality of responses, and the audio-recording of

interviews. Their informed consent was obtained and they acknowledged receipt of RM20 as a token of appreciation for participation.

The study was conducted from June to August 2024. The interviews were mostly conducted offline through face-to-face meetings. Due to time constraints, a few interviews were conducted online. Interviews typically lasted about 20 minutes but participants who have experienced flood disasters tend to talk more than those who have not experienced floods or did not frequently read newspapers. The audio-recorded interviews were transcribed, and interviews in Chinese were translated to English. The total word count of the interview transcripts in English was 38,873 words.

Thematic analysis of the interview transcripts 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 "Worry, sad and heartbreak" was coded as Affect, while responses about media preferences in news consumption, like "choose regional newspaper because I think is more closer" was coded as Behaviour. Cognitive insights, such as "government should development carefully" was coded as Cognition. These codes were later refined. For instance, emotional reactions like "Worry and Heartbreak" were categorised under the umbrella theme of Emotional experience.

RESULTS

In this section, interview results are presented for the flood victims' narratives followed by onlookers' narratives. Excerpts from the interviews are included to illustrate the themes and sub-themes.

Flood Victims' Narratives

The analysis of the interviews shows that four key themes in the narratives of 15 flood victims about flood incidents are the type of effect of flood, attitude to flood, features of ideal news report, and choice of source for flood news. Table 2 shows the four themes and sub-themes.

Table 2: Themes in interviews with flood victims (N = 15)

Theme	Sub-theme	Detail
Type of effects	<ul style="list-style-type: none"> Economic loss Psychological effect Health problem 	<ul style="list-style-type: none"> Floods destroy furniture and doors Flooding means that people cannot go to work
Attitudes to flood	<ul style="list-style-type: none"> Negative feelings towards the government Floods are interesting to children but not to adults 	<ul style="list-style-type: none"> Government should plan development carefully Government is slow to respond Government is not doing enough to prevent floods
Features of ideal news reports on flooding	<ul style="list-style-type: none"> Provide flood warnings and safety measures Personalise the news Encourage government to inform public of flood mitigation efforts 	<ul style="list-style-type: none"> Highlight economic loss Encourage donations to flood victims

Choice of source for flood news	<ul style="list-style-type: none">• Regional newspapers	<ul style="list-style-type: none">• Closer to readers• Convenient news source
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Types of effects. For the first theme on effects of flood, the analysis identified three main effects, namely, economic loss, psychological effect, and health problems. Economic loss in terms of damage to property such as the house and vehicles is illustrated in Excerpt 1. A4, a Chinese female lecturer in her forties recalled one time she suffered a flood. The wooden furniture and doors in her house were spoilt when they were submerged in flood waters, and it cost RM2,000 each time the flood occurred. Other participants recalled serious floods they had to stay at home and could not go to work, and their salary was cut.

It was dark downstairs, so I didn't know until I stepped on the floor and I felt water. That was very scary. That was the first time. A few other times after that, it happened also because of non-stop down pouring. There were damages done to the house. Luckily, I have insurance. I think each time was about RM2,000. Mostly furniture and doors because it's made of wood. (A4)

The effects of flood also took the form of psychological effect. Some flood victims' mental health was affected. In Excerpt 2, A1, a male university lecturer in his thirties reported that the flood influenced his psychological state. He felt so traumatised that he considered moving out of his house because it was in a flood-prone area. He had written petitions but his neighbours were too scared to sign it. His lone voice was not strong enough to move the council to improve the drainage to alleviate future floods.

Emotionally, I would say it's traumatising now. When I hear rain, if it's heavy rain, I would have trouble sleeping now because I have to be aware. It's kind of traumatising, I would say. (A1)

For the first theme, the third and final effect of flood identified from the interviews was health problems. As the flood water is very dirty, the participants feared that it might bring water-borne diseases like cholera and dysentery. Furthermore, due to the humid weather, everything in the house became mouldy. The spores from the mould are also harmful to health.

The first theme on type of effects reflects a cognitive response to floods, when put in the context of the ABC Model of Attitudes. The flood victims dissected the effects in a rationale manner. This is a contrast to the second theme which is an emotional response, and falls into the attitude aspect of the model.

The second theme that emerged from the analysis of the interviews with flood victims is their negative attitudes towards floods. They directed their negativity towards the government. For example, A2, a female lecturer in her fifties said that the government should plan development carefully (see Excerpt 3). Sometimes the private contractors do not construct proper drainage systems, and this causes rain water to collect in the house compounds and on roads after a few hours of rain.

Flood crisis is mainly, to me, first and foremost the government's responsibility to look into new developments will actually protect, not protect, these new development areas will actually give benefit to that particular area. But what happens is they also affect other areas. (A2).

Excerpt 4 illustrates a 19-year-old student's (A11) frustration with persistent issues like clogged drainage which have not been effectively and quickly addressed. He noted that the problem is caused by clearing of forests to build houses. Trees act as natural sponges, absorbing rainwater and slowing its flow, while their root systems help hold soil in place. Thus, when forests are removed, rainwater rapidly runs off the land surface, causing increased runoff and potential flooding, especially during heavy rains. The flood victim generally feels that the government response to flooding is too slow whether it is short-term evacuation and rescue or long-term improvement of drainage and creation of flood storage areas.

... there has actually been some sort of improvement if you compare it to the, let's say, 1980s but there isn't a very good communication about the flood mitigation measures. And I'm still seeing, like with my own eyes, a lot of clogged drainage, things that indirectly lead to floods which are still not really being solved quickly enough. So, I'll conclude by saying, yeah, there overall is some sort of improvement if you look at the big picture, but it's not really enough to deal with the problem. (A11)

Some flood victims recalled their childhood days when they found floods fun. A3 and A15 both related how they played in the water, but when they grew up, they began to be fearful of flooding. In Excerpt 5, a male university professor in his fifties related his experience. In short, the flood victims have negative attitudes towards floods, whether it is frustration with the inertia of the government or the danger of flooding.

When I was a child, I thought floods were quite fun, especially playing with toy boats, even though my parents wouldn't let me go into the water, saying it was dirty and dangerous. But as I grew up and experienced a major flood, it felt completely different. That time, the flood came with the tide, with a lot of mud in the water, and I could even see snakes and other creatures. I realised that floods are actually very dangerous, and I no longer found them fun. (A3)

The third theme of the flood victims' narratives is features of ideal news reports on floods. This is a cognitive response to flood news reporting and represents their hopes. Participants A10 and A12 wanted news articles to provide flood warnings and safety measures. In Excerpt 6, A10, a care teacher in his fifties felt that the current news reports on floods tend to be superficial and filtered, lacking important specifics. Flooding can sometimes be detected several days earlier based on weather conditions, and the main tools used to detect heavy rainfall associated with flash floods are satellite, lightning observing systems, radar, and rain gauges (National Oceanic & Atmospheric Administration, n.d.). Flooding of large rivers, due to heavy rainfall upstream, causes the rivers and streams downstream to rise quickly and become muddy. These are warning signs that the public can be alerted to in order to mitigate severe financial, psychological and health effects of floods.

Regarding flood coverage, it should be more detailed. If the current reports are not satisfactory, more information needs to be provided. Yes, if you think about it, people need to be ready for it. Sometimes they know when the flooding is coming, so they must be prepared every year. The news should help us be prepared for it. (A10)

A12, a retired businessman in his seventies, felt that news articles on flooding should educate the public about safety measures during floods (see Excerpt 7). He likened it to fire safety precautions such as ways to prevent fires.

Usually safety precautions. Like with fires, you need to know how to prevent them. During floods, it's the same, you need to ensure your safety and take care of children since schools are usually closed during floods. I think newspapers should remind people of safety measures. (A12)

During the interviews, other participants like A8 and A7 felt that news articles on flooding should be personalized by highlighting the economic loss suffered by the flood victims, and by encouraging donations to flood victims. For example, in Excerpt 8, A8, a senior lecturer in his fifties suggested that news reports should focus more on the human stories of flood victims. News can help people connect emotionally and feel more motivated to contribute or offer support, rather than assume the government alone will handle the situation. Putting in the human-interest element will make the newspaper reports on flooding more engaging compared to impersonal articles which is full of number of evacuees or list of places that are flooded.

I think maybe the human aspect of victims going through a personal story would move people. Normally, you will just get, okay, this place is flooded, estimated loss of life. How many people were put in [evacuation centers]? And then I ask myself, why do I donate? The government's looking after them. (A8)

A7, a female student felt that newspapers should educate people about different ways of helping flood victims instead of focusing only on monetary because not everyone can contribute financially. In Excerpt 9, she talked about alternative forms of helping the flood victims in affected areas. A7 said "they are very safe" meaning that newspapers play it safe when they report the number of flood victims. Large number of flood victims would send the message that the flood situation is severe and might cause undue panic among the public.

Sometimes, in newspapers, they are very safe to make this number for the flood victims. People will be like, "Only money." You know, sometimes people don't really have money to help them. So maybe they can say, "Please donate your clothes," "Please donate your food." Maybe some people can cook food if they need to donate to certain areas. (A7)

Compared to other participants, A11 as a student, had a different perspective on ideal news reports about flooding. A11 said that newspapers should communicate the progress of flood mitigation measures, such as improvements to drainage systems. In a way, A11 is aware that the public blames the government for not doing enough to solve the recurring flood

problem, and felt that newspapers can help portray a better image of the government.

... should be more communication on the progress of measures taken to reduce floods. Like maybe to improve drainage and all that, there should be progress reports so that people can know whether or not the authorities who are in charge of solving the problem are actually doing their job properly. (A11)

Participants view ideal news articles on flood that provide insights into ways that newspapers can be used to engage their readers. This could be done by heightening the human-interest element, and by maintaining “a dialogue” with readers about early signs of flooding, precautionary measures, and updates on government initiatives to mitigate flood. In other words, newspapers cannot merely report flood events.

The last theme from the interviews with flood victims is choice of newspapers for flood news. The focus is on the behavioural aspect of the ABC Model of Attitudes. The participants chose regional newspapers over national newspapers because they felt connected to the newspapers and it is a convenient news source. English regional newspapers in Sarawak include The Borneo Post, New Sarawak Tribune, and The Dayak Daily whereas Chinese regional newspapers include See Hua Daily News. In contrast, examples of national newspapers published in English include The Star and New Straits Times. National newspapers published in Chinese include Sin Chew Jit Poh, China Press and Nanyang Siang Pau. A7, a female student in Kuching prefers regional newspapers because of personal connections.

Because first, I want to support local. I think it's kind of cliché, but you know, the newspapers that I choose, like New Sarawak Tribune, Suara Sarawak, and Utusan Sarawak, these three newspapers, my friends are working there. Also, I was an intern there in New Sarawak Tribune, so it's like, oh, I want to support people. (A7)

A8, a male senior lecturer in his fifties, found regional newspaper a more convenient news source (see Excerpt 12). He said that Malay Mail and The Borneo Post still provide free access. Some other newspapers like The Star have a premium plan to give subscribers access to feature articles. Older participants like A9 and A12 said they bought the printed regional newspaper to read because they were not used to reading news on their mobile phones. Based on the interviews with 15 flood victims living in Kuching and Kota Samarahan, it seems that regional newspapers are favoured over national newspapers for flood news because they are closer to home. The participants did not indicate that regional newspapers have the features of ideal news reports that they hoped to have.

My first choice is always Malay Mail and Borneo Post because Malay Mail and Borneo Post, you can just go in and read. It's very easy. (A8)

Narratives of Non-Flood Victims About Floods

Table 3 shows four key themes that emerged from the interviews with five participants who did not experience floods. These are emotional response, features of ideal news reports on flood, choice of preferred source of flood news, and government-citizen collaboration in flood mitigation.

Table 3: Themes in interviews with non-flood victims (N = 5)

Key theme	Sub-theme	Detail
Emotional response	Grateful flood did not happen to them Worried, sad and heartbroken	
Features of ideal news reports on flooding	Highlight personal stories	
Choice of source of flood news	Regional newspapers – more local content Social media	Warn people and predict flooding <ul style="list-style-type: none"> • Obtain more interesting and instant information to share • Reliable information
Government-citizen collaboration in flood mitigation	Positive view of government actions in flood management Willingness to give donations	Reflect good governance of a democratic country Prefer to help flood victims they know

Emotional experience. The five participants were grateful that their houses were not flooded. In Excerpt 13, a Malay teacher (B5) expressed feelings of gratitude but at the same time, he felt sad for the flood victims.

I feel sad but thankful and grateful that it doesn't happen to my place. Because I've been staying at this house with my mom and my family for about 30 plus years, so our house has never gotten flooded. So, it's a pretty good area ... it makes me feel grateful that my family is not affected by that particular event. (B5)

In Excerpt 14, B1, a Sarawak indigenous student said that floods can be life-threatening, especially when water levels rise significantly. In the context of the ABC Model of Attitudes, the attitudes held by non-flood victims is binary, encompassing both their gratitude about their own situation and their concern about the situation of flood victims.

I felt really sad and worried because when it comes to floods here in Malaysia, it's something that is very serious. Because when it gets really bad, it would affect people in so many ways. Some even life-threatening because it could reach to a really high level, high-rise level. Another thing, nobody wants to lose, wants their home to be damaged. There's a lot of cost that comes along with it. (B1)

The second theme in the interviews with non-flood victims is features of ideal news reports on flooding which highlights personal stories. Similar to the flood victims, most of the onlookers wanted personal stories in news reporting. In Excerpt 15, B5, a teacher in his thirties said that the emotional connection created by reading about someone's personal experiences can lead to a greater understanding of the impact of floods and inspire actions such as donations or support for those affected. This is a cognitive response to flood news.

So, I think that they could go into a more human aspect of the flood situation and just record people that are truly affected so that other people will be more aware of the situation. (B5)

However, there is also the emotional response to inclusion of personal stories in flood news articles, which is triggered by reports of families whose loved ones drowned in the floods, but not by statistics on the death toll during floods. For example, when B2, an administrative officer, read about families experiencing deaths and damage to their property, the news pulled at his heart strings and he wanted to help (see Excerpt 16).

The personal story that would push me to help the victim is of course when I heard that the flood takes their lives. That is the thing that I am very concerned about and also the destruction of their property, such as houses, cars, to the point that they would lose their job. (B2)

The third theme in the interviews with non-flood victims is source of flood news, regional newspapers and social media. B2 an administrative officer in her twenties, explained in Excerpt 17 that national newspapers were not options due to lack of news on Sarawak. English national newspapers like The Star have a Sarawak section but naturally the local news coverage is not as regional newspapers like The Borneo Post which is based in Sarawak and carries more local news. Regional newspapers provide more specific flood warnings, thereby enabling the public in flood-prone areas to be prepared.

Because since Sarawak did not have much coverage in national newspaper, so I would prefer reading local newspaper because they are the ones that keep us up to date about the flood or any issue. (B2)

On the other hand, social media has its value as a source of flood news but the onlookers were divided in their responses. Onlookers like B5, a male teacher in his thirties, liked to get updates from WhatsApp and other social media platforms to share with friends and family (see Excerpt 18). To him, newspaper articles are less informative and the news often come later than social media posts.

With the information I found, I made the necessary preparations such as gathering emergency supplies, planning an evacuation route, and staying in touch with neighbours. I also share important updates with friends and family to help them stay up-to-date and well-prepared. (B4)

In fact, the participants believed in the reliability of social media information on floods. In Excerpt 19, B4 a human resource officer in her forties, explained that social media users often share links to newspaper articles and these are legitimate news sources. However, B4 said that she still believed that newspapers carry more accurate news than social media.

I think social media it's reliable, but the newspaper is more accurate. It's more, you know, the fact is more accurate, and I think I prefer newspaper. (B4)

The final theme in the narratives on non-flood victims is government-citizen collaboration in flood mitigation. It is a cognitive response from participants comprising two sub-themes which are positive view of government actions in flood management and willingness to give donations to flood victims. Excerpt 20 illustrates the belief that some

onlookers have about the necessity of government action for maintaining stability during times of crisis. B3, a female student in her twenties, said that the government has taken good care of Malaysian citizens during tragedies like floods.

I think it is positive because we live in a democratic country. Malaysia is a democratic country and government plays a very important role in order to make sure the country and the citizen is in a good state, especially when tragedy happens. So, they play a very important role in terms of policy changes. (B3)

B3 went on to explain that she had never given any donations because she did not know how to (see Excerpt 21). The other four non-flood victims interviewed had given donations to flood victims in one way or another such clothes. Participants B2 said that they prioritised helping those close to them, like friends and family directly affected by the floods. B2 said that she felt weird to help strangers, and this is probably an area that news articles on floods can address. There is a need to create greater awareness of citizen initiatives during floods. The theme on government-citizen collaboration in flood mitigation illustrates cognitive responses because participants were sharing beliefs and knowledge to best alleviate difficulties experienced by flood victims.

Actually, I've never done that before, I've never donated to the victims. I think that people in Sabah right now are very affected by the flood. And actually, I don't know where is the place, or maybe I didn't know the information, I didn't how to donate. (B3)

I would only want to do that if one of my, if my relative or my friend is affected near me, of course near me, will be affected of the flood. That is the moment that I would like to help them because it's weird to help strangers but yeah, I would prefer helping people that is close to me. (B2)

DISCUSSION AND CONCLUSION

This study showed different audience reactions of flood victims and onlookers to newspaper reporting of floods in Malaysia. Three key findings are discussed.

Firstly, the study showed deeper emotional engagement of flood victims with flood news compared to non-flood victims who were inclined towards cognitive responses, which is expected. The flood victims experienced risks to their lives, homes, and belongings because of flooding. Hence, they had negative attitudes towards floods and blamed authorities for poor flood management. However, the non-flood victims' emotional responses were balanced between gratefulness that they did not suffer floods and worry for flood victims. A strong affect angle may be needed in flood news to engage readers. In fact, both flood victims and non-flood victims hoped to see a stronger human-interest element in flood news. Nowadays messages, including news, needs an emotional element. Thus, to increase emotional engagement with flood news, it may be necessary for journalists to work on the affect aspect of the articles. The sharing of these findings through journal papers and conference presentations, including videos in YouTube, will put the information in the public domain and accessible to journalists who are interested to improve the impact and engagement of their news reports. Sharing the findings with communication lecturers in colleges and universities involved in training of journalists is another means for the findings to be communicated with

future journalists.

Secondly, the flood victims' cognitive responses focused on economic, psychological and health effects of flooding while the non-flood victims rationalised that there was good government-citizen collaboration in flood management. Both groups hoped for personal stories in flood news but flood victims also wished for informative articles on flood warnings, safety measures and on-going flood mitigation initiatives. This stems from their personal experiences of flood, which formed the basis for them to offer an insider perspective of what flood victims need from the media in flood reporting. Li and Ting's (2024b) framing analysis of flood news in *The People's Daily* (China's mainstream newspaper) showed a positive tone anchored to the authorities' quick handling of the flood situation and the portrayal of the premier's care for the citizens. This comes across as propaganda for the government. A positive tone in flood news may not reduce the negativity of flood news as it is a crisis and flood victims suffer inconveniences and losses. Mellor and Nguyen's (2024) interviews with 21 local news users of a news outlet in a London district (Chiswick) showed that the positive tone of the solutions-oriented news is met with skepticism, and they expect local news outlets to play a monitorial role, not a promotional one, even in small community contexts. For the Sarawak context at least, the present findings have given an indication of the flood news content that can attract and engage readers.

Thirdly, regional newspapers were a preferred flood news source compared to national newspapers but onlookers viewed newspapers and social media as complementary sources, relying on the former for credibility and the latter for real-time updates. Past studies on floods showed that social media is the main news source during floods in Malaysia (Aisha et al., 2015; Hussin et al., 2015; Yap et al., 2023) and Australia (Bunce et al., 2012). Yap et al.'s (2023) study in Sarawak found that Facebook is the most commonly used platform for sharing flood updates. The participants in the present study and past studies are aware that social media posts are rife with fake news but the present study revealed that flood victims are more alert to the need to scrutinise accuracy of news than onlookers. The present study confirms Hussin et al.'s (2015) findings that showed that although the Malaysian public may consider newspapers relatively reliable, they believed the information presented was filtered due to the newspapers' biases. Despite the concerns about credibility of social media flood information, the platforms have an undeniable advantage in terms of faster availability, higher accessibility, and richer content (Yap et al., 2023). Gushevinalti and Suparman's (2024) study in Indonesia showed that the public's belief in the greater credibility of newspapers as a news source is not misplaced. Their interviews with online media journalists in Bengkulu City found that the Bengkulu *Eskpress* journalists have been trained to conduct fact checks in its journalistic work to ensure quality work.

The present study has contributed new findings in the different affect, cognitive responses and behaviours of flood victims and non-flood victims. This is because previous studies on the public's perspective on floods did not differentiate between the two groups (Hussin et al., 2015). By comparing the narratives of flood victims and non-flood victims, the study revealed their close versus distant engagement with flood events respectively.

The study has two practical implications for news reporting on floods. Firstly, newspapers should emphasise the sources of credibility such as quotations of authority figures in the news articles on floods. Readers know and believe in the credibility of newspapers but this should be strengthened so that the disparity in the quality of social media content on floods is more obvious. Secondly, the desired news content on flood reporting is a

strong human-interest angle coupled with educational articles on flood warnings, safety measures and on-going flood mitigation initiatives. The flood reporting needs to move away from a focus on statistics of evacuees and evacuation efforts as well as a focus on reporting during floods. What the flood victims wish for is on-going education about flood management for the public and on-going updates about government initiatives to mitigate floods.

A limitation of this study is that it is geographically limited to 20 participants living in Kuching and Kota Samarahan of East Malaysia due to constraints in time and resources, which may restrict the generalisability of the findings to the entire country. Perspectives from other regions of Malaysia, where experiences and responses to floods may differ, were not included in the analysis. Future research could address this limitation by expanding the geographical scope to include participants from across Malaysia, enabling a more comprehensive understanding of how regional differences influence flood-related perceptions and media engagement. Future research could explore the long-term impact of critical engagement with newspapers on readers' trust in media and their behaviour during crises. Additionally, comparative studies across different media platforms, such as traditional newspapers, digital news portals, and social media, could provide insights into how critical engagement varies by medium and shapes public perception of credibility and reliability.

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ETHICS APPROVAL STATEMENT

The ethics clearance for the study was granted by the university 11th Human Research Ethics Committee (Non-medical) meeting 2/2024, HREC(NM)/2024 (1)/75

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