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EDITORIAL

Open Access Journal

Communicating Risk, Trust, and Resilience Among Diverse and Marginalised Populations

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Abstract

This thematic issue presents current empirical research focusing on theory and practice around the communication of risk, trust, and resilience in the context of societies characterised by diversity and/or inequality. A key goal of the editors was to include studies from the Global South as well as the Global North and thereby ensure a truly international collection of research studies, and we are delighted to be able to publish 10 high-quality research articles from authors in Africa, Asia, Oceania, South America, and Europe. In this collection, many authors note that there is a need for a transition from solely top-down, expert-centred communication to equity-oriented, inclusive communication which will help to bring to the centre marginalized voices and thereby improve outcomes for health, safety, and welfare of these groups.

Keywords

communication; diversity; marginalized populations; resilience; risk; trust

1. Introduction

The times in which we live are characterised by increasing global instability in the wake of the pandemic, rapid and accelerating climate change, and a huge growth in violent conflicts. One outcome of this ongoing instability is that many societies around the world are becoming more diverse due to much increased levels of migration and a subsequent growth in existing ethnic minority populations in some societies. The Covid-19 pandemic and recent ecological disasters have brought sharply into focus the challenges that governments and the public sector have faced in communicating risks, building trust, and developing resilience with ethnic minorities and other marginalised populations. This thematic issue presents current

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empirical research focusing on theory and practice around the communication of risk, trust, and resilience in the context of societies characterised by diversity and/or inequality. Research analysing a wide range of approaches from public information campaigns and government communication, to community-oriented cultural communication and participatory approaches was particularly welcomed. The thematic issue call for papers attracted a lot of submissions and 10 articles eventually made it through the review process to publication in this thematic issue of *Media and Communication*. A key goal of the editors was to include studies from the Global South as well as the Global North and thereby ensure a truly international collection of research studies, and we are delighted to be able to publish high-quality research articles from authors in Africa, Asia, Oceania, South America, and Europe.

This collection of articles presents the results of recent research in a range of areas around health and disaster risk communications with diverse and marginalised groups in society. They examine how information flows and communication dynamics impact minority and marginalised populations who are facing structural inequality or experiencing existential crises. The research studies investigate how vulnerability is intensified by digital divides, misinformation, and media framing, particularly for certain groups such as ethnic minorities, low-income workers, and adolescents. A number of studies highlight that resilience is a relational process built through cultural resources and through community engagement when institutional support is lacking. Others evaluate how governance strategies and, more recently, AI fundamentally influence the spread of health information in societies.

2. The Contributions to the Thematic Issue

The first article in the thematic issue, "The Role of Harm, Misinformer Age, and Information Scrutiny on Adolescents' Trust in Misinformation" by Farooq, Rutland, and McGuire (2026), presents the results of a study that examines how adolescents' trust in Covid-19 misinformation is influenced by perceived risk and the age of the source. Their research with 131 adolescents aged 14–17 found that they trusted misinformers more when they perceived a risk to their own age group. Using the elaboration likelihood model, the authors discovered that those who regularly scrutinise information prioritize source credibility during high-risk scenarios. Conversely, those who scrutinise less often tend to rely on their personal relationships with peers sharing the information. Their findings highlight the critical need for media literacy education to help adolescents navigate misinformation during public health crises. Benlarbi and Belghitia's (2026) article "Risk and Crisis Communication During Covid-19 in Algeria: Planning and Practice Evaluation" evaluates Algeria's government communication strategy during the Covid-19 pandemic by comparing national plans with actual practices. While the country adopted international standards for transparency and monitoring, institutional challenges such as inconsistent reporting and unidirectional messaging hindered success. Significantly, marginalized populations, including rural residents and low-income households, faced restricted access to official information flows. In addition, their findings demonstrate that digital divides and linguistic barriers further complicated how these groups interpreted risk messages. Their research indicates that effective crisis communication requires social equity, community engagement, and specific message adaptation to meet the diverse needs of vulnerable populations. The third article, by Nguyen, Nguyen, and Wang (2026), "Representation of Vulnerable Groups in Dutch Climate Crisis News: An Analysis of Mainstream Narratives," presents an empirical analysis of how vulnerable groups, including migrants, children, and those in poverty, are represented in Dutch climate crisis reporting. Using computational text analysis of over 17,000 news articles from 2014 to 2023, the study

identifies dominant media frames. Their analysis focuses on determining whether these marginalized groups are portrayed as active agents of change or passive victims of environmental developments. The article's findings offer critical insights into current framing practices in the Dutch media and suggest ways to foster more inclusive and equitable societal debates in the area of climate communication.

Monari and Ott's (2026) article "Governing Health Risk Communication in the Age of AI: Approaches from Brazil and Germany" presents a comparative study of Brazil and Germany. Their study examines how democracies govern health risk communication in the age of AI. They find that national governments viewed AI as an ambivalent tool that can both spread misinformation and provide mechanisms for detecting and monitoring it. They highlight that Germany utilizes a multi-level strategy combining regulation with independent fact-checking and media literacy while Brazil focuses on legislative proposals and national AI plans, though in the case of the latter, political and economic dynamics complicate the implementation of these plans. They argue that current governance processes tend to focus on individual and platform responsibilities while neglecting broader societal factors like trust and political structures. Brey's (2026) study, "Media Coverage of Social Cohesion and Minorities During Riots in the UK and Spain," analyzes media coverage of riots in the UK and Spain following crimes committed by individuals perceived as "foreigners." She deploys an agenda-setting analysis of 298 news articles to examine whether newspapers utilize culturally informed communication. She finds that while progressive newspapers in the UK were found to be more culturally informed than conservative ones, the distinction was less clear in Spain. Her findings also indicate that the mainstream media often reproduced far-right arguments and online misinformation which contributed to the legitimation of anti-migrant rhetoric and, thus, she encourages the placement of immigration at the centre of debates regarding social cohesion. Zhao and Falkheimer's (2026) article "Resilience in Marginalized Communities During Crises: A Literature Review of Communication Scholarship" reviews 45 peer-reviewed articles from 2010 to 2025 to explore how communication scholarship addresses resilience among marginalized populations during crises. Their findings reveal that resilience is frequently narrowly defined as mere coping or adaptation rather than being understood as a broader social process. The article identifies several key communicative practices, including the mobilization of networks and the affirmation of identity, which help frame resilience as a relational and discursive process. However, they highlight that frequently structural power dynamics and intersectional vulnerabilities remain under-researched. Ultimately, the authors argue for an equity-oriented crisis communication agenda that will bring marginalized voices to the centre.

Gong and Somerville's (2026) article, "Covid-19, Community Resilience, and Marginalised Populations: Health Communication and Chinese Communities in the UK," explores how UK-based Chinese communities utilized community resilience to navigate the disproportionate impacts of the Covid-19 pandemic. Using focus groups and the communication theory of resilience, the research identifies how these marginalized groups drew on their own cultural and linguistic resources. The study finds that this self-reliance was often born of necessity, as there was minimal support provided by government or health authorities. Their findings demonstrate that Chinese communities actively constituted resilience through specific communicative processes despite facing long-standing social inequalities. Such a "bottom-up" approach helps provide new insights into healthcare for ethnic minorities and the importance of culturally specific communication. In "Empowering Vulnerable Women: Communication and Media Strategies for Obstetric Fistula Awareness in Nigeria," Folarin (2026) investigates how communication and media strategies can raise awareness for obstetric fistula, a preventable childbirth injury affecting marginalized women in Nigeria. Focusing on the

Bashir Foundation for Fistula and Women's Health, her research study employs a qualitative case study and content analysis of media materials. Her findings identify best practices for community engagement, sustainability, and advocacy to combat the socio-economic and cultural factors sustaining the health crisis. She concludes that effective public health communication for vulnerable populations requires a combination of strategic communication/media campaigns, direct community interaction, and educational efforts to reduce social stigma.

Our penultimate article, "(Re)Contextualizing Organizing Inequities: The Communicative Production of Worker Vulnerability in Global Supply Chains" by Ganesh, Nandurkar, and Sun (2026), examines the communicative production of worker vulnerability within global supply chains in China and India. The authors identify three communicative conditions that shape these vulnerabilities: fluidity, visibility, and disarticulation. Fluidity is highlighted through fast-fashion workers in China, while visibility is explored through the labour of women in Indian onion supply chains. Disarticulation is examined via garment workers in India who are severed from their communities. The study argues for the use of multi-sited ethnographies to understand how global supply chain infrastructures determine labour risks and inequities. Our final article in the collection, Hou and Hearn's (2026) "Storytelling Networks and Social Capital for Disaster Resilience: Empowering Narrative Agency in Diverse Communities," addresses a gap in disaster resilience research by examining how storytelling networks can actively constitute social capital among marginalized populations. Their work moves beyond seeing social capital as a pre-existing attribute to use storytelling networks theory to explore collective sensemaking. Using 36 in-depth interviews, their research study highlights how community-led storytelling can help navigate power asymmetries and exercise narrative agency. Their findings reconceptualise social capital through a participatory lens, offering practical insights for emergency practitioners. Ultimately, the study emphasizes that empowering diverse communities to share their own stories is fundamental to building lasting social capital and disaster resilience.

3. Conclusion

A common thread in the research studies in this thematic issue is the advocacy for more equitable communication practices that prioritise not just the agency but also the specific cultural needs of underrepresented groups. Ultimately, the key overall finding of many of the studies in this collection is that expanding community-based communication channels and utilizing "bottom-up" approaches are essential for building societal resilience and ensuring equitable access to vital resources during crises. Many authors note that there is a need for a transition from solely top-down, expert-centred communication to equity-oriented, inclusive communication which will help to bring to the centre marginalized voices and thereby improve outcomes for health, safety, and welfare of these groups. To this end, a range of communicative strategies can be mobilized, including (but not limited to): culturally, linguistically, and infrastructurally tailored messaging; more just and reflexive media framing practices; the ethical use of digital technologies (including AI); the empowerment of vulnerable groups through opportunities to share lived experiences; and the co-construction of trust and resilience strategies between authorities and communities. We are delighted to present this wide-ranging collection of articles to the readership of *Media and Communication* and our hope is that the research presented will play a meaningful role in navigating the current global polycrisis.

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Conflict of Interests

The authors declare no conflict of interests.

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ARTICLE

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The Role of Harm, Misinformer Age, and Information Scrutiny on Adolescents' Trust in Misinformation

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Abstract

Adolescents' online habits may contribute to the spread of misinformation due to their preference for trusted peers as sources of information over credible sources. This propensity can also make adolescents a population more vulnerable to misinformation, particularly during crises when misinformation levels surge. In situations of uncertainty and risk, such as during public health crises, trust plays an important and influential role. This study explored whether adolescents' trust in an individual sharing misinformation, and trust in their misinformation about Covid-19, differed based on adolescents' perceived risk of harm from Covid-19 (risk vs reduced risk) and the age of the misinformer (peer vs adult). When shown misinformation about a hypothetical Covid-19 variant, adolescents (N = 131; 14–17 years old) trusted a misinformer more when there was a perceived risk of harm to their age group. Adolescents were also asked to provide open-ended justifications for their trust evaluations which were analysed in accordance with the elaboration likelihood model. We found that adolescents who reported to more regularly scrutinising information were more likely to consider information and source credibility when there was a perceived risk of harm to their age group. Adolescents who reported engaging in less information-scrutinising behaviours were more likely to consider their relationship with the misinformer when the misinformer was a peer. These findings suggest how the elaboration likelihood model can play an important role in risk communication amongst adolescents and emphasise the need for educating adolescents about the importance of scrutinising information, particularly during crises.

Keywords

adolescents; Covid-19; information scrutiny; misinformation; risk of harm; trust

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1. Introduction

For young people growing up in the digital age, the ever-changing media landscape presents a number of challenges. One challenge is the rise of online misinformation, which can be defined as false or misleading content that spreads as reliable information (Wardle, 2018). Young people are particularly vulnerable to misinformation online (Kops et al., 2025) and struggle to investigate the reliability of sources (Breakstone et al., 2021; Coiro et al., 2015). Studies suggest adolescents' propensity to trust specific sources over their propensity to verify information as a reason for their susceptibility to misinformation. For instance, adolescents are more likely to share claims on social media based on whether they trust the source of the claim as opposed to whether the claim itself is credible (Herrero-Diz et al., 2020), whereas older adolescents assert a tendency to trust news stories received from friends by default, irrespective of doubts about the stories' accuracy (Duffy et al., 2020). As such, who adolescents trust emerges as an important factor in their scrutiny of information, particularly due to their increased reliance on digital technologies as they form relationships and develop their identities (Kops et al., 2025). Therefore, it is important to investigate which aspects and sources of misinformation influence adolescents' evaluations of trust. In order to undertake this investigation, the Coronavirus pandemic is used as the context in which adolescents' trust evaluations were examined.

Trust plays an important role during public health crises where uncertainty and anxiety are high (van der Werff et al., 2019). During the Coronavirus pandemic in 2020, people were more likely to share information about Covid-19 if they believed the source was trustworthy (Lu et al., 2021). However, there was a dramatic surge of false and misleading Covid-19 information online, particularly on social media (Naeem & Bhatti, 2020). In the UK, almost half of the surveyed people reported seeing misinformation about Covid-19, with 66% claiming to have seen false stories daily (Ofcom, 2020). The impact of the Coronavirus pandemic was widespread and required members of the public to be well-informed and guided by information from credible and trusted sources, such as the World Health Organisation. Covid-19 misinformation, however, prevented individuals from being accurately informed about the Coronavirus. Research with adults showed that participants who rated Covid-19 misinformation as accurate also tended to perceive Covid-19 as less threatening to their health, and subsequently reported less engagement in Covid-19 preventative behaviours (e.g., social distancing; Olivett et al., 2023). Though adolescents were less at-risk of developing severe symptoms of Covid-19 compared with adults (Lee et al., 2020), they were still prone to contracting the virus and transmitting it to those at higher risk (Schneiderman et al., 2022) and even reported coming across Covid-19 misinformation (Chen et al., 2024). The present study explores how adolescents' trust evaluations of a misinformer and their misinformation differ based on (a) the risk of harm to the participants' age group and (b) the age of the misinformer. In this study, to further understand trust evaluations, we also explored adolescents' open-ended justifications and self-reported information scrutiny levels utilising an elaboration likelihood model (ELM; Petty & Cacioppo, 1984, 1986) framework.

The ELM is a prominent dual-process theory that posits that there are two routes involved in the processing of messages: the central route and the peripheral route. The central route of processing occurs when a message is critically and carefully analysed in terms of the logic and evidence provided, whereas the peripheral route of processing occurs when an individual relies on simple cues or mental shortcuts to evaluate the message. According to Petty and Cacioppo (1984, 1986), the use of these routes is dependent on the individual's circumstances and characteristics. For instance, when an individual is highly motivated or

has the ability to evaluate a message thoroughly and systematically, otherwise known as being in a state of "high elaboration likelihood," they will be likely to engage in central route processing. However, when an individual lacks motivation or the ability to evaluate a message critically, also referred to as a state of "low elaboration likelihood," they will be likely to engage in peripheral route processing. After message processing occurs, decisions about the message are formed. In the context of processing information received online from different sources, these decisions can involve judgments about how trustworthy the information and its source are (Pee & Lee, 2016). The present study also investigates trust evaluations in relation to both the misinformer and their (mis)information.

Individuals are in a state of high elaboration likelihood when they are highly motivated to centrally engage with the content of the message (Petty & Cacioppo, 1984, 1986). The motivation to engage in central processing may be determined by personal relevance, for instance, being actively involved with a topic (Koch et al., 2023; Petty et al., 1983). In the context of Covid-19, most adolescents may have seen information about the spread of the virus as less personally relevant due to their lower likelihood of becoming hospitalised from symptoms (Lee et al., 2020). In the present study, we therefore manipulated how much of a risk a new (imaginary) strain of Covid-19 would pose to adolescents. The aim was to explore whether being at risk of severe illness from the new strain would influence trust evaluations of the misinformer who shares false information about the transmission of the strain as well as trust evaluations of their misinformation. According to previous research, being engaged in central processing can result in heightened scrutiny of a message's arguments, resulting in the dismissal of arguments that are deemed weak (Petty et al., 2009). Consistent with this research, it is most likely that in the present study, adolescents who read about a new strain that posed a risk to their age group will be in a state of high elaboration likelihood, and subsequently will be more likely to find the misinformer or their misinformation untrustworthy.

Another determinant of being in a state of high elaboration likelihood is having the ability to process a message through the central route (Petty & Cacioppo, 1984, 1986). Being the more cognitively effortful route, ability refers to the individual's level of skill in processing information (MacInnis et al., 1991). In the current study, this can involve how much the adolescent is able to scrutinise information. Teenagers who place value on the importance of credible news display a better ability to detect misinformation (Nygren & Guath, 2022). This has been attributed to a "mindset" of critical understanding amongst those teenagers. Furthermore, adolescents who claim to have a habit of tracking news sources also perform well at critically analysing news stories (Ku et al., 2019). For the current study, we asked our adolescent sample to report their own engagement in information-scrutinising behaviours as a measure of their ability to process information centrally. We expected participants with higher self-reported information scrutiny levels to also be in a state of high elaboration likelihood, and so to also be less likely to find the misinformer or their misinformation trustworthy.

Adolescents pay particular attention to the source of information when making decisions about whether a social media post should be shared, above considerations of the credibility of the information itself (Herrero-Diz et al., 2020). During adolescence, peers start to emerge as increasingly influential (Somerville, 2013) and, in experimental research, can be regarded positively even when they share misinformation (Farooq et al., 2022). According to the ELM, relying on one's relationship with the information source to guide judgments about trustworthiness suggests that the peripheral route of processing is being engaged (Cialdini, 1994; Shin et al., 2018). As such, it would be expected that individuals in a state of low elaboration likelihood would be more likely to rely on such cues. In the present study, we therefore manipulated the age

of the misinformation source (peer vs adult) to investigate whether participants in a state of low elaboration likelihood would be more likely to trust a source closer in similarity to them. It is expected that for adolescents in a low state of elaboration likelihood, the peer source would be regarded as more trustworthy and their information also more trustworthy, relative to the adult source.

We also asked participants to provide reasoning to justify their trust evaluations. These responses were used to determine which factors participants focus on when "elaborating" on their evaluations and whether the factors are more in line with central or peripheral routes of processing. As we asked participants explicitly about the misinformer and their misinformation, we expected that those in a state of high elaboration likelihood would be more likely to refer to message-relevant factors (message logic, argument, evidence) when reasoning about their trust evaluations. We would attribute this to their heightened motivation or existing ability to centrally process information outlined by ELM research (Petty et al., 2009; Wagner & Petty, 2011). In the context of the current study, we would expect this to involve considerations of how credible the information presented by the misinformer is and how credible they are as a source of scientific information. On the other hand, we expected those in a state of low elaboration likelihood to be more likely to refer to external or simple cues (Rucker & Petty, 2006). In this context, we expected this to involve references to their relationship with the source, other characteristics of the source unrelated to their credibility, or references to their own feelings about the source or their information.

1.1. The Present Study

The aim of the present study was to use the ELM to explore whether the risk of harm (risk of harm vs reduced risk of harm) and the age of a misinformer (peer vs adult) were related to adolescents' evaluations of the trustworthiness of the misinformer and their information. To manipulate a sense of harm to one's age group, we asked half of our sample to imagine a new variant of Covid-19 had emerged and that this was either (a) different to previous variants and more harmful for adolescents (risk of harm), or (b) like previous variants and less harmful for adolescents (reduced risk of harm). To manipulate the misinformer's age, half of the sample was asked to imagine they received a message from a friend the same age and gender as them (peer) while the other half was asked to imagine the message was from an adult family friend (adult). The message contained the same misinformation about the spread of the Coronavirus. We also asked participants to justify their trustworthiness evaluations by asking them "why?" to assess the reasons underlying these choices. Furthermore, the present study also aimed to explore adolescents' evaluations of their own engagement in scrutinising information in relation to both their trustworthiness evaluations and their reasoning.

Our hypotheses are as follows:

> H1: Participants will be less likely to trust the misinformer and their misinformation when there is a risk of harm to their age group.
>
> H2: Participants who report a high level of engagement in information-scrutinising behaviours will be less likely to trust the misinformer and their misinformation compared to those who report a low level of engagement.

H3a: Participants in the condition where there is a reduced risk of harm will be more likely to trust the misinformer and their misinformation when the misinformer is a peer rather than an adult (H3a)

H3b: Participants who are less engaged in information scrutiny behaviours will be more likely to trust the misinformer and their misinformation when the misinformer is a peer rather than an adult.

H4a: When justifying their trustworthiness evaluations, participants reading about a variant which poses a risk of harm to their age group will be more likely to reference the credibility of the misinformer, their information, and their source.

H4b: When justifying their trustworthiness evaluations, participants who self-report higher levels of information scrutiny will be more likely to reference the credibility of the misinformer, their information, and their source.

H5a: When justifying their trustworthiness evaluations, participants reading about a variant which poses a reduced risk of harm to their age group will be more likely to reference their relationship with or feelings about the misinformer (H5a).

H5b: When justifying their trustworthiness evaluations, participants who self-report lower levels of information scrutiny will be more likely to reference their relationship with or feelings about the misinformer.

2. Method

2.1. Participants

Participants were recruited from a school in the southwest of the UK. A total of 203 participants from two different year groups took part. However, after the removal of participants who failed to pass the manipulation checks, the final sample consisted of 131 participants. A power analysis for regression analyses with multiple predictors was conducted using G*Power, with an alpha of .05, a power of .90, and a medium effect size of $\eta^2 = .15$ (Faul et al., 2007). This calculation estimated a required sample size of 130. The final sample of participants (14–17 years, *M*age = 15.53 years, *SD* = 1.08 years) included 65 males, 51 females, 4 non-binary, 1 other, and 10 undisclosed. The sample was approximately 76% White British, 4% mixed race/dual-heritage, 5% British Asian, .5% Black British, 6% other ethnicity, and 8% did not disclose. Ethical approval for the study procedure and materials was granted by the ethical committee of the first author's institution. Participants under the age of 16 provided parental consent as well as their own agreement to participate, whereas participants 16 and over provided their own informed consent.

2.2. Design and Procedure

This study used a 2 (harm: risk of harm vs reduced risk of harm) x 2 (misinformer age: peer vs adult) between-subjects design.

In regards to the harm manipulation, participants were randomly assigned to one of two conditions:

1. Risk of harm: Participants were asked to imagine a new variant of Covid-19 had been discovered, known as the Omega variant. Participants were told that, unlike previous variants, the Omega variant can affect teenagers. Even when vaccinated, teenagers can develop symptoms (see Appendix A in the Supplementary File for an example).
2. Reduced risk of harm: Participants were asked to imagine a new variant of Covid-19 had been discovered, known as the Omega variant. Participants were told that, like previous variants, the Omega variant was less likely to affect teenagers. Teenagers are less likely than older adults to develop symptoms.

In regards to the misinformer age manipulation, participants were presented with a misinformation manipulation in one of two conditions: They saw a WhatsApp-style text chat graphic that was either labelled School Group or Local Group:

1. Peer: Participants were asked to imagine they received a message in their School Group chat group from a friend the same age and gender as themselves (Sam), also attending their school. The message read: "Have you all heard the new news about the omega variant? I just read that apparently it can't be spread as much through the air as older variants could be?" accompanied by a link to an article on "thecovidchronicles.net" (see Appendix B in the Supplementary File for an example).
2. Adult: Participants were asked to imagine they received a message in their Local Group chat group from an adult family friend (Sam). The message was the same as in the peer condition.

Participants then proceeded to answer two manipulation check questions to ensure they had understood and paid attention to the context in their condition. Participants who incorrectly answered one or both manipulation checks were excluded from the final analyses (see Appendix C in the Supplementary File).

2.3. Measures

The study employed four measures: trustworthiness of the misinformer, trustworthiness of the misinformation, reasoning, and information scrutiny.

In the first measure, trustworthiness of the misinformer, participants were asked to indicate how trustworthy they found the misinformer: "How trustworthy is Sam?" They then selected their response from a 7-point Likert scale ranging from 1 (*not trustworthy at all*) to 7 (*very trustworthy*).

In the second measure, trustworthiness of misinformation, participants were then asked to indicate how trustworthy they found the information provided by the misinformer: "How trustworthy do you think Sam's information is?" They selected their response from a 7-point Likert scale ranging from 1 (*not trustworthy at all*) to 7 (*very trustworthy*).

To assess reasoning directly after each of their trustworthiness evaluations, participants were asked the open-ended question: "Why do you think so?" Initially, reasoning responses for both trustworthiness measures were coded in accordance with a framework developed based on a reading of the data. Based on this reading, the following four types of answers were the most prevalent amongst participants' reasoning:

(a) relationship, referencing the familiarity or relationship with the misinformer; (b) credentials, referencing the misinformer's credentials or lack thereof; (c) personal, referencing to the misinformer's individual traits, characteristics, or mental state; and (d) credibility, referencing to the credibility of the misinformer's source, information, or research process. Responses that did not align with any of these categories were coded as "other." Two trained coders conducted the coding for participant's reasoning based on these four categories. Interrater reliability calculations suggested a high level of agreement between coders on 20% ($n = 40$) of the responses for both reasoning about the trustworthiness of the misinformer (Cohen's $\kappa = .96$) and for reasoning about the trustworthiness of the misinformation (Cohen's $\kappa = .98$). Where use of reasoning was present, the code "1" was given; where the reasoning was not used, the code "0" was given for each reasoning response. To analyse participants' responses in line with the ELM framework and test our hypotheses, the four categories were then collapsed into two categories. These two categories were labelled "central" and "peripheral" accordingly to the ELM framework (see Table 1 for this final framework with examples).

Table 1. Reasoning categories, with examples of participant responses.

Reasoning Category	Example
Central	
1. Credibility References to the credibility of the misinformer's information/source	"Because it is not what the NHS stated"
2. Credentials References to the misinformer's credentials or lack thereof	"Because Sam isn't a medical expert"
Peripheral	
3. Relationship References to familiarity with or relationship to the misinformer	"It's a local group chat, so chances are I know the bloke"
4. Personal References to the misinformer's individual attributes, or their own feelings about the misinformer	"He hasn't done anything wrong and is just trying to inform others"

The final, fourth measure pertains to information scrutiny. Here, participants were asked to indicate how much they agreed with statements about how much they engaged in behaviours associated with systematically scrutinising information. Participants were asked "how much do you agree or disagree with the sentences below" for each of the six items. The items were developed for this study and were designed to measure engagement in behaviours that involve the investigation of the reliability and validity of information. The items were, for example, "When I come across a news article, I investigate how trustworthy the claims in that article are." See Appendix D in the Supplementary File for the complete scale. Participants selected their response from a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). There was a high internal consistency across the items ($\alpha = .88$) and therefore an overall average information scrutiny score was created for analyses.

2.4. Plan of Analyses

To examine H1, H2, and H3, which concerned the evaluations of the trustworthiness of the misinformer and the trustworthiness of the misinformation, linear regression analyses were conducted. In each analysis, the following were added as predictors: harm (0 = *risk of harm*, 1 = *reduced risk of harm*), misinformer age (0 = *peer*, 1 = *adult*), and self-reported information scrutiny levels (self-report). The interaction terms between each of the variables were also added to a separate model; however the inclusion of the interaction terms did not significantly account for the variance in the outcome interest in the overall model, resulting in their exclusion from the final models.

To examine participants' reasoning about their trustworthiness of the misinformer and their trustworthiness of the misinformation evaluations (H4 and H5), separate binary logistic regression analyses were conducted to explore differences in participants' use of the two different ELM reasoning categories as a function of harm, misinformer age, and self-reported information scrutiny levels. For the reasoning analyses, the two reasoning categories based on the ELM framework (central and peripheral) were the outcome variables, and separate regressions were run for each of the trust evaluations that participants reasoned about. The interaction terms between predictors were also added to a separate model and significant interactions were broken down using simple slopes analyses.

Correlations between all study variables, including demographics, were explored with Bivariate correlation analyses (see Table 2).

Table 2. Correlations between the study variables.

Study Variables	1	2	3	4	5	6	7
1. Participant age	1						
2. Gender	−.04	1					
3. Harm	.00	.00	1				
4. Misinformer age	.04	−.06	.07	1			
5. Trustworthiness of the misinformer	−.13	−.10	−.25*	.02	1		
6. Trustworthiness of the misinformation	.03	−.09	−.10	.06	.47*	1	
7. Self-report	.00	−.01	.01	.06	.00	.05	1

Notes: Gender—0 = male, 1 = female; harm—0 = risk of harm, 1 = reduced risk of harm); misinformer age—0 = peer, 1 = adult; * $p < .01$ (2-tailed).

3. Results

3.1. Trustworthiness of the Misinformer

A multiple linear regression analysis showed that the model with all variables added as predictors (harm, misinformer age, self-report) was significant ($F(3, 128) = 2.70$, $p = .049$), explaining 6% ($R^2 = .06$) of the variance in participants' trustworthiness of the misinformer evaluation which is a modest indication of the explanatory power of this effect (see Table 3 for proportions of participants' scores by experimental condition). Harm was a significant predictor of participants' trust in the misinformer (see Table 4). In contrast to H1, participants perceived the misinformer to be *more* trustworthy when there was a risk of harm

compared to when there was a reduced risk of harm. However, none of the other predictors were significant, contrary to H2. As the model with interaction terms was not significant, there was no support for H3.

Table 3. Proportions of participants' trustworthiness of the misinformer (1) and trustworthiness of the misinformation (2) scores by experimental condition.

Experimental Condition	*M*	*SD*	No. of Participants
1. Trustworthiness of the misinformer			
Harm: Risk of harm	3.97	1.20	59
Harm: Reduced risk of harm	3.37	1.13	70
Misinformer age: Peer	3.63	1.08	64
Misinformer age: Adult	3.66	1.31	65
Total	3.64	1.20	129
2. Trustworthiness of the misinformation			
Harm: Risk of harm	2.88	1.35	57
Harm: Reduced risk of harm	2.61	1.24	69
Misinformer age: Peer	2.66	1.28	61
Misinformer age: Adult	2.80	1.31	65
Total	2.73	1.29	126

Table 4. Multiple linear regression with predictors of trustworthiness of the misinformer (1) and trustworthiness of the misinformation (2).

Predictors	*B* (Unstandardized Coefficient)	*SE*	*B* (Standardized Coefficient)	*t*	Sig.
1. Trustworthiness of the misinformer					
Harm	−.59	.21	−.25	−2.84	.005
Misinformer age	.07	.21	.03	.36	.723
Self-report	.00	.08	.00	−.03	.979
2. Trustworthiness of the misinformation					
Harm	−.27	.23	−.10	−1.14	.256
Misinformer age	.16	.23	.06	.68	.498
Self-report	−.05	.09	−.05	−.55	.583

3.2. Trustworthiness of the Misinformation

Another multiple linear regression analysis showed that the model with all variables added as predictors (harm, misinformer age, self-report) was not significant ($F(3, 125) = .68$, $p = .564$) in explaining the variance in participants' trustworthiness of the misinformation evaluation (Table 3). This was contrary to predictions made in H1 and H2. Again, the model with interaction terms was not significant, so there was no support for H3 in relation to misinformation trustworthiness evaluations. See Table 4 for proportions of participants' scores by experimental condition.

3.3. Reasoning About the Trustworthiness of the Misinformer

A series of binary logistic regression analyses were run to examine whether the study predictors (harm, misinformer age, self-report) were associated with participants' use of the two different reasoning categories (central and peripheral) when justifying their trustworthiness of the misinformer evaluations. In the first step, the predictors were added to the model. In the second step, interaction terms between all predictors were added to the model.

In relation to participants' use of central reasoning, the model with all three predictors added was a significant fit—(χ^2 (3, 131) = 15.31, Nagelkerke R^2 = .15, p = .002)—in relation to the null model (see Table 5). Participants who self-reported higher information scrutiny levels were more likely to utilise central reasoning. The model with interaction terms was also significant—(χ^2 (3, 131) = 11.20, Nagelkerke R^2 = .25, p = .011). There was a significant interaction between harm and participants' self-reported information scrutiny levels.

Table 5. Binary logistic regression analyses for participants' use of reasoning in relation.

							95% CI	
	B	*SE*	Wald	*df*	*p*	*OR*	*LL*	*UL*
Central								
Model 1								
Harm	−.12	.38	.11	1	.743	.88	.42	1.85
Misinformer age	−.59	.38	2.46	1	.117	.55	.26	1.16
Self-report	.52	.15	11.96	1	<.001	1.68	1.25	2.26
Model 2								
Harm*Misinformer age	1.60	.87	3.41	1	.065	4.94	.91	26.93
Harm*Self-report	1.03	.39	7.15	1	.007	2.81	1.32	6.00
Misinformer age*Self-report	.14	.32	.19	1	.662	1.15	.61	2.16
Peripheral								
Model 1								
Harm	−.23	.36	.39	1	.532	.80	.39	1.63
Misinformer age	.29	.37	.65	1	.420	1.34	.66	2.75
Self-report	−.36	.14	6.43	1	.011	.70	.53	.92
Model 2								
Harm*Misinformer age	−.63	.77	.66	1	.416	.53	.12	2.42
Harm*Self-report	−.15	.30	.24	1	.623	.86	.47	1.56
Misinformer age*Self-report	−.92	.31	8.78	1	.003	.40	.22	.73

To investigate the interaction between harm and self-reported information scrutiny levels on the use of central reasoning, a moderation analysis was conducted using the PROCESS macro in SPSS, Model 1 (Hayes, 2018), where self-reported information scrutiny was added as the independent variable, central reasoning was the dependent variable, and harm was the dichotomous moderator variable. The moderation analysis revealed that the relationship between self-reported scrutiny and use of central reasoning is significantly moderated by harm (b = −.85, 95% CI [−1.52, −.17], t = −2.46, p = .014; see Figure 1.

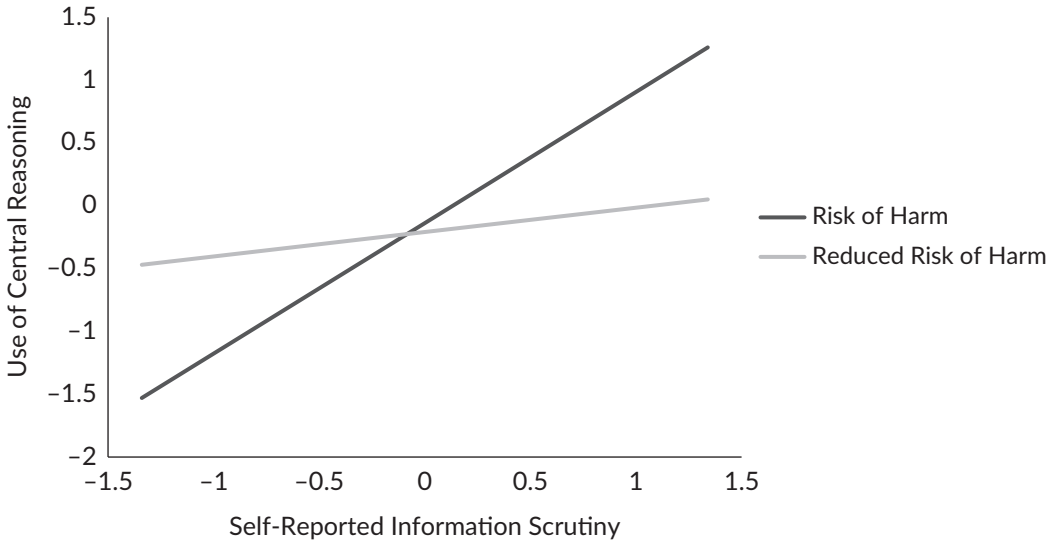


Figure 1. Simple slopes analysis showing how the relationship between self-reported information scrutiny and use of central reasoning by participants is significantly moderated by harm.

Results of a simple slopes analysis showed that for the participants who were in the condition where there was a risk of harm to their age group, there was a significant relationship between self-reported information scrutiny and use of central reasoning (b = 1.04, 95% CI [.47, 1.62], t = 3.56, p < .001). For the participants who read about a reduced risk of harm to their age group, this relationship was not significant (b = .20, 95% CI [−.16, .55], t = 1.08, p = .278). This analysis shows that only amongst the participants who read about a risk of harm to their age group, there was a positive association between self-reported information scrutiny levels and using central reasoning to justify their trustworthiness of the misinformer evaluations. This supports H4b.

In relation to participants' use of peripheral reasoning, the model with predictors added indicated a marginally significant fit (χ^2 (3, 131) = 7.57, Nagelkerke R^2 = .08, p = .056) in relation to the null model. As shown in Table 5 and in support of H5b, participants who self-reported lower information scrutiny levels were more likely to utilise peripheral reasoning. The model with interaction terms was also significant (χ^2 (3, 131) = 10.76, Nagelkerke R^2 = .18, p = .013). Table 5 shows that the interaction between the misinformer's age and participants' self-reported levels of information scrutiny was significant.

To investigate the interaction between misinformer age and self-reported information scrutiny levels on use of peripheral reasoning, a moderation analysis was conducted using the PROCESS macro in SPSS, Model 1 (Hayes, 2018), where self-reported scrutiny was added as the independent variable, peripheral reasoning was the dependent variable, and misinformer age was the dichotomous moderator variable. The moderation analysis revealed that the relationship between self-reported information scrutiny levels and use of peripheral reasoning is significantly moderated by the misinformer's age (b = .92, 95% CI [.32, 1.54], t = 2.98, p = .003; see Figure 2).

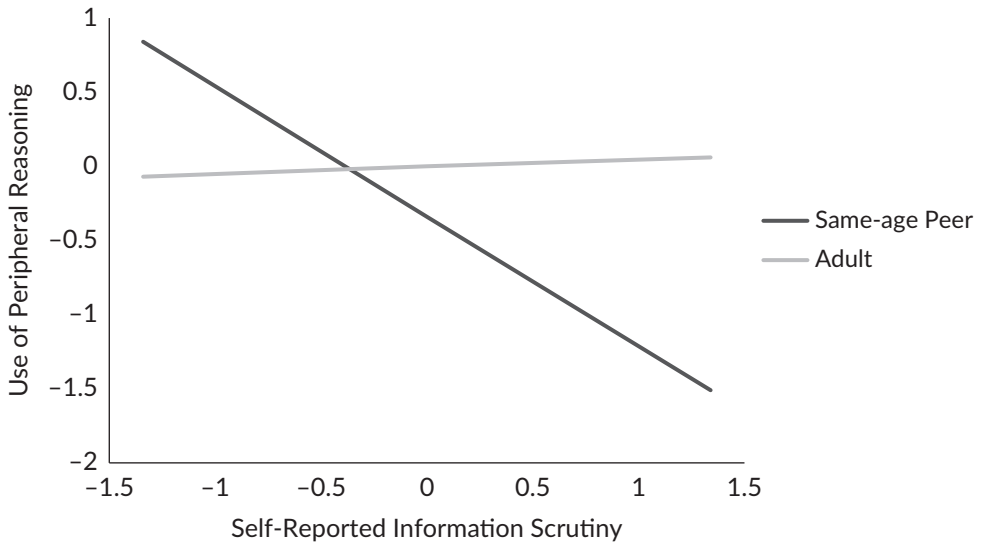


Figure 2. Simple slopes analysis showing that the relationship between self-reported information scrutiny and use of peripheral reasoning is significantly moderated by the misinformer's age.

Simple slopes analysis showed that for the participants who were in the condition where the misinformer was a peer, there was a significant relationship between self-reported information scrutiny and use of peripheral reasoning ($b = -.88$, 95% CI [−1.4, −.39], $t = -3.55$, $p < .001$). For the participants in the condition where the misinformer was an adult, this relationship was not significant ($b = .05$, 95% CI [−.32, .42], $t = .27$, $p = .789$). Taken altogether, this analysis shows that only amongst the participants who received misinformation from the peer, there was a negative association between self-reported information scrutiny levels and using peripheral reasoning to justify their trustworthiness of the misinformer evaluations. See Figure 3 for the proportions of participants' reasoning about their trustworthiness of the misinformer evaluations, by experimental condition.

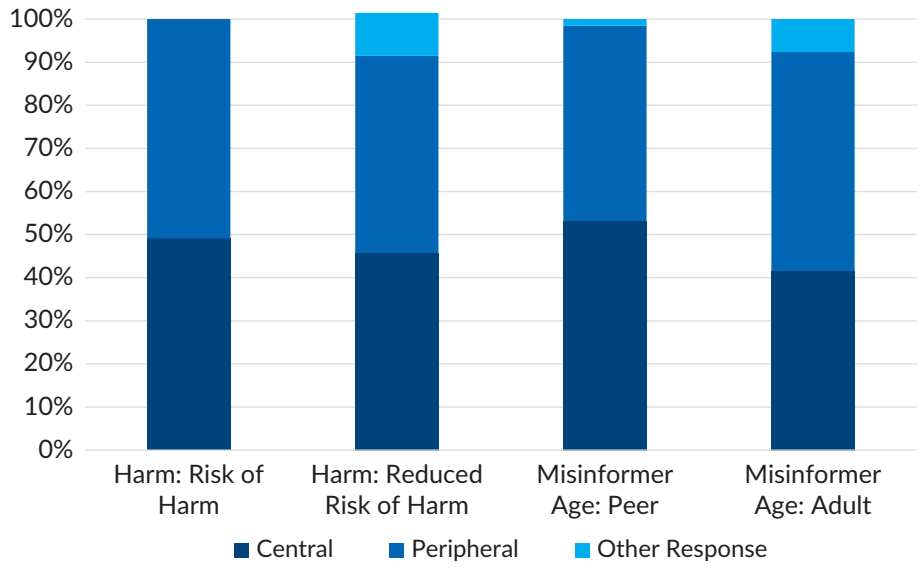


Figure 3. Percentage proportions of participants' reasoning about their trustworthiness in the misinformer scores by experimental condition.

3.4. Reasoning About the Trustworthiness of the Misinformation

Another series of binary logistic regression analyses was run to examine whether the study predictors (harm, misinformer age, self-report) were associated with participants' use of the two different reasoning categories (central and peripheral) when justifying their trustworthiness of the misinformation evaluations.

First, in relation to participants' use of central reasoning, the model with predictors added was not a significant fit—(χ^2 (3, 131) = 3.86, Nagelkerke R^2 = .05, p = .277)—in relation to the null model. The model with interaction terms added was also not significant—(χ^2 (3, 131) = 6.55, Nagelkerke R^2 = .12, p = .088; see Table 6).

Table 6. Binary logistic regression analyses for participants' use of reasoning in relation to their trustworthiness of the misinformation evaluations.

							95% CI	
	B	*SE*	Wald	*df*	*p*	*OR*	*LL*	*UL*
Central								
Model 1								
Harm	−.31	.46	.45	1	.500	.73	.30	1.81
Misinformer age	−.55	.46	1.44	1	.230	.58	.23	1.42
Self-report	.24	.17	2.02	1	.155	1.28	.91	1.79
Model 2								
Harm*Misinformer age	−1.39	1.02	1.85	1	.173	.25	.03	1.84
Harm*Self-report	.70	.37	3.49	1	.062	2.01	.97	4.18
Misinformer age*Self-report	.06	.37	.03	1	.863	1.07	.52	2.18
Peripheral								
Model 1								
Harm	.14	.63	.05	1	.823	1.15	.34	3.95
Misinformer age	1.75	.80	4.84	1	.028	5.78	1.21	27.62
Self-report	.01	.23	.00	1	.963	1.01	.64	1.60
Model 2								
Harm*Misinformer age[1]	—	—	—	—	—	—	—	—
Harm*Self-report	.10	.60	.03	1	.866	1.11	.34	3.61
Misinformer age*Self-report	−1.24	.90	1.90	1	.168	.29	.05	1.69

Note: [1] There were insufficient participants in each condition who used peripheral reasoning.

Next, in relation to participants' use of peripheral reasoning, the model with predictors added was also not a significant fit—(χ^2 (3, 131) = 6.56, Nagelkerke R^2 = .11, p = .087)—in relation to the null model. The model with interaction terms added was also not significant—(χ^2 (3, 131) = 6.69, Nagelkerke R^2 = .21, p = .082; see Table 6). For proportions of participants' reasoning about their trustworthiness of the misinformation evaluations by experimental condition, see Figure 4.

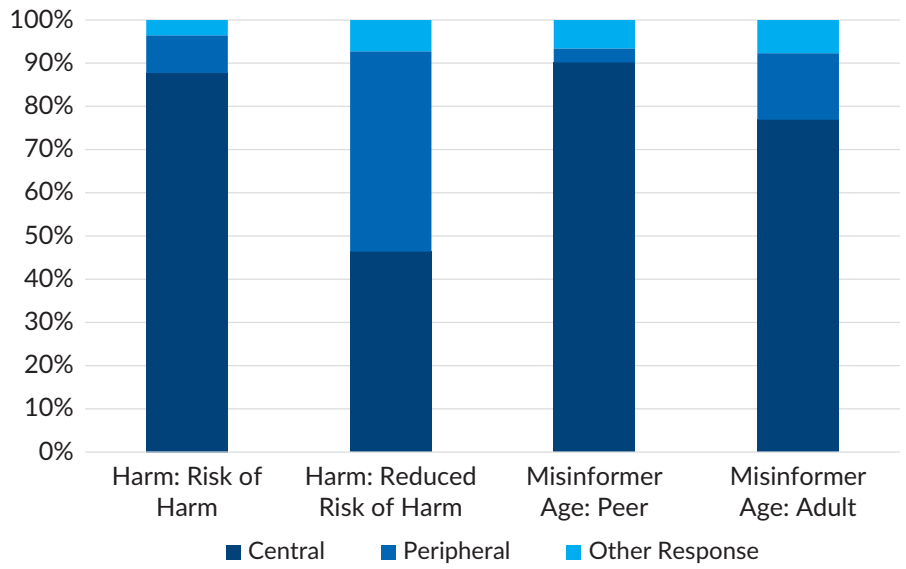


Figure 4. Percentage proportions of participants' reasoning about their trustworthiness in the misinformation scores by experimental condition.

4. Discussion

In this study, we examined whether risk of harm, the misinformer's age, and adolescents' self-reported information scrutiny levels were related to their trustworthiness evaluations of a misinformer and their misinformation. To undertake this examination, we utilised the ELM framework (Petty & Cacioppo, 1984, 1986) for the first time, to our knowledge, in the context of adolescents' trust perceptions. Contrary to our predictions, participants who were told about a variant which posed a risk of harm to their age group were *more* likely to trust the misinformer. In other words, the adolescents who imagined a scenario where their health was at higher risk reported an increased likelihood of trusting someone who was sharing misinformation about the spread of the virus.

Though we had predicted participants in the at-risk condition to be in a state of high elaboration likelihood, resulting in them being more likely to dismiss those who present weak arguments (Petty et al., 2009), this was not the case. Instead, it is possible that, for adolescents, being more motivated due to being *more* at risk may have had the opposite effect on their ability to dismiss weak arguments, albeit to a modest extent. For instance, past research has demonstrated that during crises, general trust levels increase because of the increased need for information caused by the uncertainty that usually follows a crisis (Hagar, 2013). Indeed, heightened emotional arousal during such crises may guide information processing (Lu et al., 2021). As such, it is possible that the increased motivation the adolescents in this experimentally manipulated group faced increased their likelihood of trusting informants, even if their information was false. With reports implicating adolescents as a group likely to breach Covid-19-related public health guidelines (Andrews et al., 2020), it is important to recognise that in possible future public health crises where adolescents are more vulnerable to risk, their likelihood to follow public health guidelines may hinge on their exposure to trustworthy and credible sources of health-related information. This is further emphasised by the lack of empirical support for H2 and H3, where participants' trust evaluations did not differ by their level of engagement in information-scrutinising behaviours, or the misinformer's age. Participants' reasoning responses reveal the nuanced logic underlying these evaluations and how this differs based on the individual's scrutinising abilities.

When asked to elaborate on their trust evaluations of the misinformer, participants who self-reported higher levels of information scrutiny were more likely to utilise central reasoning. This meant that participants who claimed to engage in more behaviours investigating the validity and reliability of the information they came across were also more likely to justify their trust evaluations with references to considerations of the credibility of the misinformer, their source, and their information. This was in line with our predictions and in accordance with ELM research which suggests that having the ability to process messages can increase the likelihood of engaging in central route processing.

Further, the results of the moderation analysis suggest that this relationship was conditional on the harm manipulation. A positive association between self-reporting engaging in information scrutinising behaviours and using central reasoning to support their trustworthiness of the misinformer evaluations was only seen amongst the participants who read about a risk of harm to their age group. This finding suggests that while the adolescents reading about a risk of harm to their group were overall more likely to trust the misinformer, it is possible that considerations of the credibility of the misinformer, their source, and their information were contingent on how much they claimed to be engaging in information-scrutinising behaviours in the first place.

As a result, we can infer that even though adolescents may be more inclined to trust an individual who shares misinformation when they are at personal risk, those who engage in information-scrutinising behaviours may be more likely to consider the credibility of the individual and their presented information. This is promising, as past research has shown that participants who value information credibility tend to perform well on misinformation detection tasks, due to a supposed "mindset" of being critical (Nygren & Guath, 2022). While this mindset may have extremes, such as being inherently sceptical of even credible information, there are merits to having a moderate, "healthy" scepticism when encountering information online. Research with adolescents also shows that those who reported practicing news literacy by checking sources were best able to apply their critical thinking mindset to the real news stories they were faced with (Ku et al., 2019). Given that the participants in our sample who claimed to be highly engaged in information scrutinising behaviours also tended to scrutinise the credibility of the misinformer and their information, it is probable that this mindset was active amongst these participants too. Overall, these results indicate that amongst adolescents, the state of high elaboration likelihood may rely on having *both* the motivation (the risk of harm) and the ability (scrutinising information). Further ELM research on adolescents' trust evaluations is therefore warranted to examine this possibility, as this can have vast implications for how adolescents develop trust in individuals or information that is unreliable, particularly in crisis situations.

Furthermore, we found support for the ELM amongst adolescents' reasoning about their trust evaluations in terms of their use of the peripheral processing route. Participants who reported being less likely to engage in information scrutinising behaviours were more likely to utilise peripheral reasoning when justifying their trust evaluations of the misinformer. This is consistent with ELM research which argues that having less ability to process information in terms of its message and arguments results in the use of the peripheral processing route (Petty & Cacioppo, 1984, 1986). A closer look at the results suggested that only where the misinformer was a peer, participants who self-reported as being less engaged in information scrutinising behaviours were more likely to use peripheral reasoning. For instance, these participants were more likely to point out factors such as their relationship with the misinformer or the characteristics of the misinformer when justifying their evaluations of the trustworthiness of the misinformer. Previous research has shown that when a source is perceived as similar to oneself and persuasive, the source can be regarded as

trustworthy even if it is of low credibility (Briñol & Petty, 2009). Relying on one's relationship with the misinformer, or other mentions of the source's qualities, indicates that the peripheral route of processing is active (Cialdini, 1994; Shi et al., 2018). Our results show that for adolescents in a state of low elaboration likelihood, receiving misinformation from a peer may result in dependence on the features of the source that make them trustworthy beyond their credibility. This supports previous research on adolescents' propensity to focus on sources rather than information quality when receiving information from friends (Duffy et al., 2020; Herrero-Diz et al., 2020), though it sheds light on the role that being engaged in information-scrutinising behaviours plays in this tendency. Identifying adolescents who are less engaged in such behaviours and providing them with the necessary tools and digital literacy education to be able to confidently scrutinise the information they encounter online could contribute to a reduction in the spread of and belief in misinformation.

It is important to note that we asked participants two distinct questions about their trust in the misinformer and their trust in the misinformation. The latter question, as well as reasoning in relation to this question, did not yield any differences by the study's predictors. For instance, the misinformer's age did not influence trust evaluations. This could have been due to the countering effects of trust in peers during adolescence and the trust in adult figures who are usually responsible for disseminating public health information. Future research may consider comparing different types of peers (friends vs non-friends) or different types of adults (influencers, health officials, etc.). Furthermore, most participants used central reasoning when justifying their evaluations of how trustworthy the misinformation was, suggesting that this question prompted most adolescents to focus on factors relating to credibility, even if this was not the case for them when answering the question about the misinformer themselves. In hindsight, this question may have been leading, and thus resulted in participants' over-consideration of the message-relevant factors. In future research, a more general question could be implemented, or the order of these questions could be counterbalanced, to tease apart whether adolescents are affected by the phrasing of the questions.

Altogether, these findings imply that when it comes to adolescents' trust in false information, it is important to consider *who* they receive the information from, how the information affects them personally, and how much they practice scrutinising information as these factors can all have an impact on the *way* they will consider that information. More specifically, being at risk of harm may increase adolescents' likelihood of finding a misinformer trustworthy if their misinformation is harm-relevant. However, amongst adolescents who engage in information-scrutinising behaviours, there is an increased likelihood that even under the risk of harm, they will consider the credibility of the individual and their presented information. On the other hand, participants who self-reported to be less engaged in information scrutinising behaviours were more likely to consider their relationship with the misinformer, and their other attributes, when the misinformer was a peer. If attitude-consistent behaviour change is to be encouraged amongst adolescents, particularly during crises, it is important to consider the distinction between adolescents who claim to engage more in information-scrutinising behaviours and those who claim to engage less in such behaviours.

Finally, this research also suggests how the ELM can play a crucial role in public health messaging amongst adolescents. Distinguishing between the two routes of processing outlined by the model is not just important for understanding which aspects of a message have been attended to but can also have implications for behaviour or attitude change. For instance, attitudes changed as a result of the central processing route tending to be more enduring and likely to lead to behaviour consistent with that attitude, a

direct consequence of the more cognitively demanding and thorough analysis of the message during processing. While decisions or attitudes shaped by the peripheral processing route may be effective in the short-term, these are also more vulnerable to fluctuating or fading due to the weaker foundations formed when processing is based on peripheral cues (Rucker & Petty, 2006; Wagner & Petty, 2011). Hence, the ELM can be used to highlight when attitude-consistent behaviour is more likely to occur and sustain over time. In the context of processing information about public health crises such as Covid-19, where attitude change can influence behaviour relating to minimising the spread of the disease (e.g., adhering to public health guidelines), elaboration likelihood and the processing route can have important implications for the spread of the virus. Thus, this research highlights the role the ELM can play in shaping adolescents' responses to future public health crises.

This research is not without its limitations, which must be considered when interpreting its findings. Firstly, the study was conducted with a limited sample of adolescents in the UK during a very particular and unprecedented context in the pandemic. As such, it is important to note that the findings of this study lack generalisability and, while they may help us understand how adolescents could respond to future health crises, it is difficult to extend them to other contexts. Secondly, it is also important to consider the limitations of the measures used in the study. To capture whether the adolescents were using the central processing route for the information they came across, we relied on self-reported behaviours. This scale was created for this research and had not been validated beforehand. Indeed, while similar methods of self-reporting information-related behaviours are used in research with adolescents (Kops et al., 2025), this measure does not represent how adolescents would *actually* scrutinise information. For future research, incorporating a task that measures performance could be useful both for validating such scales and also for providing a more robust measure of central processing.

5. Conclusion

In summary, this research adapted the ELM to provide the lens through which adolescents' trust evaluations of a misinformer and their misinformation were understood using the salient context of Covid-19. The present study is the first to ask adolescents to justify their trust evaluations in the context of misinformation and is therefore able to provide novel insights into how adolescents think differently about misinformation from different sources, under contrasting levels of harm, and with varying abilities to scrutinise information.

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Conflict of Interests

The authors declare no conflict of interests.

Data Availability

Data can be made available on request.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

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Risk and Crisis Communication During Covid-19 in Algeria: Planning and Practice Evaluation

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Abstract

This study evaluates Algeria's communication strategy during the Covid-19 pandemic by examining the alignment between the national Preparedness and Response Plan and the communication practices implemented throughout the crisis. Using a qualitative descriptive approach, the study relies on documentary analysis of governmental communication plans, official statements, media coverage, and scholarly literature on risk and crisis communication. The findings show that although Algeria adopted a structured communication framework consistent with international guidelines—such as transparency, rumor monitoring, and expert mobilization—its implementation encountered several institutional and communicative challenges that limited overall effectiveness. Key obstacles included fluctuations in public trust due to inconsistencies in epidemiological reporting and delays in clarifying technical errors, in addition to uneven media coordination, limited opportunities for two-way communication, and a predominantly expert-centered, one-directional messaging style. The analysis further demonstrates that access to official information was significantly more restricted among marginalised populations, including rural communities, residents of "shadow areas," low-income households, migrants, and persons with disabilities. Digital gaps, infrastructural constraints, and linguistic or cultural barriers shaped how these groups received, interpreted, and acted upon risk messages, underscoring that the effectiveness of communication during the pandemic depended not only on message clarity but also on inclusiveness, equity, and access. The study concludes that effective crisis communication requires more than technical accuracy: It must integrate principles of social equity, community engagement, and message adaptation to the needs of marginalised groups. Strengthening transparency, improving coordination between authorities and media, expanding community-based communication channels, and ensuring equitable access to information emerge as essential components for enhancing public trust and societal resilience during future health emergencies. The Algerian experience ultimately demonstrates that structural communication gaps disproportionately affect vulnerable groups and that evaluating the success

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of risk communication efforts requires careful attention to how marginalised populations access, understand, and act upon public-health information.

Keywords
community engagement; Covid-19; crisis communication; risk communication; trust-building

1. Introduction

The Covid-19 pandemic, declared by the World Health Organization (WHO) on 30 January 2020 as a Public Health Emergency of International Concern, reshaped public-health governance worldwide and imposed new demands on national communication systems. In Algeria, the pandemic prompted the activation of crisis-management structures and the adaptation of the 2009 H1N1 preparedness plan to the novel coronavirus. Effective communication became a strategic requirement for guiding public behavior, promoting preventive measures, countering misinformation, and preserving institutional trust during a period marked by scientific uncertainty and heightened public anxiety.

Risk and crisis communication models emphasize transparency, timeliness, and public engagement—components that shaped the success or limitations of many national responses. In the Algerian context, understanding how these principles were implemented requires not only examining the institutional arrangements of communication, but also assessing how different social groups, particularly marginalised populations with limited access to official information, experienced and responded to the evolving risk messages. Such groups often rely on alternative communication channels, face structural barriers to information access, and exhibit distinct patterns of risk perception, making them a critical lens for evaluating the inclusiveness and reach of national communication efforts.

Accordingly, this study examined the following question:

> What communication strategy did Algeria adopt during the Covid-19 pandemic, and how effective was it during the preparedness and response phases?

The analysis focused on identifying the institutional actors responsible for communication, examining the implementation of communication procedures, and assessing challenges related to trust-building, rumor management, communication capacity, and outreach to vulnerable populations, whose experiences provide essential insights into the equity and effectiveness of crisis communication systems.

The evaluation drew on WHO's risk communication and community engagement (RCCE) principles, Fischhoff's developmental stages, and Sandman's Hazard + Outrage model to assess how communication structures interacted with public perceptions, institutional trust, and the information needs of various population groups, including those at the margins of the communication system.

2. Risk Communication, Crisis Communication, and Conceptual Instability

Risk and crisis communication constitute two closely related yet distinct fields within communication studies, both of which have evolved significantly over the past four decades. The theoretical literature has sought to clarify the purposes, practices, and conceptual boundaries of each field, particularly in the context of public-health emergencies where uncertainty, time pressure, and public anxiety converge.

One of the early institutional definitions of risk communication is provided by Health Canada (2000), which describes it as "any exchange of information related to the nature, form, severity, and acceptance of risks to health or the environment," emphasizing the importance of identifying the information that concerned parties need and presenting it clearly and accessibly. This foundational definition reflects an early focus on information clarity and message comprehension as central components of effective risk communication.

Building on this foundation, Ortwin Renn—a leading scholar in the field—proposes that risk communication serves three core functions: informing, with the aim of modifying knowledge; persuading, with the aim of influencing behaviors and attitudes; and consulting, which involves engaging stakeholders and acknowledging their concerns (Renn, 1998). Renn's framework marked an important shift from linear, one-way information dissemination toward more interactive and participatory approaches that recognize the importance of audience perceptions.

In the Algerian context, earlier empirical research highlighted the limited effectiveness of participatory risk communication between local authorities and civil society organizations, pointing to structural, cultural, and institutional barriers to dialogue (Benlarbi, 2015), This shift has implications for marginalised populations, whose perceptions of risk are shaped not only by scientific information but also by socio-economic vulnerabilities, cultural norms, and unequal access to communication channels.

In the context of public-health emergencies and humanitarian crises, including the Covid-19 pandemic, the literature converges on the idea that effective communication enables at-risk populations to understand prevention and response measures, limit disease transmission, and reduce human and material losses. At the same time, it enables authorities to better understand public fears, information gaps, and cultural considerations, thereby enhancing the relevance and acceptability of official messages. These dynamics become even more critical when addressing marginalised communities that face structural barriers to accessing timely and credible information, such as digital divides, linguistic constraints, or peripheral geographic locations.

Although risk and crisis communication share overlapping aims, literature maintains a conceptual distinction between them. Risk communication is generally associated with potential or future events, with emphasis on prevention, preparedness, and informed decision-making. Crisis communication, by contrast, responds to events already underway, requiring rapid information flow, clear guidance, and prompt corrective measures. According to the WHO (2017), crisis-communication plans must be routinely updated and embedded within institutional activities to ensure readiness during emergencies.

However, the conceptual boundaries between the two fields have become increasingly fluid. Heiderich (2011) notes that crisis communication has experienced growing conceptual instability due to the

emergence of new practices such as "sensitive communication," which blurs distinctions with risk communication. Similarly, Lundgren and McMakin (2018) emphasize that care communication, consensus communication, and crisis communication have become intertwined as public-health emergencies demand more integrated and adaptive approaches. This fluidity underscores the importance of considering how communication models address diverse audiences, including groups that historically remain at the margins of formal communication structures.

Recent crisis communication literature further emphasizes that effective crisis response requires integrated strategies combining institutional coordination, media management, and audience engagement rather than relying solely on top-down information dissemination (Benlarbi, 2023).

A prominent theme in contemporary literature concerns the proliferation of misinformation and disinformation during crises. During Covid-19, the rapid spread of false or misleading information—what the WHO (2020a) termed an infodemic—posed significant challenges for communication authorities. Research shows that misinformation not only distorts risk perceptions but also undermines trust in institutions, complicating public-health responses and disproportionately affecting marginalized populations that rely more heavily on informal information networks.

Across risk and crisis communication scholarship, trust emerges as a central determinant of message effectiveness. Studies consistently show that well-designed communication interventions fail when the public does not trust the information source. Trust is shaped not only by message accuracy but also by the historical relationship between institutions and communities, cultural expectations, political context, and perceptions of fairness. These factors are particularly important for marginalised groups whose interactions with institutions may be shaped by long-standing socio-economic inequalities.

Consequently, contemporary models emphasize community engagement, transparency, acknowledgment of uncertainty, and dialogue with affected populations—including underserved and hard-to-reach communities—as essential components of communication in emergencies. These principles aim to ensure that communication strategies do not overlook populations with limited access to digital platforms, reduced media exposure, or heightened vulnerability to misinformation.

Overall, the literature reveals a field characterized by continuous development and conceptual fluidity. The rapid transformation of communication technologies, the rise of digital platforms, and the global experience of the Covid-19 pandemic have intensified debates regarding definitions, roles, and best practices. This evolving landscape has contributed to what scholars describe as conceptual instability, in which traditional distinctions between risk and crisis communication are increasingly blurred. Understanding these theoretical dynamics is essential for evaluating national cases—such as Algeria's experience during Covid-19—and for assessing the extent to which communication strategies align with established models and address the needs of diverse population groups, particularly those positioned at the margins of the communication system.

3. Methodology

This study employed a qualitative descriptive design based on systematic documentary analysis supported by field observations conducted between February 2020 and December 2021. The corpus consisted of four categories of publicly accessible materials:

1. Algeria's Preparedness and Response Plan for Coronavirus Risk: Covid-19 (General Directorate for Prevention and Health Promotion [GDPHP], 2020);
2. Official ministerial statements and outputs of the National Scientific Committee;
3. National media coverage, including televised briefings and specialized press reports;
4. WHO RCCE guidelines, complemented by relevant scholarly literature.

A qualitative content analysis was applied in three stages. First, all documents were reviewed to identify segments related to transparency, trust-building, rumor management, communication procedures, and outreach to vulnerable or hard-to-reach populations. Analytical attention was given to how communication practices affected marginalised groups—such as rural communities, residents of "shadow areas," migrants, low-income households, and persons with disabilities—since their experiences provide essential indicators of inclusiveness and equity in crisis communication.

Second, the selected segments were coded according to analytical categories derived from the theoretical framework, including trust dynamics, message framing, institutional coordination, and accessibility of information across different population groups.

Third, the coded material was compared with the communication components outlined in the Preparedness and Response Plan to assess the degree of alignment between planned strategies and their practical implementation.

Field observations—limited to monitoring public briefings, televised announcements, and media discourse—were used to contextualize documentary findings and identify gaps between official communication and public reception. No human participants were involved, and only publicly available materials were used. Consequently, no personal data were collected, and no ethical risks were encountered.

4. Algeria's Approach to Managing Covid-19 Crisis Communication

The Preparedness and Response Plan for Coronavirus Risk: Covid-19, published by the "Surveillance Unit" at the Ministry of Health, served as the primary governmental document examined in this study. Issued at the end of March 2020 and comprising 114 pages, the plan outlined Algeria's national strategy for managing the emerging pandemic (GDPHP, 2020). The analysis focused on the first year of the pandemic, during which the plan guided preparedness actions and communication activities nationwide.

4.1. Communication Strategy in the Preparedness and Response Plan

The communication strategy outlined in the Preparedness and Response Plan was grounded in principles widely applied during major public health emergencies. It emphasized that communication efforts should

remain proportionate to the level of viral transmission and continuously adapt to the evolving epidemiological situation. The plan prioritized communication targeting groups most exposed to infection risks and underscored the importance of providing objective, transparent, and regularly updated information. It further highlighted the need to support measures implemented by public authorities—particularly those addressing vulnerable groups—while encouraging citizen participation in prevention and mitigation efforts. According to the plan, effective communication required a strong and sustained media presence across both traditional and digital platforms, with messages adjusted in response to changing local and global developments.

Within this framework, communication activities were operationalized at both national and international levels. Nationally, cooperation with television, radio, and print media was used to strengthen public awareness, particularly among travelers. The Health Sector Guide documented key messages that were continuously revised in line with the evolving epidemiological context, while communication channels and content were adapted to different phases of the pandemic and tailored to specific audiences, including health professionals, maritime and air-transport staff, media personnel, and the general public. Internationally, communication activities were extended to the WHO in compliance with the International Health Regulations, ensuring timely reporting of Algeria's epidemiological situation and alignment with global surveillance and response mechanisms (GDPHP, 2020, p. 27).

Training constituted a central pillar of the communication strategy and was implemented across all 58 provinces. Health-sector personnel—including physicians, nurses, laboratory staff, maintenance workers, and medical-transport teams—received targeted training on transmission risks, preventive measures, and task-specific procedures. In addition, non-health professionals, such as national security personnel, civil-protection units, and aviation staff, were also trained due to their potential exposure to infected individuals (GDPHP, 2020, p. 29).

Despite this comprehensive strategic design, the plan assigned the health sector the responsibility for coordinating interventions with other sectors without clearly defining a formal hierarchy for crisis governance (GDPHP, 2020, pp. 19–22). This limitation was later clarified through official communication, notably in a televised interview by the Minister of Communication during World Press Freedom Day 2020. The minister explained that Covid-19 crisis management operated across three hierarchical levels: a strategic level under the President of the Republic through the Supreme Security Council and the Government; a tactical level involving the Minister of Health, the Minister of Communication, the Minister of Pharmaceutical Industries, the monitoring and follow-up cell, official spokespersons, and epidemiology specialists; and an operational level engaging the Ministry of Health's supply cell, public-health directors, and provincial committees ("Wazīr al-ittiṣāl li-l-idhāʿa," 2020).

4.2. The Covid-19 Communication Plan

The national plan included a dedicated two-page communication plan annexed to the main document. It was organized into three phases—preparedness, response, and follow-up/evaluation—each composed of six components: objectives, responsible parties, procedures, activities, communication tools, and evaluation indicators.

4.2.1. Preparedness Phase

During the preparedness phase, the plan identified four objectives (GDPHP, 2020, p. 110): detecting and anticipating communication crises related to Covid-19; informing and educating the public; strengthening the capacities of communication professionals; and identifying key actors. To achieve these aims, the vigilance cell monitored media and social-network content using thematic monitoring mechanisms, vigilance memos, press reviews, lists of media institutions, and designated spokespersons. Indicators included the number of observations and identified spokespersons.

The Ministries of Health and Communication prepared key messages tailored to various target groups, relying on websites, press releases, posters, brochures, television and radio spots, social-media content, and FAQs. Indicators included the number of press releases, posters, public interventions, and media products created. Additionally, the Ministries of Health, Communication, Religious Affairs, and National Education organized training sessions for health workers, media professionals, and religious leaders. Indicators tracked included the number of training sessions, awareness days, and trained participants. Cross-sectoral meetings were organized to identify and mobilize relevant partners, with indicators such as meeting minutes and lists of experts by sector and province.

4.2.2. Response Phase

In the response phase, the plan focused on two primary objectives (GDPHP, 2020, p. 111): building and maintaining public trust and detecting and managing rumors. Transparent communication was required through timely reporting of the first confirmed case, organizing regular media briefings, and mobilizing scientific experts for public reassurance. Indicators included the number of press conferences, press releases, televised and radio programs, and detected rumors. Rumor surveillance mechanisms included systematic media monitoring, identifying rumor sources, issuing clarifications, and mobilizing official spokespersons and credible actors. Indicators monitored included the number of captured rumors, the responses issued per rumor, and the identified sources of misinformation.

4.2.3. Follow-Up and Evaluation Phase

The follow-up and evaluation phase aimed to produce weekly reports assessing communication activities, including circulars, press statements, conferences, and updates across official websites. A final report summarizing lessons learned and recommendations served as the primary indicator of success. The plan underscored that although lessons in risk communication are often derived retrospectively, the ongoing nature of the pandemic required continuous evaluation and regular updates according to the evolution of the virus (GDPHP, 2020, p. 111).

5. Evaluation of the Algerian Experience in Managing Covid-19 Crisis Communication

The evaluation of Algeria's experience in managing communication during the Covid-19 crisis reveals several issues related to trust-building, the institutional positioning of communication within national leadership structures, and the discrepancy between the principles of risk communication outlined in theoretical models and the practices adopted during the pandemic. This gap between planning and practice echoes broader

critiques of crisis communication in Algeria, where institutional messaging has often struggled to balance reassurance and transparency during emergencies (Benabid, 2020).

A comparison between the communication components outlined in the Preparedness and Response Plan and the communication practices implemented in reality highlights a clear gap between planning and implementation—an issue widely documented in the literature on risk and crisis communication (Fischhoff, 1995; Sandman, 2012; WHO, 2017).

5.1. The Issue of Building and Maintaining Trust

Trust constitutes the foundation of effective communication during health emergencies. The literature consistently emphasizes that even the most accurate messages fail if the public does not trust the source (Sandman, 2012; WHO, 2017). Although Algeria's plan emphasized transparency, early announcements, and mobilization of scientific experts, several events weakened trust, including:

a. Irregularities in reported death figures, acknowledged by the Minister of Health, who stated that some deaths were recorded as Covid-19-related despite being due to other causes, whereas others were not recorded due to delayed test results ("Ben Būzīd yakshif sabab," 2020).
b. Public confusion regarding laboratory testing, particularly concerning the reliability of PCR tests and the misuse of CT scans or rapid serological tests, against which the Ministry of Health issued warnings ("Ben Būzīd yuʾakkid," 2020).
c. Public controversy following the government's call for financial donations, which some perceived as evidence of institutional weakness in managing the crisis (Qaddarah, 2020).

Such inconsistencies undermined the plan's trust-building objective, particularly since WHO guidelines stress that trust relies on message consistency, acknowledgment of uncertainty, qualified spokespersons, and transparent communication (WHO, 2017, p. 76).

Media coverage also played a role in shaping trust dynamics. Conflicting figures published by national newspapers led the Ministry of Communication to call for strict adherence to official sources. The ministry further criticized certain media coverage—such as that of the daily Liberté—for exaggerating the situation and causing public alarm ("Le ministère de la Communication," 2020).

Comparative international data highlight that trust levels varied globally, with northern European countries recording significantly higher trust rates than countries such as Italy, Spain, and the UK ("Al-ḥajm lā yuhimm," 2020). In this context, Algeria's fluctuating trust levels reflected operational, institutional, and communicative challenges that complicated the achievement of the plan's trust-related objectives.

5.2. The Issue of Integrating Risk Communication in National Leadership Planning and Implementation

The Algerian experience indicates that communication did not occupy a central position within the national crisis-leadership structure. Although the state established several committees—such as the National Health Security Agency and the Operational Investigation and Follow-Up Cell—these entities largely lacked specialists in communication, sociology, psychology, digital media, and organizational

communication, which limited the effectiveness of communication during the crisis. Moreover, key elements of strategic communication planning were not fully integrated, including a clear communication vision, systematic audience segmentation and analysis, explicit identification of stakeholders, and impact-driven evaluation mechanisms.

Instead, the plan relied largely on quantitative indicators, such as the number of meetings, awareness sessions, or training days—indicators that do not measure communication impact or behavioral change among the population. WHO guidelines underscore that communication in emergencies should be evaluated based on outcomes such as changes in knowledge, trust, and public adherence, not simply on activities conducted (WHO, 2017).

Additionally, risk communication functions were not systematically integrated across the three crisis-management levels—strategic, tactical, and operational—which limited coordination, slowed information flow, and reduced the coherence of messages delivered to the population.

5.3. The Issue of Practicing Risk Communication During the Coronavirus Crisis

5.3.1. Monitoring and Follow-Up Committee: One-Way Communication

The National Scientific Committee and the Ministry of Health conducted daily press briefings to update the public. While these efforts were important, they primarily focused on reporting numerical data rather than fostering two-way communication or addressing public concerns ("Kūrūnā fīrūs: naḥwa al-iʿlān," 2020). According to Fischhoff's developmental stages (1995), this approach corresponds to the early stages of risk communication—"providing the numbers" and "explaining what the numbers mean"—while more advanced stages emphasize partnership, engagement, and responding to public perceptions.

Thus, communication remained largely one-directional, limiting opportunities for dialogue, feedback, or community involvement, despite the importance of such mechanisms in crisis communication.

5.3.2. Crisis Communication Discourse: Expert-Centered Messaging

Official messages during the crisis centered predominantly on expert perspectives, focusing on virological information, transmission mechanisms, and clinical severity. However, this approach did not sufficiently account for public risk perception, which is shaped by cultural, psychological, economic, and informational factors (Bennett & Calman, 1999; Sandman, 2012).

Studies conducted during the Covid-19 pandemic demonstrate that social media significantly shapes public risk perception, often amplifying uncertainty, fear, and emotional responses, which can complicate institutional crisis communication efforts (Malecki et al., 2021). A clear mismatch emerged between expert definitions of risk and how the public perceived that risk, contributing to behaviours such as denial of infection, resistance to quarantine, refusal to comply with preventive measures, and stigmatization of infected individuals. This pattern aligns with Sandman's model, which conceptualizes risk as the sum of hazard and outrage, emphasizing that emotional and social reactions shape public interpretations of risk as much as, if not more than, scientific information.

5.3.3. Risk Communication With Marginalised Populations

From a rights-based perspective, access to accurate and timely health information during emergencies is considered a fundamental obligation of governments, particularly toward vulnerable and marginalized populations ("Abʿād ḥuqūq al-insān," 2020).

The Covid-19 pandemic in Algeria revealed significant inequalities in risk communication and access to public-health measures, particularly among marginalized populations. These disparities underscored the importance of equity and audience segmentation—two principles emphasized in international risk communication frameworks, including WHO's RCCE guidelines and Sandman's model, which highlight that effective communication requires adapting messages to the needs, vulnerabilities, and perceptions of different population groups.

First, *rural and mountainous communities*—including those in the Aurès, the High Plateaus, and residents of "shadow areas"—had limited access to official awareness campaigns, which relied predominantly on television and digital platforms despite weak internet infrastructure. Consequently, local radios, mosques, and community associations became the primary channels of information dissemination (Idres & Lassassi, 2024). Despite these structural constraints, rural households demonstrated forms of community resilience, such as local agricultural exchange and volunteer initiatives to produce masks and sanitizers (Leonardelli et al., 2021). The Algerian government allocated nearly 184 billion DZD to improve living conditions in over 15,000 shadow areas—covering around 8 million inhabitants—through projects targeting water, electricity, transport, and healthcare (Yahi, 2020). However, critical analyses argue that these areas remained insufficiently integrated into national health-response protocols, widening the trust gap between citizens and state institutions (Romi, 2021). In response, solidarity caravans and cultural awareness campaigns were deployed in provinces such as Saïda and Mila, offering combined medical, psychological, and social support, and achieving notable levels of compliance with preventive measures ("Inṭilāq qāfilat musāʿadāt," 2020).

Second, *migrant populations*—especially those from sub-Saharan Africa—faced linguistic and cultural barriers, as official health messaging was delivered primarily in Arabic and French. This increased their vulnerability to misinformation and hindered access to official recommendations. The situation of refugee and displaced populations further illustrates the communication challenges faced by humanitarian actors during the pandemic, as movement restrictions and limited access to services intensified exposure to health and economic risks (United Nations High Commissioner for Refugees et al., 2020). In response to these barriers, civil society organizations sought to bridge communication gaps by translating health guidance into local languages, particularly for marginalized populations with limited access to official information ("Abʿād ḥuqūq al-insān," 2020). Algerian expatriates in Europe were also affected by border closures, experiencing emotional strain and contributing to economic losses in rural communities dependent on remittances and seasonal tourism ("Kūrūnā tuʿaṣṣif bi-al-Jazāʾir," 2020).

Third, *persons with disabilities* encountered barriers to accessing information due to the absence of sign-language interpretation and adapted communication formats in early official broadcasts. Subsequent measures—such as the introduction of televised sign-language interpretation—improved inclusiveness and helped restore trust among this group (WHO, 2020b). Additional assistance from the United Nations included the distribution of over 50,000 masks, 1,500 liters of sanitizer, and 225 mobility and hearing aids (United Nations Algeria, 2020).

Fourth, *residents of low-income neighborhoods* were exposed to misinformation, rumors, and reliance on popular remedies, reflecting limited trust in official discourse and reduced access to credible information sources. Grassroots initiatives, including those led by imams and neighborhood committees, played a crucial role in delivering preventive messages in accessible language (WHO, 2020a). Complementary studies show that the pandemic exacerbated poverty among informal workers, women, and vulnerable households, exposing structural limitations in existing social protection mechanisms and emphasizing the need for broader reform ("Azmat Kūrūnā tuʿammiq," 2020).

Taken together, these cases demonstrate that the effectiveness of Algeria's risk communication strategy during Covid-19 depended not only on the clarity of official messaging but also on its ability to reach, engage, and respond to marginalized populations—an essential principle in the theoretical literature on risk communication, which stresses the role of trust, inclusion, and contextual adaptation. Strengthening institutional resilience and community trust therefore requires integrating these vulnerable groups into national development plans and public-health strategies, consistent with WHO guidelines emphasizing equity and community engagement as central pillars of emergency communication

6. Conclusion

This study assessed Algeria's communication strategy during the Covid-19 pandemic through an evaluation of the national Preparedness and Response Plan and the communication practices implemented throughout the crisis. The findings revealed that while Algeria developed a structured and comprehensive plan aligned with international recommendations, its implementation encountered several challenges that limited the effectiveness of crisis communication.

A central challenge concerned public trust, which was undermined by inconsistencies in reported case and mortality data, delays in clarifying technical errors, and the absence of systematic two-way communication mechanisms. These issues align with theoretical models such as Sandman's Hazard + Outrage framework and WHO's RCCE principles, which emphasize that trust, transparency, and acknowledgment of uncertainty are essential for influencing public behavior during health emergencies.

A second challenge emerged in relation to media coordination. Although the media played an important role in disseminating information, inconsistent coverage and reliance on unofficial interpretations occasionally contributed to public confusion. The findings highlight the need for clearer media partnerships to ensure coherence, accuracy, and timely dissemination of information.

The study also demonstrated that marginalised populations—including rural communities, residents of "shadow areas," migrant groups, persons with disabilities, and low-income households—experienced reduced access to official information, exacerbating inequities in awareness and compliance. These gaps reflected limited operationalization of equity-focused communication approaches, despite their centrality in international risk-communication guidelines.

Moreover, expert-centered communication—focused primarily on epidemiological indicators—proved insufficient in addressing public perceptions, fears, and socio-cultural interpretations of risk. While technically accurate, this one-way communication approach did not fully integrate community engagement

or participatory communication strategies, resulting in a disconnect between scientific messaging and public understanding.

Taken together, these findings indicate that Algeria's communication strategy during the Covid-19 crisis was partially effective. It ensured structured coordination and regular information updates but fell short in applying key principles of risk communication, particularly those related to trust-building, community engagement, audience segmentation, and behavioral impact.

To strengthen future crisis-communication efforts, the study recommends enhancing transparency and consistency in official messaging, improving coordination with the media, institutionalizing community-based communication mechanisms, and ensuring equitable access to information for vulnerable groups. It further emphasizes the need to integrate communication specialists, psychologists, sociologists, and digital-media experts into national crisis-leadership structures. These measures are essential for reinforcing institutional resilience, countering misinformation, and improving the effectiveness of public-health communication during future emergencies.

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Conflict of Interests

The authors declare no conflict of interests.

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Representation of Vulnerable Groups in Dutch Climate Crisis News: An Analysis of Mainstream Narratives

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Abstract

The present study provides an empirical analysis of how different vulnerable groups (migrants, children, women and gender minorities, older adults, and people experiencing poverty) are included in Dutch climate crisis reporting. These groups are often disproportionally affected by climate developments, yet empirical research on their media representation in this context is limited. By utilising computational methods for text analysis, this research provides a critical-empirical exploration of framing practices on a large volume of news articles (N = 17,550) retrieved from seven major news outlets published between 2014 and 2023. The findings show dominant media frames in Dutch climate crisis reporting, with distinct patterns emerging depending on the vulnerable groups under consideration. The analysis explores the extent to which these groups are portrayed as active agents or passive victims in news media reporting. The study contributes to broader societal debates on equity and inclusion, offering insights that can inform more inclusive climate communication.

Keywords

climate crisis; computational methods; news media frames; vulnerable groups

1. Introduction

Globally, the climate crisis is recognised as a fundamental societal challenge. However, even in countries where public discussions shift from debating its reality to governance questions, climate discourses are dominated by political, economic, and scientific-ecological considerations (Guenther et al., 2021; Hase et al., 2021; McAllister et al., 2024). Arguably, impacts on vulnerable groups remain a side-show (Pearson et al.,

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2017). This is a crucial gap in the public understanding of the climate crisis, as it can have detrimental effects, especially for vulnerable groups, such as children, older adults, women, migrants and refugees, and people experiencing poverty. Examples include extreme weather damaging low-income families' homes, droughts diminishing agricultural production and worsening food insecurity, and air pollution increasing health risks. Negative climate effects distribute unevenly across social groups. Yet public discussions linking the two are limited (Craig et al., 2021). News media play an important role here as pillars of public discourse with a critical function for public epistemology. Previous research shows that climate issues are more visible in news agendas (Bohr, 2020; Guenther et al., 2021), but they are often approached as science communication challenges, emphasising ecological dimensions or as polarising political issues (Bolsen & Shapiro, 2018; Chinn et al., 2020).

Analysing climate news coverage featuring vulnerable groups is insightful for several reasons: First, it allows exploring the extent to which news media cover concrete climate effects on specific social groups. Second, scoping media representation of different social groups can unearth biases. Third, it unfolds what climate news framing can reveal about the sensitivity of public discourses in relation to social effects. The present study analyses Dutch climate news reporting and media representation of vulnerable groups therein from a comparative angle. In the Netherlands, the climate crisis is a widely discussed topic. According to a 2023 survey (Centraal Bureau voor de Statistiek, 2023), 76% of Dutch adults worry that the climate crisis threatens future generations. Dutch news media often scrutinise governmental climate policies, echoing public sentiment: 63% of Dutch adults (Pew Research Center, 2020) think that the government should prioritise environmental protection, and about half (52%) believe it is not doing enough. Dutch news media provide an insightful empirical case for uncovering framing trends and biases in a societal context where the reality of climate change seems generally accepted.

To explore news framing and media representation, the present article utilises computational methods for text analysis on a large volume of climate news articles (N = 17,550) retrieved from seven major national Dutch news outlets. The automated content analysis reveals dominant media frames and scopes to what extent vulnerable groups are visible and how they are portrayed. The findings serve to critically assess current journalistic practices regarding the representation of vulnerable groups in relation to climate justice.

The article is structured as follows: First, definitions for media framing and vulnerable groups are derived by drawing on scholarship on the climate crisis and media communication. Next, the computational research design is introduced, outlining the combination of text analytical approaches that implement an automated media discourse and media representation analysis. The results are presented by comparing different vulnerable groups. Finally, the discussion summarises the key findings that inform a broader critique of news framing practices and media representation imbalances.

2. Media Framing of the Climate Crisis

The present study builds on an extensive body of research on media framing (D'Angelo, 2017) and primarily focuses on emphasis framing (Chong & Druckman, 2007), i.e., what aspects of complex issues deemed newsworthy are highlighted in media texts to contextualise them from specific angles. Previous scholarship on framing and the climate crisis examined the political, scientific, and environmental dimensions of climate communication (Boykoff, 2011; Chinn et al., 2020). Studies on news framing show that it can influence lay

audiences' perception of the severity of climate developments and their underlying causes (Weathers & Kendall, 2016). Climate issues have become more prominent in news agendas over time (e.g., Guenther et al., 2021) and some news outlets shifted tonality to highlight the perceived urgency and negative impact of climate developments, e.g., by referring to the "climate crisis" or "climate emergency" rather than the neutral sounding "climate change" (Feldman & Hart, 2021). This has led to a more negative and partly fatalistic framing of climate topics, though recent studies observe yet another shift towards an optimistic outlook centred on sustainability (Guenther et al., 2021).

Several previous studies applied computational methods for large-scale content analyses of climate news. For example, Meier and Eskjær (2023) analysed over 63,000 articles from 1990 to 2021 for the Danish context. They identify 91 topics and show that, next to ecological and scientific issues, especially politics and economics are prominent in Danish climate news. Notably, what the authors describe as "climate skepticism" seemed to have disappeared from Danish news agendas over time, corresponding with findings for the Dutch context (van Eck et al., 2024). Using a similar method and taking a comparative view, Hase et al. (2021) analysed 71,674 articles from 10 countries representing the Global South and Global North for the period between 2006 and 2018. The authors identify 85 topics in global climate news coverage and observe increasing emphasis on societal dimensions, especially governance, politics, and education, though this does not necessarily indicate a stronger focus on vulnerable groups.

Climate news reporting seems to have transitioned from discussions about the scientific reality of climate change to governance questions (van Eck et al., 2024). In the Netherlands, for instance, the public conversation has moved from "is it real?" to "how do we solve it?" indicating a new form of political polarisation around climate solutions. Political rifts dominate climate discourses in countries such as the USA, where climate news reporting is shaped by political actors that exacerbate partisan divides (Chinn et al., 2020). Socio-political and cultural differences between discursive contexts (e.g., USA vs. Europe) as well as between news organisations factor into climate framing trends. Importantly, in their meta-study on climate journalism, Schäfer and Painter (2021) find that, globally, journalists operate under "more strenuous conditions," with fewer specialist reporters and a potentially growing influence of non-scientific actors from industries and politics.

Fewer studies explore how vulnerable groups are portrayed in mainstream media in the context of the climate crisis (van Eck et al., 2024). Arguably, limited media attention is placed on the differential impacts of climate developments across social groups. Media representations focused on politics, economics, and science can fail to adequately highlight how marginalised populations are disproportionately affected, overlooking the human dimension of climate (in)justice. This links to the general invisibility of marginalised groups in news media reporting, which has been well documented by previous research on media representation (e.g., Merskin, 2011). Agenda-setting processes guided by editorial news values often prioritise societal elites (Harcup & O'Neill, 2017), contributing to a lack of representation of groups considered to be at the margins of society (Jamil & Retis, 2022). Critically, rendering marginalised groups invisible in news reporting is not a mere reflection of existing social exclusion mechanisms in society but, arguably, actively contributes to it (Merskin, 2011), which suggests that increasing visibility in the media can also influence public perceptions (Stever, 2025). As such, media representation can have drastic consequences for marginalised groups in terms of how policies are developed that affect them based on stereotypes and ignorance (Kurtulmuş & Kandiyali, 2023).

3. Vulnerable Groups and the Climate Crisis

The present article adopts the European Commission's definition of vulnerable groups: "a population within a country that has specific characteristics that make it at a higher risk of needing humanitarian assistance than others or being excluded from financial and social services" (Marin-Ferrer et al., 2017, as cited in Kuran et al., 2020, p. 1). Such groups are often disproportionately affected by climate developments and have fewer resources or opportunities for adaptation compared to other social groups (Donger et al., 2025).

In conceptualising media representation, the present study draws from framing theory to examine three interrelated dimensions: contextualisation, agency, and valence (Scheufele & Tewksbury, 2007). Contextualisation concerns the narrative settings in which vulnerable groups are included (e.g., coverage of extreme weather or public health risks). This links to emphasis framing in news texts. Agency addresses whether these groups are portrayed as passive victims or as active participants with voice and capacity to influence outcomes (Roosvall & Tegelberg, 2015). Valence refers to the evaluative tone of coverage, including whether these groups are framed sympathetically, as deserving of assistance, or problematically in ways that may legitimise exclusionary policies (Booth et al., 2025).

Critically, vulnerable groups are often represented episodically rather than thematically, focusing on immediate events and not structural causes (Huang et al., 2022). Episodic framing risks depoliticising climate justice issues by individualising responsibility and downplaying systemic inequities (Trott et al., 2023). This is an outcome of event-driven journalism geared towards short-term news coverage that may fail to present complex, longitudinal developments holistically (Cottle, 2006). Overall, vulnerable groups' perspectives are underrepresented and, in some cases, simply absent from climate discussions (van Eck et al., 2024).

Previous studies on vulnerable groups highlight recurring framing patterns. For instance, children and youth are often portrayed as emblematic victims at risk from heatwaves, air pollution, or displacement, or as moral agents leading climate activism (Donger et al., 2025). While moral leadership frames can be empowering, fear-based imagery risks engendering feelings of helplessness among both portrayed groups and audiences (O'Neill & Nicholson-Cole, 2009). Elderly populations are most visible in health-related coverage, particularly as victims during extreme heat events (Falchetta et al., 2024). Notably, these portrayals often omit social support systems and the structural inequalities that compound these risks. Low-income households are frequently presented in relation to energy poverty and housing precarity (Yoon & Hernández, 2021). Further, migrants and climate-affected mobile populations are framed through securitisation narratives, depicting them as challenges to receiving societies, particularly in the context of broader migration debates (Raimi et al., 2024). Human rights–oriented framings, which foreground dignity and adaptation capacities, remain comparatively rare (Sakellari, 2024).

Framing choices are not merely descriptive but normative. They influence how audiences understand the causes and consequences of the climate crisis, as well as which policy responses they support (Huang et al., 2022). Negative or fatalistic framing, when unaccompanied by agency, can lead to disengagement (O'Neill & Nicholson-Cole, 2009), while justice-oriented, solution-focused frames may strengthen public support for equitable climate policies (Clayton, 2018).

Based on the above considerations, the present study aims to address the following research question: How do Dutch mainstream news media frame vulnerable groups in their coverage of the global climate crisis?

Empirically, a computational content analysis was applied to a large corpus of Dutch climate crisis news articles to explore media frames and news framing practices around vulnerable groups. Focus was placed on six social categories considered as vulnerable groups: (a) children and youth, (b) migrants and refugees, (c) women and gender minorities, (d) older people, and (e) people experiencing poverty. Examining different vulnerable groups comparatively reveals whether there are systematic patterns in representation (e.g., the prioritisation of some forms of suffering over others) or whether certain populations are consistently marginalised. Three sub-questions guide the empirical analysis:

SQ1: To what extent are vulnerable groups represented in Dutch climate crisis news?

SQ2: How do dominant media frames differ across these vulnerable groups?

SQ3: Are certain key themes of the climate crisis in Dutch media coverage associated with specific vulnerable groups but not others?

4. Data and Method

4.1. Data Collection and Curation

The computational methods for media frame analysis include topic modeling via BERTopic (Grootendorst, 2022), named entity recognition (NER) via SpaCy (Honnibal et al., 2020), and normalised word counting. The dataset was retrieved via the Nexis archive and includes all articles mentioning the keywords "climate change" (*klimaatverandering*) or "climate crisis" (*klimaatcrisis*), published between January 2014 and December 2023 for seven major Dutch news outlets. These were selected for their reach and reputation as widely read legacy news outlets along the centre-left to centre-right ideological spectrum. A computational content-analytic approach was adopted to systematically examine long-term trends and contextual patterns in the visibility and invisibility of vulnerable groups. This approach suits large news corpora, as it allows detecting both dominant framing patterns and low-frequency but meaningful signals. The analytical rationale is inspired by cultural-analytic work in which computational methods are used to identify patterns that may be rare yet still substantively significant within extensive textual datasets (Manovich, 2020).

Initially, 26,839 news articles were collected, of which 24,397 were kept after removing duplicates. To ensure the articles centred on climate-related issues—rather than mentioning keywords incidentally—an additional filtering process was applied. An elaborate keyword list was compiled to indicate climate coverage (Supplementary File 1). A simple threshold was then set: An article had to contain a keyword once in the title or twice in the main text. Articles meeting this criterion were marked as "climate-related" using a regex-based classifier. Manual inspection of a random 250 articles by a single researcher showed a satisfactory classification accuracy of 92.8% (simple agree/disagree with the classifier). Additionally, an intercoder reliability score was calculated for two human coders and the algorithm on a random sample of 35 articles of that subset, yielding KALPHA = 0.80 (Hayes & Krippendorff, 2007). This yielded a final dataset of N = 17,550 climate-related articles (Supplementary File 2). A similar filtration pipeline was then applied to

N to identify news articles that mention vulnerable groups (Supplementary File 3). Again, a random 200 articles were manually inspected to assess classification accuracy, which reached 93% after eliminating false positives for ambiguous terms. KALPHA scores reached at this stage 0.88 (for 35 randomly selected articles). This yielded a subsample of n = 3,582 focusing on vulnerable groups in climate-related news articles, representing 20.4% of *N* (Supplementary File 4).

For topic modeling and word embeddings, the news texts underwent several preprocessing steps, such as lowercasing, removal of special characters, tokenisation, stop word removal, and part-of-speech tagging using a combination of hand-coded preprocessing steps and the Spacy library (model *nl_core_news_lg*).

4.2. Computational Text Analyses for Exploring Media Frames

Media frames are defined as thematic emphasis frames that highlight selected aspects of complex social realities (Chong & Druckman, 2007). For example, climate change can be primarily presented as an ecological, economic, or political issue. Methodologically, natural language processing (NLP) techniques in combination with text clustering can unearth emphasis frames through the analysis of frequently co-occurring words (Nguyen & van Es, 2024). If several news articles share dominant keywords such as "CO2," "emissions," and "regulation," then this can be considered as the emphasis frame "CO2 governance" by human annotators, which implies a political and governmental focus.

BERTopic served this purpose, which utilises transformer-based embeddings to create dense document representations (Grootendorst, 2022). These representations are then clustered to identify text clusters that can be interpreted as emphasis frames. For the present study, the GroNLP BERT-base Dutch (cased) model was selected for generating contextual embeddings, as it is optimised for Dutch texts (de Vries et al., 2019). Importantly, topics were generated for each year to mitigate bias potentialy stemming from using one global model for the entire dataset. To ensure stability, the BERTopic pipeline was run five times per year with different random seeds to capture variation in the outputs (Supplementary File 5). The yearly results were compared for interpretability, and the median model was selected for further analysis.

Model stability was also assessed using a multi-metric procedure as suggested for reliability approaches in topic-modelling research (Maier et al., 2018). For all 5×10 randomly seeded models per year, Jaccard similarity, cosine similarity, and Jensen–Shannon distance were calculated on the top-30 words per topic (Supplementary File 6). The resulting stability scores underline the robustness of the procedure, with an overall mean Jaccard similarity of 0.58 and higher cosine (0.69) and Jensen–Shannon values (0.69), indicating consistent overlap in topic structures across seeded runs.

The labelling of the results as emphasis frames followed a qualitative coding process as inspired by Saldaña (2021), where the bags-of-words representations (BOWs) from the BERTopic output served as the primary text material. In the first coding, the BOWs were labelled by interpreting the different individual words for a given text cluster and inspecting a random 10% of each text cluster's assigned documents. For example, the text cluster sharing dominant keywords "drinking water, water, drinking water company, groundwater, drinking water service, tap, water company, litre, seawater, desalination" (translated from Dutch) was labelled as the emphasis frame "drinking water supply." Both coders did so independently before discussing and consolidating labels. In this process, text clusters that could not be interpreted and labelled were excluded, reducing the overall number of clusters to 626.

In a second coding, the 626 emphasis frames were grouped into 17 thematically related meta-frames to provide a bird's-eye view of framing trends (Supplementary File 2). The emphasis frame "drinking water supplies" was grouped with other similar emphasis frames under the meta frame "water management." The process aimed for balancing nuance with efficiency, with attention paid to keeping thematic emphases distinct that were considered particularly relevant for the climate crisis discourse (e.g., keeping "combustion fuels and natural resources" as well as "alternative/renewable energy and sustainability" apart and not subsuming them under "industries, markets, and technologies," which captures more diverse commercial contexts).

Finally, NER served for determining the most frequently mentioned persons and organisations to explore what societal actors dominate the Dutch climate discourse.

5. Results

5.1. The Climate Crisis in Dutch News Media

Climate coverage grew in all outlets from 2014 to 2023, yet still forms only a small portion of total news (Supplementary File 7, Figure 1). Four outlets out of seven had all news articles, regardless of topic, available in the Nexis archive. All seven outlets were included in the climate-centric news analysis, but some news brands were removed from the archive before we could compare climate-related articles to the total news items per brand. In the case of *AD*, it is a mere 0.7% on average over the entire period. However, as of 2018, the volume of climate-related articles increased considerably from less than 1% for most outlets to over 2%-5% in 2023. Only in the case of *Telegraaf* did it never exceeded 1%. Climate issues are part of Dutch news agendas, but they constitute a small portion of overall news output, limiting the visibility of vulnerable groups from the outset. Though the term "climate crisis" appeared more frequently from 2018 onwards, it never surpassed 20% of all climate-centric articles; "climate change" stayed dominant (Supplementary File 7, Figure 2).

Examining framing trends over time indicates shifts around 2019, characterised by partially fluctuating yet sustained reporting on "climate politics and policies," "environmental harm and natural disasters," "economy and finance," "biodiversity, nature, and science," and "national politics" (Figures 1 and 2). Over the years, news coverage has mostly focused on climate summits, international and national climate policies, and climate activism. This is supplemented by reporting on diverse negative environmental effects and disasters, such as wildfires, floods, and droughts, as well as coverage of climate science and natural ecosystems. Macro-economic trends and various industry-specific developments—especially around fossil fuels and alternative energy—form another dominant thematic focus. National politics concern local and national political bodies and representatives, with a broader focus than just climate policies (e.g., elections, party politics). Societal discussions and climate as a subject of cultural discourses are visible, too, albeit to a lesser extent.

Dutch climate news reporting mostly features international or national politicians and experts for climate developments (Supplementary File 8, Figure 1) as well as political parties and transnational governance bodies (Supplementary File 8, Figure 2), suggesting an elite focus that is characteristic of mainstream outlets' definition of "news values" (Harcup & O'Neill, 2017).

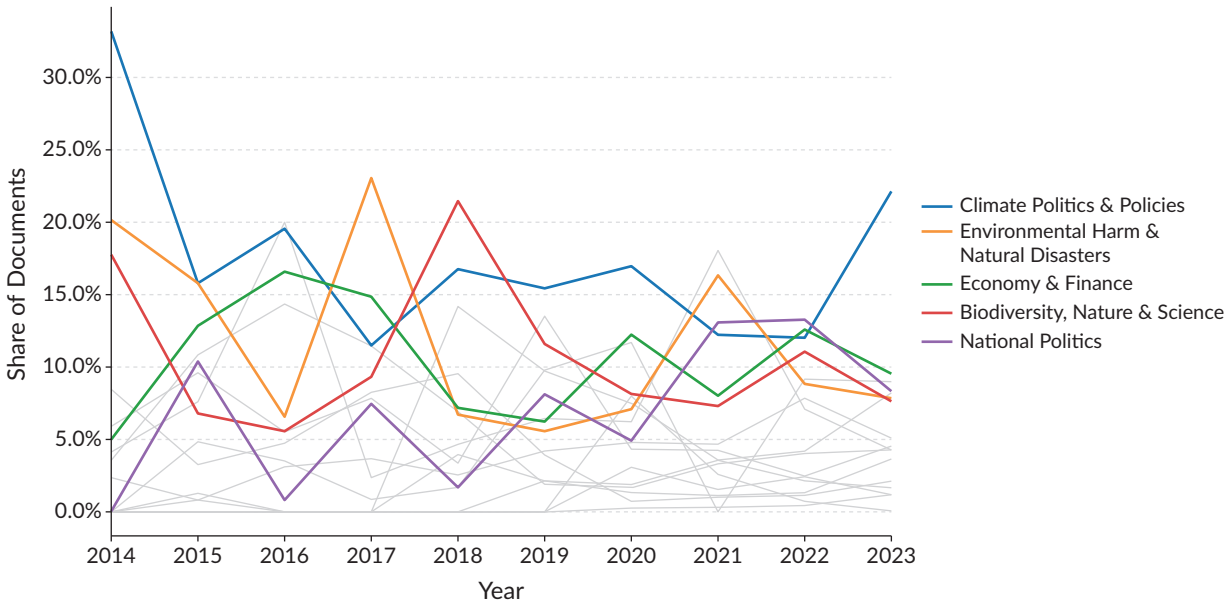


Figure 1. Top five meta-frames over time.

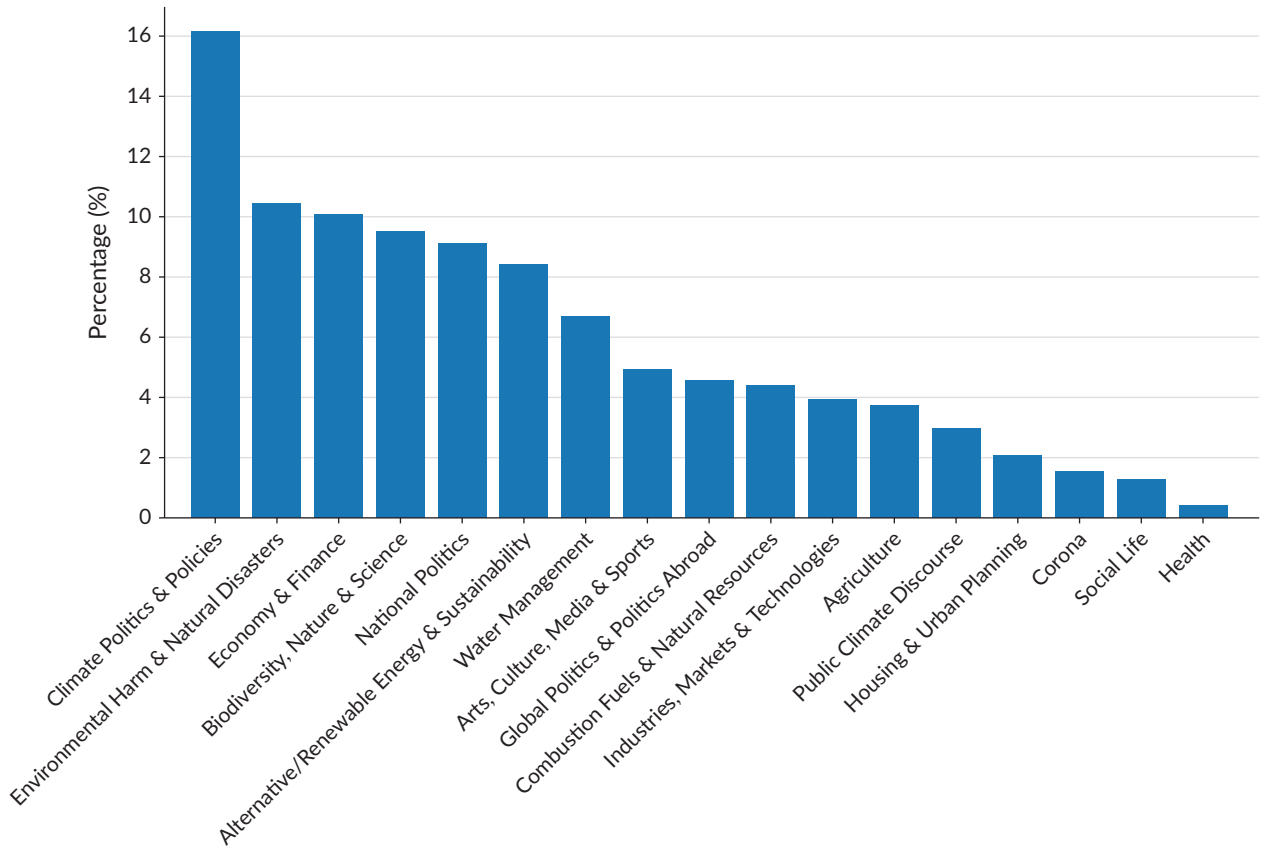


Figure 2. Top 10 most frequent meta-frames.

5.2. Representation of Vulnerable Groups in Dutch Climate Crisis News

Within climate-related news articles, 17.2% (n = 3,088) cover vulnerable groups. There are considerable differences in the visibility between these groups. Children and youth feature in 2060 articles, while most other groups do not occur in more than 290 to 370 articles. "Migrants and refugees" form the second largest category, followed by "women and gender minorities," "older people," and "people experiencing poverty." Notably, "people with disabilities" are nearly invisible in Dutch climate news reporting. These patterns remain persistent over time, with notable peaks mostly emerging for the already relatively dominant group of children and youth (Figure 3). The sharp increase for this group in 2019 is linked to increased media coverage of youth-driven climate protest movements and the emergence of the influential climate activist Greta Thunberg ("School Strike for Climate") as well as the rise of Extinction Rebellion. For the remaining groups, the volume of articles remains relatively stable, rarely exceeding 2.5% of the total. An exception is the group "migrants and refugees," for whom visibility in climate-related news articles peaked between 2015 and 2016, likely linked to migration movements triggered by conflicts in the Middle East.

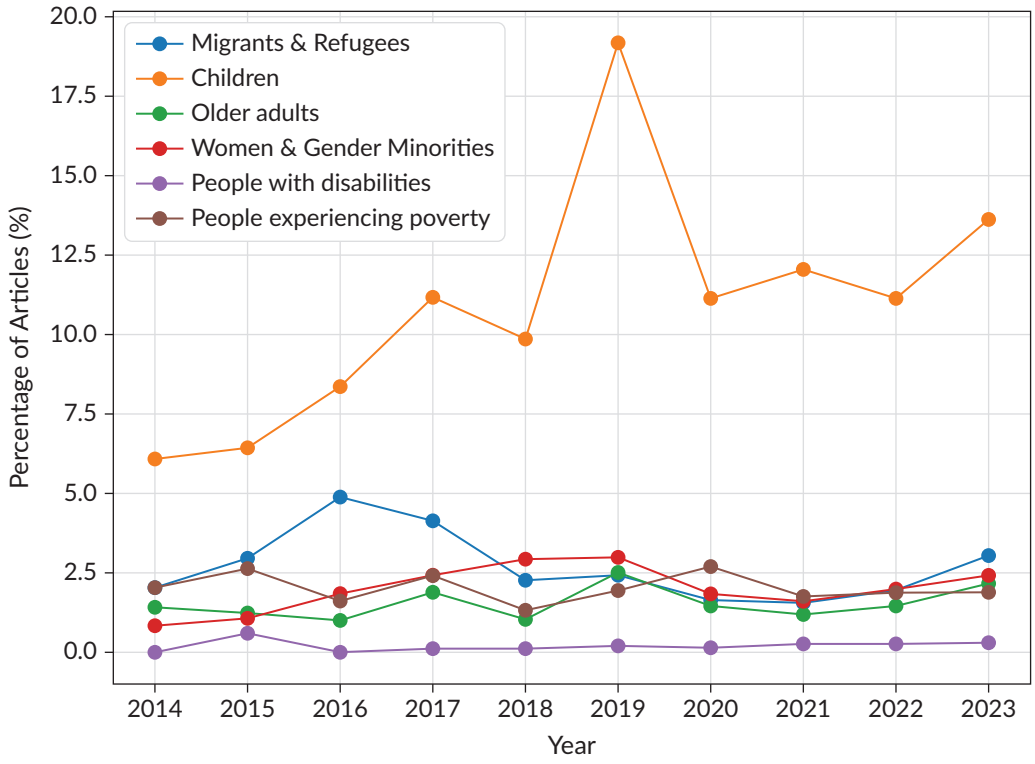


Figure 3. Proportion of articles featuring a vulnerable group (2014–2023).

5.2.1. Children and Youth

The category "children and youth" featured in 12.3% of all articles (2,160 out of N = 17,550). These articles mostly cover "climate politics and policies" (18.8%), "national politics" (13.3%), followed by "biodiversity, nature, and science" (8%) and "arts, culture, media, and sports" (7.3%; $\chi^2(20) = 739.58$, $p < .001$). Young people and children are more frequently mentioned in media frames that focus on future-oriented climate policies, social impacts of climate change, and activism (Figures 4 and 5).

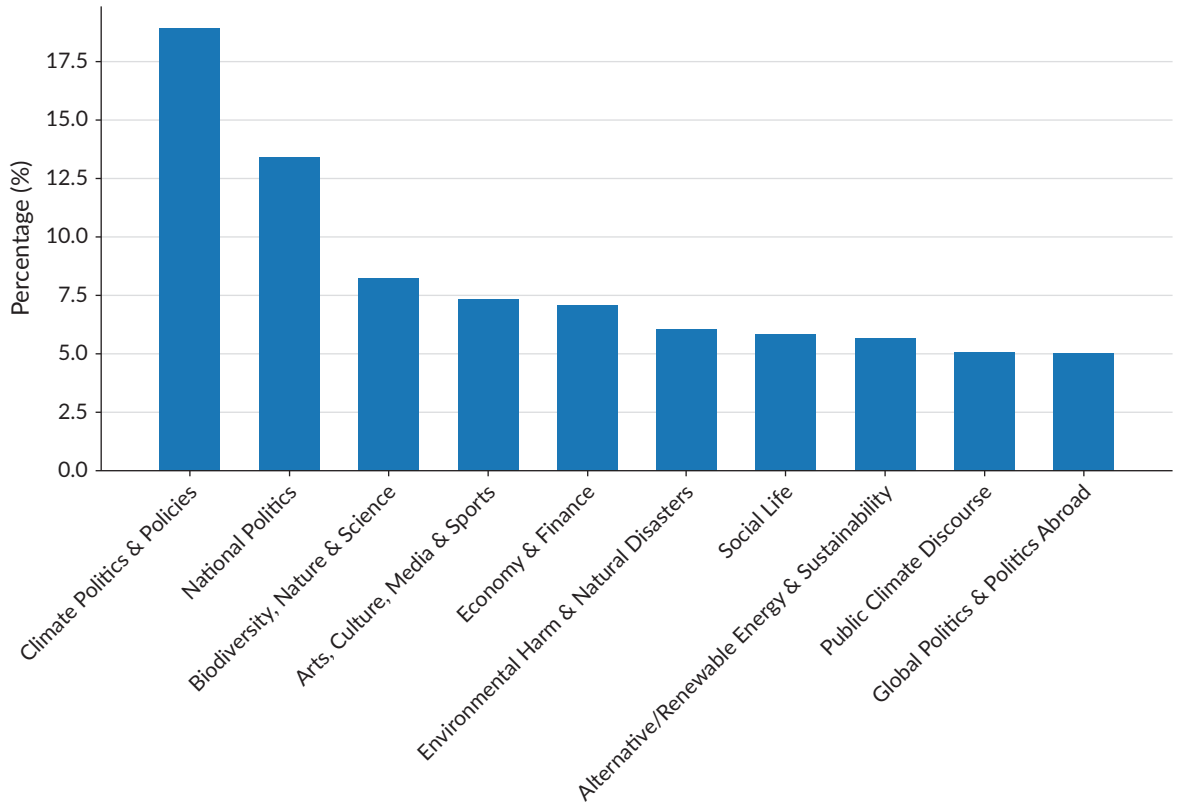


Figure 4. Top 10 meta frames for "children and youth."

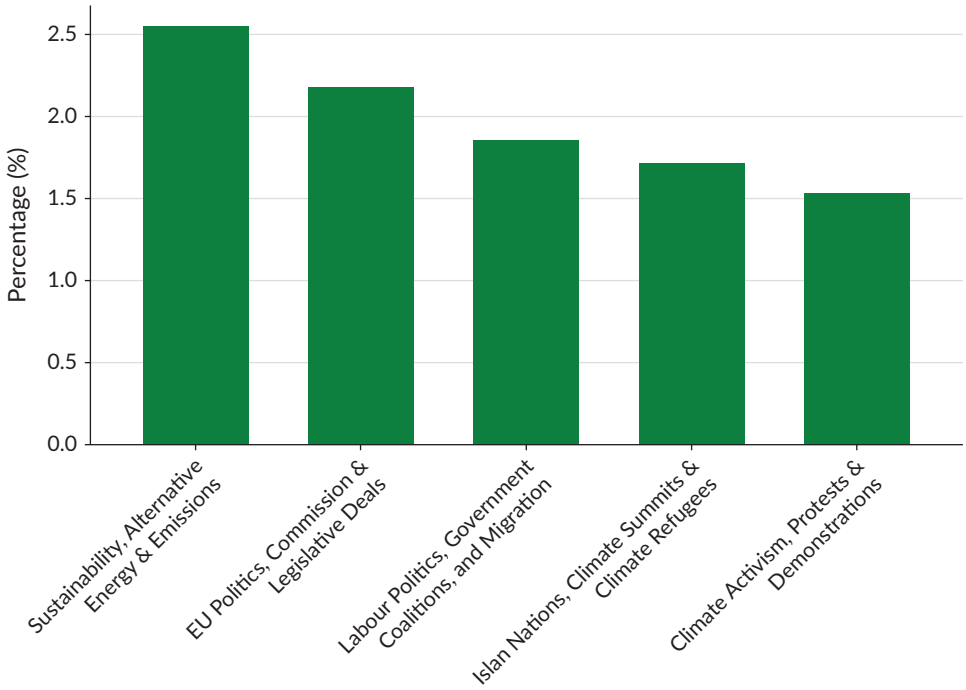


Figure 5. Top five specific frames for "children and youth."

Climate news reporting portrays children and youth as victims, the future generation, or proactive political agents through activism. An example of the first type of media representation is the news article "Hunger Consumes Lives: 1 to 5 Young Children Die of Malnutrition" (Supplementary File 9, Table 1, A), where the climate crisis is portrayed as a cause for hunger, especially in the Global South. The second type is evoked in articles that point to the future implications of current climate trends and policymaking, often underlining a moral obligation towards children as the bearers of the future (see Supplementary File 9, Table 1, B). The third type assigns political agency to children and youngsters through activism (Supplementary File 9, Table 1, C).

This tripartite media representation of victimhood, political agency, and the future of society can be activated all at once within the same article, where children and youth are presented as directly affected by the climate crisis, taking political action, and inheriting the future. For example, the article "A Serious Hollowing Out of Democracy" (Supplementary File 9, Table 1, D) describes how Portuguese youngsters take their own and other countries' governments to the European Court of Human Rights for lack of democratic representation of minors in political decision-making about climate policies, triggered by extreme heat negatively affecting them in the present and threatening their future.

5.2.2. Migrants and Refugees

Migrants and refugees were mentioned in 2.3% of all articles (413 out of $N = 17{,}550$). These articles centre on "national politics" (22.7%), "climate politics & policies" (15%), "economy & finance" (9.4%), and "environmental harm and natural disasters" (6.7%; $\chi^2(16) = 160.70$, $p < .001$; see Figures 6 and 7).

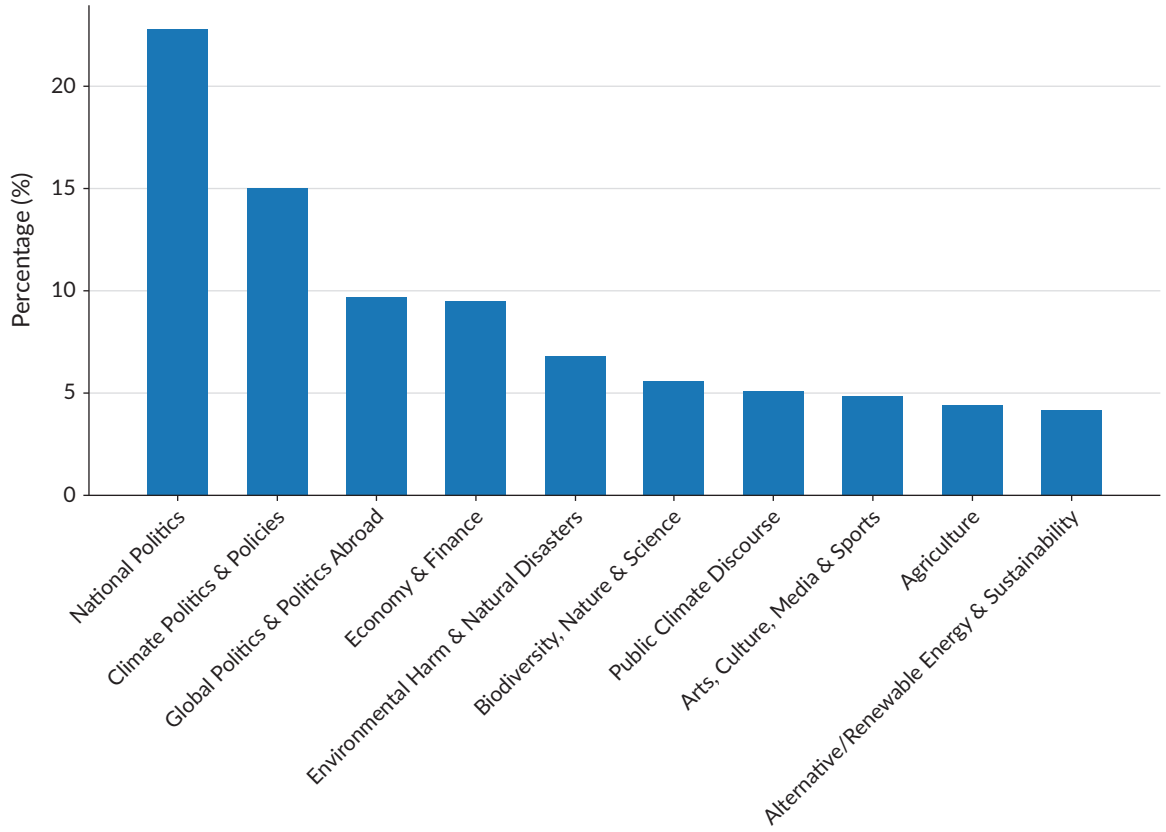


Figure 6. Top 10 meta frames for "migrants and refugees."

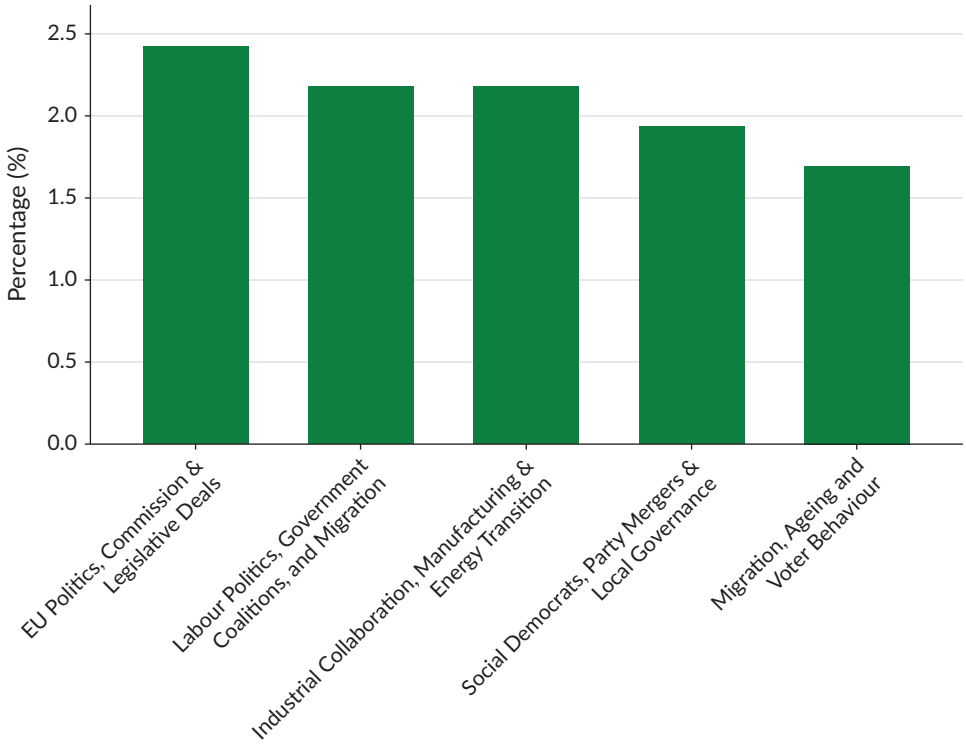


Figure 7. Top five specific frames for for "migrants and refugees."

News articles often portray migration as a distinct societal challenge separate from the climate crisis. Respective frames take a broader view on diverse current issues that warrant public attention and political intervention (see Supplementary File 9, Table 1, E). This implies that migration is not always considered as a direct effect of climate developments but rather as another point on the public agenda. Critically, this presents migrants and refugees as a societal problem without human agency, which gives it an abstract and, arguably, dehumanising notion.

However, some articles establish a causal link between migration and the climate crisis by specifically discussing climate refugees (see Supplementary File 9, Table 1, F). In direct comparison to "children and youth," media representation of migrants and refugees appears less nuanced and almost binary: either (a) migration is presented as a "faceless" societal challenge or problem next to or loosely associated with the climate crisis or (b) migrants and refugees are seen as victims of the climate crisis. This suggests that migrants and refugees rarely have agency in their news representation, since they are either framed as an abstract societal development or in the context of victimhood. Few articles unpack the intersectionality of vulnerable groups by, e.g., discussing how refugee children or women suffer most from the climate crisis.

5.2.3. Women and Gender Minorities

Women and gender minorities are referenced in 2.3% of all articles (370 out of $N = 17{,}550$). These articles tend to cover "climate politics and policies" (15.9%), "arts, culture, media, and sports" (12.1%), and "national politics" (10.5%; $\chi^2(16) = 111.80$, $p < .001$; see Supplementary File 10, Figures 1 and 2). Importantly, gender minorities are nearly invisible, so this category mostly concerns women. Their media representation shifts back and forth between (a) women as victims of climate crisis developments, (b) women as political stakeholders who should

assume more influence on climate policies, and (c) women and population growth as a factor in the climate crisis. The first type of representation centered on victimhood and impact is conveyed in news articles such as "Women Are Disproportionately Affected by Climate Change" (Supplementary File 9, Table 1, G), while the second is expressed in titles like "Should Women Lead the Energy Transition? 'The Familiar Male Approach No Longer Works' " (Supplementary File 9, Table 1, H). The third category includes articles like "Population Growth as the Enemy of the Planet: Fewer, Fewer?" (Supplementary File 9, Table 1, I).

Like with children and youth, climate news mentioning women indicates their political under-representation and acknowledges their (potential) for agency in climate developments, while linking this to particularly high stakes for them as expressed in news stories centred on a victim/impact frame. That sets them apart from migrants and refugees, who are either presented as a structural challenge or victims only. Occasionally, articles address the intersectionality between gender and poverty (see Supplementary File 9, Table 1, J, reporting on how women in the Global South may face additional abuse in competition for scarce resources).

5.2.4. Older Adults and People With Disabilities

Older adults occur in a mere 1.66% of all articles (292 out of $N = 17{,}550$). These mostly cover "climate politics and policies" (14%), "environmental harm and natural disasters" (12.3%), "national politics" (12.3%), and "economy and finance" (10.3%; $\chi^2(17) = 59.11$, $p < .001$). Older adults are linked to health challenges caused by extreme heat or intergenerational political conflicts. They are either victims of climate developments, especially rising temperatures, or are positioned as political voices in climate debates (Supplementary File 10, Figures 3 and 4). The overall media representation pivots between victimhood and political agency, but there are important differences regarding children and youth, as well as women and gender minorities.

Examples for the victimhood framing are articles like "A Warmer Earth Takes Its Toll: Higher Mortality Among Seniors, Lower Productivity Due to Heat" (Supplementary File 9, Table 1, K). However, the framing of older people as political stakeholders presents them in opposition to younger generations due to different attitudes towards climate issues. For the Dutch case, the highly polarising discussion around nitrogen and agriculture is exemplary of this generational rift and somewhat sarcastically addressed in news headlines like "A Fun Experiment for the Climate and Nitrogen: Stop Letting Elderly People Vote" (Supplementary File 9, Table 1, L). This touches upon the perception that, especially older voters, may block progressive climate policies. Relatedly, other stories point to different habits that are environmentally harmful, such as flying and meat consumption (Supplementary File 9, Table 1, Q).

People with disabilities are virtually invisible, with only 44 articles mentioning this vulnerable group (often just in passing). In these articles, they are loosely associated with other vulnerable groups, and journalists argue that they should receive more public attention in climate discussions, with people who have mental disabilities presented as being unable to have a say on climate policies (Supplementary File 9, Table 1, P).

5.2.5. People Experiencing Poverty

People experiencing poverty occur in 1.9% (347 articles) of N. These articles cover "national politics" (22.7%), "economy and finance" (19%), "climate politics and policies" (9.2%), and "environmental harm and natural

disasters" (2.4%; $\chi^2(17) = 169.40$, $p < .001$; see Supplementary File 10, Figure 5). Importantly, poverty is not always directly linked to climate developments but, like migration, positioned next to these. Examples are news articles about different political agendas and general overviews of what current issues dominate public discourse, especially with a focus on economic implications. The poor are often connected to climate issues in discussions about energy transition, taxation, and costs of heating (Supplementary File 10, Figure 6). For instance, the column "Cold" (Supplementary File 9, Table 1, M) argues that the unemployed in the Midwest USA would prefer that government policy resumed coal mining over alternative energy. Relatedly, the same news outlet published an article arguing that the current Dutch system puts pressure on households with low incomes to drastically reduce their C-02 emissions, while the rich would be less inclined to do so (Supplementary File 9, Table 1, N). This is echoed by *FD*, which cites a Danish political scientist:

> The costs of climate policy fall disproportionately on the poor, primarily because access to cheap energy is restricted. This is because energy makes up a relatively larger share of the income of the poor. (van Dijk, 2020, authors' translation)

The economic and political focus when discussing poverty, low-income, and unemployment is reflected in the dominant frames for this vulnerable group (Supplementary File 10, Figures 5 and 6). The media representation of the poor is, in some respects, similar to that of migrants and refugees, highlighting that poverty and economic unfairness can be broader societal challenges next to the climate crisis, or that the poor as a group are particularly prone to suffer from additional costs of climate policies. In either case, they are mostly "talked about" rather than having a voice of their own in the climate discourse, which is, except for children and youth, largely the same for all vulnerable groups.

6. Discussion

This research set out to explore how Dutch mainstream news media frame vulnerable groups in their coverage of the climate crisis. The results suggest that the representation of vulnerable groups is delimited in two important dimensions: (a) their relative invisibility due to low frequency of explicit news coverage in the climate crisis context, and (b) their lack of representation as active discourse participants. First, climate news reporting rarely seems to focus on specific social groups. While the number of such articles is increasing, it remains a mere fraction for most groups in climate news, which is by itself a fraction of Dutch news media's overall output.

Generally, the findings resonate with previous research that observes a global shift in climate news towards societal issues (Hase et al., 2021), but for the Dutch context, this realigned outlook appears mostly focused on politics, elite discussions, and debates about broader present and future societal challenges. In Dutch legacy news media, relatively limited media attention is placed on vulnerable groups, possibly reflecting systemic biases with historical roots in society (Craig et al., 2021). Zoning in on different vulnerable groups from a comparative angle reveals that media attention has indeed started to shift towards the societal dimension of the climate crisis, yet critical imbalances persist that contribute to creating social blind spots in climate discourses, possibly perpetuating existing patterns of ignorance and marginalisation (e.g., Arguedas et al., 2023). In other words, a shift towards societal questions does not per se come with more concrete and frequent news reporting about negative effects on marginalised social groups.

Second, shortcomings related to media representation concern assigned political agency and humanisation. What all vulnerable groups share in their media representation is an emphasis on their vulnerability to climate crisis effects and limited possibilities to influence climate politics. Media framing contributes here to a mostly victimhood-centric portrayal of vulnerable groups that risks over-emphasising (potential) suffering and indirectly deprives them of agency in their representation (Rothenberger & Schmitt, 2024). Notable differences between vulnerable groups emerge here: Some vulnerable groups seem to have more agency and thus receive a more concrete, humanised media portrayal than others. The contrast between children and youth and migrants and refugees is exemplary for this imbalance against the background of a generally under-representation of most vulnerable groups. Furthermore, media representation of vulnerable groups often remains abstract, with few articles applying a human-interest angle. Arguably, children and youth are to some extent an exception, as they are more likely to be portrayed as active political agents in climate activism. However, activism does not equate to full political inclusion, as climate policy remains in the hands of political elites (Armeni & Lee, 2021). The findings show that established national and transnational political actors continue to dominate the wider climate crisis discourse, which resonates with previous research (e.g., Wetts, 2020). In addition, intersectionality is rarely addressed, reducing representation of complex individual identities of members of vulnerable groups one-dimensionally, which further impedes a more agency-centered media portrayal. A more agency-centric representation would first need to acknowledge the complex and fuzzy social realities that people at the societal margins experience.

Further, vulnerable groups are referred to and talked about, rather than talked to, with few instances where their voices are given a limited platform in news reporting. Most of them virtually lack any assigned agency and human interest framing as relatable individuals. Instead, they remain general references to abstract challenges. This is especially noticeable for migrants and refugees and the (economic) poor. As such, these framing practices perpetuate dehumanising tendencies in migration discourses more generally (Sakellari, 2021). Critically, problem-centric framings of migrants and refugees show that news reporting tends to position some vulnerable groups as standing next to the climate crisis rather than underlining causal relationships. This may, to some extent, merely reflect common perceptions in political discourse, but it also points to a missed opportunity for critical journalism to overcome the perceived abstractness of climate change by grounding news coverage more around concrete social effects. The causal link between climate developments and, e.g., migration patterns or the exploitation of women, respectively, is established only in rare instances. Arguably, the interdependency of societal crises and the intersectionality of demographic identities are largely ignored in climate crisis reporting, which tends to emphasise elite discourses in politics, business, and science. While more recent news articles do establish links between, for example, migration and the climate crisis, the problem of limited media representation persists—there is more conversation about, for example, "climate refugees," but representative individuals do not get to speak for themselves.

A closer look at vulnerable groups reveals the complexity of the societal impacts of the climate crisis, which presents a duality problem for journalism. Our analysis is limited to scoping the extent and types of media representation. As such, it can merely offer a basis for further critical reflection and research into factors that can explain these observations with a critical eye on the dynamics of the news business and wider public agenda-setting processes. Arguably, the high complexity of climate crisis issues can pose a challenge to news reporting that cannot be easily captured in journalistic formats designed for a fast-paced market. Moreover, reporting about the negative social consequences of the climate crisis through the lens of vulnerable groups offers the potential to make climate issues more tangible and relatable to audiences.

Critically reviewing prevalent framing practices in climate crisis reporting can offer a starting point to shift journalistic climate narratives. There is a structural blindness to the manifold social side-effects of the climate crisis. This is most strikingly underlined by the observation that there is almost complete invisibility of disabled people in climate news.

The present study points to notable negligence among Dutch news media towards vulnerable groups in the climate crisis context. If they are present, their media representation appears ambiguous, with clear differences between different groups. The findings suggest that providing vulnerable groups with more visibility and agency through more balanced representation in public discourses is crucial, and climate news reporting plays a critical role here that can support addressing societal biases. It is important to acknowledge that the climate crisis is an immensely complex societal challenge and highly politically contested. Unsurprisingly, political, economic, and environmental angles dominate the discourse. However, over-focusing on political voices and economic trends contributes to negligence of the social dimension, which is intrinsically linked to and affected by ecological transformations and climate governance. Providing vulnerable groups with more visibility and agency in climate news reporting—and climate communication more generally—can support enhancing public epistemology about the climate crisis's very concrete societal impacts by increasing relatability to its diverse developments. This can help with making its complexity more understandable to lay audiences by highlighting the intricate interdependencies of political, ecological, economic, and social factors. At the same time, it contributes to fostering solidarity with those most critically affected by climate developments and greater climate justice. Practically, turning from event-driven to more holistic and continuous news coverage is a potential step in this direction.

7. Conclusion

This study offered a critical-comparative analysis of news framing and media representation of vulnerable groups in climate crisis reporting. It addressed an important yet under-researched dimension of the wider climate discourse: the extent and manner in which vulnerable groups are visible in coverage of climate developments. Drawing on a computational analysis of a decade of Dutch news articles, it provides new empirical insights into media representation, journalistic practices, and crisis discourses.

Several limitations should be noted. First, the sample is restricted to national news coverage from a single country and a limited number of mainstream news outlets. It excludes other domains of public communication, such as social media, television broadcasting, parliamentary debates, or governmental messaging. Future research could broaden the scope by incorporating a wider range of climate-related communication across countries to capture transnational and global dynamics. Second, the analysis operates at a descriptive–quantitative level. This provides a robust bird's-eye view of how vulnerable groups are distributed across thematic contexts within a sizeable news text corpus. Yet capturing higher-order meta-frames based on topic modelling results requires interpretive decisions when labelling and aggregating topics. Such decisions inevitably involve a degree of researcher judgement, particularly in relation to pre-processing choices and topic interpretation. While the quantitative findings about framing patterns are valid and generated in a transparent way, this indicates the interpretive boundaries of topic modelling as a method. Future research could therefore build on these results by triangulating topic-model outputs with complementary qualitative analyses or alternative modelling approaches to further refine the identification and interpretation of framing practices. In addition, the dictionary-based classification of vulnerable

groups prioritises explicit references and may not capture more implicit or context-dependent forms of vulnerability.

To gain a deeper understanding of how specific groups are portrayed, follow-up research should adopt a more granular focus, involving qualitative methods for discourse analysis. This could zoom in on individual categories—such as migrants, children, or the elderly—to examine their media representation in greater detail. Importantly, follow-up research may expand its scope to vulnerable groups not covered in this analysis, such as indigenous groups or socio-economic and cultural classes not captured here (e.g., urban vs rural populations). Future work might also track how representations of specific groups evolve over time—both in terms of frequency and framing. This is especially relevant given the dual challenge of underrepresentation and misrepresentation that many groups face. Migrants, for instance, are a particularly illustrative case: They are not only marginal in terms of media visibility but also often denied discursive agency within climate narratives.

Despite these limitations, the present study provides an important step toward contextualising how vulnerable groups are represented in climate crisis reporting. It foregrounds the need to not only increase the volume of coverage (quantitative visibility) but also to improve the way these groups are framed (qualitative depth) within broader public discourse around this pressing societal issue.

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Conflict of Interests

The authors declare no conflict of interests.

Data Availability

Data can be shared based upon reasonable request.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

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Governing Health Risk Communication in the Age of AI: Approaches from Brazil and Germany

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Abstract

Misinformation, disinformation, and malinformation pose a challenge to health risk communication. These information disorders can be amplified and altered by AI. In this article, we compare governance approaches from Germany and Brazil to understand how these two democracies address the role of AI in both exacerbating and mitigating health information disorders. Drawing on document analysis of hard and soft law governance approaches, the study shows that both countries frame AI as an ambivalent tool: While AI enables large-scale production and spread of misleading content, it also provides mechanisms for detection and monitoring of this content, and allows tailored communication. In Germany, information disorders are addressed through a multi-level governance strategy that combines national regulation with international frameworks. At the same time, independent fact-checking organizations and individual actors play a complementary role by monitoring public discourse, verifying claims, and fostering media literacy. In Brazil, efforts include legislative proposals on AI, the National AI Plan, and fact-checking services, though implementation is complicated by political and economic dynamics. Across both contexts, governance measures emphasize individual and organizational responsibilities, particularly through platform regulation, transparency, and digital literacy, but often underplay broader societal and interactional factors such as political structures, trust, and post-truth dynamics.

Keywords

disinformation; ethics; governance; infodemics; malinformation; misinformation; politics; risk communication; vulnerable communities

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1. Introduction

Health risk communication plays an important role in protecting and promoting public health. It involves conveying clear, accurate, and timely information to help individuals and communities make informed decisions about their well-being. However, in the digital age, this task has become increasingly complex. The emergence of generative AI and the widespread circulation of misinformation, disinformation, and malinformation have created new challenges for public health authorities, researchers, and communicators alike.

With the ability to rapidly produce realistic text, images, and videos, generative AI has introduced the era of "synthetic realities"—defined as "any contextual digital creation or augmentation enabled by AI methods" (Cardenuto et al., 2023, p. 2). These AI techniques employ great amounts of data, leading to a new "reality" or narrative, regardless of its intention to deceive the individual or groups interacting with it. This poses significant risks to public trust, especially during health crises. Vulnerable populations—such as older adults, people with limited digital literacy, or communities with limited access to verified health sources—are particularly susceptible to the harmful effects of misleading information and synthetic creations. This development poses major challenges for governments worldwide. Therefore, in this article, we ask: How do governments in different countries address the challenges posed by AI? By analyzing Germany's and Brazil's approaches to combating information disorders through hard and soft law, the article aims to contribute to a deeper understanding of how public institutions can navigate the complexities of public health and emerging technologies. It is important to mention that, in this article, we understand information disorders as comprising three types: disinformation (false information deliberately created to harm a person, social group, organization, or country), misinformation (false information created without the intention to harm a person, social group, organization, or country), and malinformation (information based on reality but used to inflict harm on a person, social group, organization, or country; Wardle & Derakhshan, 2017).

In addition to the introduction and conclusion, the present article is divided into five parts. Sections 2 and 3 introduce the concepts of health risk communication and AI, forming the theoretical framework that underpins our analysis. Section 4 describes the methodological approach adopted and the corpus selection criteria, which are based on a document analysis of hard and soft law governance approaches. Finally, Sections 5 and 6 present and discuss the research findings, offering a comparative analysis of Brazil and Germany.

2. Health Risk Communication

Health risk communication can be defined as "the exchange of information among interested parties about the nature, magnitude, significance or control of risk" (Nicholson, 1999, p. 253). Considered a central aspect of human subjectivity in Western societies, risk can be understood as something "that can be managed through human intervention and is associated with notions of choice, responsibility, and blame" (Lupton, 1999, pp. 25).

The process of health risk communication is inherently bidirectional. Merely presenting information, without addressing the underlying complexities and associated risks, does not guarantee effectiveness. For risk communication to be successful, it is essential to inform the target audience about the existence of potential threats, assist them in understanding their vulnerabilities, and provide both guidance and support on strategies to reduce the likelihood of exposure and harm (World Health Organization, 2018). Ineffective communication in this domain not only fails to adequately prepare the public for such threats but may, in

fact, exacerbate risks and potential harms by conveying inappropriate explanations and eliciting cognitive responses that act as barriers to effective action (European Monitoring Centre for Drugs and Drug Addiction, 2023).

The objectives of health risk communication are: "(1) to present information in such a way that it is understood and usable; (2) to ensure the audience is sufficiently informed so as to make sound judgments regarding risk; and (3) to engage the active support of those affected" (Nicholson, 1999, p. 253). Its critical domains of action include hazard and risk, the individual (perceptions), the social environment (group dynamics), and communication itself.

Health risk communication is shaped by a wide range of interrelated factors, as illustrated by the framework in Figure 1. These include individual conditions such as personal capabilities, values, and prior experiences; interactional dynamics, for instance in how information is exchanged between individuals or groups with different hierarchical standing, e. g., between physician and patients or more distanced communication formats; organizational factors, such as the structures and practices of health institutions, as well as the increased use of social media platforms; and finally, broader societal aspects, including cultural norms, media environments, and political systems. Together, these dimensions influence how health risk information is perceived, trusted, and acted upon (Ruhrmann & Guenther, 2025).

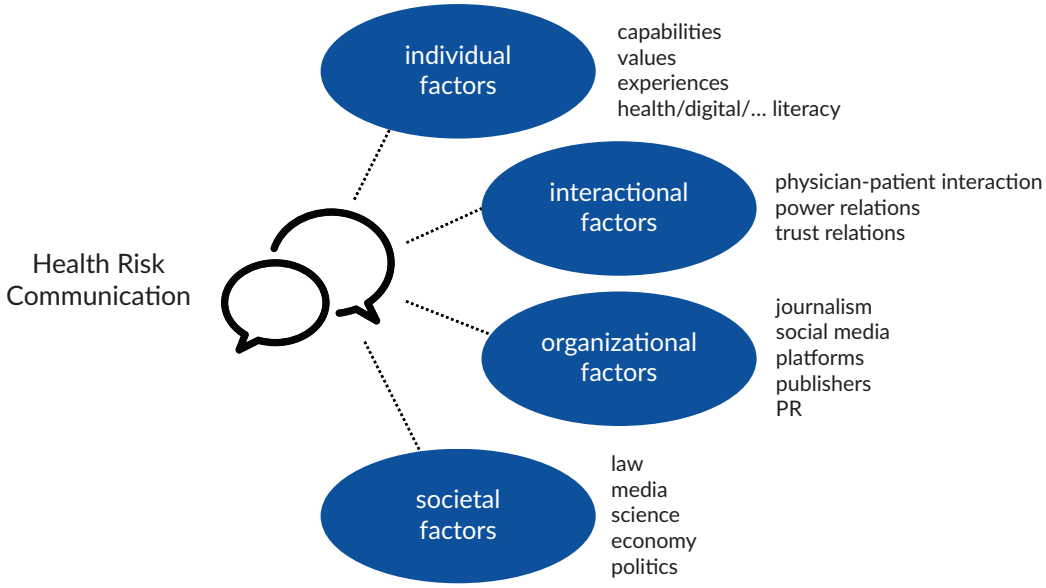


Figure 1. Health Risk Communication Framework. Source: Adapted from Ruhrmann and Guenther (2025).

2.1. Challenges

The rapid advancement of communication technologies has considerably impacted the consumption of information from mass media such as radio, television, and newspapers (Berg et al., 2021)—which were the main channels through which authorities communicated with the public. Online communication has transformed the way people seek information, enabling the entry of other actors into this ecosystem—actors who are not always committed to disseminating accurate and high-quality content (Monari, 2024). This has opened the way for the phenomenon of information disorders (Wardle & Derakhshan, 2017), which can

undermine individuals' adherence to health information coming from governmental authorities or knowledge-producing institutions, such as science and journalism. A consequence of this is infodemics, which the World Health Organization defines as an overabundance of information—both accurate and inaccurate—that impairs the public's ability to identify reliable sources (World Health Organization, 2025).

This phenomenon, which can be exacerbated by the advancement of AI, is only one of the challenges faced by authorities in the field of health risk communication. This is because each type of audience responds differently to health threats and risk communication, revealing that multiple forms of health literacy exist in our society (Glik, 2007). Several factors can help explain these variations, such as: (a) imminence of potential harm (immediate consequences have a greater impact on behavior than long-term ones); (b) voluntariness of the action (voluntarily assumed risks are perceived as less severe); (c) perceived control over the risk (risks believed to be under an individual's control are perceived as less severe); (d) familiarity with the risk (familiar risks are perceived as less severe than new ones); (e) personal or social past experiences with the threat; and (f) how the risk is learned through modeling, filtering, and prioritization by communication channels, such as mass media (European Monitoring Centre for Drugs and Drug Addiction, 2023). Other factors can also shape risk perception, including gender, age, ethnicity, income, education, and health literacy levels. Therefore, the way people respond to health threats and harms depends not only on how they think about the issue, but also on how they feel about it and on who is addressing it with them (Peters et al., 2006). Health risk communication accordingly also encompasses societal and relational dimensions.

2.2. Vulnerable Groups

Vulnerable and minority groups are considered central audiences in health risk communication due to social, epidemiological, and communicational factors. Women, the elderly, adolescents, youth and children, people with disabilities, Indigenous peoples, refugees, immigrants, and minority groups are considered those with the highest degree of socioeconomic marginalization (UNICEF, 2020). This is because they are more exposed to risks (environmental, occupational, and social) as a result of structural inequalities and may face difficulties in understanding the messages disseminated by health authorities because of linguistic, cultural, or health literacy barriers (Winarnita et al., 2025). Additionally, some members of these groups carry a historical distrust toward institutions due to experiences of discrimination or negligence by authorities and/or health systems. Regarding the latter, Brazil presents an episode in its history that illustrates this fact: In 1904, the Vaccine Revolt took place, a widespread uprising triggered by public dissatisfaction with the mandatory smallpox vaccination campaign imposed by the federal government (Dandara, 2022). The revolt stemmed from the authorities' lack of information about the importance of vaccination.

Hence, health risk communication can play an important role in supporting vulnerable populations in their decision-making during health crises. It can help these groups, for instance, to increase their awareness of historical, social, and economic disadvantages (Kwek, 2017). Consequently, authorities must consider social implications when developing health risk communication strategies, such as limited access to resources, cognitive reasoning, and sociocultural factors, in order to design a more comprehensive plan for these populations (Eisenman et al., 2007).

An example of these implications lies in internet access, as online media are one of the communication channels used by institutions during health crises. It is understood that internet access is not a resource

available to everyone, as it varies according to gender, age, location, and social class (Huxhold et al., 2020). In Germany, 94% of the population has internet access (World Bank, 2024); however, 2.8 million people (4% of the population) between 16 and 74 years old had never used this service by 2024, according to data from the German Federal Statistical Office (Bachels, 2025)—older adults (aged 65 to 74) represent the largest cohort in these statistics, which places them at risk of social exclusion during health crises, such as epidemics (Huxhold et al., 2020). In Brazil, 84% of the population has access to the internet (World Bank, 2024), but only 22% have satisfactory connectivity conditions (Núcleo de Informação e Coordenação do Ponto BR, 2024)—that is, they can effectively use various online services, allowing them to take advantage of opportunities in the digital environment. Internet access in Brazil is therefore unequal, with white men from higher social classes being those with the most satisfactory connectivity conditions (Núcleo de Informação e Coordenação do Ponto BR, 2024).

Moreover, it is necessary to consider that information alerts directed to vulnerable and minority groups should address aspects such as linguistic barriers and more limited options to receive warning messages (Burger & Gochfeld, 2019; Teo et al., 2018). It is essential to give them priority assistance and involve them in decision-making processes for response, recovery, preparedness, and risk and harm reduction.

Given the challenges of health risk communication, ranging from social and digital inequalities to information disorders, it becomes essential to consider the role of emerging technologies in this ecosystem. AI thus emerges as an ambivalent force: capable of personalizing messages and supporting decision-making, but also of reinforcing biases and amplifying the circulation of persuasive synthetic content. The following section will examine these potential applications and limitations in the context of health risk communication.

3. AI

AI refers to the capacity of computational systems to interpret data, learn from it, and apply that knowledge to achieve specific goals and tasks through flexible adaptation (Haenlein & Kaplan, 2019, p. 5). Data and algorithms form the foundation of contemporary AI. Data serve as the material from which AI systems derive patterns, correlations, and predictive insights, while algorithms provide the structured procedures that enable the processing, analysis, and transformation of this information into actionable outputs. In health communication, large and diverse datasets—ranging from epidemiological statistics to social media discourse—allow AI models to identify emerging public health concerns, segment target audiences, and tailor messaging strategies.

3.1. Chances

AI can be used in physician–patient interaction, as decision aid, personal health record interpretation tool, and tailored patient information resource (Antel et al., 2022; Miller et al., 2024). Further, AI can be used to efficiently create targeted and tailored health risk narratives customized to audience demographics and psychological factors (Chu & Liu, 2025; Miller et al., 2024), to real-time monitor public health indicators (e.g., vaccination rates), to automate routine tasks (e.g., content creation and dissemination), and to enhance real-time engagement through, for example, chatbots (Miller et al., 2024). Additionally, it serves as an important tool in emergency (health) communication and disaster management (Reynolds & Seeger, 2005).

The use of AI-powered language translation tools can facilitate communication between different languages, making health information more accessible to diverse populations (Miller et al., 2024).

3.2. Challenges

The integration of AI into health risk communication presents both technical and societal challenges. A central concern is the quality and representativeness of training data, as AI outputs are constrained by the completeness, accuracy, and diversity of the datasets they rely on. This links closely to the issue of algorithmic bias, whereby historical inequities embedded in data risk perpetuating or amplifying disparities in healthcare. Obermeyer et al. (2019), for example, found that a widely used health prediction algorithm in the US underestimated the needs of Black patients because it used past healthcare expenditure as a proxy for health status—a variable shaped by systemic underinvestment in minority health. This case illustrates the limits of correlation-based modelling: Statistical associations may misrepresent underlying realities when social determinants remain unaccounted for.

Another relevant issue is the alignment of AI with the cultural and ethnic aspects of each society. Ogie et al. (2018) reinforce the need for research that considers the development of "culturally intelligent AI machines," that is, machines capable of generating disaster risk communication (e.g., emergency alerts) based on learned culture and communication protocols practiced in different linguistic and ethnic groups within society.

Beyond technical concerns, AI-driven health risk communication must contend with a media landscape increasingly distorted by infodemics. Generative AI models significantly amplify the potential for mis-, dis-, and malinformation by enabling automated and rapid production of false content at unprecedented scale (Cardenuto et al., 2023). Large language model (LLM) systems can generate persuasive, well-written narratives, disseminating misleading information and creating a new reality: "a synthetic reality" (Cardenuto et al., 2023). This automation increases both the speed and volume of information disorders circulating online, including in highly sensitive areas such as medicine, where inaccurate health claims can have severe consequences. The sophistication of AI-generated information disorders heightens their potential to appear credible, thereby increasing the likelihood of public acceptance and further dissemination, particularly on social media platforms—especially since this type of content exploits cognitive biases "(e.g., anchoring bias, third-person effect, authority bias, bandwagon effect, to mention a few), which are systematic errors in judgment that humans can make" (Cardenuto et al., 2023).

Given the theoretical premises presented, the next section will demonstrate the methodological perspective of this article, which is structured around a document analysis (Moreira, 2017) based on the READ approach (Dalglish et al., 2020).

4. Methods

Document analysis can be defined as the process of identifying, verifying, and assessing documents for a specific purpose (Moreira, 2017). It involves a series of structured steps. In this study, we employed the READ approach (Dalglish et al., 2020), which consists of four stages: (a) read your materials, (b) extract data, (c) analyze data, and (d) distill your findings. According to Dalglish et al. (2020), in the first step researchers should establish research parameters—such as the nature and number of documents to be analyzed—based

on the research question. Our research period was between March and July 2025, and we initially chose to analyze 15 documents (see Supplementary File 1). They were selected based on their demonstrated governmental impact and institutional relevance. These sources were chosen because they represent key policy instruments and official communications that have directly influenced the development and implementation of AI health regulation in Germany and Brazil. The selection aimed to capture a balanced representation of perspectives from different governmental and institutional levels (hard law and soft law).

Academic publications and internal company regulations were deliberately excluded in our selection in order to maintain the focus on governmental and institutional documents. Including them would have gone beyond the intended scope and objectives of the analysis. Consequently, the final selection prioritizes documents that are both authoritative and directly connected to decision-making structures, ensuring the analysis remains grounded in materials with verifiable institutional significance.

The second step is data extraction, which involves organizing the collected documents so that the information can be read coherently and data specifically related to the research question can be extracted. In this phase, the previously established Health Risk Communication Framework (see Figure 1) served as the analytical foundation.

The third stage, data analysis, builds directly on the previous one. Once the documents have been organized and read, researchers begin to form preliminary theories that may later be confirmed or refuted as they complete this stage and gain a "full picture." In our study, we adopted a case study methodology combined with a comparative analysis based on hard and soft law perspectives in two different countries (see Supplementary File 2).

Our decision to conduct a comparative study between Brazil and Germany was guided by the fact that the use of AI across various sectors of society—including health risk communication—is a global issue. Countries have adopted different approaches to address it, whether through guidelines, implementation plans, or legislation. Both Brazil and Germany are democracies; however, while Germany follows a corporatist model, Brazil is characterized by liberalism (Cazzamatta & Sarısakaloğlu, 2025). These differing regime types shape how state and societal actors interact in policy-making and, by extension, how emerging technologies such as AI are governed. In corporatist democracies, governance tends to be consensus-oriented and involves organized stakeholder participation (e.g., medical associations and professional bodies), which may result in negotiated, more deliberative, and potentially slower adoption of AI tools. Liberal democracies, in contrast, often emphasize market-driven innovation and individual rights, which can enable faster but more fragmented governance responses. As a result, they represent distinct trajectories of technological governance shaped by different sociopolitical contexts. These contrasts make them particularly compelling cases for comparison. The choice was also motivated by the authors' nationalities, as one is Brazilian and the other German.

The final stage of the READ approach (Dalglish et al., 2020), distilling your findings, marks the conclusion of the document analysis. In our case, reaching saturation enabled us to synthesize the material and provide a coherent overview of the most significant hard and soft law regulations shaping AI health risk communication. The conceptual framework outlined in Sections 2 and 3, namely the definition of health risk communication and AI, ultimately forms the basis for the document analysis.

5. Findings: Governance Approaches to Address Challenges Raised by AI in Health Risk Communication

The analysis is structured along two main dimensions to ensure comparability between the cases: hard law and soft law (European Center for Constitutional and Human Rights, 2025). Information disorders are addressed through different but interrelated governance strategies. National governments rely on hard law or statutory regulation, often embedded within multi-level governance structures involving international institutions such as the European Union (EU). These legal measures are complemented by alternative modes of governance referred to as *soft law*, which include the public health organizations, fact-checking organizations, collective self-regulation within industry sectors (Saurwein & Spencer-Smith, 2020), and various forms of civil society initiatives.

In addition to this regulatory distinction, the analysis draws on the Health Risk Communication Framework (see Figure 1), which provides the analytical foundation for examining how hard and soft law instruments influence the communication of health risks, particularly in the context of AI and information governance.

5.1. Germany

In the EU and in Germany, regulatory governance of digitally amplified information disorders has focused predominantly on social media platforms, which are framed as the primary vectors for the circulation of harmful or misleading content (European Commission, 2018; Saurwein & Spencer-Smith, 2020). Germany's legislative framework for regulating digital platforms and online communication increasingly draws upon the provisions of the EU's Digital Services Act (DSA), adopted in 2022.

The DSA is a landmark EU regulation enacted in 2022 to modernize and supersede the earlier e-Commerce Directive (Frosio, 2024). It establishes unified obligations across all EU member states for digital platforms—ranging from online marketplaces to social media networks and hosting services—that act as intermediaries for disseminating content within the EU. The primary objectives of the DSA are twofold: to create a safer and more transparent digital environment that upholds users' fundamental rights, and to cultivate a fair and competitive digital single market. Specifically, platforms—particularly very large ones (namely AliExpress International, Amazon, Meta, etc.; cf. European Commission, 2025a)—must comply with transparency requirements, disclose how their algorithms and content moderation systems function, create user-accessible mechanisms for content reporting and complaints, inform users about chances to the terms of service, and manage systemic risks such as the spread of mis/disinformation. In short, the DSA seeks to rebalance the digital landscape by imposing legally binding standards that ensure greater accountability and safety in online environments. The document is a measure of hard law that is legally binding for all EU member states from 2024.

Since July 2025, the European Commission has incorporated the voluntary Code of Conduct on Disinformation, first launched as Code of Practice on Disinformation in 2018 and updated in 2022, into the DSA (Jahangir, 2025a). The Code now serves as a key compliance benchmark for online platforms, shifting from a non-binding framework to a potential basis for enforcement. It addresses six areas: (a) demonetization, by avoiding advertising placements next to disinformation and improving cooperation among actors; (b) transparent political advertising, through clearer labelling and stronger transparency

obligations; (c) reduction of manipulative behavior, targeting both existing and emerging forms of manipulation while fostering cooperation among signatories; (d) user empowerment, by developing better tools and facilitating access to reliable information and context; (e) fact-checking coverage throughout the EU, ensuring consistent use of fact-checkers' work and providing fair financial support; and (f) data access for research, granting researchers easier access to platform data and backing scientific inquiry. Taken together, these provisions reflect the EU's attempt to create a comprehensive, multi-level framework to mitigate disinformation (see Figure 2). The Code of Conduct was signed by major online platforms and search engines such as Google, as well as smaller online platforms, the advertising industry, fact-checkers, civil society, research organizations, and players offering technical solutions.

However, the effectiveness of the DSA is deeply embedded in the corporatist political structures of the European system, which serve as its precondition. As a result, some of its solutions are viewed as *too European* in scope and design and may not be readily transferable to non-European contexts (Husovec, 2023). Nevertheless, some scholars expect that the high-level principles embedded in the DSA could provide a foundation for dialogue among liberal democracies on how best to regulate user-generated content services (Husovec, 2023).

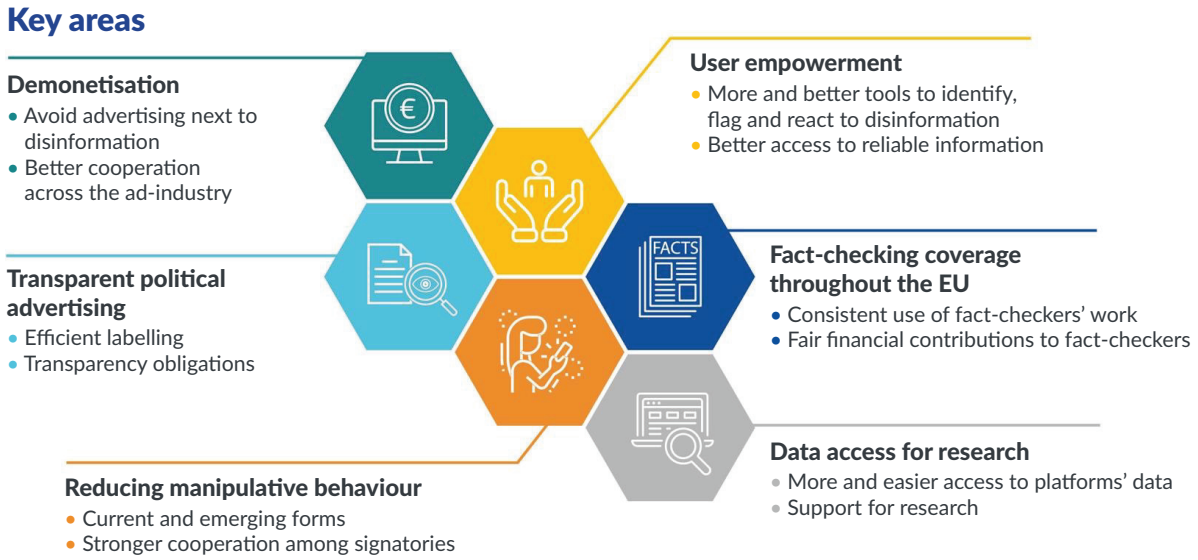


Figure 2. Key areas of the Code of Conduct on Disinformation. Source: European Commission (2025b).

The DSA forms the basis of the German national law Digitale-Dienste-Gesetz (DDG). Compliance with the DDG is monitored by the Federal Network Agency as Digital Service Coordinator (DSC; Bundesnetzagentur, 2025). The DSC receives reports of possible DSA violations primarily through complaints from users. If such reports, usually supplemented by further investigations, are sufficiently substantiated and relate to service providers based or legally represented in Germany, the DSC initiates proceedings. By the end of the 2024 reporting period, the DSC had initiated a total of four administrative proceedings against service providers (Bundesnetzagentur, 2025). Three of the four proceedings concern possible violations of DSA requirements for the establishment of reporting and redress procedures (Art. 16 DSA), the justification of measures against users (Art. 17 DSA), and the design of the platforms' internal complaint management system (Art. 20 DSA; Bundesnetzagentur, 2025). The DSC actively engages with the newly established European Board for Digital Services, which brings together the European Commission and all national DSCs (Bundesnetzagentur, 2025).

The DDG explicitly mentions that the provision of digital services (excluding audiovisual media services) by a provider established in another EU member state may be restricted under German law if such measures are necessary to protect public health, among certain other fundamental interests (Section 3 DDG).

However, in January 2025, Meta announced it would discontinue its professional, third-party fact-checking program in the US and instead adopt a user-driven "community notes" model—akin to the system used by Elon Musk's platform X (Graves, 2025). Community Notes is a user-driven fact-checking system in which participants contribute explanatory notes to flag and contextualize potentially misleading posts on X/Twitter. Yet, empirical evidence casts doubt on the effectiveness of this approach. Especially for tweets from verified users with many followers, it has not significantly reduced engagement with misinformation in terms of retweets or likes (Chuai et al., 2024). Instead, findings suggest that crowdsourced fact-checks often arrive too late to curb the viral spread of misleading content in its most influential early stages (Chuai et al., 2024). The change has raised alarm among fact-checkers, who viewed Meta's decision as politically motivated and a serious threat to informed public discourse (Graves, 2025). Further, Meta's undertaking to replace independent and professional fact-checking with community notes would violate the DSA if applied to the EU (Zingaretti et al., 2025). However, scholars are not very optimistic that the DSA is applicable to large companies such as Meta since charges brought against X remain unresolved (European Commission, 2023; Jahangir, 2025b; Kahn, 2025). The case illustrates that national and international legal frameworks, still in a formative stage, are currently undergoing a significant stress test.

Next to the hard law, there are various stakeholders who propose several soft law measures to combat information disorders. For the purpose of this study, we focused specifically on national public health authorities, independent fact-checking organizations, and NGOs or public initiatives, as these actors play a central role in shaping non-binding yet influential frameworks for communication governance in the health domain.

The Robert Koch Institute is one of the most important institutions for health risk communication in Germany. As the national public health institute, it plays a central role in monitoring, communicating, and managing health-related risks, particularly during crises such as pandemics. The Robert Koch Institute regularly publishes reports, commission statements, and scientific articles on its website and in academic journals, contributing substantially to evidence-based public health communication. However, regarding the intersection of AI and health risk communication, we identified one publication that explicitly draws on Robert Koch Institute data to explore ways of improving infodemic management during health crises. The study by Boender et al. (2023) proposes that one effective way to enable people to make informed health decisions is through responsive, evidence-based, and audience-specific risk and health communication. The authors state that well-designed and carefully implemented infodemic management can play a key role in tailoring the right messages to the right audiences at the right time, while simultaneously strengthening both health literacy and scientific literacy (Boender et al., 2023). In their opinion, this includes "social listening," which could be enhanced by AI, for example by tracking health discussions on social media (Boender et al., 2023). Social listening is the process of systematically extracting and analyzing information from social media channels to monitor social developments in real time. It involves detecting emotions, topics, and opinions; mapping patterns of information flow; and modeling opinion networks to understand how ideas and sentiments spread across digital spaces (McGowan, 2022; Purnat et al., 2022).

Further, independent fact-checking organizations play an important role in addressing misinformation alongside regulatory initiatives in Germany. Prominent examples include Correctiv, a non-profit investigative newsroom that operates a fact-checking unit, and the Deutsche Presse-Agentur, which runs its own fact-checking service as part of its news operations. Both organizations monitor and verify claims circulating in public discourse, particularly on social media, and publish corrections to counter false or misleading content. Their work illustrates how non-state actors complement formal governance frameworks by providing expertise, credibility, and public-facing resources in the fight against information disorders. The German fact-checking organization Correctiv, as well as the Deutsche Presse-Agentur, both adhere to the International Fact-Checking Network (IFCN) Code of Principles (IFCN, 2025). This Code establishes a set of professional and ethical commitments for organizations that regularly publish non-partisan reports assessing the accuracy of statements made by public figures, institutions, and other widely circulated claims related to matters of public interest. Developed through global consultations among fact-checkers, the Code emphasizes transparency in sources, funding, methodology, and corrections, as well as a commitment to impartiality and fairness. Correctiv's adherence to the IFCN Code underscores its role as an independent and credible actor in the landscape of information governance and infodemic management in Germany. Its activities contribute to maintaining trust in public communication and serve as a soft-law mechanism promoting accountability and accuracy in the dissemination of health-related information.

Additionally, German public institutions try to involve a broad public in developing governance guidelines. For example, the initiative of the Bertelsmann Stiftung "Forum gegen Fakes—Together for a Strong Democracy" (Bertelsmann Stiftung, 2025a) addressed the general public and offered multiple opportunities for active participation between January and June 2024. In three online participation phases, citizens were invited to contribute their perspectives online, propose measures to counter disinformation, and vote on ideas submitted by others. At the same time, a citizens' assembly of more than 120 randomly selected and socio-demographically diverse participants worked on evaluating and refining these proposals. This resulted in 15 policy recommendations comprising 28 concrete measures (Bertelsmann Stiftung, 2025a). The final proposals submitted clearly indicate where participants' priorities lie in addressing information disorders. Raising awareness and strengthening education were considered particularly important, for example through the promotion of media literacy, information campaigns, and communication tailored to specific target groups. Participants also emphasized the need for changes in media practices, journalism, and the functioning of social networks. For example, a clear majority (73%) agreed that content produced by AI should always be explicitly labeled as such. In addition, participants supported the idea of introducing a certification scheme for media outlets that provide additional source information about their content, underscoring the value placed on credibility and accountability in news and information practices. There was broad consensus that key actors such as policymakers, media organizations, and platform providers must assume greater responsibility, while at the same time individual responsibility was seen as a crucial element in dealing with disinformation. Some participants also called for more restrictive measures, such as political and regulatory interventions, whereas others regarded such steps as unwarranted infringements on the freedom of speech (Bertelsmann Stiftung, 2025a).

5.2. Brazil

The Federal Constitution of Brazil (Constituição da República Federativa do Brasil, 1988) establishes health as a universal right and a duty of the State. Law No. 8,080 of 1990, commonly referred to as the "SUS Law,"

defines the conditions for the promotion, protection, and restoration of health and formally institutes the Unified Health System (Sistema Único de Saúde, SUS), a public framework designed to guarantee universal access to healthcare for all Brazilian citizens (Presidência da República do Brasil, 1990). Both the Federal Constitution and the SUS Law recognize access to information as a fundamental principle, assigning to SUS the responsibility of disseminating information, particularly in contexts of public health risks.

Although informing, guiding, and engaging society in times of health risks—such as epidemics, environmental disasters, and health emergencies—are already provided for in Brazilian law, the country still faces challenges in the field of health risk communication. Regarding the hard law, these include combating mis/disinformation, ensuring accessibility, addressing the dilemma between technical communication (based on scientific evidence) and the political use of information (narrative shifts depending on governments), and the effective implementation of the principle of information transparency. The emergence and integration of AI may either exacerbate or help mitigate these challenges, depending on how it is regulated and applied.

The Brazilian government has not yet established specific legislation or regulations for AI environments. Law No. 2,338 of 2023, already approved by the Federal Senate, addresses the use of AI in the country but is currently under review by the House of Representatives (Senado Federal do Brasil, 2023). This legislative proposal is oriented toward the development, implementation, and responsible use of AI systems, grounded in the principles of prevention, precaution, and the mitigation of systemic risks derived from both intentional and unintentional uses, as well as from unforeseen effects of such systems. Among its provisions, the bill foresees the creation of a competent authority to oversee compliance with best practices in AI governance; however, it does not specify which institution would be responsible for such oversight—whether a newly established entity or an existing one.

This proposed law exhibits several characteristics typical of the liberal democracy model, as it establishes individual rights, transparency, state oversight, equality, and free enterprise as the foundations of AI governance in Brazil. Although not explicitly mentioned, it also supports health risk communication by emphasizing transparency, auditability, and protection against bias. However, it does not mandate the creation or implementation of measures ensuring accessible language, public engagement, or emergency protocols—essential, for instance, to effectively and reliably inform the population during health risk situations such as epidemics and pandemics. Thus, while it prioritizes individual needs, it does not account for the environment in which individuals live, which may involve social and economic vulnerabilities. In a country as large, diverse, and unequal as Brazil, this is an essential consideration to make.

It is also important to mention that Brazil currently lacks comprehensive regulation of digital platforms. The Civil Rights Framework for the Internet (Law No. 12,965 of 2014) constitutes the primary legal framework establishing principles, guarantees, rights, and obligations for internet use in the country (Presidência da República do Brasil, 2014). It safeguards freedom of expression, user privacy, and network neutrality, while also defining the role of the State in internet-related matters. Nevertheless, given that it was enacted more than a decade ago, many scholars and policy experts argue that this framework is insufficient for addressing contemporary challenges such as mis/disinformation and hate speech, as well as inadequately considering technological advances brought by AI. An illustrative example of this is Article 19 of the framework, which conditioned the civil liability of digital platforms on the existence of a prior judicial order for content removal.

This article was the subject of judicial review by the Federal Supreme Court (Supremo Tribunal Federal, STF), Brazil's highest judicial entity. In June 2025, the STF ruled on the partial constitutionality of Article 19, determining that platforms and internet providers could henceforth be held liable without a prior judicial order in two specific contexts: (a) in cases of boosted or paid content, including dissemination by bots or artificial distribution networks; and (b) in instances involving the massive circulation of highly harmful content, such as anti-democratic acts, terrorism, incitement to suicide or self-harm, racial, religious, sexual, gender-based, or misogynistic hate speech, child pornography, sexual crimes against vulnerable individuals, and human trafficking ("STF define parâmetros," 2025).

In terms of national initiatives in the field of AI, the federal government launched the Brazilian Artificial Intelligence Plan (Plano Brasileiro de Inteligência Artificial, PBIA) in 2024 (Conselho Nacional de Ciência e Tecnologia, 2024). The plan's objective is described as follows:

> Promote the development, availability, and use of AI in Brazil, oriented toward addressing major national, social, economic, environmental, and cultural challenges, in order to safeguard individual and collective rights and security, foster social inclusion, defend democracy, ensure information integrity, protect labor and workers, safeguard national sovereignty, and promote the sustainable economic development of the nation. (Conselho Nacional de Ciência e Tecnologia, 2024, p. 20)

The PBIA distinguishes between short-term actions (initiatives already underway or to be implemented soon) and long-term structural actions. While it does not explicitly address health risk communication, two initiatives outlined in the plan may be interpreted as relevant to this domain. The first, categorized as a short-term action, is the deployment of Generative AI for Personalized Health Care. This AI assistant is designed to optimize the personalization of health care within the framework of digital primary health services and will be integrated into the SUS. The second, a structural measure, is the AI Dissemination and Outreach Program, intended to foster digital literacy and public engagement with AI by popularizing technological foundations, transparency, everyday applications, risks, and citizens' rights. To achieve these goals, the government plans to establish a Brazilian AI Olympiad, develop partnerships with universities and technology firms for workshops and mentoring, and promote public information and educational campaigns on AI.

In the field of health risk communication, the Brazilian Ministry of Health has implemented a noteworthy initiative: the Health with Science (Saúde com Ciência) program. It seeks to promote and strengthen public health policies and science through actions to identify and understand the phenomenon of information disorders and provide society with accurate information. One of the project's actions is a fact-checking service, where people can send content they suspect to be false for verification (Brazilian Ministry of Health, 2025). Although this initiative may be well-intentioned, it raises concerns about conflicts of interest and credibility. This stems from the fact that communication originates from a biased perspective—that of the government, the political party currently ruling the country—and is therefore shaped by the interests of those in power (Meseret, 2024).

Similarly to Germany, Brazil also has different actors proposing soft law measures to address the challenges of health risk communication and to combat information disorders. One of them is Fiocruz (Oswaldo Cruz Foundation), a health research institute affiliated with the Ministry of Health and the SUS, which offers various initiatives as well as high-quality information during times of crisis, such as the Covid-19 pandemic.

Among the recent guidelines and strategies adopted by the institution are: the promotion of dialogues and training programs; cultural and science communication initiatives; scientific research and analyses of social representations; and the production of guides and recommendations. Regarding the latter topic, Fiocruz launched a guide to combat health misinformation aimed at health professionals in 2024, in partnership with other institutions. The document provides tips on how to deal with this situation in their daily professional lives (Sacramento et al., 2024).

In addition, Brazil has a number of well-established independent, non-governmental fact-checking services, such as Lupa and Aos Fatos (Lelo, 2022), which provide systematic verification of information and contribute to raising public awareness. These initiatives illustrate how non-state actors in both countries complement formal governance frameworks by providing expertise, credibility, and public-facing resources in the fight against mis/disinformation (Cazzamatta & Sarısakaloğlu, 2025). Both Lupa and Aos Fatos have signed the IFCN Code of Principles and are subject to regular audits by the organization to ensure they continue to adhere to its principles, such as impartiality and transparency (IFCN, 2025).

The country has also a virtual collective organization called the National Network to Combat Disinformation (Rede Nacional de Combate à Desinformação), which connects projects and institutions of different kinds that work and contribute in some way to combating the disinformation market—such as communication collectives, universities, educational communication projects, fact-checking projects, research projects, etc. (Rede Nacional de Combate à Desinformação, 2025). Among the members of the Network is the Democracy in Check Institute (Instituto Democracia em Xeque), whose mission is to produce knowledge to combat disinformation campaigns, hate speech, and violent political extremism (Instituto Democracia em Xeque, 2025).

Although Brazil has implemented effective health risk communication measures, both through hard and soft law mechanisms, the country still struggles with the politicization of information and the lack of accountability of political actors and social media platforms for the dissemination of false or misleading content. During the Covid-19 pandemic, the then president Jair Bolsonaro downplayed the virus's impact in favor of an economic agenda opposing social isolation and lockdown measures, promoted the use of unproven drugs against the disease, and spoke out against mandatory vaccination—going so far as to claim that those who received the vaccine could "turn into alligators" (Boschiero et al., 2021; Ricard & Medeiros, 2020). Also, in an attempt to undermine the media's efforts to inform the public about the spread of Covid-19 in the country, his government began releasing case and death figures with delays, making it impossible for news outlets to publish timely data. In response, journalists and news agencies in Brazil organized a consortium to provide reliable data and information about the virus, its societal impact, and recommended treatments (Bertelsmann Stiftung, 2025b). The Brazilian case demonstrates a government that not only neglects transparency-based measures but also instrumentalizes disinformation and hate campaigns as deliberate tools of political communication (Ozawa et al., 2023)

6. Comparative Discussion

6.1. Organizational Regulations and Individual Responsibility as Core Governance Pillars

Five observations were made when analyzing governance approaches to health risk communication in the age of AI in Brazil and Germany (see Supplementary File 2).

First, Brazil and Germany face similar challenges in the field of AI and health risk communication, particularly regarding the management of information disorders. Information disorders arise from socio-technical assemblages, consisting of platforms, actors, and big data, as well as political and commercial incentives (Saurwein & Spencer-Smith, 2020).

Second, governance approaches reveal different emphases and directions. Central to both countries is the mitigation of mis-, dis-, and malinformation (Bertelsmann Stiftung, 2025b, p. 6), which remains a core concern across regulatory initiatives. In addition, governance efforts focus on the regulation of digital intermediaries, the promotion of transparency, and the strengthening of media pluralism; within the European context, particularly through the DSA (Bertelsmann Stiftung, 2025b, p. 6).

Third, in both countries' governance approaches, AI is consistently portrayed as an ambivalent tool in health risk communication. On the one hand, it is identified as a driver of information disorders, enabling the large-scale production, personalization, and dissemination of misleading or false content. On the other hand, governance frameworks also emphasize AI's potential as a solution, highlighting its use in detecting, filtering, and countering such content. This dual framing positions AI simultaneously as a risk factor and a key instrument in efforts to mitigate the very challenges it creates—the PBIA illustrates this by positioning AI as a way to help solve various health problems faced by the SUS. In both countries, regulation frames AI governance as a socio-technical assemblage that must be addressed across multiple regulatory levels (Waisbord, 2020).

Fourth, with regard to the Health Risk Communication Framework, our analysis revealed that both the German and Brazilian governance approaches emphasize organizational and individual factors of health risk communication (see Supplementary File 1). However, the analysis shows that organizational regulations repeatedly reach their limits—either where they cannot be enforced and thus not upheld in court, or where their enforcement (for example, through established fact-checking mechanisms) is not sufficiently persuasive to effectively curb the spread of misinformation (Waisbord, 2020).

For example, in Brazil, the debate on the regulation of social media faces political and economic obstacles. This is because the platforms have acted vigorously to prevent bills on the matter from advancing—for instance, Google spent more than half a million reais on advertisements opposing the so-called Fake News Bill (Brazilian Law on Internet Freedom, Responsibility, and Transparency), seeking to influence public opinion and promote a negative view of the proposal (Fonseca, 2023; Pacheco, 2023). Far-right politicians are also opposed to regulation and align themselves with big tech interests. Arguing that "Brazil is under censorship" and that decisions made by the STF (such as the ruling on the Civil Rights Framework for the Internet) undermine freedom of speech in Brazil and the US, supporters of the former president Bolsonaro—and Bolsonaro himself—came out in defense of the trade tariffs imposed by US President Donald Trump on the country (Menezes & Mangabeira, 2025). A comparable tension can be observed in the EU, where the governance of health risk communication is also shaped by tensions surrounding freedom of expression and the power of digital platforms. While instruments such as the DSA establish new obligations for very large platforms, questions remain about how these measures can be effectively enforced in practice. Major technology companies wield significant legal and economic power, making it difficult to hold them accountable in court. At the same time, debates over free speech complicate regulatory efforts, as measures designed to curb harmful content risk being perceived as undue restrictions on fundamental rights. This

ongoing struggle illustrates the delicate balance between safeguarding democratic discourse and ensuring that platforms do not become unregulated spaces for the spread of misinformation and disinformation.

Fifth, in both countries, governance approaches do not rely solely on regulating intermediaries but also emphasize strengthening individual competencies and personal responsibility in dealing with information (see Supplementary File 1). The aim is to enable citizens to recognize disinformation, engage in critical reflection, and make informed decisions. In Germany, this is primarily reflected in initiatives on media education, transparency, and the promotion of digital health literacy. In Brazil, the emphasis on individual responsibility is even more pronounced (Tabak et al., 2025). This can likely be attributed to the political context and comparatively weaker regulation of digital spaces, which has led to a stronger reliance on educational initiatives and the cultivation of individual resilience against misinformation

6.2. Governance Blind Spots: Interactional Dynamics and Societal Contexts

While governance approaches in both countries place particular emphasis on organizational and individual dimensions of health risk communication, they fail to sufficiently address several other critical components of health risk communication. In particular, vulnerability-related, societal, and interactional factors receive far less attention, despite their central role in shaping how health risks are communicated, perceived, and acted upon. By overlooking these factors, governance strategies risk narrowing the scope of health risk communication to individual responsibility and institutional action, without adequately accounting for the social dynamics and intersectional vulnerabilities that shape the reception and impact of health information.

First, addressing individual vulnerabilities requires acknowledging that audiences are not homogeneous but situated within diverse individual, structural, algorithmic, and interactional circumstances. This includes variations in education, health status, and access to information or technological infrastructure, all of which shape people's capacity to understand and respond to health risks. Moreover, individuals draw on their own values and lived experiences when interpreting health information, influencing whom they trust, how they assess credibility, and which risks they perceive as relevant. In addition, individuals interact with social media platforms in different ways, navigating environments where content is increasingly curated, ranked, and personalized through automated systems. Such dynamics can amplify existing inequalities by exposing some groups to higher levels of misleading or harmful information (Ott, 2025). For this reason, emerging technologies—and their impact on health risk communication—cannot be understood in isolation from the socio-economic and institutional contexts in which they operate (Cazzamatta & Sarısakaloğlu, 2025).

Second, in both countries, risk governance strategies disregard the symbolic meanings and the ways in which social and cultural contexts shape the understanding and negotiation of risk. From a Foucauldian perspective, Lupton (1999) argues that risk functions as a governmental strategy of power regulation, whereby populations and individuals are monitored and directed in accordance with the objectives of neoliberalism. Thus, risk becomes a moral technology, and the discourse surrounding it operates in alignment with the regulation of the body, contributing to the constitution of the "self" and of subjectivity in contemporary society. Within neoliberal thought, responsibility for health is increasingly individualized, framing well-being as a matter of personal care and self-management. This perspective, however, neglects the crucial dynamics of power, trust, and social relations that shape health outcomes.

It is important to mention that the crisis of confidence in epistemic institutions (Monari, 2024) is part of the post-truth scenario and is something used by agents of disinformation to spread false information. For Waisbord (2018), the post-truth scenario has revealed the capacity of the digital world to present different perspectives on the same issue: "Social media platforms and search companies provide plenty of space for epistemologies with varying relations with reality. More interested in traffic and profit than in channeling scientific ideas, they offer opportunities to disseminate content disconnected from scientific truth-telling" (Waisbord, 2018, pp. 5–6). This undermines public health campaigns, especially when they are incorporated into political discourse—as the Brazilian example demonstrated. In this context, holding political actors accountable could be a way to combat information disorders and is something that could be done through international efforts, international organizations, or supranational bodies.

Third, our analysis indicates that effectively addressing information disorders in health risk communication requires the integration of interactional factors—ranging from changes in mutual relationships (e.g., between information sources and audiences, physician–patient interaction, etc.) to international interaction scenarios. We must understand health risk communication in the age of AI as a socio-technical assemblage. This means recognizing that communication processes are not shaped solely by individual behaviors or organizational strategies, but by the complex interaction between human actors, technological systems, institutional structures, and wider social dynamics. Saurwein and Spencer-Smith (2020) identify the following actors as being involved in information disorders on social media: (a) social media companies, who are responsible for platform design and policies; (b) publishers of mis-, dis-, or malinformation; (c) users who distribute the information by clicking, watching, and sharing; and (d) non-human actants, such as AI, bots, and algorithms.

Further, the global nature of digital platforms enables false or misleading health content to cross borders almost instantaneously, diminishing the effectiveness of isolated, nation-specific interventions. Misinformation originating in one country can rapidly influence public perceptions and behaviors elsewhere, especially when shared languages, cultural connections, or diaspora networks facilitate its spread. Given these dynamics, effective countermeasures demand coordinated international actions—such as harmonized regulatory standards, cross-border fact-checking collaborations, and joint digital literacy initiatives—to address the inherently global and decentralized nature of the problem. In healthcare, this is even more critical, as misinformation can lead people to make decisions that put their own lives and others' lives at risk, such as refusing vaccinations, adopting treatments and medications without scientific evidence, delaying diagnoses, or even abandoning safe therapies.

7. Conclusion

In summary, this comparative analysis of Brazil and Germany demonstrates that, while the governance of health risk communication in the age of AI operates through distinct institutional logics, both countries grapple with similar structural challenges. The interplay between hard and soft law mechanisms reflects an ongoing tension between regulation, technological innovation, and freedom of expression. Across both contexts, AI emerges as a double-edged instrument—simultaneously amplifying the risks of misinformation and offering new opportunities for its detection and mitigation. Yet current governance frameworks remain largely focused on organizational and individual dimensions. Within these frameworks, the individual dimension is primarily interpreted in terms of responsibility. As a result, individual vulnerabilities and interactional factors that shape trust and communication practices are often overlooked.

To move beyond this narrow focus, future governance approaches should adopt a more holistic and globally coordinated perspective, one that integrates interactional dimensions of communication. In this regard, communication and public trust emerge as central pillars of AI governance in health contexts, shaping how risks are perceived, negotiated, and acted upon. Building trustworthy systems requires more than technical regulation—it demands transparent communication practices, accountability mechanisms, and sustained dialogue between institutions, experts, and the public. Further, strengthening cross-border collaboration, harmonizing regulatory standards, and embedding social and ethical reflection into AI governance will be crucial steps toward building resilient and trustworthy health information ecosystems. Only through such an integrative approach can societies effectively address the evolving challenges of information disorders and ensure that technological progress contributes to, rather than undermines, public health.

Finally, we acknowledge that, although document analysis is appropriate for the objectives proposed in this study, it does not allow for inferences regarding public reception of the initiatives to combat information disorders in both countries. Interviews with governmental agents, non-governmental actors, fact-checkers, and the general public could be explored in future research to better understand how they assess the role of AI in exacerbating or mitigating this phenomenon in the health domain, as well as their perceptions of the use of AI in scenarios involving population-level risks. Accordingly, we understand that such future studies could broaden the empirical and temporal scope of our analysis, deepening knowledge on the subject and its evolution over time.

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Conflict of Interests

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Data Availability

The data analyzed in this study are listed in the Supplementary Files and are publicly accessible.

LLMs Disclosure

Generative AI (ChatGPT, GPT-4, OpenAI) was used to assist with language editing and stylistic refinement of the manuscript; the authors retained full control over the content and are responsible for all aspects.

Supplementary Material

Supplementary material for this article is available online in the format provided by the authors (unedited).

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ARTICLE

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Empowering Vulnerable Women: Communication and Media Strategies for Obstetric Fistula Awareness in Nigeria

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Abstract

This article explores the role of media and communication in addressing obstetric fistula, a severe and largely preventable childbirth injury that predominantly affects women in marginalised and underserved communities worldwide. Nigeria, accounting for nearly 40% of global cases, is at the forefront of this health crisis. Despite significant efforts by various organisations, the issue persists due to a combination of socio-economic factors, cultural practices, and inadequate healthcare infrastructure. One question guided this research: How can public health communication for marginalised populations be facilitated through communication and media strategies? An illustrative case study of Bashir Foundation for Fistula and Women's Health, an organisation that stands at the forefront of efforts to raise awareness and support rehabilitation for women affected by fistula, and conventional qualitative content analysis of their publicly available media and communication collateral are used in this article to answer the research question. The article identifies the gaps and helps in exploring best practices for effective advocacy, awareness, sustainability, and community engagement. It contributes to the body of knowledge by highlighting how public health communication for marginalised populations can be facilitated through a combination of strategic media campaigns and direct community engagement, while also highlighting the value of public education in reducing stigma.

Keywords

communication strategies; marginalised populations; media strategies; obstetric fistula; public health communication

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1. Introduction

The prevalence of obstetric fistula globally has been well established, with evidence pointing to major barriers to treatment such as entrenched cultural practices, poverty, and shortages of qualified healthcare professionals (Federal Ministry of Health Nigeria, 2019). Despite this, research examining access to health information (Khamis & Agboada, 2023) and the contribution of media and communication in overcoming these barriers remains scarce, particularly in the Nigerian context. Obstetric fistula, caused by prolonged, obstructed labour, continues to affect thousands of women each year, predominantly in sub-Saharan Africa and Asia, with women of lower socio-economic status being disproportionately impacted (Federal Ministry of Health Nigeria, 2019). Beyond the physical complications, the condition subjects women to intense social stigma, isolation, and heightened economic vulnerability.

Understanding the experiences of women living with obstetric fistula also requires situating them within broader discussions of marginalisation and social exclusion. Marginalised populations are those excluded from full participation in social, economic, educational, and cultural life due to unequal power relations between groups, leaving them disadvantaged and without access to the resources needed for sustainable livelihoods (Burke et al., 2025). Such groups face shorter life expectancies, heightened exposure to harmful environments, and reduced opportunities for education and employment (Burke et al., 2025). By building on existing literature, this article focuses on how communication strategies can be tailored to reach vulnerable groups, ensuring that the message of prevention and treatment is effectively conveyed. It proposes a model for building community awareness through media and communication strategies (Ojeikere et al., 2021) for these populations. The article aims to examine how strategic communication and media interventions can enhance public awareness, build trust, and foster resilience among affected populations. To do this, the article addresses the question—how can public health communication for marginalised populations, particularly vulnerable women, be facilitated through communication and media strategies?—by exploring what is communicated, to whom and where, how, and through which channels these communication and media strategies occur. Additionally, to justify the choice of the illustrative case study, Bashir Foundation for Fistula and Women's Health (BFFWH), several contexts, namely the geographical, socio-economic, and cultural landscape of Nigeria, health and maternity health in Nigeria, and obstetric fistula in Nigeria, are described in greater detail in the following subsections.

1.1. Understanding the Geographical, Socio-Economic, and Cultural Landscape of Nigeria

Nigeria, located in West Africa, has Abuja as its capital, which serves as a central location for political neutrality, and Lagos as its largest city and commercial hub. Nigeria is commonly divided into six geopolitical zones, as shown in Figure 1, for political, cultural, and economic purposes: North West, predominantly occupied by the Hausa-Fulani tribe, is known for agriculture and livestock; North East, which is sparsely populated, is known for farming and fishing; North Central, with a diverse ethnic mix; South West, predominantly Yoruba tribe, is urbanised and industrialised; South East, predominantly Igbo tribe, is known for oil and gas, manufacturing, and trade; and the South South, also known as the Niger Delta, is rich in crude oil (Archibong, 2018).

There is a significant inequality in income distribution in Nigeria, which varies by region, where the South is generally wealthier and more urbanised, and the rural North has higher poverty rates, lower literacy, and higher unemployment (Adeleke et al., 2023). This can be attributed to the literacy and education rate per

region; the country as a whole has an average of 63% literacy rate, higher in the South and lower in the North (MacroTrends, 2018). In addition, there are also major gaps in the availability of, and access to, infrastructure, power supply, transport networks, and healthcare access between the North and the South, with the South having better access than the North (Okoli et al., 2020; Shao et al., 2025).

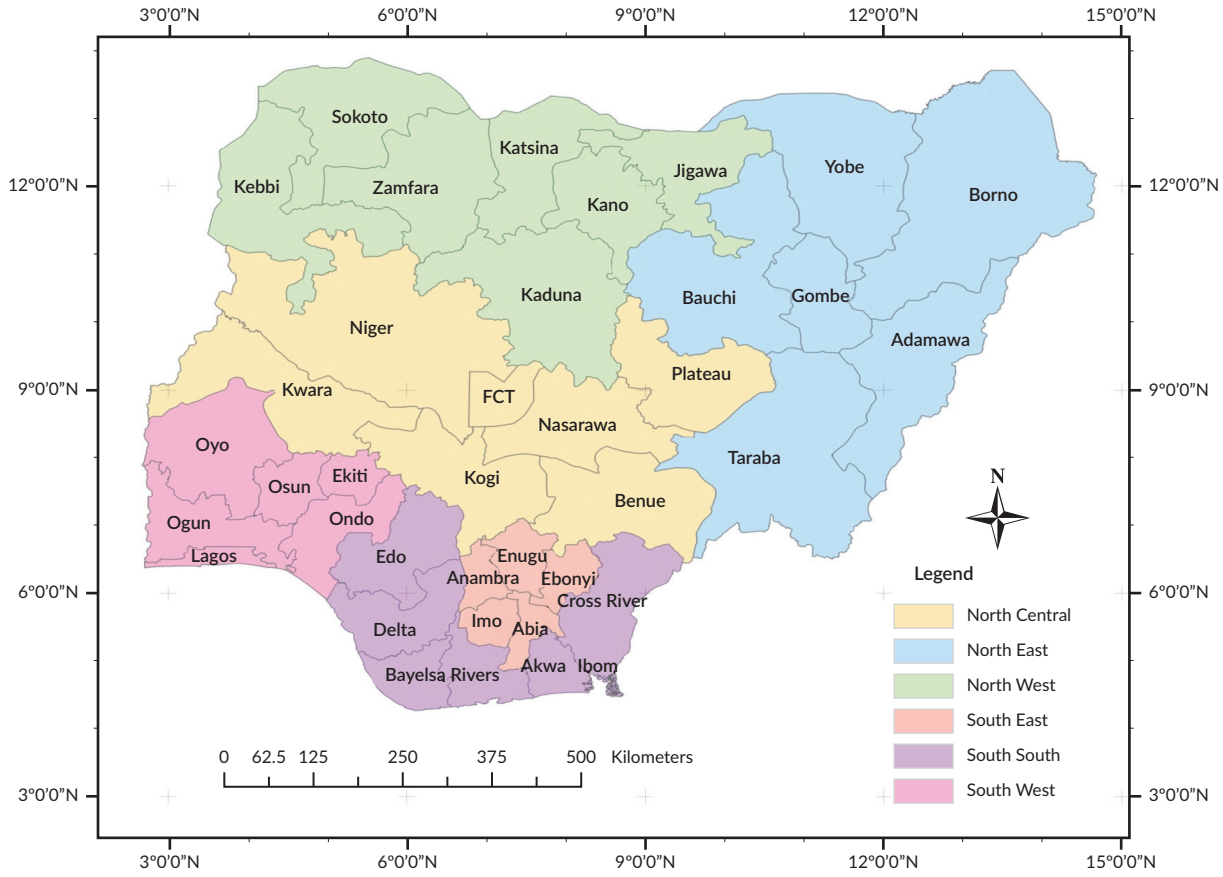


Figure 1. Geographical map and geopolitical zones in Nigeria. Note: FCT = Federal Capital Territory. Source: Akinyemi et al. (2015).

The cultural landscape of Nigeria is a multidiverse one, with over 250 ethnic groups (Ministry of Foreign Affairs, 2025), major ones being Hausa-Fulani in the North, Yoruba in the South West, and Igbo in the South East, and more than 500 distinct languages (Kori-Siakpere et al., 2024), with many more dialects. However, the official language is English, due to the legacy of British colonisation. The country has roughly 50% Muslims (mostly in the North and South West) and 50% Christians (located mostly in the South and middle belt; Ministry of Foreign Affairs, 2025). Therefore, religion is a powerful social and political force in the country. Social and cultural nuances are oriented in collectivist (Ferreira, 2017, pp. 75–94) and high-context structures (Adisa et al., 2021), where respect for elders, hierarchical structures, and religious customs shape interactions (Triguero-Sánchez et al., 2022).

1.2. Health and Maternity Health in Nigeria

The general health landscape in Nigeria is a concerning one, with the lowest life expectancy rate globally for women (Galan, 2025). Nigeria faces major health challenges from infectious diseases such as malaria,

tuberculosis (Adewumi, 2025), and Lassa fever (Eneh et al., 2025) to non-contagious diseases such as hypertension and stroke (especially in urban areas; Adesola et al., 2024; Ajisegiri et al., 2021). A major determinant of this is the major health infrastructure gaps that the country faces, such as a lack of human resources, as well as a doctor–patient ratio of 3.9 per 10,000 (Wariri et al., 2024), where the World Health Organisation recommends 49 per 10,000 (World Health Organisation, 2023). These issues are also compounded by the limited coverage of the National Health Insurance Authority, which only covers a small fraction of the population (Bashar et al., 2025).

Maternity health in Nigeria is also critical, with a maternal mortality rate that is among the highest globally (Integrated African Health Observatory, 2023). In conjunction to the causes listed previously such as lack of human resources, funding, and infrastructure, there are other direct causes of this maternal mortality rate, such as lack of skilled birth attendance (Olawade et al., 2023), and other barriers to maternal health which are (a) geographic, as many rural women live far from functional facilities; (b) cultural, as there is a preference for traditional birth attendants (Ntoimo et al., 2022); (c) gender norms limiting women's mobility (Simona, 2022); and (d) decision-making often dependent on male family members (Kalindi et al., 2023). Several other contexts, related specifically to culture, affect maternal health in Nigeria, one of which is related to pregnancy secrecy, as many women delay antenatal visits due to fear of spiritual attack or stigma (Agwu et al., 2025). There is also the issue of resorting to traditional medicine, such as herbal remedies and spiritual consultations, which often complement or sometimes replace antenatal care (Ntoimo et al., 2022). Lastly, there is the influence of religious and faith leaders, who can strongly sway maternal health behaviours (Agwu et al., 2025).

1.3. Obstetric Fistula in Nigeria

The justification for choosing obstetric fistula as a focus angle of this article is due to its significant link with vulnerable women, maternal health, stigma, and marginalised populations. Obstetric fistula is a severe public health problem and largely preventable childbirth injury that predominantly affects women in marginalised and underserved communities worldwide, with an estimated global burden of half a million cases (United Nations, 2022), with the majority of cases in sub-Saharan Africa and Asia (Federal Ministry of Health Nigeria, 2019), of which Nigeria contributes 12,000 new cases of obstetric fistula every year (Daniyan et al., 2021), accounting for 40% of global cases (Daniyan et al., 2021). The most affected regions are those in Northern Nigeria, including Sokoto, Zamfara, and Katsina, which are particularly affected due to factors like early marriage and poor access to maternal healthcare (Federal Ministry of Health Nigeria, 2019).

Despite significant efforts by various organisations, the issue persists due to a combination of socio-economic factors, cultural practices, and inadequate healthcare infrastructure. The condition not only causes significant physical harm but also leads to severe social stigma, isolation, and added economic hardship, due to the prohibitive cost of further care. Although the global burden of obstetric fistula has been widely documented (Bello & Lawal, 2025; Chanie et al., 2025), with studies highlighting the significant barriers to treatment, including cultural practices, poverty, and the lack of skilled healthcare workers (Federal Ministry of Health Nigeria, 2019), there is limited research on the role of media and communication in addressing these barriers, particularly in Nigeria.

2. Literature Review

2.1. Public Health Communication

Health communication is increasingly recognised as a cornerstone of efforts to promote well-being and prevent disease in contemporary societies. Defined as "cognitive interventions aimed at facilitating the improvement of individuals' and populations' health" (Caeiros et al., 2024), it operates across multiple levels, including individuals, groups, organisations, media systems, and cultures (Niederdeppe et al., 2025). It encompasses diverse forms such as textual, oral, aural, visual, and verbal, delivered through interpersonal conversations, doctor–patient interactions, social media, mass media, advocacy campaigns, and policy briefs (Niederdeppe et al., 2025). Therefore, public health communication is best understood as the strategic use of communication to inform, empower, and mobilise populations toward better health outcomes (American Public Health Association, 2025). It goes beyond one-way dissemination of information or clinical exchanges, requiring the establishment of a common ground to foster informed decision-making and align societal goals (Chou et al., 2025; Niederdeppe et al., 2025).

Building on this foundation, public health communication is central to advancing population health, strengthening communities, increasing life expectancy, and supporting economic stability. To achieve these outcomes, messaging must be resonant, persuasive, and culturally sensitive, ensuring that public health institutions articulate their value, foster trust, and establish cross-sector collaborations (Niederdeppe et al., 2025; Schuh et al., 2025), thus generating more culturally aware and socially sensitive public health policies. A growing body of research highlights the importance of values in shaping how people interpret scientific information, form opinions (Chou et al., 2025), and adopt medical innovations and interventions (Kurpas et al., 2025). While traditional approaches to value-based communication often emphasise tailoring to distinct audience preferences, current evidence suggests that appealing to shared values and identities can be more effective in minimising resistance and bridging divides in polarised contexts (Chou et al., 2025).

Furthermore, communication strategies must address the needs of marginalised or hard-to-reach populations through inclusive media approaches that educate the broader public while sustaining long-term interventions. When common values or identities are not immediately apparent, communicators must invest in building foundational trust and shared understanding to advance preventive goals (Chou et al., 2025). Ultimately, by linking shared values (which in this case refers to principles held in the family, community, culture, and other principles or beliefs that are held in high esteem) with evidence-based practices, public health communication serves as a critical mechanism for fostering resilience, equity, and cohesion in the face of evolving health challenges.

2.2. Communicating Risk, Trust, and Resilience Among Diverse and Marginalised Populations

Inclusive risk communication has become increasingly recognised as essential to addressing the needs of diverse populations, particularly those most vulnerable to crises such as health emergencies, environmental threats, or security incidents (Aliska et al., 2025). Despite this recognition, uncertainty persists about what inclusive risk communication fully entails and how to integrate it into current practices. Barriers include limited access to communication channels, inadequate accommodations for diverse needs, and governance systems that privilege top-down approaches rather than participatory engagement. Overcoming these

barriers requires co-creation strategies that meaningfully involve vulnerable stakeholders in risk governance, fostering both mutual learning and trust (Aliska et al., 2025). Risk communication, broadly defined as the interactive process of sharing information about hazards with affected or interested stakeholders (Suslov, 2025), must therefore move beyond one-way dissemination toward approaches that are inclusive, culturally sensitive, and responsive to community dynamics. Tools and guidelines such as the "downstream-upstream" analogy (Zola, 1972) provide insights into how public health communication can expand its authority into more areas of daily living and facilitate more culturally and socially sensitive policies. Building trust is particularly vital, as lack of trust in authorities and the absence of accessible, tailored messages have repeatedly undermined the effectiveness of official communications (Aliska et al., 2025).

Strengthening resilience among diverse and marginalised populations requires communication strategies that not only transmit accurate information but also empower communities to take ownership of solutions. Community engagement, long emphasised in international development and humanitarian practice, ensures that populations participate in decision-making and co-own the processes that affect their well-being (Tam & Peh, 2025). However, because simplistic notions of *community* can obscure underlying hierarchies and marginalise certain groups, drawing on social science insights and local expertise to design robust interventions is critical (Tam & Peh, 2025). Public health emergencies reveal the acute vulnerabilities of women, children, the elderly, migrants, refugees, people with disabilities, and others who face structural disadvantages, stigma, or poor living and working conditions (Liu & Sun, 2025). These groups often struggle with healthcare access even before crises, and their disproportionate suffering exposes systemic weaknesses in healthcare systems and institutional preparedness (Liu & Sun, 2025). Addressing their needs through inclusive, trust-building risk communication strengthens not only individual and group resilience but also the collective resilience of entire communities. In this sense, communication that foregrounds inclusivity, trust, and equity is not a peripheral concern but a central strategy for building societal resilience against present and future emergencies.

2.3. Awareness and Community Engagement for Vulnerable Populations

The level of risk experienced by vulnerable populations during health emergencies is shaped by the type of disease, national context, severity of the crisis, and pre-existing social, cultural, and economic disadvantages (Liu & Sun, 2025). When these groups are overlooked, they experience disproportionately poor physical, mental, and social outcomes. Risks are compounded for individuals who belong to multiple vulnerable categories, as overlapping socio-economic, structural, and health-related disadvantages intensify their challenges (Liu & Sun, 2025). This is in agreement with the theory of intersectionality as outlined by Crenshaw (1991), which highlights how different aspects of a person's identity (in this case, gender and socio-economic class) combine to create unique experiences of discrimination and privilege. As vulnerabilities are context-specific and sometimes unpredictable, effective interventions require first identifying at-risk populations and designing solutions tailored to their needs. Without such targeted awareness and engagement, emergency responses risk perpetuating inequities and undermining community resilience.

Women and girls in societies with entrenched gender inequality may have limited autonomy in seeking care, restricted financial resources, and lower literacy, hindering their access to and understanding of public health guidance (Lwamba et al., 2022). As primary caregivers, they also face greater exposure to disease and significant mental and emotional burdens. Indigenous communities similarly confront geographical isolation,

limited infrastructure, language barriers, and historical mistrust of authorities, all of which restrict access to healthcare, emergency support, and effective communication (Liu & Sun, 2025). Standardised messaging approaches are often insufficient; therefore, culturally sensitive, context-specific strategies that incorporate local practices and build trust are essential. Addressing intersectional discrimination (Tinner & Curbelo, 2025) and implementing programmes such as community health worker programmes have proven effective in reaching remote populations, bridging gaps in access, and fostering local awareness (Liu & Sun, 2025).

Addressing these intersecting vulnerabilities requires inclusive communication strategies that combine information delivery with genuine community engagement. Engagement, understood as enabling marginalised populations to exercise greater control over decisions affecting their lives (Burke et al., 2025), can occur through institutional initiatives, grassroots projects, and community development programmes that amplify voices and co-create solutions. Marginalised groups, including low-income populations, ethnic minorities, refugees, individuals with disabilities, and the elderly, face heightened health risks and reduced capacity to respond to crises, underscoring the need to consider intersectional factors such as gender, age, and socio-economic status (Ojeikere et al., 2021). This article, therefore, asks: How can public health communication for marginalised populations, particularly vulnerable women, be facilitated through communication (what is communicated, to whom) and media strategies (where, how, and through which channels)?

3. Methodology

This study uses qualitative methodology to answer the research question. This methodology was chosen for its aptness in exploring context-specific and complex issues, especially in obtaining detailed insights into unique perspectives. The adaptable nature of the qualitative methodology supports credible findings by revealing the processes underlying social phenomena at both individual and organisational levels (such as subtle themes in words, stories, and testimonials), making it valuable for exploring how new developments influence daily practices (Duncan & Williams, 2008). Through the analysis of meanings and narratives attributed to events, this methodology also facilitates unravelling of the constructs that link specific variables (Barbour, 2008; Duncan & Williams, 2008), therefore prioritising the validity and contextual accuracy of the data being explored (Taylor et al., 2015).

Hence, in this article, the strategies employed to address the obstetric fistula crisis in Nigeria, as well as the outcomes of the strategies, so far as they relate to marginalised populations, are explored. Using an illustrative case study, BFFWH, the research focuses on the unique ways in which local geographical, socio-economic, and cultural values and nuances are incorporated into the strategies for tackling public health crises, which are adopted for effective advocacy, awareness, and community engagement.

To explore the communication and media strategies for obstetric fistula awareness in Nigeria, this study adopted the conventional qualitative content analysis method by Hsieh and Shannon (2005). This widely cited inductive approach prioritises direct derivation of insight from data without relying on preconceived assumptions or categories. Rather, the researcher immerses themselves in the textual data through repeated readings and code development, allowing meaning to organically emerge (Hsieh & Shannon, 2005). Therefore, this method is suitable for examining complex areas of communication and media interventions,

portrayals of social movements, and cultural discourses, which are key concerns in the areas of communicating to and for marginalised populations.

3.1. Case Study: BFFWH

BFFWH serves as an illustrative case study for understanding the impact of communication and media strategies on fistula advocacy in Nigeria. The aim of using an illustrative case study (Yin, 2009) is to provide a detailed description and clarification of the situation in order to enhance understanding of the phenomenon at hand. Since its inception in 2018, BFFWH has been at the forefront of efforts to raise awareness, provide surgical interventions, and support rehabilitation for women affected by obstetric fistula ("Nigeria needs new measures," 2021). The foundation employs a strategy that blends hands-on community involvement with targeted media campaigns to raise awareness and combat stigma, while emphasising sustainable practices and empowering women through education and skill-building initiatives (BFFWH, 2024). The work BFFWH conducts to promote awareness, resilience, and education adequately qualifies it as a suitable illustrative case study for this article.

The communication materials selected and analysed in this article are an archive of examples of how BFFWH has effected change through their communication engagement strategies. By focusing on communication and media strategies, this study examines how strategic communication and media interventions, as well as community engagement, can enhance public awareness, build trust, and foster resilience among affected populations, and how they can be tailored to reach vulnerable groups, ensuring that the message of prevention and treatment is effectively conveyed (BFFWH, 2024). This case study was chosen to illustrate how public health communication for marginalised populations (in this case, vulnerable women) can be facilitated through communication and media interventions.

3.2. Conventional Qualitative Content Analysis

This analysis was initiated by identifying and gathering publicly available data of BFFWH that reflects the communication and media strategies in practice, and to highlight the varied strategic messaging across different media formats and scenarios, for empowering vulnerable women affected by a significant health issue. Content such as news releases, flyers, and testimonials were sourced from conducting a specified desktop search on "Bashir Fistula Foundation" and "obstetric fistula." The news releases were gathered through the Google News search tab and one from a physical newspaper, while the flyers were sourced from the official BFFWH website, and testimonials from the organisation's Facebook account. These publicly available data, consisting in 22 files in total, were gathered for the conventional qualitative content analysis. The data gathered span the period from December 2019 to July 2025. Specifically, the Facebook search spanned from January 2025 to July 2025; this limit was implemented due to the high volume of posts on the Facebook account. The search for flyers did not have a timeframe attached; however, the flyers found were all from December 2019. Lastly, the search for news releases was also not restricted to a timeframe; however, the news releases found were from between December 2019 and May 2025.

3.2.1. Codes and Themes

To analyse data using the conventional qualitative content analysis method by Hsieh and Shannon (2005), content gathered from the refined search of "Bashir Fistula Foundation" and "obstetric fistula" was read exhaustively to become deeply familiar with the content and reach a central understanding. By doing this, close attention is paid to key phrases, expressions, and ideas that were used to present the organisation's methods, strategies, and actions to facilitate communication and engagement for and to affected communities. The content was then read again to identify patterns, whereby codes of analysis were then formed (Hsieh & Shannon, 2005).

In the coding phase, elements of data that were outstanding in relevance to the objective of this research were labelled and then broken down into small units of information, i.e., codes, to represent important components of the content without depending on predetermined categories for analysis. Once codes were constructed, the content was then categorised into themes (Kahl, 2014) depending on shared similarities (Hsieh & Shannon, 2005) to reflect the inductive nature of the process. The process of coding, although carried out manually, was conducted in the NVivo software, a platform for data tracking and management (Welsh, 2002). Following the coding of all gathered content, theme development commenced. These themes, by consolidating similar codes to simplify the data analysis, provide a clear picture of the data by revealing larger patterns in the data, as outlined further in the Findings section.

4. Findings

The case study of BFFWH revealed several ways in which public health communication can be promoted through communication and media interventions amongst vulnerable and marginalised populations. This case study, by way of conventional qualitative content analysis, generated 12 codes: access, advocacy, approach, awareness, purpose and focus, challenges, stigma, education-general, education-targeted, sustainability, community engagement, and call to action. From these 12 codes, four themes emerged: advocacy, challenges, sustainability, and mobilisation. This section explored illustrative examples derived from the content analysis, highlighting the different streams of public health communication in the unique context of Nigeria.

The theme, challenges, emerged from the codes, challenges and stigma. This theme illuminates the challenges faced by organisations as well as the stigma faced by affected populations. The dataset of the content from which the theme was derived is outlined in Table 1. Content in this theme includes, for example, "about 70 percent of deliveries are still done at home in northern Nigeria, which [is] why [fistula] is on the increase" (News article 7), as well as "women, who suffer from this kind of health condition, besides the physical pain they go through, there are so many emotional and psychological traumas that such people pass through" (News article 11). Other examples include, "there is a lot of misconception about fistula which is not helping the issue" (News article 10), and "despite the realisation of obstetric fistula and its diverse adverse effects, it largely remains a neglected and 'hidden' disease" (News article 12).

The second theme, sustainability, emerged from the codes, education-general, education-targeted, and sustainability. This theme represents efforts for community education and for the sustainability of support for women even after the medical condition has been treated. This theme speaks to aspects that work to fix

and, in the long run, eradicate this health issue. Some examples of content are "we encourage them to embrace family planning. We also advise them to have family planning immediately after delivery" (News article 7), "the project will provide post-surgery support, including psychological counselling and skills training, to help patients reintegrate into society" (News article 4 and 5), "calling on pregnant women to enquire about the centres before their delivery date" (Newspaper article), and "not only provide medical treatment but also offer vocational training, helping survivors rebuild their lives and reintegrate into society" (News article 14).

The third theme, advocacy, was derived from the codes, access, advocacy, approach, awareness, and purpose and focus. This theme highlights the advocacy efforts, drive, accessibility, and approach taken by the case study to engage with the affected communities in Nigeria. It highlights focus areas for communication, accessibility in terms of location based on affected communities, and advocacy strategies

Table 1. Dataset.

ID	Outlet/Platform	Date	Headline/Caption
Newspaper article	New Nigerian	12 May 2025, Page 8	"BFFWH to hold awareness walk in Kaduna, Abuja to mark IDEOF 2025"
News article 4	The Sun	19 October 2024	"140 women to receive life-changing fistula surgeries in Nigeria"
News article 5	The Nation Online	18 October 2024	"140 women to receive life-changing fistula surgeries in Nigeria"
News article 6	Vanguard	18 October 2024	"140 women to receive life-changing fistula surgeries in Nigeria"
News article 7	Authentic News Daily	27 May 2024	"2030 target: Kaduna govt doing a lot to end vesicovaginal fistula—Officials"
News article 8	Sun News Online	27 May 2024	"Zaria: Bashir Foundation facilitates 500 VVF surgeries, empowers 20 survivors"
News article 9	The Sun	3 December 2019	"Female genital mutilation: Rigasa women suffers highest number of VVF in Kaduna—Kaduna govt"
News article 10	Healthwise Punchng	22 May 2021	"Minister laments increasing burden of obstetric fistula in Nigeria"
News article 11	Healthwise Punchng	23 May 2021	"Nigeria needs new measures to end obstetric fistula"
News article 12	Authentic News Daily	18 October 2024	"Obstetric fistula: Bashir Foundation launches initiative to eliminate condition in Nigeria"
News article 14	Tribune Online	10 May 2025	"Tackling obstetric fistula in Nigeria"
Flyer 1	Bashir Fistula Foundation	5 December 2019	"Day 3—Female genital mutilation eradication project"
Flyer 3	Bashir Fistula Foundation	2 December 2019	"Day 1—Female genital mutilation eradication project"

Note: Table 1 is not a comprehensive list of all data sources used in this study. It only identifies data sources that have been explicitly highlighted in Section 4.

used. Some examples are "BFFWH to deliver 140 surgeries across three strategic locations: Abuja, Gwarinpa General Hospital, Life Camp, Kaduna: Barau Dikko Teaching Hospital, Zamfara: Vesico Vaginal Fistula (VVF) Center, Gusau" (News article 6), "training and orientation for 'FGM [female genital mutilation] eradication champions' to conduct house-house campaign in the community on the abandonment of female genital mutilation" (Flyer 1), "free fistula repair surgeries and comprehensive care on a first come first serve basis" (News article 5), and "the foundation has also conducted sensitization programs for over 1,000 young girls in communities across Kaduna, Kano, Zamfara, and Niger, providing free surgery for those affected" (News article 8).

The fourth and final theme, mobilisation, was formed from the codes, community, engagement, and call to action. This theme covers the aspects of engagement and mobilisation of the community to ensure that efforts are sustained throughout various levels. This theme works in unison with the previous theme of sustainability. Some examples of this are "traditional and religious leaders' sensitisation" (Flyer 3), "community mobilisation" (News article 4), "training healthcare workers" (News article 4, 5, 6, and 11), "through partnerships with government agencies, international donors, and community stakeholders" (News article 4, 5, 6, and 11), "we have dialogue sessions with boys and young men in communities because they will grow to become decision-makers for these women" (News article 8), and "called on all stakeholders, including religious bodies to join in the fight against early marriage and increase in school enrolment for girls, and seeking skilled birth attendants for delivery of babies" (News article 9).

Using conventional qualitative content analysis (Hsieh & Shannon, 2005), approaches to communicating with and engaging vulnerable and marginalised populations have been explored, illustrating how this communication can be effectively carried out. The findings reveal four major insights into the themes, challenges, sustainability, advocacy, and mobilisation, which are described further in Section 5.

5. Discussion

This discussion is informed by the "downstream-upstream" analogy (Zola, 1972), credited to the medical sociologist Irving Zola (the downstream-upstream analogy is informed by National Academies of Sciences, Engineering, and Medicine, 2019, and National Collaborating Centre for Determinants of Health, 2014), to conceptualise the different insights generated from the findings as outlined in Section 4, and as shown in Figure 2. The downstream-upstream analogy was originally developed to represent the underlying challenges faced by the healthcare delivery system in the United States (Robichaux & Sauerland, 2021). In this discussion, this analogy is employed as it outlines how public health is socially constructed, highlighting how public health policies can expand authority into more areas of daily living. In doing so, it outlines various layers of intervention as they influence significant levels of social constructs.

At the upstream is where we find the bases and foundations of the social determinants of health, as outlined by Gray et al. (2020), while midstream is where the effects of upstream determinants are seen. Midstream, as the name implies, serves as a mediation point for the results of upstream and downstream outcomes of health (Gray et al., 2020). Lastly, downstream represents the end point of health-related issues that result from the social determinants of health at the upstream and midstream (Gray et al., 2020).

Figure 2, derived from the conventional qualitative content analysis process undertaken in this article, using the downstream-upstream analogy, depicts the paths that organisations looking to effectively communicate with, and engage vulnerable and marginalised communities, are recommended to take to achieve lasting results. Upstream highlights mobilisation, midstream highlights advocacy, and downstream highlights challenges and sustainability.



Figure 2. Pathway for communication and media strategies targeted at vulnerable and marginalised populations.

In the case of this article, the communication, media, and engagement strategies outlined at the downstream address the population that is already stigmatised and in need of medical care and other forms of empowerment, while also exploring the challenges faced in reaching marginalised populations and the importance of building trust within these communities. Some of the challenges include unsupervised home deliveries, which represent approximately 70% of deliveries in Northern Nigeria (Adedokun & Uthman, 2019). Another is that many of the women affected by obstetric fistula are victims of female genital mutilation (Bello et al., 2020). One other fundamental issue faced at the downstream level is the lack of supplies to carry out treatment for affected individuals, which then leads to these vulnerable populations living with physical pain and psychological trauma for extended periods of time. A summary of this is presented in Table 2.

Downstream, sustainability efforts are considered. In the study carried out in this article, education has been identified as a major area of potential sustainability for Northern Nigeria (as this region of Nigeria, the one mostly affected by obstetric fistula, is not exposed to many educational outlets to inform its decisions). Sustainability initiatives provide avenues for community education and support even after the medical condition has been treated. This works to resolve the underlying lack of education in order to eradicate this issue from a fundamental level. The strategies of downstream are in a direct loop to work with those implemented on a population level at higher streams—midstream and upstream.

Midstream represents advocacy initiatives for those already on the verge of being affected, as well as how this can be mitigated on a community level. This level analyses the communication strategies employed by BFFWH, highlighting how they have contributed to increased awareness and access to treatment for fistula patients.

At midstream, the advocacy efforts, drive, accessibility, and approach taken by the organisation to engage with the affected communities in Nigeria are highlighted. Focus areas for communication include: accessibility of care, mostly location-based, for affected communities; advocacy strategies such as training for the eradication of female genital mutilation; and dialogue sessions for men in the communities, as they tend to be the decision makers in the affected communities.

Upstream represents strategies for mobilisation and prevention before a cure is needed. This level highlights the role of community engagement, media, and call-to-action initiatives in shaping public perceptions and their potential to drive policy change, while emphasising the need for a coordinated approach that includes both traditional and digital platforms ("Minister laments increasing burden," 2021; "Nigeria needs new measures," 2021). Some of the strategies highlighted through the study conducted in this article are sensitisation of traditional and religious leaders as they are major opinion leaders in affected communities (see Saputra et al., 2024, for a similar case in Indonesia), and partnership with government agencies and other community stakeholders to facilitate this sensitisation. At this level, several calls to action are also communicated through media outlets and ambassadors, such as nudging religious bodies to join the fight against early marriages, to increase school enrolment for girls, to seek skilled attendants for the delivery of babies, and to stop the practice of female genital mutilation.

Table 2. Social determinants of health for obstetric fistula in Nigeria.

Stream	Social Determinants of Health
Downstream	Unsupervised home deliveries; Victims of female genital mutilation; Availability of medical supplies.
Midstream	Sensitisation of decision makers (men and religious leaders); Physical access to medical help; Provision of medical supplies; General awareness and education.
Upstream	Social policies (focusing on the welfare of vulnerable women); Traditional and religious leaders; Early marriages; Low school enrolment for girls; Female genital mutilation.

Through the use of the downstream-upstream analogy, strategies for empowering vulnerable women through communication and media strategies and community engagement are presented. The study conducted in this article highlights social determinants of health for fistula as well as current approaches being taken to empower the affected population. Although this study is unique to the cultural and geographical location of the case study, it highlights several problem areas and strategies that can be implemented when dealing with vulnerable populations across various cultural, geographical, and socio-economic contexts. This article underscores the importance of understanding cultural contexts, culturally sensitive messaging, community involvement, and sustained engagement to ensure that vulnerable populations are not only informed but also empowered to seek support and treatment.

6. Conclusion

In this study, several learnings have emerged, notably outlining the specific causes of public health issues affecting women in Northern Nigeria. Secondly, the ripple effect of social policies such as early marriage and female genital mutilation on the increasing cases of obstetric fistula in Nigeria. Third, the significance of community in eradicating obstetric fistula in Nigeria, as well as avenues to support and empower affected women in Nigeria. Based on the learnings from this study, the following recommendations to enhance the effectiveness of fistula advocacy can be made.

The first is integration of local voices. This involves community leaders and fistula survivors in the design and dissemination of communication materials to ensure cultural relevance and resonance. For example, BFFWH did this through the use of testimonials of survivors, as well as the sensitisation events designed for community leaders and men in the community. Secondly, the use of multi-platform media and communication campaigns. By combining both traditional and digital media, organisations and advocates can reach a wider audience, including hard-to-reach rural communities. BFFWH is exemplary in how they combined news releases, social media, flyers, and in-person communication to reach the affected communities. Lastly, capacity building initiatives. Organisations are encouraged to invest in training for healthcare workers and community advocates to improve communication skills and the delivery of key messages related to fistula treatment and prevention. This is exemplified by BFFWH in their efforts to empower women in affected communities, educate and train health care workers, and in their partnerships with government and community leaders. This article contributes to a broader spectrum of the ways in which communication materials can be designed and disseminated to involve community leaders at different levels of home (at downstream), health (at midstream), and government (at upstream), to ensure cultural relevance and resonance with marginalised or minority populations.

This article opens a number of avenues for future research and development for communicating with and engaging communities of vulnerable and marginalised populations. One exemplary case study was used to conduct this study; therefore, further research would do well to investigate how communication and engagement are facilitated in other unique cultural, geographical, or health contexts. Additionally, other methods, particularly observation and focus groups, can be conducted to gather insight first-hand, and specifically from the individuals who facilitate this communication and engagement and those that the communication and engagement are targeted towards, to get a better sense of the efficacy of the methods and further strengthen the approaches for developing more effective strategies.

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Conflict of Interests

The author declares no conflict of interests.

Data Availability

The data analysed in this study consist of publicly available documents described in the Methodology section. Data are available from the author upon reasonable request.

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Media Coverage of Social Cohesion and Minorities During Riots in the UK and Spain

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Abstract

In Southport (UK) and Torre-Pacheco (Spain), attacks took place, in 2024 and 2025 respectively, against people who are considered part of mainstream society. These crimes were committed by people who are seen as foreigners: a lone murderer whose parents came from Rwanda, although he was born and raised in the UK, and, in Spain, three men from Morocco. A widespread disinformation campaign immediately took place targeting minority groups. The disinformation campaign was followed by violent riots against minority groups, in both countries. Through the media coverage of those events (initial attacks, disinformation campaigns, violent riots, and political responses), what conception of minority groups (their place in society) and social cohesion (who we are, as a society) does the media disseminate to the audience? The aim is to highlight whether or not the media adopt culturally informed communication. *The Guardian* and *The Telegraph*, in the UK, and *El País* and *ABC*, in Spain, were selected for the agenda-setting analysis of 298 news articles. The main hypothesis is that communication in progressive newspapers is more culturally informed than in conservative newspapers. This is mostly confirmed in the UK, while differences between media are not so clear in Spain. Although some indicators show more culturally informed communication in Spanish and progressive media, all newspapers place immigration at the centre of the debates on social cohesion. By reproducing the arguments of the far right and online misinformation, mainstream newspapers contribute to spreading and legitimising anti-migrant and anti-diversity rhetoric.

Keywords

culturally informed communication; migrants; minority groups; Muslims; riots; social cohesion; Spain; UK

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1. Introduction

In the UK, in Southport, on July 29, 2024, three little girls were murdered, and another eight people were injured in a stabbing attack. A disinformation campaign immediately took place on the identity of the murderer. According to some social media accounts, the crime was committed by a Muslim asylum seeker who arrived by boat in the UK, in irregular conditions. An invented name was created and mentioned to make the story real.

The real murderer was arrested just after the attack. His name and his profile were soon made public by the authorities and the media to stop the disinformation campaign. Born and raised in the UK, his family came from Rwanda, where the majority of the population is Christian (92,12%) and only 2% is Muslim, according to the Fifth Rwanda Population and Housing Census (Ministry of Finance and Economic Planning & National Institute of Statistics of Rwanda, 2023). Aged 17 years old at the time of the attack, he suffered from autism. After the stabbing attack, riots took place in several cities, especially against migrants, asylum seekers, and Muslims. The first violent episode occurred in Southport on July 30, targeting the local mosque, just one day after the murders.

In Spain, in Torre-Pacheco, on July 9, 2025, an elderly man was beaten by three Moroccan men. A video of the attack circulated on social media, although it was demonstrated to be "fake," as it referred to another episode. After the nationality of the assailants was confirmed, far-right groups from outside the municipality organised themselves to confront the Maghrebian population in Torre-Pacheco. The organisation of anti-immigrant groups was facilitated by social media and encouraged by far-right movements and political figures. Riots took place over several nights, with the police being reinforced all around the neighbourhood where more migrants live, until calm returned.

Common aspects exist between both cases. Initial attacks took place against people considered part of the mainstream society: little girls in Southport and an elderly man in Torre-Pacheco. These crimes were committed by people who are seen as foreigners: a lone murderer whose parents came from Rwanda, although he was born and raised in the UK, and, in Spain, three men from Morocco. A widespread disinformation campaign took place targeting minority groups, especially: Muslim and migrant population (both countries), unaccompanied foreign minors (Spain), and asylum seekers (UK). The intense disinformation campaign on social media was followed by violent riots against minority groups, in both countries, as reported by the press.

Through the media coverage of those events (initial attacks, disinformation campaigns, violent riots, and political responses), what conception of minority groups (their place in society) and social cohesion (who we are, as a society) does the media disseminate to the audience? This research question follows the idea that, if the media does not follow culturally informed communication (Chaika et al., 2022; Rodrigues & Paradies, 2017; Voorhees et al., 2007), its reporting contributes to the spreading and legitimising of anti-migrant and anti-diversity rhetoric among the audience (Checa-Olmos & Arjona-Garrido, 2011).

As a more neutral term (van der Meer & Tolsma, 2014), the analysis adopts the concept of social cohesion over social integration (Schnapper, 2007). In migration studies, the notion of integration has been criticised (Penninx & Martiniello, 2006) for its normative conception of what migrants and their children should achieve in the mainstream society to be recognised as part of it (Ager & Strang, 2004; Entzinger & Biezeveld, 2003).

Social integration was also criticised for promoting a vision of migrants and their children as a social group isolated from the mainstream society (Brey, 2016).

The classical formulation of social cohesion was offered by Durkheim (1893), who emphasised the importance of social solidarity rooted in shared norms and values. This foundational perspective framed cohesion as the social glue that binds individuals within societies through moral consensus and interdependence. In increasingly diverse societies, the link between social cohesion and migration has attracted attention. A consistent finding across studies is the lack of a rigorous, shared definition of social cohesion (Solé Puig et al., 2011). Van der Meer and Tolsma (2014, p. 460) provide an explicit definition, characterising social cohesion as "the degree of interconnectedness between individuals," encompassing feelings of commitment, trust, as well as norms of reciprocity. Angell and de Beer (2021, p. 65) offer a complementary perspective, conceptualising social cohesion as "the glue" or bonds holding a social system together. Trust emerged as a particularly prominent dimension (Koopmans et al., 2015), alongside belonging, solidarity, and participation (Angell & de Beer, 2021). Angell and de Beer (2021) emphasise that social cohesion involves both structural elements, such as participation, and cognitive elements, such as trust and sense of belonging.

This article analyses media coverage of minority groups and social cohesion. The aim is to highlight whether or not media adopt culturally informed communication, as explained in Section 2, dedicated to the literature review. The analysis was conducted with 298 news articles published after the stabbing attack in Southport (UK) and the assault on an elderly man in Torre-Pacheco (Spain) in 2024 and 2025 respectively. With a mixed approach, through priming and framing analysis, as explained in Section 3, the selected newspapers and country cases will be compared. Section 4 presents the findings, and in the conclusions (Section 5), a discussion is engaged in light of the theoretical perspectives employed.

2. Agenda-Setting, Culturally Informed Communication, and the Cases of Southport and Torre-Pacheco

Section 2 will be dedicated to agenda-setting and media coverage of social cohesion, migrants, and other minority groups (Section 2.1). It will consider which are the determining factors of media coverage on minority groups and social cohesion, and to what extent media contribute to culturally informed communication (Section 2.2). The literature review will include recent findings on the cases of Southport and Torre-Pacheco (Section 2.3). Section 2.4 will introduce the understanding of culturally informed communication and the main hypothesis in this article.

2.1. Agenda-Setting on Social Cohesion and Minority Groups

The agenda-setting theory is a foundational communication theory developed by McCombs and Shaw (1972). The core idea is that the media establishes what people should *think about*. When the theory was proposed, the cognitive paradigm dominated psychological studies. By emphasising certain news topics repeatedly, the media shapes the public agenda and influences the perceived importance of issues in society. Agenda-setting acts through different mechanisms (Monzón, 1996, pp. 304–305, as cited in López García, 2001, pp. 198–199). The media establishes a filter between knowledge and silence, as a topic is considered not to exist if it is not covered by the media. The media also establishes a hierarchy of priorities by determining the degree

of importance given to each issue. Moreover, the media puts emphasis on certain aspects of a topic while overlooking others.

The first two issues (filter between knowledge and silence, hierarchy of priorities) can be analysed through priming, to see how the media selects which topics the audience should think about. The third dimension can be analysed through framing, to understand how the media covers topics by highlighting certain aspects. While priming is treated as a quantitative indicator, framing is considered a qualitative approach (see Section 3).

As far as social cohesion is concerned, the media frame it primarily through assimilationist narratives emphasising minority integration into majority norms and values (Nolan et al., 2011; Rane & Hersi, 2012; Scalvini, 2013), while questioning multiculturalism. While national and transnational media adopt more negative, politicised frames, subnational media employ more positive, substantive frames (Leupold et al., 2018; Mendez et al., 2020). Media coverage emphasises cultural dimensions of cohesion—such as values, identity, and belonging—over economic or political indicators (Leupold et al., 2018; Rane & Hersi, 2012). Temporal dynamics prove critical, as demonstrated by refugee crisis coverage that shifted rapidly from solidarity to securitisation within months (Georgiou & Zaborowski, 2017). This is one of the main conclusions by Amores et al. (2019) when comparing the visual frames of migrants and refugees in France, Germany, Spain, and the UK, between 2013 and 2017. The authors highlight the existence of dichotomic frames on migrants and refugees, who are mostly portrayed as victims, but also as threats, especially in Germany, after 2015, when large numbers of refugees arrived in the country.

The evidence reveals that framing varies substantially by target group. Refugees and asylum seekers were predominantly framed as victims in visual media during 2013–2014 (Amores et al., 2019), but negative framing increased substantially after 2015, particularly in frontline countries like Greece (Amores et al., 2020) and in German media. Unaccompanied foreign minors in Spain experienced consistently negative framing in media with different editorial lines, during 2017–2022 (Gómez-Quintero et al., 2021). Through a frame analysis of press editorials in Spain, Martín Olea (2023) uncovers seven distinct frames on unaccompanied foreign minors. Although they are mostly portrayed as victims, she finds they are also considered a threat when concerns are raised about the lack of social cohesion and insecurity in the community (Martín Olea, 2023, p. 19). The other frames refer to (potential) criminal elements, supportive frames including representations of unaccompanied minors being part of society, positive evaluation frames, human interest frames, and utilitarian frames. In UK media, Muslims are framed through securitisation and othering narratives, with no evidence of the victim–threat dichotomy observed for migrant populations (Sian et al., 2013). Cross-national differences are substantial, with UK right-wing media being uniquely aggressive. Terminology varied significantly as the press in Germany/Sweden used "refugee," Italy/UK used "migrant," and Spain used "immigrant" (Berry et al., 2016).

Recent contributions on metonymies offer an innovative perspective. Metonymy involves referring to one concept by using a related entity to represent something more complex, helping uncover implicit meanings and ideologies embedded in media texts. Alongside metaphors, metonymies are frequently employed in media to simplify and frame complex migration issues (Catalano & Musolff, 2019). They shape public perceptions by reducing multifaceted realities into more concrete, relatable images or ideas, which may reinforce stereotypes or dominant ideological narratives (Arcimaviciene & Baglama, 2018).

2.2. Determinants of Media Coverage and Effects in Terms of Culturally Informed Communication

Media coverage of migration is shaped by a complex interplay of factors. Within different media systems, media type exerts consistent effects: Public service broadcasters provide more balanced, contextualised coverage than commercial outlets (Jacobs et al., 2016), while elite newspapers demonstrate higher content diversity than popular press (Masini et al., 2018). These differences stem from varying organisational logics, with public and elite outlets prioritising professional norms over commercial imperatives. Genre also matters significantly, with feature formats affording more diverse perspectives than standard news (Horsti, 2016), and longer articles enabling a greater diversity of perspectives (Masini et al., 2018). National context and political orientation often outweigh ownership structure in determining coverage approach (Mancini et al., 2019), while resource constraints, including limited staffing, affect all outlet types (Nachawati Rego & Rodríguez Gómez, 2025). Across contexts, coverage consistently privileges elite political voices over migrant perspectives (Gemi et al., 2013) and follows event-driven patterns that frame migration as a crisis (Mancini et al., 2019).

The comparative study by Berry et al. (2016) on the press coverage of "the refugee and migrant crisis" in five European countries highlights differences between the UK and Spain. The UK system's greater negativity and polarisation reflect both structural characteristics (longer history of immigration politicisation, Brexit dynamics) and partisan effects (aggressive right-wing media campaigns, especially towards refugees), operating in concert. Spain's relatively less negative coverage results from a pro-European orientation and shorter history of politicisation, with more recent engagement of extreme right discourses, through the political party Vox.

Media coverage of minority groups and social cohesion has an effect in terms of culturally informed communication. Culturally informed communication is characterised by: use of genres with diverse perspectives, solution-oriented framing promoting integration (Chaika et al., 2022), acknowledgement of cultural contexts affecting specific communities (Rodrigues & Paradies, 2017), and representation of minority voices in positions of authority (Voorhees et al., 2007). Conversely, lack of cultural competency manifests through: sensationalist language and racialised rhetoric, stereotypical portrayals using problematic tropes (Baugut, 2020), dominant use of threat and conflict frames, consistent positioning of minority groups as outsiders rather than insiders (Hussain, 2000), and over-representation of crime while under-representing positive contributions (Voorhees et al., 2007). These patterns vary systematically by context: Crisis coverage defaults to a threat-oriented frame (Amores et al., 2019; Rodrigues & Paradies, 2017), different minority groups receive differential treatment even within the same country (Meeusen & Jacobs, 2017), and political climates emphasising integration over multiculturalism shape negative framing (Nolan et al., 2011). Culturally informed communication emerges primarily when journalists receive specific cultural competency training (Chaika et al., 2022), newsrooms include diverse staff (Voorhees et al., 2007), and institutional feedback mechanisms connect media organisations with minority communities (Rodrigues & Paradies, 2017), suggesting structural rather than individual solutions are necessary for improvement.

2.3. The Cases of Southport and Torre-Pacheco

2.3.1. Southport

In the UK, academic publications on the riots that followed the attacks in Southport share similar conclusions. In a context of widespread social violence, the authorities gave priority to ending the riots through a securitised strategy (Thomson, 2025). This strategy had negative consequences for minority groups and social cohesion. Participants in the riots were mostly framed as "thugs" and "mindless criminals," with little consideration of the social and political forces underlying the violence. Those underlying drivers include far-right extremism and the existence of groups with specific political agendas (Wroe & Vaughn, 2025), xenophobia and racism, digital radicalisation, social inequalities, and deprivation of "left behind places" (Telford, 2025). According to Thomson (2025, p. 2): "By treating these attacks as mere disorder rather than hate-fuelled extremism, the state bolstered its legitimacy but risked tacitly enabling far-right networks." Godshaw and Singleton (2025) also point out the role of mainstream politicians:

> As the 2024 riots have been framed in public discourse, we argue that they were possible only through the active legitimisation of hostility to migration by successive Labour and Conservative governments, through which racism has become entwined with ideas about belonging in Britain. Furthermore, these framings are used instrumentally to deflect responsibility for the violence away from those in power and to enact a criminal justice crackdown that is both inadequate to prevent future racist violence and potentially counterproductive. (Godshaw & Singleton, 2025, p. 237)

According to Tyerman and van Isacker (2025, p. 410), framing the murderer as the "Southport monster" gave immediate legitimacy to the riots. The framing of "the others" as monsters is not something new, but it is influenced by the colonial British history, with consequences in the social categorisation of minority groups based on (post)colonial borders. According to Swehli et al. (2025, p. 6): "This underscores the reality that laws can create only the illusion of equality when they operate within a broader racial power structure."

2.3.2. Torre-Pacheco

In Spain, as little time has passed since the riots, few contributions have been published. Before the riots, in February 2025, Rodríguez Calles and Iglesias Martínez published a paper on the "factors explaining the peaceful coexistence between immigrants and natives in working-class neighbourhoods in Spain" (Rodríguez Calles & Iglesias Martínez, 2025, p. 1). Through a qualitative, exhaustive fieldwork, Torre-Pacheco was compared with another Spanish local context. The authors detected the following factors as being protective against social conflict:

> Ethnic segmentation, political consensus on immigration, universalist welfare state policies, increasing intergroup contact, native immigrant memory, and the perceived reduced ethnic distance towards Latin American immigration. The weakening of any of these factors, as illustrated by the case of Torre-Pacheco, could increase intergroup conflict in the coming years. (Rodríguez Calles & Iglesias Martínez, 2025, p. 1)

Only a few months later, in July 2025, riots confirmed the fears of the authors. Right after, a *Special Bulletin on Monitoring Hate Speech on Social Media* was dedicated to Torre-Pacheco by the Spanish Observatory on Racism and Xenophobia (OBERAXE, 2025), which depends on the Ministry of Inclusion, Social Security, and Migration. In just 17 days, following the initial assault, more than 138,000 racist and xenophobic hate messages were detected on social media. The report identifies an escalation in hostile messages, hoaxes, and calls for violence, mainly directed against people from North Africa (91% of hate content). Most messages incite dehumanisation, criminalisation, and digital "hunts" that end up being transferred to real life.

2.4. Culturally Informed Communication During Riots

Following the literature review (Section 2.2), in this article, communication will be considered culturally informed when:

1. The newspapers give knowledge about the challenges faced by minority groups during riots; these challenges are made visible in comparison to other social groups and other social facts, and the press cites the voices of minority groups. These aspects will be analysed through a priming quantitative analysis (Section 3).
2. During violent riots, the qualitative framing of minority groups and social cohesion highlights national, ethnic, and religious diversity as positive features of the whole society, thereby supporting multiculturalism as a positive value (Section 4).

The communication will not be considered culturally informed when the press does not give information about the challenges faced by minority groups, and they do not cite them. Communication will not be culturally informed if media emphasises the need to promote the social integration of minority groups through an assimilationist perspective. And it will neither be considered culturally informed if minority groups are portrayed as outsiders, even though some members were born and raised in the UK or Spain.

Media coverage will be analysed through agenda-setting. The aim is to identify which topics are mentioned by the press, which topics are salient over others, and which frames are adopted on minority groups and social cohesion. In the UK or Spain, the recognition of minority groups as victims of the riots or the conception of the riots as being legitimate since minority groups are considered a threat will indicate differences between media coverage. In the first situation, diversity is recognised as a positive and constitutive aspect of society, whereas diversity and multiculturalism are conceived as challenging social cohesion in the last case.

Through the media coverage of the events of Southport and Torre-Pacheco, the aim is to understand which conception the media disseminates to the audience on minority groups (what place they have in society) and social cohesion (who we are, as a society). The hypothesis is that communication in progressive media will be more culturally informed than in conservative media.

3. Methodology

For the comparison, four newspapers were selected. This selection was based on: (a) the Media Web Reputation Ranking, by SCImago Media; (b) the digital audience, according to the General Media Framework (Marco General de los Medios) in Spain (Asociación para la Investigación de Medios de Comunicación, 2025),

and to *Press Gazette* ("50 biggest UK news websites," 2025) in the UK; and (c) the editorial line, conservative or progressive. Based on the Media Web Reputation Ranking, only media with general content and more than 70/100 points were considered for the analysis.

In Spain, there are only two general newspapers with more than 70/100 points in the Media Web Reputation Ranking (SCImago Media, 2025): the progressive media *El País* (EPS, 82.25/100) and the conservative media ABC (72.75/100). In 2024, EPS had the largest audience, while ABC was the fifth largest (Asociación para la Investigación de Medios de Comunicación, 2025). As both media are private, for a coherent comparison, two private newspapers were also selected in the UK (Jacobs et al., 2016). In the UK, eight general private media have more than 70/100 points in the Media Web Reputation Ranking (SCImago Media, 2025). By narrowing the selection to newsbrands with more than 35% of the audience ("50 biggest UK news websites," 2025), *Reuters* and *Metro* were discarded. Sky News was discarded for being consistently perceived as generally neutral by the audience, according to a biannual tracker conducted by YouGov (2025). The remaining five newsbrands were classified by their ideology. According to a survey by YouGov, published in *The Times* (Smith, 2017), *The Guardian* (TG) and *The Mirror* were perceived as mostly left-wing media, whereas *The Independent* was perceived as being more centre-left. As TG showed a higher audience (45%) and a higher reputation (85.75/100) than the other two media, it was selected as the progressive case for the UK. Among conservative media, both *The Daily Mail* and *The Telegraph* (TT) were mostly perceived as right-wing media (Smith, 2017). Although *The Daily Mail* has a larger audience (38%) than TT (35%), this latter media has a higher reputation according to the Media Web Reputation Ranking: 78/100 for TT versus 77.5/100 for *The Daily Mail*. Giving priority to reputation over audience, TT was selected as the conservative case for the UK.

The fieldwork was conducted with the digital versions of the newspapers, in August 2025. The news items were identified by searching for the keywords "Southport" and "Torre-Pacheco." For the UK, the news items were identified on each media outlet's website. In contrast, for Spain, the news items were identified through Google's advanced search tools because the Spanish newspaper websites did not have the necessary filters. In ABC, 1,404 news articles were identified, with no time limit. In EPS, when "Torre-Pacheco" was named, more than 10,000 news articles were identified. Through Google's advanced search tools, the specific period of 10 days could be selected. This technique shows validity through two indicators. The number of news articles initially identified in the Spanish media is similar to the number identified in the UK, through the website of the media (Table 1). Different types of news articles were identified in the Spanish media (Table 2). The analysis was conducted for 10 days, with news published from July 29 until August 7, 2024, in the UK, and from July 9 until July 18, 2025, in Spain. The analysis covers the period during which most riots took place

Table 1. Identified and selected news items for the analysis.

Media	Identified news items	Selected news items for the analysis
UK	205	189
Progressive media: TG	120	107
Conservative media: TT	85	82
Spain	238	109
Progressive media: EPS	79	51
Conservative media: ABC	159	58
Total	**443**	**298**

in the UK (Bonnett & Hopkins, 2025, p. 421; Thomson, 2025, p. 5), whereas violent events went on for fewer days in Spain.

As Table 1 indicates, 443 news articles were initially identified, out of which 145 were eliminated for the comparative analysis to be coherent. News articles were discarded if the content did not mention the events of Southport or Torre-Pacheco. Single news articles published on Culture, Sports, and Business were also eliminated. The same decision was adopted for videos, images, podcasts, and cartoons, as this article focuses on written texts. In ABC, 87 news items were discarded as they just reproduced short videos produced by the major Spanish press agencies. Audiovisual and other multimedia formats were not included, as they require a different type of analysis than written texts, such as visual framing (Kędra & Sommier, 2018; Rodriguez & Dimitrova, 2011). Express news and detailed briefings were discarded to avoid repetition.

As a potential indicator of differences between conservative-leaning and progressive-leaning media (Horsti, 2016), the type of selected news items for each media was analysed (Table 2). The type of news is defined by the head of the section in which it was published (Goenaga Ruiz de Zuazu, 2017). In TT, 84.2% of the news items are headed as standard news, while the rest are included in sections dedicated to Opinion & Columnists or Politics. In comparison, TG published fewer standard news items (60.7%). In the UK, the progressive media shows higher variability by publishing news in sections dedicated to World, Media & Technology, Society, and three Editorials. This could lead to more diverse perspectives on the events (Horsti, 2016). In Spain, the opposite is observed, as three out of four news items published by the progressive media are standard news, while they represent less than 40% of the news items published by the conservative media (38.3%). When other types of news are considered, EPS published more news in Opinion & Columnists, while ABC published more news in Society and Television. Both media outlets published an editorial on the events in Torre-Pacheco.

Table 2. Genre of the selected news items, by newspaper.

	TG-UK	TT-UK	EPS-SP	ABC-SP
National News	60.7%	84.2%	75.0%	38.3%
Politics	15.9%	7.3%	—	—
Section "Commentisfree" in TG, Opinion & Columnists in other newspapers	9.3%	8.5%	19.2%	6.7%
World & International News	4.7%	—	1.9%	—
Media & Technology	4.7%	—	1.9%	1.7%
Television	—	—	—	16.7%
Society	2.8%	—	—	35%
Editorial	1.9%	—	1.9%	1.7%
Total	107	82	51	58

As the trends are contradictory when genre is compared in both countries, differences between conservative-leaning and progressive-leaning media cannot clearly be established by the type of news. To analyse if media coverage on social cohesion and minority groups leads to culturally informed communication, priming and framing analyses (Section 2.1) were conducted with the headlines of 298 news articles. Headlines offer methodological justification as analytical units based on their unique cognitive properties and empirical validity. They serve as cognitive shortcuts that attract attention and influence

reader understanding independently of full article text, with particular impact on less engaged readers who may not read beyond headlines (Nisar & Bleich, 2020).

Through the headlines, a priming analysis was conducted with content words, also known as lexical words. They carry primary semantic meaning and refer to objects, actions, qualities, or states. They belong to open-class categories, meaning new words can be added to them over time. They include verbs, nouns, adjectives, and some adverbs (Cuetos Vega et al., 2020). Through priming of the content words, the aim is to identify if newspapers bring knowledge about the challenges faced by minority groups during riots, if these challenges are made visible in comparison to other social groups and other social facts, and if the press cites voices of minority groups (Section 2.4).

The content words used in the headlines were encoded through a mixed coding approach, both deductive and inductive. The inductive method followed grounded theory (Glaser & Strauss, 1967). Overall, 767 content words were identified in the headlines (284 in TG, 187 in TT, 142 in EPS, and 154 in ABC). These words were grouped into 19 to 21 basic categories. This first level of codification resulted from the news item itself. Those basic categories were united based on the similarity of their content, resulting in 10 intermediate categories. The codification was made coherent through media comparison and the literature review on Southport. After the initial murders, public discourses mainly framed people who participated in violent events as rioters, while avoiding considering them as social actors with a political agenda (Telford, 2025; Thomson, 2025; Wroe & Vaughn, 2025). As a consequence, the riots were interpreted in terms of security, with no political responses dealing with their socioeconomic and political background (Section 2.3).

At a second level of the codification process, the following intermediate categories were created:

1. The murderer (in the UK) or the perpetrators of the initial assault (in Spain).
2. The victims, together with their families.
3. Riots, rioters, hooligans, thugs, arrested, and mob, who are recognised as having no political agenda (Telford, 2025; Thomson, 2025; Wroe & Vaughn, 2025). This category is linked to violence and expression of violence through references to being assaulted, attacked, bitten, hit by a brick, and set on fire; as well as angry crowd, brutal awakening, clash, devastation, disorder, fear, safety, threat, warning, and weapons.
4. Terrorists, protesters, fascists, neo-Nazis, or extremists, when participants in violent events are recognised as having a political agenda (Telford, 2025; Thomson, 2025; Wroe & Vaughn, 2025).
5. Misinformation (all media), populism and polarisation (TG), internet, with references to social media, TikTok, Telegram, and artificial intelligence.
6. The far right, their public figures and politicians.
7. Mainstream authorities include politicians (except the far right), the police, and the justice system.
8. Debates on social cohesion.
9. The minority groups, suffering attacks and hate discourses and crimes, formed another category.
10. The members of the local community who showed their support against the initial crimes were considered together with voices against violence, counter activism, and expression of love and solidarity, to support the minority groups targeted by the attacks and hate discourses and crimes.

Those 10 intermediate categories were grouped into three general ones:

1. The actors or the episodes contributing to promote and reproduce social conflicts include: "the murderer"; "the perpetrators of the initial assault"; "the far right"; "misinformation and internet"; "riots, thugs, and violence"; and "extremists, terrorists, protesters, neo-Nazis, or fascists."
2. The mainstream narratives include: "politicians, the police, and the justice system"; and "social cohesion."
3. The victims or the actors whose aim is to resolve or avoid social conflicts include: "the victims and their families"; "minority groups suffering attacks"; and "the community and support networks."

The categorisations of the content words in basic, intermediate, and general categories follow the distinction by Ortí (2003) between the factual, the significant, and the symbolic dimensions of social discourses. The aim is to classify the content words expressed in a conscious and literal way, the meanings of discourses, and the ultimate unconscious motivations, respectively.

The analysis of content words through a quantitative priming approach will be completed with the qualitative framing analysis of the headlines related to social cohesion, minority groups targeted by attacks and hate discourses and crimes, and communities and networks that supported minority groups. The aim is to respond to the central research question about how media coverage of the events of Southport and Torre-Pacheco (initial attacks, disinformation campaign, violent riots, and political responses) disseminates a certain conception of minority groups to the audience (their place in society) and social cohesion (who we are, as a society).

4. Media Coverage of Social Cohesion and Minority Groups During Riots

Section 4 will first compare the media coverage by editorial line and country cases, considering the three overarching categories (promotion of social conflicts, resolution of social conflicts, or mainstream discourses), followed by social cohesion and minority groups. Then, the findings on the UK and Spain will be presented. The quoted headlines are followed by references to the corresponding media and the day of the publication.

4.1. Comparative Notes

The victims or the actors whose aim is to resolve or avoid social conflicts have more visibility in progressive media (21.5% of the content words in TG and 33.8% in EPS) than in conservative media (17.6% in TT and 18.8% in ABC). Overall, all media pay more attention to the actors or the episodes contributing to promoting or reproducing social conflicts, with more visibility in the UK (52.4% of the content words in TG and 54.5% in the TT) than in Spain (41.5% in EPS and 40.9% in ABC). In each country, little difference is observed for this category, regardless of editorial line.

Social cohesion is more visible in Spain than in the UK. EPS addresses the issue in 16 out of 51 headlines (31.4%); ABC, in 20 out of 58 headlines (34.5%). Meanwhile, TG addresses the topic in 20 out of 107 headlines (18.7%); TT, in 12 out of 82 headlines (14.6%). Minority groups, the hatred they face, voices against violence, and the local community are more visible in Spanish media in comparison to the UK, and more visible in progressive media in comparison to conservative media. Those topics are mentioned in 32 out of 107 headlines (29.9%) in TG; 10 out of 82 headlines (12.2%) in TT; in Spain, the topics are mentioned in 31 out of 51 headlines (60.8%) in EPS; 20 out of 58 headlines (34.5%) in ABC.

In all media, several metonymies of minority groups are used. The individual victims of the riots are named: (a) by their nationality (Moroccans); (b) by their ethnic or religious background (Maghrebians/Muslims); (c) by their (im)migrant status; or (d) by their legal category (asylum seekers, illegal migrants, foreign citizens, unaccompanied minors).

4.2. The UK

When the content words in the headlines are compared, differences are observed (Figure 1). TT gives more visibility to the victims and their families, misinformation and the role of the internet, and the murderer. The social actors directly involved in the initial stabbing attacks have more visibility in the headlines of this conservative media. TG gives more visibility to far-right movements and politicians; the community and support networks (8.5% in TG and 2.7% in TT); and minorities suffering attacks and hate discourses and crimes (6% in TG and 3.7% in TT). Social actors involved after the riots started having more visibility in the headlines of the progressive media.

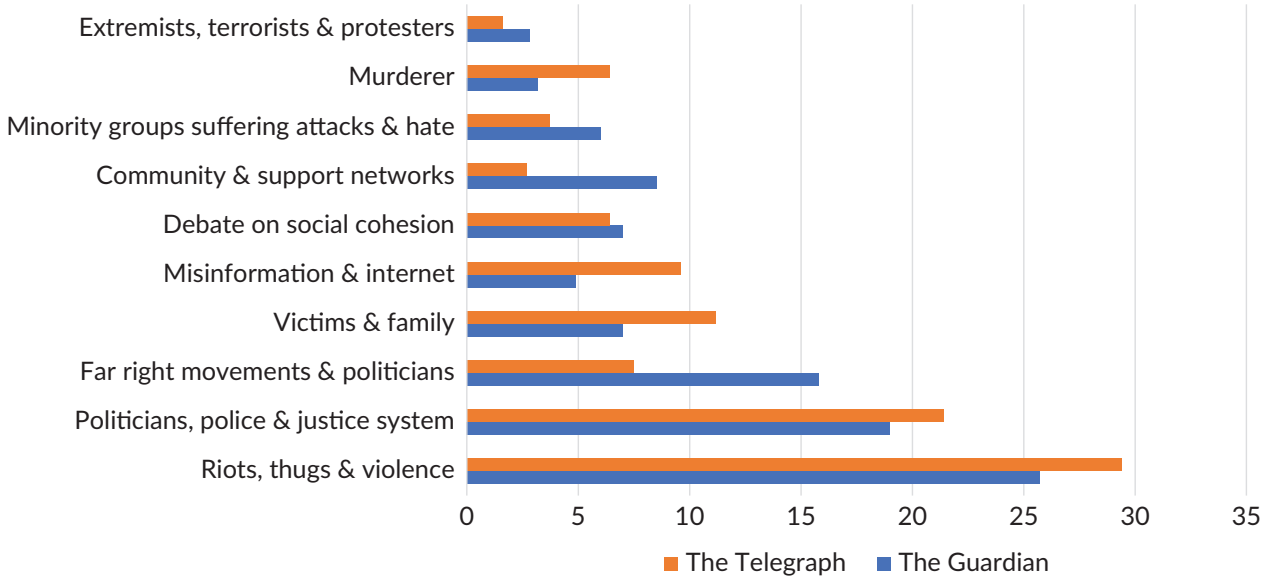


Figure 1. Distribution of the encoded words from the headlines of the selected news articles, in the UK, by percentage.

In both media, the minorities suffering attacks and hate discourses and crimes are among the categories with less attention in the headlines. They are the fourth most invisible category in TG and the third most invisible in TT. However, which groups are specifically identified as minorities?

In TG, minority groups include asylum seekers (four references), Muslims and mosques (three references), Jews, and immigrants. While mosques are protected by the police and targeted by far-right plans, Muslims are "terrorised" by extreme-right activists. TG sometimes gives a direct voice to members of minority groups. Some of them claim: "We don't want to feel unsafe in the place we love" (TG, 02/08/24), while others confess: "Some threatened to kill us" (TG, 06/08/24). Violence went so far that "rioters try to torch Rotherham asylum seeker hotel" (TG, 04/08/24). The far-right is held responsible for the violent events in the street and for online violence. The groups that raise their voices against hate and violence include a

charity, a member of parliament from Southport, and the mother of a victim. Anti-racism protesters, activists, and counter-protesters champion love and solidarity through personal or organised actions, as indicated in the following headlines, both published in the same day: "Love will prevail" and "Friends, family and strangers have banded together" (TG, 03/08/24).

In TT, three references are made to Muslims, after the initial clash against the local mosque of Southport: "Worshippers trapped as mob attacks Southport mosque" (TT, 31/07/24). While riots take place all over the country, Muslims are also seen as a threat, as they are told by the police to "discard any weapons in the mosque" (TT, 05/08/24). Migrants are mentioned in two headlines, as hotels where they stay are attacked by far-right rioters. No reference is made to asylum seekers or attacks against Jews in TT. Like TG, TT reports that hatred is manifested in the streets and online, and voices are raised against the violence, with interventions by the mother of a Southport victim and neighbours of the city. Those people are defined as "a community" in several news reports, and they claim to defy the riots, considered "a disgraceful hijacking of our tragedy" (TT, 31/07/24).

In TG, social cohesion is related to the need to "prevent[ing] further unrest" (TG, 07/08/24) and to "protect communities" from "race riots" (TG, 06/08/24). During what is qualified as a "dangerous new time" (TG, 03/08/24), explanations for the current riots are investigated. Through the headlines, factors close at hand include populism, polarisation through social media, British politics, "Tory race-baiting" (TG, 06/08/24) and their promise to "cut immigration" (TG, 02/08/24). The role of the far right in offering legitimacy to the riots is highlighted. References to far-right politicians and figures include Tommy Robinson (previous leader of the English Defence League); Nigel Farage (head of the Reform Party, member of parliament); and Elon Musk (CEO of X), who published the famous post: "Civil war is inevitable" (TG, 05/08/24), when riots were taking place in the UK. While Keir Starmer, the prime minister, declared that rioters would feel the "full force of the law" (TG, 30/07/24), to put a stop to violence, TG raises a debate about the ideology and the moral and electoral ruin of British politics. Journalists express their concern about what defines us in the present and what will do so in the future. In TG, the profile of the rioters is analysed in an opinion piece, in which the author claims their anger is not legitimate: "Some are calling these far-right riots an outpouring of legitimate anger. They are not" (TG, 05/08/24).

In TT, social cohesion is considered to be threatened by wider problems of modern British society, including weakened law and order, religious diversity, and migration. The riots are partly recognised as legitimate. They are qualified as "civil unrest" (TT, 06/08/24) and "militant politics" (TT, 07/08/24), with a headline claiming: "Freedom of speech must be protected" (TT, 04/08/24). In this context, modern Britain "needs to be recivilised" and "a new approach to integration" must be adopted (TT, 02/08/24). As a columnist wrote: "I deplore those who whip up hatred, but there are undeniable problems with migration" (TT, 06/08/24). TT also makes reference to the far right, but the mentions are mostly related to the political dispute. The far right is not presented as a key factor to explain the riots.

4.3. Spain

In Spain, the newspapers assign varying levels of visibility depending on the topic. In EPS, minority groups is the most relevant category (28.2% in EPS and 11% in ABC). The progressive media also gives more visibility to far-right movements and politicians, and misinformation and the role of the Internet, when compared to ABC.

Both the far right and misinformation are considered key factors to explain the riots that took place after the initial assault on an elderly man in Torre-Pacheco. In ABC, the most visible category refers to politicians, the police, and the justice system, followed by references to riots and violence, perpetrators of the initial assault, together with community and support networks, in comparison to EPS (Figure 2).

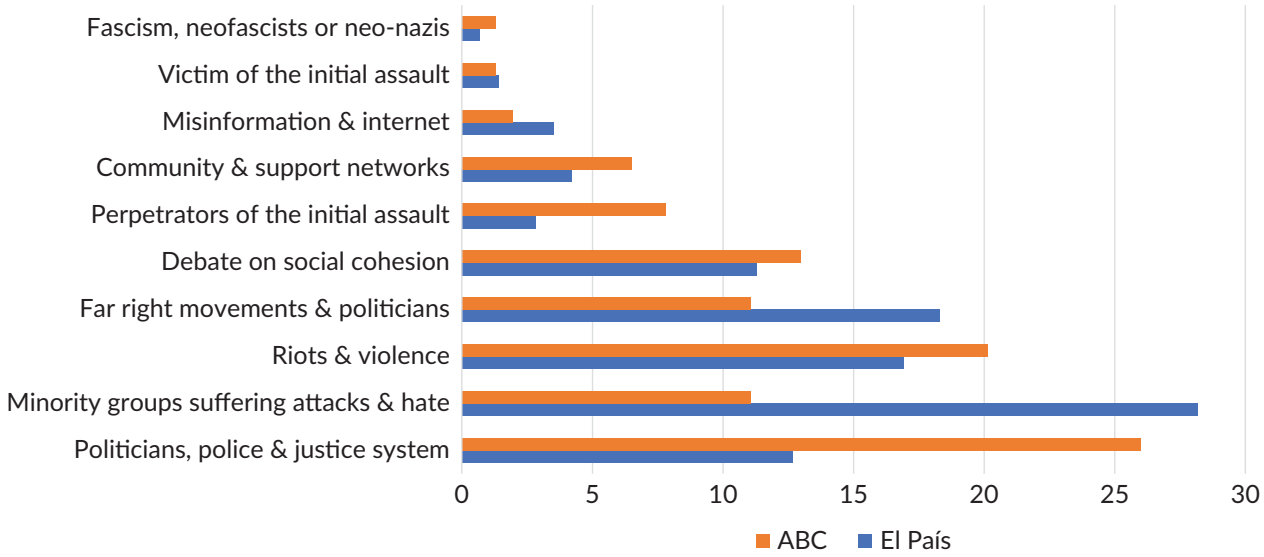


Figure 2. Distribution of the encoded words from the headlines of the selected news articles, in Spain, by percentage.

Both media give similar visibility to social cohesion (11.3% in EPS and 13% in ABC; Figure 2), although the topic is tackled in a different way by the conservative and progressive newspapers.

In EPS, the initial assault on an elderly man is considered "an excuse" (EPS, 15/07/25). What happened next (the riots against the local migrant population) is qualified as an "involuntary revolution" (EPS, 14/07/25) and a "warning" (EPS, 15/07/25) about the division of Spain. Central symbols of Spanish history, such as language, homeland, and people, are mentioned in several headlines. They also refer to current affairs, among which are xenophobia and other "monsters" (EPS, 15/07/25) that have recently gained visibility in Europe. In the progressive media, the debate on social cohesion focuses on the fundamental elements that both define or divide Spain, and the place of otherness in Spanish society.

Immigration is mentioned several times as a key element to explain the increased division between political blocs in Spain. Among the voices for more restrictive policies towards migrants, EPS quoted words from the leader of the conservative Popular Party (PP): "Feijóo demands 'respect and integration' from immigrants in Spain: 'Those who do not comply are not welcome'" (EPS, 15/07/25); "Feijóo toughens his discourse and calls for the 'immediate' deportation of illegal immigrants who commit crimes" (EPS, 16/07/25). Migrants and their access to rights are defended by the Prosecutor against hate crime; the Minister for Inclusion, Social Security, and Migration; and the Prime Minister of Spain. All of them are quoted in headlines, as they claim, respectively: "Going out to 'hunt' immigrants is a serious violation of human rights" (EPS, 15/07/25); "Spain is not a country that hunts down immigrants" (EPS, 14/07/25); "My country's progress and strong economic situation owe a great deal to immigrants" (EPS, 16/07/25).

In ABC, immigration is related to criminality in several headlines, especially when unaccompanied minors are considered, even though they did not participate in the initial assault or the riots. The situation before the riots is interpreted as "a powder keg" and "a perfect storm" (ABC, 15/07/25), considering the sustained local population increases. The conservative media gives a voice to neighbours who claim that migrants are responsible for the situation, especially those who recently arrived from Morocco. A couple of headlines highlight: "Those who come here from Morocco arrive feeling very emboldened" (ABC, 15/07/25); "A farmer from Torre Pacheco is very clear about the real source of the problems in this town: 'The coexistence between immigrants…'" (ABC, 16/07/25). ABC also dedicates several news reports to the negative consequences of the riots for the whole local population, both migrants and non migrants. This trend is visible through the following headlines: "Something has been broken in Torre Pacheco, and it will be difficult to repair" (ABC, 16/07/25); "Peaceful night in Torre Pacheco after the turmoil caused by the call for hunting" (ABC, 16/07/25), although the "hunting of migrants" is not mentioned in the headline. The framing analysis shows a great diversity of perspectives through the headlines dedicated to social cohesion in ABC.

In ABC, social cohesion is interpreted in terms of living together "under the one law" (ABC, 17/07/25) and political perspectives on immigration. Like EPS, ABC gives visibility to political leaders with different positions. The parties with more progressive views on immigration are quoted, including both parties working together in the government: the minority party with a left-wing orientation (Sumar), and the Socialist Party (PSOE), led by the prime minister. While "Sumar condemns 'racist violence by the far right' in Torre Pacheco with a statement in Spanish and Arabic" (ABC, 16/07/25), "Sánchez advocates for 'safe, regular and orderly' immigration" (ABC, 16/07/25). Words from the leader of the conservative and the extreme right parties, PP and Vox, are also quoted. While "Feijóo states that an illegal immigrant who commits a crime in Spain 'must be deported immediately'" (ABC, 16/07/25), Vox claims: "If supporting neighbours who suffer the consequences of illegal immigration is a crime, then arrest us" (ABC, 17/07/25).

In each media outlet, among the news related to social cohesion, a headline is dedicated to the role of Morocco, where the assailants of the elderly man come from. In the progressive media, the headline reads: "Moroccan nationalists raise tensions over Ceuta and Melilla amid unrest in Murcia" (EPS, 15/07/25). In the conservative media, the headline reads: "From the Sahara to Torre Pacheco, Morocco's soft control" (ABC, 14/07/25).

In Torre-Pacheco, who are the minority groups that suffer the attacks? According to the headlines published in EPS, they are mostly (im)migrants (12 references), irregular immigrants, foreign citizens, or children of immigrants (one reference to each). The other five references mention Moroccans or Maghrebians. They are presented as victims of the hunt declared in the far-right online community and by political movements such as the newly created "Deport Them Now." The leader was arrested for hate crimes after he was accused of promoting riots in Torre-Pacheco. The racist and xenophobic underpinnings of the riots are clearly recognised through 13 references to racism and xenophobia, and another seven references to hate and hate crimes and discourses. No legitimacy is given to the rioters after the initial assault took place. The elderly man who was the initial victim, together with journalists and politicians, raise their voices against the violence, as the following headlines indicate: "Domingo Tomás, the neighbour attacked in Torre Pacheco: 'I didn't want any of this to happen. I don't think it's right to go after them'" (EPS, 17/07/25); and "Hatred hurts" (EPS, 18/07/25). In the community, neighbours lament that "There is no peace for anyone" (EPS, 14/07/25) and "We're not going to open a business until this calms down" (EPS, 15/07/25).

In comparison, ABC publishes fewer references to minorities. Only three times were the victims identified as the migrant population, Moroccans, or Muslims, while just three references to racism and a single reference to xenophobia appear among the headlines. Instead, other social groups are identified as victims, such as: (a) journalists threatened by the rioters, and (b) a young victim injured after the riots, together with his family, although no reference is made to their national, ethnic, or religious background. The violence demonstrated against the migrant local population is more invisible in ABC, in comparison to EPS. ABC gives more visibility to "the people" of Torre-Pacheco and their feelings after the violent episodes took place. Those feelings include fear, pain, panic, or distress. As for the voices against violence, they are expressed by politicians from Sumar, PSOE, and regional leaders of the conservative PP, both in the region of Murcia, where Torre-Pacheco is, and the neighbouring region of Castile-La Mancha.

5. Conclusion

The central research question aims to understand, through the media coverage of the events of Southport and Torre-Pacheco, which conception the media disseminates to the audience on minority groups (their place in society) and social cohesion (who we are, as a society). The main hypothesis was that communication in progressive newspapers (EPS and TG) would be more culturally informed than in conservative newspapers (ABC and TT). The comparison between media coverage in the UK and Spain (2024–2025) leads to more nuanced conclusions.

In the UK, both newspapers give more visibility to conflictive forces, especially violent riots. They insist on the need for politicians, the police, and the justice system to provide solutions. In both media, minority groups are among the categories that receive less attention. Beyond this general picture, differences are observed in social cohesion and minority groups. While immigration is recognised as a key social problem to explain riots in TT, the opinions expressed in TG give no legitimacy to violence (Berry et al., 2016). In a few headlines of TG, members of minority groups express their fear regarding violent episodes. Both indicators support culturally informed communication (Voorhees et al., 2007), but the fieldwork also confirms that migrants and asylum seekers are framed as victims (Amores et al., 2019). In TT, fewer headlines refer to diversity, whereas immigration is related to criminality, and mosques are framed through securitisation (Sian et al., 2013). In the conservative media, in times of social conflict, migrants and asylum seekers are mostly framed as a threat (Amores et al., 2020). In TT, the tone is more aggressive (Berry et al., 2016), and multiculturalism is explicitly questioned.

Our hypothesis is mostly confirmed in the UK (TG gives no legitimacy to riots and minority groups express their voices in the headlines), while the difference between media is not so clear in Spain (Gómez-Quintero et al., 2021), when culturally informed communication is concerned. In terms of social cohesion, both Spanish media quote political voices with diverse opinions on diversity and migration control, except for Vox, the extreme right party, whose leaders are not quoted in EPS. In the progressive media, minority groups are presented as victims of the hunts promoted by the far-right online community and reinforced by extremist political movements. In EPS, the racist and xenophobic underpinnings of the riots are recognised, with no legitimacy given to rioters. But references are also made to cohesive elements from the past, before diversity was part of social reality. In ABC, there are fewer references to minority groups, while some neighbours hold Moroccan migrants responsible for the riots, as a threat.

Minority groups, the hatred they face, together with the voices against violence and the community are more visible in Spanish media in comparison to the UK, and more visible in progressive media in comparison to conservative media. Although this trend indicates more culturally informed communication in Spanish and progressive media, all newspapers, in their headlines, place immigration at the centre of the debate on social cohesion. By reproducing the political conversation on international migration and minority groups, the arguments of the far right, and online misinformation, mainstream newspapers contribute to spreading anti-migrant and anti-diversity rhetoric among the audience (Checa-Olmos & Arjona-Garrido, 2011). In the legitimisation of those rhetorics, mainstream newspapers reinforce the discourses of mainstream politicians, some of which support anti-migrant discourses (Godshaw & Singleton, 2025; Thomson, 2025).

All media depict minority groups through metonymies referring to their nationality, their migrant condition, or their legal status (Catalano & Musolff, 2019). This gives a vision of minorities as homogeneous groups, without regard for their internal diversity: They seem to lose their individuality, their agency, and their internal heterogeneity. This trend is a result of the "social identification" (Tajfel, 1978) of the media with the endogenous group of non-migrant people from the UK or Spain. In Spain, social identification is especially visible when both media refer to the influence of Morocco. This echoes Islamophobia and fear of Moroccans and Muslims (Douhaibi & Amazian, 2019; Poli & Álvarez-Miranda, 2024), whether "the others" live outside or inside the country. The social position of migrants results from past and current dynamics, such as the colonial history, narratives on migration and diversity from mainstream parties, and the existence of extreme-right political parties with clear anti-migrant discourses (Favell, 2001).

For future research, visual framing and the analysis of the news narrative through inductive or generic categories (Semetko & Valkenburg, 2000) could complete the current findings. Comparison can include newspapers, television, radio, and social media, including at least two progressive and two conservative media per country, to go beyond case studies. Media may be defined not only by reputation, audience, and editorial line, but also by the national context and political orientation. Future research might connect media coverage with the characteristics of specific integration policies for migrants and minorities in the UK and Spain. To select relevant media for the comparison, other factors could be adopted, such as the ownership structure (Mancini et al., 2019) and the resource constraints (Nachawati Rego & Rodríguez Gómez, 2025).

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Data Availability

All news items are available to the general public through the media's websites or Google's advanced search tools. Sometimes a subscription is required to have access to the full version of the news articles.

LLMs Disclosure

Perplexity AI was used to format references according to the APA style or to identify relevant contributions, for instance, when searching for coherent criteria to select the newspapers in both countries. References were always double-checked by consulting the original source.

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REVIEW

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Resilience in Marginalized Communities During Crises: A Literature Review of Communication Scholarship

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Abstract

This article reviews how communication scholarship conceptualizes and examines resilience among marginalized populations in crisis contexts. Based on 45 peer-reviewed articles published between 2010 and 2025, it maps the research landscape across journals, crisis types, and groups, and analyzes how resilience is theorized and enacted through communication. The findings show that while resilience is widely invoked, it is often framed narrowly as coping or adaptation. At the same time, the review identifies recurring communicative practices, including the reestablishment of normalcy, affirmation of identity, mobilization of networks, development of counter-narratives, and legitimization of emotion, that reveal resilience as a relational and discursive process shaped by inequality. Yet structural power dynamics, intersectional vulnerabilities, and community-led practices remain under-studied. The study contributes to the field by consolidating fragmented research, extending the communication theory of resilience (CTR) through critical perspectives, and outlining directions for future inquiry. By centering marginalized voices, it advances a more inclusive and equity-oriented agenda for crisis communication.

Keywords

communication theory of resilience; community resilience; crisis communication; digital media; inequality; marginalized populations; resilience

1. Introduction

Crisis scholarship has demonstrated that the impacts of disruption are not evenly distributed. Instead, they amplify existing social, political, and economic inequalities, leaving marginalized populations disproportionately vulnerable to disruption and harm (Kalocsányiová et al., 2023). Whether in the form of

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pandemics, climate-related disasters, or political unrest, groups such as migrants, racialized minorities, and low-income communities often experience higher levels of exposure to risk while simultaneously facing systemic barriers that complicate their recovery (M. Kim & Doerfel, 2025; W. Liu, 2021). These unequal burdens make it essential to examine how resilience, commonly defined as the capacity of individuals, communities, or systems to endure, adapt, and transform in the face of disruption, is conceptualized and enacted among marginalized groups (Norris et al., 2008; Ungar, 2011; Walker et al., 2004).

Within communication scholarship, resilience has increasingly been recognized as a crucial lens through which to understand how individuals and groups navigate crises. The communication theory of resilience (CTR), developed by Buzzanell (2010) and further elaborated by Buzzanell and Houston (2018), has been influential in moving the focus from static, individual traits to relational and discursive processes. CTR conceptualizes resilience not as an inherent quality, but as something constituted through communication.

Over the past decade, communication scholarship has begun to expand the study of resilience across diverse contexts and address different perspectives: Previous studies have examined resilience as a process of constructing meaning in the aftermath of disruption; families, organizations, and communities use narratives, rituals, and discourses to normalize uncertainty, reframe challenges, and craft new pathways forward (e.g., Afifi et al., 2016). Another perspective emphasizes resilience as inherently relational. Studies have highlighted how interpersonal and family interactions, as well as organizational relationships, provide resources that allow people to endure and adapt (e.g., Kellas & Horstman, 2015). Research has also examined resilience in relation to how networks, such as interpersonal, organizational, and digital networks, facilitate access to information, support, and material resources during crises (e.g., Chouliaraki & Georgiou, 2019; Houston et al., 2015; Marlowe, 2015).

Although fruitful, resilience in marginalized populations remains insufficiently theorized within the field. Dominant approaches to resilience have emphasized psychological or individual-level traits and have privileged personal coping mechanisms over structural or relational processes (Buzzanell, 2010; Buzzanell & Houston, 2018). Such orientations risk overlooking the communicative practices and power dynamics that shape both vulnerability and recovery. At the same time, a growing body of work across journalism, health communication, public relations, digital media, and cultural studies has highlighted the complex ways in which communities draw on networks, narratives, and collective practices to respond to crises (e.g., Chamlee-Wright & Storr, 2011; Goldstein et al., 2015; Jerolleman, 2021). One example is Lloyd's (2014) study on information resilience within refugee communities, which emphasizes the value of non-textual everyday communication, or collective coping strategies, in overcoming limitations in language and literacy.

The present article addresses this need by systematically reviewing scholarship on resilience in marginalized populations during crises. Specifically, it examines how resilience has been defined and theorized, how it is enacted through communication, and what these perspectives reveal about the broader relationship between crisis, inequality, and community. Through a systematic analysis of 45 peer-reviewed communication journal articles published between 2010 and 2025, the study synthesizes and critically analyzes how the field of communication has engaged or failed to engage with marginalized populations. By mapping key theoretical orientations, conceptual framings of resilience, and communicative practices across diverse crisis contexts, it contributes to ongoing efforts to enhance crisis communication by making it more equity-oriented, participatory, and contextually responsive.

The remainder of the article is structured as follows: The following section presents the theoretical foundation, including the definition of marginalized populations, CTR scholarship, and the associated frameworks that guide the analysis. This is followed by a description of the methodology, including data collection and thematic coding strategies. The findings section then presents a synthesis of how marginalized groups are defined, the challenges they face during crises, the theoretical lens applied, and the ways in which resilience is conceptualized and examined through the lens of CTR. In the final sections, the review offers a critical discussion of current gaps in the previous literature and opportunities for future research.

2. Theoretical Framework

2.1. Defining Marginalized Populations in Crisis Contexts

Existing studies have shown that the effects of crisis are unevenly distributed across population groups, particularly among marginalized communities, due to differences in socioeconomic resources (e.g., Aquino et al., 2022), racial and ethnic backgrounds (e.g., Spence et al., 2013), and cultural value systems (e.g., Littlefield et al., 2021). Yet despite this growing body of research, definitions of "marginalized" populations often remain implicit in communication scholarship.

Research in adjacent disciplines has highlighted that marginalization emerges at the intersection of multiple social dimensions and is best understood as a relational condition rooted in structural inequalities. For example, Kuran et al. (2020, p. 1) argue that vulnerability is not a fixed attribute of particular groups but "the result of different and interdependent societal stratification processes that result in multiple dimensions of marginalisation." DeYoung (2021) offer concrete illustrations and note that groups more likely to experience adverse outcomes include ethnic and racial minoritized persons, women, children, sexual minorities, religious minorities, immigrants, and refugees.

Within crisis communication scholarship, I. Kim and Dutta (2009) critique traditional approaches for erasing marginalized voices by prioritizing restoration of the status quo. They call instead for a more nuanced, power-sensitive understanding of vulnerability and crisis communication. In this regard, Lloyd's (2014) concept of information resilience provides a useful lens for examining the vulnerabilities of marginalized groups. Information resilience emphasizes how structural barriers, such as literacy constraints, language differences, or limited digital access, shape communities' ability to engage in meaning-making processes. Information resilience therefore depends not only on individuals' adaptive strategies, but also on the broader communicative ecology: the inclusiveness of institutional communication practices, the accessibility of infrastructures, and the extent to which social systems support equitable participation in information flows. These constraints produce communicative vulnerabilities that intensify during crises, including restricted access to infrastructures, exclusion from public debate, and heightened exposure to harmful or stigmatizing narratives.

Building on these insights, the present review defines marginalized populations in terms of their social positioning within systems of power, which shapes their access to resources, information, and institutional recognition. From this perspective, populations become marginalized not only because they face greater risks, but also because they are systematically excluded from the communicative, informational, and institutional resources necessary for resilience. In the article, "marginalized populations" is used as an

umbrella term, while "groups" refers to specific identity-based categories and "communities" denotes relational or place-based collectivities engaged in shared practices.

2.2. CTR

CTR offers a communicative and relational framework for understanding how individuals, families, and communities respond to disruption (Buzzanell, 2010; Buzzanell & Houston, 2018). In contrast to psychological perspectives that conceptualize resilience as a stable trait or innate capacity, CTR defines resilience as a dynamic and socially constructed process. Rather than being something people simply "have," resilience is accomplished through discourse, interaction, and material practices that enable sensemaking, identity work, and the mobilization of social resources.

Drawing on G. E. Richardson's (2002) definition of resilience as "the process of reintegrating from disruptions in life," Buzzanell (2010) extends the concept into the communicative domain by showing how resilience is accomplished through everyday talk and relational practices. These communicative efforts allow people to sustain identities, restore a sense of normalcy, and build networks of care and support when facing trauma, loss, or structural inequality.

Buzzanell and Houston (2018) further advance CTR by framing resilience as an interplay between adaptation and transformation. Adaptation involves re-establishing stability and continuity, while transformation highlights possibilities for envisioning more just futures, expanding identity repertoires, and reconfiguring organizational and community practices. This dual emphasis positions resilience not simply as "bouncing back," but also as an ongoing negotiation between stability and change. Such a perspective is particularly relevant to marginalized populations, for whom resilience is shaped by structural inequalities, cultural norms, and unequal access to communicative resources.

Within this broader dynamic, where resilience involves both restoring stability after disruption and imagining possibilities for change, CTR identifies five communicative processes through which resilience takes shape. The first three processes primarily support adaptation, helping individuals and communities re-establish continuity and coherence: (a) crafting normalcy by creating routines that restore a sense of everyday life; (b) affirming identity anchors that provide stability and belonging; and (c) maintaining and using communication networks to access care, information, and solidarity. The latter two processes are more closely associated with transformation, as they create space for reinterpreting circumstances and pursuing alternative futures: (d) putting alternative logics to work by challenging dominant narratives or developing creative strategies; and (e) legitimizing negative emotions while directing energy toward hopeful, constructive action. Taken together, these communicative practices show how resilience is both a process of regaining footing in the present and a pathway for reconfiguring meanings, practices, and possibilities over time.

The present study employs CTR as a framework to investigate how communication scholarship engages with resilience in the lived experiences of marginalized populations during crises. In doing so, it asks the following overarching question:

> RQ: How does communication scholarship conceptualize and examine resilience among marginalized populations in crisis contexts?

To address this general question, the study develops two interrelated sets of sub-questions. The first set (RQ1.1–RQ1.4) maps existing scholarship on communicative resilience among marginalized populations across journals, crisis contexts, and groups to establish the empirical basis for analysis:

RQ1.1: Where is this research published, and how is it distributed across journals and subfields?

RQ1.2: Which crisis types are most frequently studied (e.g., disasters, health, environmental, political, economic, social justice)?

RQ1.3: Which marginalized groups are most often examined, and which remain understudied?

RQ1.4: What recurring challenges do marginalized populations face during crises from a communication perspective?

The second set of questions (RQ2.1–RQ2.2) turns to the conceptual core of resilience. The aim here is to analyze how resilience is defined and operationalized in the literature, paying particular attention to the communicative processes identified by CTR for broader theoretical and practical reflection:

RQ2.1: How is "resilience" defined across the literature, and what variations exist in its conceptualization?

RQ2.2: How are the five communicative processes of CTR articulated in the sample articles?

3. Method

3.1. Databases and Timeframe

The primary database used was Web of Science, specifically the "Communication" category, as it offers a curated set of peer-reviewed journals that represent the core of the field. Web of Science was selected for its strong coverage of flagship communication journals as well as interdisciplinary outlets relevant to crisis and resilience. The review covered the period 2010–2025, a timeframe chosen because the concept of resilience increasingly entered communication research during these years, following Buzzanell's (2010) CTR. The search was conducted in April 2025.

To identify relevant articles, the present review employed a keyword-based search strategy. All included studies were required to contain the three core terms: "crisis," "resilience," and a reference to marginalized populations. To ensure conceptual breadth and terminological variation, the search included alternative phrasings such as "marginalized group," "marginalized population," "vulnerable populations," as well as spelling variations, including both "marginalized" and "marginalised." The search was limited to peer-reviewed journal articles published in English.

The initial search yielded 77 records. After removing 3 duplicates, 74 titles and abstracts were screened for relevance. Articles were excluded based on three criteria. First, studies were removed if they focused exclusively on psychological or medical definitions of resilience without reference to communication, as

these do not align with the communicative orientation of CTR or our aim to examine resilience as a socially situated, interactional process. Second, because our focus is on marginalized populations, we excluded studies that analyzed resilience solely at the individual psychological level without considering community, cultural, or structural dimensions. Third, articles were excluded if they mentioned marginalized populations but did not study them as the primary research subjects. Following abstract screening, 68 articles were retained for full-text review. An additional 23 articles were excluded at this stage because communication served merely as background context or as a descriptive variable rather than a core analytical focus.

As a result of this multi-stage screening procedure, 45 articles were included in the final sample. Screening was conducted by the first author, with uncertain cases discussed with the second author to ensure consistency. No restrictions were imposed regarding article type during the initial search. However, following screening and inclusion criteria, the final dataset consisted solely of empirical studies (qualitative, quantitative, or mixed-method) that examined communicative processes of resilience among marginalized populations:

- Records identified: 77
- Duplicates removed: 3
- Titles/abstracts screened: 74
- Full texts assessed: 68
- Excluded at full-text stage: 23
- Final sample: 45

3.2. Analysis

The study employed a thematic analysis that combined deductive and inductive approaches to address the two sets of research questions.

For the first goal (RQ1.1–RQ1.4), which aimed to map the overall research landscape, each article was coded for key characteristics, including journal of publication, crisis type, marginalized groups examined, recurring challenges, and theoretical frameworks employed. The inductive component followed Braun and Clarke's (2019, 2021) reflexive thematic analysis, which involves, first, familiarization with the dataset, second, generating initial codes, third, constructing candidate themes, fourth, reviewing and refining themes, fifth, defining and naming themes, and finally, sixth, producing the analytical narrative. This approach was selected because it supports flexible and interpretive analysis and foregrounds meaning-making. Coding began with open, line-by-line coding during the familiarization phase, followed by multiple iterative cycles of theme refinement in which codes were grouped, collapsed, or expanded to reflect recurring communication-related challenges experienced by marginalized populations.

For the second goal (RQ2.1–RQ2.2), which focused on the conceptualization and operationalization of resilience, the analysis was guided deductively by the CTR framework (Buzzanell, 2010; Buzzanell & Houston, 2018). CTR's five processes were translated into operational indicators for the present review. Specifically, the analysis traced how its five communicative processes appeared across the literature: (a) Crafting normalcy emerged in studies that described the reestablishment of routines, rituals, and everyday practices after disruption, such as the reopening of schools, the continuation of household

traditions, or the recreation of communal activities; (b) affirming identity anchors was visible where narratives of ethnicity, culture, gender, or generational belonging were mobilized to provide coherence, stability, and a sense of belonging during crises; (c) maintaining and using networks appeared in accounts of interpersonal, community, organizational, and digital ties that were activated to secure information, resources, solidarity, and emotional support; (d) putting alternative logics to work was evident when marginalized groups reframed dominant crisis narratives, resisted stigmatizing framings, or developed counter-discourses that allowed for more empowering interpretations of adversity; finally, (e) legitimizing negative feelings while foregrounding productive action was identified in studies where emotions such as grief, anger, or fear were not suppressed but instead acknowledged and redirected into solidarity, advocacy, or hopeful, forward-looking communication.

Coding was conducted manually in spreadsheets, making iterative adjustments to categories to ensure conceptual clarity and analytic depth. While formal intercoder reliability was not calculated, a subset of 10 articles was independently co-coded by both authors to cross-check consistency and strengthen interpretive reliability. A summary of the operationalization of CTR's five processes used in the present study is presented in Table 1.

Table 1. Operationalization of the five communicative processes in CTR.

Process	Key question	Keywords	Example from sample articles
Crafting Normalcy	How do people recreate routines and shared meanings after disruption?	normal, normalcy, routine, continuity, everyday life, stability, familiarity, predictability, order	Migrant families during Covid-19 used shared cooking and online celebrations to maintain a sense of cultural routine (Häfliger et al., 2023).
Affirming Identity Anchors	How are identities (e.g., gendered, ethnic, familial) used to sustain a sense of self and community?	identity, belonging, self-concept, cultural identity, ethnic identity, gender identity, role continuity, community identity	Refugee youth affirmed ethnic identity through storytelling projects that strengthened cultural pride and belonging (Kalocsányiová et al., 2023).
Maintaining & Using Networks	What social or communicative networks are activated for support?	social network, social tie, support system, community, solidarity, trust, reciprocity, resource sharing, information exchange	Low-income communities relied on informal neighborhood WhatsApp groups to coordinate food distribution after natural disasters (Reid, 2013).
Putting Alternative Logics to Work	How do people reframe their situation or challenge dominant discourses?	reframing, counter-narrative, resistance, innovation, creativity, adaptation, transformation	Residents in peripheral regions used Google Maps to challenge dominant media portrayals of their communities as marginal, producing alternative representations that emphasized everyday life and cultural value (Shitrit & Noy, 2024).
Legitimizing Negative Feelings While Foregrounding Productive Action	How are emotions managed or mobilized for action and survival?	grief, anger, fear, hope, empowerment, coping, agency, survival, healing, optimism	Survivors of political violence publicly shared grief rituals online, transforming anger into advocacy for justice and social change (Buzzanell & Houston, 2018).

4. Findings

4.1. Summary of the Articles

Research on marginalized groups, crisis communication, and resilience has appeared across a wide range of journals, thus revealing the topic's interdisciplinary reach (see Table 2). The scholarship is particularly concentrated in the *International Journal of Communication* and *Journalism* (each with four articles), as well as in *Health Communication* and *Information, Communication & Society* (three articles each), which demonstrates the sustained interest of both journalism and digital communication studies in these issues. Other journals, namely *African Journalism Studies*, *Discourse & Society*, *Environment Communication*, *Journal of Public Relations Research*, *Media, Culture & Society*, *Quarterly Journal of Speech*, and *Social Media + Society*, have each published two articles on the topic. Beyond these clusters, single contributions appear in diverse journals like *Feminist Media Studies*, *Journal of Applied Communication Research*, *Management Communication Quarterly*, *Television & New Media*, and *The Translator*.

The wide range of publication outlets suggests that research on marginalized communities and resilience in crises cuts across journalism, media studies, health communication, public relations, and critical cultural studies. At the same time, particular traction is evident in journalism, health communication, and digital media research, where questions of inequality and access to information are especially salient.

Table 2. Distribution of sample articles.

Journal	No. of articles	Discipline/Subdiscipline
African Journalism Studies	2	Journalism/Area studies
Continuum: Journal of Media & Cultural Studies	1	Media & cultural studies
The International Journal of Research into New Media Technologies	1	Digital media/New media studies
Discourse & Society	2	Discourse studies/Critical linguistics
Environment Communication	2	Environmental communication
European Journal of Communication	1	Communication studies (general)
Feminist Media Studies	1	Feminist media/Gender & communication
Health Communication	3	Health communication
IEEE Transactions on Professional Communication	1	Technical & professional communication
Information, Communication, and Society	3	Digital media/Communication & technology
International Journal of Communication	4	Communication studies (general/interdisciplinary)
Journal of African Media Studies	1	Media studies/Area studies
Journal of Applied Communication Research	1	Applied communication/ Interpersonal-organizational
Journal of Business and Technical Communication	1	Business & technical communication
Journal of Communication	1	Communication studies (flagship, general)
Journal of Public Relations Research	2	Public relations/Strategic communication
Journalism	4	Journalism studies

Table 2. (Cont.) Distribution of sample articles.

Journal	No. of articles	Discipline/Subdiscipline
Journalism Practice	1	Journalism/Media practice
Management Communication Quarterly	1	Organizational/Management communication
Media and Communication	1	Communication studies (open access, interdisciplinary)
Media, Culture & Society	2	Media & cultural studies
Mobile Media and Communication	3	Mobile & digital communication
Quarterly Journal of Speech	2	Rhetoric/Speech communication
Social Media + Society	2	Digital media/Social media studies
Social Semiotics	1	Semiotics/Media & communication
Television & New Media	1	Media studies/Digital media
The Translator	1	Translation studies/Intercultural communication

The sample articles conceptualize "crisis" as a multifaceted condition that cuts across a number of domains. Studies span several crisis contexts: disasters and public health emergencies (Baik & Jang, 2022; Blomberg et al., 2021; Lengel et al., 2023; Madianou, 2015), environmental and climate disruptions (Nishime, 2023; Todorova, 2022), political conflict and human rights (Hartnett, 2013; Paul, 2019), economic and policy crises such as austerity, the eurozone debt crisis, and the cost-of-living squeeze (Harkins & Lugo-Ocando, 2024; Mullen, 2021; Sarikakis et al., 2018), and social justice issues including police brutality, cultural appropriation, and workplace discrimination (Jones, 2020; Maiorescu-Murphy, 2021; A. V. Richardson, 2022). Table 3 summarizes the crisis types examined in studies of marginalized populations and resilience. This breadth of scholarship shows that questions of exclusion, vulnerability, and access are not limited to any single type of crisis, but recur in varied settings where inequalities shape both experiences of disruption and possibilities for resilience.

Table 3. Types of crises addressed in studies of marginalized populations and resilience.

Crisis	Examples of specific crisis	Example studies
Disasters & public health	Natural disasters, pandemic experiences	Baik and Jang (2022), Blomberg et al. (2021), Ji and Chen (2023), Lengel et al. (2023), Madianou (2015)
Environmental & climate disruptions	Climate change, ecological risk, grassroots activism	Nishime (2023), Todorova (2022)
Political conflict & human rights	Marginalization under state power, migration crises, oppression and resistance	Hartnett (2013), Paul (2019)
Economic & policy crises	Austerity, eurozone debt, cost-of-living crisis	Harkins and Lugo-Ocando (2024), Mullen (2021), Sarikakis et al. (2018)
Social justice issues	Police brutality, workplace discrimination, cultural appropriation, identity struggles	Jones (2020), Maiorescu-Murphy (2021), A. V. Richardson (2022)

The overview of crisis types provides an analytical baseline for understanding where and how communication scholarship has located marginalized communities within crisis research. The pattern reveals both concentration and absence: Acute crises (e.g., disasters, pandemics) dominate empirical attention, while long-term, structural, and digitally mediated crises remain comparatively underexplored. This imbalance underscores how prevailing crisis imaginaries shape theoretical understandings of resilience, which privileges adaptation to short-term shocks over engagement with enduring inequities.

4.2. "Marginalized" Groups in Crisis Communication Literature

Sample articles demonstrate that crises are not experienced in the same way, but are mediated by social hierarchies and pre-existing inequities. Rather than treating the public as a homogeneous audience, this body of scholarship examines how exclusion, vulnerability, and resistance are communicatively constructed across diverse communities. More specifically, the "marginalized" groups studied range from ethnic minorities (e.g., Matamoros-Fernández et al., 2022; A. V. Richardson, 2022; Schneeweis, 2025), colonized populations (e.g., Hartnett, 2013), women (e.g., Gilligan, 2012; Lengel et al., 2023; Quinlan & Johnson, 2020), and LGBTQ groups (e.g., Jones, 2020), to socioeconomically disadvantaged groups (e.g., Harkins & Lugo-Ocando, 2024; Mullen, 2021; Paterson & van der Bom, 2024), disabled persons (e.g., Hsu, 2024), international students (e.g., Ji & Chen, 2023), and migrant workers (e.g., Oktavianus & Lin, 2023; Paul, 2019; Pelsmaekers & Van Hout, 2020). An overview of these groups is presented in Table 4.

Table 4. "Marginalized" groups in communication journals.

Category	No. of articles	Example studies
Race/ethnicity	7	Deacon et al. (2024), Matamoros-Fernández et al. (2022), Nishime (2023), A. V. Richardson (2022), Schneeweis (2025)
Socioeconomic status	6	Harkins and Lugo-Ocando (2024), Mullen (2021), Paterson and van der Bom (2024), Waymer and Heath (2007)
Gender (women)	6	Gilligan (2012), Quinlan and Johnson (2020), Vardeman-Winter and Place (2017), Vochocová and Rosenfeldová (2019), Zhao (2024)
Sexual orientation/identity	3	Duguay et al. (2023), Jones (2020)
Disability	1	Hsu (2024)
Age (young/old)	2	Qiu and Kim (2010), Riddle et al. (2023)
Immigration status	6	Heywood and Yaméogo (2022), Ji and Chen (2023), Oktavianus and Lin (2023), Paul (2019), Pelsmaekers and Van Hout (2020), Todorova (2022)

A significant body of work focuses on identity categories related to ethnicity and gender. One central strand concerns ethnic and racial minorities, who frequently encounter stigmatization and stereotyping in moments of crisis. For instance, Asian communities became the target of "yellow peril" memes on TikTok during Covid-19 (Matamoros-Fernández et al., 2022), Black corporeal iconography functioned as protest journalism against systemic violence (A. V. Richardson, 2022), and Roma populations were scapegoated in European media narratives (Schneeweis, 2025).

Another prominent strand addresses gendered marginalization, with scholarship emphasizing women's experiences during crises. Women in Britain's public housing were stigmatized through reality television portrayals (Gilligan, 2012), Nigerian women experienced escalating gender-based violence during Covid-19 in the absence of institutional protection (Lengel et al., 2023), and mothers struggled with the silencing of postpartum experiences (Quinlan & Johnson, 2020). Great attention is also paid to LGBTQ communities, who navigate exclusion in both professional and social domains. Transgender employees, for example, must negotiate persistent workplace marginalization (Jones, 2020), while queer publics created alternative digital spaces such as Club Quarantine to sustain community during the pandemic (Duguay et al., 2023).

Beyond identity categories, scholars have examined groups marginalized by socioeconomic status, disability, and mobility. Media discourses on poverty often obscure structural inequities (Mullen, 2021; Paterson & van der Bom, 2024), while homeless individuals are frequently framed through narrow narratives of self-reliance (Harkins & Lugo-Ocando, 2024). Disabled persons with contested illnesses, such as long Covid, face epistemic injustice (defined by Fricker, 2007, as systemic discrimination of persons from marginalized groups related to knowledge creation) through ableist and misogynistic framings (Hsu, 2024). Similarly, migrant workers are depicted as simultaneously vulnerable and resourceful (Oktavianus & Lin, 2023; Paul, 2019), and Chinese international students, who during Covid-19 experienced exclusion through processes of stigmatization and social distancing, tended to respond to such exclusion through non-assertive coping strategies (Ji & Chen, 2023).

4.3. Challenges Marginalized Groups Face During Crises

The reviewed studies investigate the challenges of marginalized groups from the communication perspective, showing that marginalized populations face various challenges in crisis contexts, ranging from structural, social, and communicative challenges that often reinforce one another in ways that deepen vulnerability. Table 5 describes the types of challenges in crisis for marginalized groups.

Table 5. Types of challenges in crisis for marginalized groups.

Challenge type	Description	Illustrative studies
Institutional exclusion	Barriers to welfare, aid, and political participation; undocumented status blocking access.	Paul (2019), Waymer and Heath (2007)
Economic precarity	Crises deepen inequalities, forcing unsafe labor or informal economies.	Paul (2019)
Access to information & infrastructure	Language barriers, digital divides, lack of tailored communication; exclusion from vital crisis information.	Blomberg et al. (2021), Madianou (2015), Schneeweis (2025), Todorova (2022)
Symbolic neglect & negative representation	Erasure from debates, silencing by dominant languages, harmful stereotypes/scapegoating in media.	Gilligan (2012), Todorova (2022)
Exposure to violence	Heightened gender-based or structural violence in crisis conditions.	Lengel et al. (2023)

One recurring challenge lies in access to information and communication infrastructures. Marginalized groups are often disconnected from vital resources due to language barriers, digital divides, or a lack of recognition of their specific needs (Blomberg et al., 2021; Madianou, 2015). These challenges were evident among low-income survivors of Typhoon Haiyan, who faced "second-order disasters" when digital inequalities hindered recovery (Madianou, 2015), and among formerly incarcerated women, who were excluded from services when libraries and resource centers closed during Covid-19 (Blomberg et al., 2021). Language barriers further compound exclusion, such as in the case of Roma waste workers in North Macedonia who were unable to participate in environmental governance due to lack of translation (Todorova, 2022) and Roma communities across Europe who were denied healthcare access during the pandemic (Schneeweis, 2025).

Marginalized communities also face challenges of symbolic neglect and negative representation. Symbolic neglect erases voices from public debate and decision-making, which subordinates histories and rights to dominant narratives. The dominance of English in environmental communication in North Macedonia silenced local actors (Todorova, 2022). Negative representation circulates through harmful stereotypes that stigmatize and scapegoat. For example, during austerity poor women in British housing estates were vilified in television (Gilligan, 2012).

At the institutional level, marginalized groups confront systemic exclusion from welfare provisions, political processes, and professional fields. Precarious legal status or undocumented conditions frequently prohibit access to formal aid (Waymer & Heath, 2007). When crises amplify economic precarity, people are pushed into unsafe labor conditions or informal markets (Paul, 2019). Finally, crises expose marginalized communities to violence. As Lengel et al.'s (2023) study demonstrates, Nigerian women faced heightened gender-based violence during the pandemic without adequate institutional protections.

4.4. Theoretical Frameworks in the Study of Marginalization, Resilience, and Crisis

The reviewed literature demonstrates considerable theoretical diversity, which reflects the interdisciplinary nature of research on marginalized groups in crisis contexts. Many studies adopt critical and constructivist perspectives that foreground power, inequality, and representation. Drawing on Foucault's concepts of biopower and neoliberal governance, Gilligan (2012) analyzes how reality television in austerity Britain disciplines poor women through stigmatizing portrayals. Hartnett (2013) employs postcolonial theory to examine the rhetorical marginalization of Tibetans under Chinese rule. Nishime (2023) applies decolonial theory to show how racialized and colonized groups are disproportionately affected by climate change. Hsu (2024) brings together feminist theory to reveal how contested illness is framed through ableist and gendered stereotypes.

A second strand of scholarship builds on communication-centered theories. Critical discourse analysis is widely used to highlight symbolic exclusion, as exemplified by Pelsmaekers and Van Hout's (2020) study of how museums counter exclusionary migration narratives. Framing theory has been applied to analyze media portrayals of poverty and homelessness (e.g., Harkins & Lugo-Ocando, 2024; Paterson & van der Bom, 2024). Communication infrastructure theory helps explain how migrant domestic workers draw on storytelling networks during crises (Oktavianus & Lin, 2023) and how local media foster resilience in marginalized communities (Wenzel & Crittenden, 2023). A more specific crisis communication theory,

situational crisis communication theory, is used to study the public's responses to blame attribution in the Love Parade tragedy (Schwarz, 2012).

From a political and economic perspective, several studies employ theories and frameworks from political economy, governance, and social movement studies. For example, Qiu and Kim (2010) employ neoliberalism, statism, and immaterial labor theory to explore how East Asian youth reinterpreted the global recession through alternative media practices. Krüger (2023) situates Indigenous and peripheral communities within political economy frameworks of local media support and governance. Finally, theories of social movements are also used by, for example, Morse (2023), who introduces the concept of benevolent grief in mediatized mourning rituals as a pathway to recognition for LGBTQ and Muslim communities targeted by mass violence.

4.5. Resilience Through the Lens of CTR's Five Dimensions

Across the reviewed studies, resilience is articulated through broader practices and conditions that shape how marginalized groups confront crises. Most studies emphasize that rather than a fixed trait, resilience emerges as a process involving adaptation to uncertainty, the cultivation of solidarity and care, and the negotiation of institutional and structural constraints. At times it is framed at the individual or community level, and some studies emphasize empowerment, emotional strength, and collective support (e.g., Baik & Jang, 2022; Duguay et al., 2023; Nishime, 2023; Quinlan & Johnson, 2020; Wenzel & Crittenden, 2023). Others consider resilience at an organizational or systemic level, highlighting sustainability, independence, and responsiveness (e.g., Deacon et al., 2024; Krüger, 2023). Taken together, the sample articles conceptualize resilience as a situated and relational capacity, constituted through interactions between marginalized groups, their social networks, and institutional environments.

Therefore, the present study posits that resilience for marginalized groups is best understood as the capacity to withstand, adapt to, and recover from systemic inequalities, crises, and structural violence. Resilience entails a combination of emotional, social, technological, and policy-based adaptation strategies that empower individuals and communities to respond to adversity while sustaining or even enhancing well-being, autonomy, and social inclusion.

The following sections present how resilience is discussed through the five dimensions of CTR. These dimensions are crafting normalcy, affirming identity anchors, maintaining and using communication networks, putting alternative logics to work, and downplaying negative feelings while foregrounding positive emotions. Together they provide a structured lens through which to trace how adaptation, identity, and collective meaning-making are constituted across diverse crisis contexts.

4.5.1. Crafting Normalcy

According to CTR, the first communicative dimension of resilience involves crafting normalcy, as crises often create profound disruptions for individuals, organizations, and societies.

In the sample articles, normalcy first refers to the embodied and material aspects of daily life that are restored after disruption (Madianou, 2015). This may involve reopening physical spaces such as schools, workplaces, and marketplaces, or resuming habitual practices that ground individuals in familiar rhythms

(e.g., Madianou, 2015; Pelsmaekers & Van Hout, 2020). Furthermore, normalcy also involves a socially and individually constructed sense of continuity and control, which materializes through efforts to restore routine practices and collective understandings of daily life (e.g., Paul, 2019; Waymer & Heath, 2007). Oktavianus and Lin (2023), for example, provide a compelling example of Indonesian migrant domestic workers in Hong Kong, who maintained a sense of normalcy during the Covid-19 pandemic through everyday routines and storytelling networks. These Indonesian migrants continue familiar activities such as working and staying in touch with family, despite external disruptions.

As discussed in the sample articles, resilience emerges through deliberate efforts to reestablish normalcy: Individuals and communities recreate routines and shared practices that provide a sense of stability, familiarity, and control. These practices do not merely seek to return life to its pre-crisis form, rather they actively reestablish order and help people navigate uncertainty with a renewed sense of grounding and coherence.

4.5.2. Affirming Identity Anchors

The second core dimension of communicative resilience involves the affirmation of identity. When systems and structures are disrupted, individuals often turn to stable identity narratives to preserve a sense of coherence and purpose. The sample articles underscore that affirming identity, whether rooted in ethnicity and culture (e.g., I. Kim & Dutta, 2009; Paul, 2019), community (e.g., Duguay et al., 2023), gender (e.g., Jones, 2020; Quinlan & Johnson, 2020), or generation (Qiu & Kim, 2010), provides coherence and emotional durability that contributes to both individual survival and collective action.

As emphasized in the communication literature (e.g., East et al., 2010; Horstman et al., 2023), identity affirmation in resilience processes often takes shape through storytelling. People tell stories, recognize one another, and collectively rehearse shared identities that function as anchors. In the sample articles, the first narrative mechanism of identity affirmation is narrative coherence, which involves telling stories that align past injustices, present struggles, and future aspirations into a unified arc that renders experiences intelligible and emotionally manageable (e.g., Jones, 2020; A. V. Richardson, 2022). For instance, in anti-police brutality activism, the Black Lives Matter movement makes extensive use of corporeal iconography. Founded in 2013, Black Lives Matter is a global social justice movement that seeks to end systemic racism and violence against Black people, particularly police brutality (Howard University School of Law, 2025). Through protest images, videos, and symbolic juxtapositions, the movement centres the human body as a key visual element. These practices create a visual and emotional grammar that links individual suffering to broader historical struggles (A. V. Richardson, 2022). Identity anchoring can also connect to future imaginaries. Qiu and Kim's study (2010) shows how youth in Korea and China articulate culture, referring to youth subcultures where young people self-identify as "losers" to cope with inequality, competition, and limited mobility, alongside self-development narratives and class-based collectives as generational frameworks for making sense of foreclosed futures. These stories explain why they are where they are, who they are within the system, and what forms of collective action might be possible.

The second mechanism is social validation. Sample articles discussed how counter-public spaces—sites and methods that members of marginalized groups use to produce nondominant forms of knowledge (Jackson & Welles, 2015)—provide recognition, where being seen and believed transforms private shame or grief into

shared meaning (e.g., Heywood & Yaméogo, 2022; I. Kim & Dutta, 2009; Quinlan & Johnson, 2020). Paul (2019), for example, demonstrates how national press narratives surrounding Nepali migrant labor articulate shared cultural values and moral claims that both coordinate public recognition and mobilize advocacy.

The third mechanism is collective scripting: the transformation of emotional experiences into collective action through shared narratives, symbols, and roles (e.g., Baik & Jang, 2022; Duguay et al., 2023; A. V. Richardson, 2022). For example, during the Covid-19 pandemic, US contact-tracing apps were reinterpreted as communal narratives of care and responsibility. This reframing allowed users to see themselves not as vulnerable targets but as responsible members of a caring community (Baik & Jang, 2022).

To sum up, through the affirmation or reconstruction of these identity anchors, individuals and groups sustain themselves and strengthen their collective capacity to endure adversity.

4.5.3. Maintaining and Using Networks

According to CTR, the maintenance and use of social networks emerge as a critical communicative practice of resilience. By activating interpersonal and organizational ties, individuals and communities build social capital, which in turn enables them to gain emotional support and mobilize resources. In this way, social networks are essential for resilience, as they link vulnerable populations to the resources necessary to adapt and transform in the face of systemic adversity.

Some sample articles examined the interorganizational context, showing how civil society organizations such as GoGreen and the Regional Environmental Center in North Macedonia mobilize dense interorganizational networks to secure project funding and collaborate with governmental bodies (Todorova, 2022). Regarding community-organizational infrastructures, Wenzel and Crittenden's (2023) study of local journalism initiatives during the pandemic shows how pre-existing relationships between media actors and community groups facilitated the rapid distribution of critical health information in multiple languages. Organizations such as Resolve Philly served as intermediaries and leveraged the established networks to reach underserved populations through community organizing and culturally responsive messaging. The Resolve Philly case illustrates that resilience emerges from prior investments in social infrastructure and communicative trust.

Many studies in the sample articles also highlight how digital platforms function as enablers of social network activation during crises. A. V. Richardson (2022) shows how the Black Lives Matter movement employed visual protest tactics and crowdfunding platforms to circulate affective narratives and mobilize resources through collective networks. Similarly, Qiu and Kim (2010) document how labor activists in East Asia leveraged blogs and mobile phones to coordinate legal action and express grievances. Furthermore, Madianou's (2015) concept of polymedia expands this view by showing how Filipino survivors of Typhoon Haiyan strategically navigated multiple digital platforms to connect with family, seek help, and receive updates. These nontraditional media tools enabled marginalized groups to assert political presence and organize in spaces often closed off by mainstream institutions.

Viewed together, these studies demonstrate that maintaining and using social networks, through both institutional and digital means, is an essential communicative strategy of resilience. Social capital, seen

through a communication lens, is not merely a resource, but also a medium through which emotional coherence, practical adaptation, and collective resistance are sustained during a crisis.

4.5.4. Putting Alternative Logics to Work

According to CTR, resilience is sustained through the ability to reframe situations in creative or counter-normative ways. This involves questioning dominant discourses and refusing to accept crisis narratives as fixed or inevitable (Tierney, 2014).

The development of alternative logics is especially visible when communities push back against deficit-based framings. Riddle et al. (2023) demonstrate how the so-called youth crime crisis in Australia has been framed through media tropes that reduce young people to problems in need of control. By refusing these narrow figurations, the authors argue for cultivating new social imaginaries of youth that foreground creativity, agency, and potential. In practice, this means listening to young people's own accounts and incorporating their voices into public discourse, thereby destabilizing moral panics and creating space for alternative futures.

A similar process unfolds in relation to poverty. Paterson and van der Bom (2024) reveal how poverty is constructed and circulated through language. Dominant discourses often frame poverty as an individual failing rather than a structural condition, which obscures systemic inequalities. By foregrounding lived experiences, the authors show how communities can develop counter-narratives that question entrenched ideologies.

In the sample articles, digital platforms are highlighted as important sites for putting alternative logics to work. Shitrit and Noy (2024) reveal how user-generated content on Google Maps reconfigures the representation of peripheral spaces in Israel. Whereas traditional media often depict these spaces through lenses of neglect, insecurity, or marginality, local users employ digital mapping to offer alternative depictions that emphasize cultural vitality, everyday life, and communal value. These bottom-up performances exemplify how ordinary digital practices can reframe crisis-inflected geographies into spaces of belonging, pride, and resilience.

Reframing is equally crucial in intimate and embodied contexts. Quinlan and Johnson (2020) study the postpartum period, discussing and contesting the dominant expectations that define good motherhood in rigid and unattainable ways. By narrating their experiences of anxiety, exhaustion, and systemic failure, and by connecting with others on social media, the women challenge normative discourses of effortless and self-sacrificing motherhood. Their insistence that self-care is a legitimate and necessary practice reframes vulnerability as a site of strength and solidarity. This alternative logic shows that survival and resilience are not about silence or stoicism, but about acknowledging difficulty and mobilizing networks of support.

These examples demonstrate that resilience also includes the capacity to reframe crises in ways that challenge established norms. Alternative logics provide tools for individuals and communities to develop new interpretive frameworks that allow them to make sense of their circumstances differently and carve out spaces of agency (Chandler, 2014). By shifting perspective, actors challenge taken-for-granted assumptions and create openings for alternative futures (Buzzanell, 2010; Houston et al., 2015).

4.5.5. Psychological Anchoring and Emotional Regulation

CTR legitimizes negative feelings such as grief, fear, or anger during times of crisis as part of anchoring processes. Resilience often depends on how these emotions are acknowledged, regulated, and redirected (Buzzanell, 2010). Rather than being suppressed, negative feelings are recognized as natural and valid (B. F. Liu et al., 2016; Tierney, 2014).

Some scholars explicitly legitimize the importance of negative feelings. Bessant's (2017) analysis of satirical depictions of young people during the European financial crisis shows how humor operated as a channel through which anger and fear were not only recognized, but also reframed into what she calls ethical energy, a collective resource for critique and resistance. Dencik and Allan (2017) describe how non-governmental organizations (NGOs) deliberately crafted tolerably shocking imagery, powerful enough to stir empathy but restrained enough to avoid overwhelming audiences. Quinlan and Johnson (2020) stress the importance of openly narrating feelings of anxiety, failure, and anger in relation to systemic shortcomings. They show how openness and mutual support can redirect emotions into solidarity and collective strength.

Others situate negative feelings within broader cultural frameworks of belonging. For example, Morse (2023) examines mediatized mourning rituals where slogans such as "We are one" and practices of benevolent grief create recognition for marginalized groups. In this way, mourning becomes more than a private act of loss, instead it functions as a public and performative practice that carves out belonging for the marginalized group. Similarly, Paul (2019) identifies the strategic ritual of emotionality in the Nepali press during the Gulf crisis. As Paul explains, the use of emotion in newswriting constitutes a ritual, because it is through this shared practice that journalists create and disseminate meanings of commonality. These meanings helped cement a sense of belonging within the Nepali community.

Overall, by legitimizing negative emotions and embedding them within narratives of care, solidarity, and action, individuals and communities negotiate the difficult balance between holding on to normalcy and moving toward change.

5. Suggestions for Future Research on Community, Resilience, and Crisis

This review highlights how resilience in marginalized populations has been theorized and documented, while also revealing significant gaps in previous literature that call for further scholarly attention. Building on these insights, several directions emerge for future research. We wish to emphasize that these suggestions are related to the articles analyzed in the present review.

First, resilience needs to be reconceptualized beyond the familiar frame of adaptation. Much of the current literature positions resilience in relation to coping, recovery, or the restoration of normalcy (Madianou, 2015; Oktavianus & Lin, 2023), and identity-based narratives often emphasize continuity and survival (Jones, 2020; A. V. Richardson, 2022). While these perspectives provide important insights, they risk reducing resilience to the capacity to endure within unequal structures. Importantly, however, scholars have already advanced conceptualizations of resilience that foreground resistance and transformation, most notably Buzzanell's (2010) foundational work on communicative resilience, as well as research by Robinson and Schmitz (2021) demonstrating how resistance functions as resilience among LGBTQ youth. Building on this

growing body of scholarship, future research should continue to extend these perspectives by examining how marginalized groups use communicative practices not only to cope with adversity, but also to contest deficit framings, challenge structural inequalities, and articulate visions of more just futures.

Second, based on the studies included in this review, greater attention to trust and institutional relationships is needed. The articles analyzed rarely examined how marginalized groups navigate exclusion or mistrust, whether through discriminatory policies, symbolic neglect, or systemic failures. However, existing scholarship in other disciplines has already explored the communicative construction of trust and mistrust in marginalized contexts and has broadened the analytical focus beyond individual adaptive capacities to include the institutional and infrastructural conditions that shape information resilience (e.g., Davvetas et al., 2022; Lloyd, 2014; Shelton et al., 2021). Future crisis communication research should build on this work by investigating how marginalized communities interpret, resist, and reframe official messages during crises, and how these communicative processes shape resilience.

Third, intersectional approaches offer a crucial avenue to advance understandings of resilience in marginalized populations. Building on Crenshaw's foundational work (1989, 1991), intersectionality shows how overlapping axes of identity, such as race, gender, disability, class, and migration status, shape access to resources and forms of oppression. Although the reviewed studies have offered important insights by focusing on single categories (e.g., race/ethnicity, gender, or migration status), such approaches generally treat identities in isolation. Recent work has demonstrated that multiply marginalized groups face compounded communication barriers that emerge precisely at the intersection of identities and overlapping structural inequalities (e.g., Baniya, 2025; Haw, 2024). Future resilience research should therefore examine how intersecting identities, such as migrant women, LGBTQ refugees, undocumented workers with disabilities, or racialized older adults, shape resilience practices. This would enable a more nuanced account of how inequalities are simultaneously reproduced and contested across multiple dimensions.

Fourth, future research should continue to center community voices and participatory models. Although several reviewed studies highlight the value of locally rooted communication infrastructures (Wenzel & Crittenden, 2023), they seldom engage with the substantial body of scholarship that has long advanced participatory, culturally safe, and community-led approaches to communication with marginalized groups (e.g., Lenette, 2019, 2020; Lenette et al., 2020). Building on this existing work, future research would benefit from examining how co-created and trauma-informed communication practices empower marginalized communities, enhance legitimacy, and foster trust. Such approaches underscore the importance of agency and recognize marginalized groups not as passive recipients of crisis communication, but as active shapers of crisis narratives.

Finally, research on digital resilience deserves further expansion. Digital practices already feature prominently in the literature, from polymedia use after Typhoon Haiyan (Madianou, 2015) to queer counter-publics during Covid-19 (Duguay et al., 2023) and alternative mappings of marginalized spaces (Shitrit & Noy, 2024). In addition, extensive work on disability, digital inclusion, and sociotechnical inequalities has theorized digital resilience as relational and structurally embedded (e.g., Goggin et al., 2017; Goggin & Soldatić, 2022). Building on existing work, future work should theorize digital resilience as a relational process and further ask how platform infrastructures, algorithmic systems, and counter-narratives interact to shape marginalized communities' capacity to respond to crises.

6. Conclusion

The present study has synthesized how communication scholarship has conceptualized and examined resilience among marginalized populations in crisis contexts over the past 15 years. By mapping publication outlets, crisis types, groups studied, and recurring challenges, the analysis demonstrates that scholarship in this area is broad, interdisciplinary, and attentive to questions of inequality, representation, and access. At the same time, the review reveals that resilience has often been theorized in narrow terms that frame it as adaptation or coping, rather than as a more expansive process of resistance and transformation (Lloyd, 2014).

By looking through the lens of CTR, the study highlights the communicative practices through which marginalized groups enact resilience: reestablishing normalcy, affirming identities, mobilizing networks, putting alternative logics to work, and legitimizing emotions in ways that enable action. Importantly, the findings show that resilience is not a static trait, but a relational and discursive process embedded within structural inequalities. Crises do not simply expose vulnerability; they also make visible the communicative creativity, solidarity, and agency of marginalized groups in forging new forms of belonging and survival.

The contribution of the present study lies in three areas. First, it consolidates a scattered body of research into a coherent synthesis and further provides a clearer picture of how communication scholarship has engaged with marginalized populations in crisis. Second, it advances theoretical development by integrating CTR with diverse critical perspectives, thereby offering a more relational understanding of resilience. Third, it identifies key gaps and future directions, including the need for intersectional, participatory, and digital approaches that foreground community voices and challenge deficit-based framings.

7. Limitations

First, the present review is limited by its exclusive focus on communication journals indexed in Web of Science, which excludes interdisciplinary research in which communication is central. Fields such as Indigenous studies, disability studies, development communication, and environmental justice provide critical insights into resilience and marginalization, but work in these areas is often published outside traditional communication outlets. As a result, non-Western, decolonial, and community-led perspectives may be underrepresented.

Second, while CTR offered a useful heuristic for analyzing communicative processes of resilience, its application may have overemphasized discursive dimensions, such as narrative, identity, and network activation, while overlooking material, economic, and policy-related aspects less easily captured within communication-centered frameworks. Future work could integrate CTR with structural, political-economic, or policy approaches to more fully account for the complexity of resilience in marginalized contexts.

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ARTICLE

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Covid-19, Community Resilience, and Marginalised Populations: Health Communication and Chinese Communities in the UK

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Abstract

The Covid-19 pandemic brought unprecedented challenges to global public health, economies, and societies. In the UK, the impact of Covid-19 on the economy, healthcare systems, and individual well-being was also profound and multifaceted. While the pandemic had far-reaching consequences for the general population, its impact was not evenly distributed across society. It has been widely reported that the Covid-19 pandemic disproportionately affected ethnic minority communities, exposing and amplifying long-standing health and social inequalities. This study addresses a gap in existing research by contributing new insights to ongoing debates on ethnic minority health and public health communication. It takes a "bottom-up" approach by using focus groups to explore how UK-based Chinese communities, many of whom live at the margins of mainstream British society, drew on forms of community resilience to interpret, navigate, and endure the pandemic. Our study deploys the typology outlined in Buzzanell's communication theory of resilience alongside thematic analysis as a framework to identify, understand, and analyse the findings from focus groups. Key findings demonstrate that UK Chinese communities constituted resilience in the face of the pandemic by engaging in the processes Buzzanell identifies. They also relied on their cultural resources to build and maintain resilience, and indeed they had to, because culturally and linguistically they had little support from government or health authorities.

Keywords

communication theory of resilience; Covid-19; health communication; UK Chinese communities

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1. Introduction

1.1. Background

The Covid-19 pandemic brought unprecedented challenges to global public health, economies, and societies. It is estimated to have caused between 18 and 33.5 million deaths globally (Mathieu et al., 2024). Economically, the pandemic triggered a contraction in global GDP by approximately 3.0–3.4% in 2020, with total losses estimated at around $3.7 trillion, or 4.4% of global GDP (United Nations Conference on Trade and Development, 2022). Beyond mortality and economic impact, the pandemic produced profound social consequences. During its first year, global prevalence of anxiety and depression increased by around 25%, with lasting adverse effects on mental health, social relationships, trust in institutions, and overall well-being (WHO, 2023). Although the rapid global development and rollout of the vaccine were crucial in reducing transmission and mortality, they did not always mask the pandemic's broader impact. Ongoing burdens include excess morbidity and mortality, the emergence of long Covid, strained healthcare systems, and widespread delays in medical care, all of which are expected to have lasting implications for economic stability, social well-being, and sustainable development (Greenhalgh et al., 2024; Johnson et al., 2022). In the UK, life expectancy reverted to levels seen a decade before, homelessness surged, and approximately 2.7 million people became economically inactive due to sickness (Partington, 2024).

The impact of Covid-19 was not evenly distributed across society. Ethnic minority communities experienced disproportionate risks of infection, hospitalisation, and death. These outcomes reflected the interaction of biomedical factors (such as age and pre-existing conditions) and social determinants of health, including overcrowded housing, occupational exposure, and economic disadvantage (Razai et al., 2021). Higher levels of vaccine hesitancy among some ethnic minority groups compared with white British populations further compounded these risks (Sethi et al., 2021). Together, these factors highlight how long-standing structural inequalities shaped the unequal burden of Covid-19 in the UK (Office for National Statistics, 2021a).

1.2. Covid-19 and Chinese Communities in the UK

The health experiences of ethnic minority communities have increasingly attracted attention from communication scholars, many of whom argue that these populations remain under-served and marginalised in mainstream health policy and communication (Al-Oraibi et al., 2021; Dutta & Jamil, 2013). In the context of Covid-19, UK government vaccine messaging was often found to be ineffective for ethnic minority groups due to limited cultural and linguistic appropriateness in its design and delivery (Ekezie et al., 2023).

Existing UK research on ethnic minority experiences during the pandemic has largely focused on Black and South Asian populations (Razai et al., 2021). According to the 2021 census, 502,216 Chinese people lived in the UK, at 0.7% of the population one of the largest non-EU ethnic groups (Office for National Statistics, 2021b). Despite this, relatively few studies have examined their experiences. Available research includes a national survey indicating that UK Chinese respondents had the second highest level of vaccine hesitancy in 2021 (Office for National Statistics, 2021a), and two small-scale interview studies focusing on experiences of discrimination (Al-Talib et al., 2023; Gies, 2023). Our earlier work examined information sources and trust, particularly in relation to government communication (Gong et al., 2024). Nevertheless, significant gaps remain in understanding the broader challenges, vulnerabilities, sense-making processes, and coping strategies of Chinese communities in the UK during the Covid-19 pandemic.

1.3. This Study

This study addresses this gap by contributing new insights to ongoing debates on ethnic minority health and public health communication. It explores how Chinese communities, many of whom live at the margins of mainstream British society, drew on forms of community resilience and cultural resources to interpret, navigate, and endure the pandemic. Understanding this is crucial for informing health communication around resilience-building and maintenance among ethnic minority communities. While this article draws primarily on the communication theory of resilience, other theoretical frameworks also informed the study, though discussion is limited by journal length constraints. Notably, research on cultural competence in health communication highlights racial and ethnic health disparities as a long-standing crisis and argues that culturally competent communication is essential for improving healthcare outcomes (Betancourt et al., 2003). Schouten et al. (2023) emphasise that culturally and linguistically sensitive care is a prerequisite for high-quality health communication in increasingly superdiverse societies, where ethnic minority populations often experience poorer health outcomes. Papadopoulos (2022) argues that Covid-19 exposed systemic inequalities and inadequate healthcare preparedness and calls for culturally competent, rights-based health responses.

Intersectionality research on Covid-19 also informed this study, enabling a more nuanced understanding of disease knowledge, vaccination rates, and hesitancy within minority ethnic groups. Spetz et al. (2022) show that treating ethnic groups as homogeneous obscures important differences in vaccine coverage and argue that an intersectional approach is essential to capture this variability. We concur with Bauer's critique that population health research often relies on unitary categories such as race or sex, which can conceal intervenable factors. Bauer (2014, p. 11) emphasises that "the intersectional approach assumes that an individual's experience, and their health, are not simply the sum of their parts." Holman et al. (2020) suggest that intersectionality offers a promising framework for addressing health inequalities, though its application in the UK has been limited by policy preferences for simplified solutions that avoid challenging entrenched structures of discrimination. These perspectives echo Crenshaw's (1989) critique of legal and policy frameworks that treat discrimination through unitary categories and overlook the various marginalisations Black American women experience. In this study, we recognise that Chinese communities in the UK are not homogeneous and include significant intra-group differences (e.g., between Hong Kong and Mainland China). We sought to capture diverse lived experiences through focus group discussions attentive to variations in language, culture, and tradition. The following section introduces community resilience and the communication theory of resilience, which provides the central theoretical and analytical lens for this study.

2. Communities and the Communication Theory of Resilience

Acosta et al. (2017, p. 2) define resilience as "the capacity of any dynamic system to anticipate and adapt successfully to difficulties." When thinking about human groups, communities, and even societies, communication is central to anticipation, response, and adaptation, particularly in the context of health crises. This section outlines the relationship between communication and community resilience before focusing on Buzzanell's (2010) communication theory of resilience.

2.1. Resilience, Communities, and Communication

Although there is, of course, an individual aspect to resilience, when considered in relation to a community or a societal crisis it makes more sense to think about resilience as a communal process, a response where people together engage in an integrated effort to confront a challenge which impacts them all to some degree. As Buzzanell (2010, p. 2) puts it, rather than being an "individual phenomenon that someone either possesses or does not, resilience is developed, sustained, and grown through discourse, interaction, and material considerations." Indeed, a concept of resilience that focuses on individual traits has also been criticised for not "taking account of historical and structural inequalities, which are foundational barriers to well-being" (Acosta et al., 2017, p. 2) and scholars like Houston (2018 p. 21) frequently make the point that these inequalities need "to be addressed in community resilience planning and response, and communication researchers can help understand these processes." We will focus more directly on communication theory and resilience research below but it is worth noting here that communication is typically identified as a core concept in community resilience in the literature in this area, and indeed is explicitly identified within various resilience models. For example, Houston (2018) developed a framework highlighting communication's centrality, comprising communication systems and resources (e.g., media, infrastructure), community relationships (e.g., social capital), and strategic communication processes (e.g., planning, storytelling). Houston's research indicates that satisfaction with official information correlates with higher community resilience scores, while information deficits, whether from official sources or social disconnection, negatively impact resilience perceptions (Houston, 2018).

Buzzanell (2019) points out that it is essential to recognise that resilience is both reactive and anticipatory. Buzzanell's (2019, p. 2) argument is that anticipatory resilience is "always necessarily cultivated prior to disruptive events" and we would expect communities to "draw from their cultural beliefs and discursive resources about adversity to develop this anticipatory resilience." Long et al. (2021, p. 4) note that despite being "one of the most neglected topics in the study of resilience, culture is foundational to shaping resources and practices to cope with adversity." Studies on Chinese culture and resilience which have utilised Buzzanell's approach (Kuang et al., 2022; Long et al., 2021) have found that cultural values from Confucianism, Buddhism, and Taoism have "influenced how Chinese individuals perceive the nature of life, the self, and relationships, which subsequently may influence how people respond to adversity" (Kuang et al., 2022, p. 72).

Ultimately resilience can be articulated as a communally constructed and enacted process, embedded in the daily interactions and practices of individuals, families, communities, organisations, and their cultures. It is primarily through communication that communities can navigate challenges and adapt to crises, and, as Buzzanell (2019, p. 2) observes, in contrast "to positive psychology, for example, communicative theorizing on resilience does not reside in the individual. It is fundamentally grounded in messages, d/Discourse, and narrative." Communication theory and research on resilience can have important practical outcomes because identifying "factors associated with community resilience can be a powerful tool for determining what policies, programs, and research are needed to create healthier and more robust communities that use resources more efficiently" (Acosta et al., 2017, p. 2). This leads us to reflect on the research that communication scholarship can engage in to identify and analyse the communicative aspects of community resilience.

2.2. The Communication Theory of Resilience

As noted above, much of the scholarship on community resilience (Buzzanell, 2010, 2019; Houston, 2018) highlights communication's central role in building and fostering it, frequently within broader perspectives encompassing individual, family, organisational, and national resilience. Houston (2018) defines community resilience as a collective activity or capacity which isn't a static trait but a dynamic process which can be developed and sustained through discourse, and enacted communicatively and collectively within everyday life. Houston (2018) argues this necessarily involves investigating what people in communities actually talk about, when, with whom, and how they communicate, whether that be face-to-face or in mediated forms of communication. According to the communication theory of resilience, people engage with societal disruption, that is, a "trigger" event which sets human sense-making in motion, through a range of interrelated communicative processes which are vital for fostering community resilience (Buzzanell, 2010). Our study deploys Buzzanell's (2010) typology to identify, understand, and analyse the findings from our focus groups. This typology can be articulated in five distinct communicative processes:

- "Crafting normalcy" involves communities actively talking and performing actions to establish a new sense of routine and order after disruption, even when "reality" has been profoundly altered. A key finding of Buzzanell's (2010, p. 3) research is that "family and community members look forward to when things return to normal…[where] 'normal' is both an ongoing process and a perceived desirable outcome." She notes, "New normalcies are literally created through talk….As a first—perhaps primary—communicative process, we see that people, organizations, and nations bring a new normalcy to life—one embedded in material realities and generated by talk-in-interaction" (Buzzanell, 2010, p. 3).
- "Affirming identity anchors" sees communities, people, and organisations rely on enduring identity discourses (e.g., cultural values, beliefs, "mission") to help navigate uncertainties. Buzzanell (2010, p. 4) defines an identity anchor "as a relatively enduring cluster of identity discourses upon which individuals and their familial, collegial, and/or community members rely when explaining who they are for themselves and in relation to each other."
- "Maintaining and using communication networks" is crucial to constituting and maintaining resilience because the social capital, built through communicative interactions, provides an essential foundational support for communities to survive and recover from crisis (Buzzanell, 2010, p. 5).
- "Putting alternative logics to work" enables resilient communities to collaboratively reframe challenging situations and devise creative solutions (Buzzanell, 2010, p. 6). While the process of reframing may appear to be a psychological process, in reality it is almost always a communal activity. As Kuang et al. (2022) note, people construct, or co-construct, new views of situations (alternative logics) through conversations with others, and by seeking information from interpersonal and media sources.
- "Legitimising negative feelings while foregrounding productive action" allows communities to acknowledge distress but consciously choose to prioritise actions that lead to recovery and foster hopefulness. Buzzanell (2010, p. 7) argues this process involves "the deliberate foregrounding of productive action while simultaneously acknowledging that the circumstances perceived as detrimental could legitimately provoke anger and other potentially negative feelings."

The communication theory of resilience views the construction of resilience as always involving a collaborative exchange: "As a new story, identity, mode of being and behaving, and/or linkage is crafted, there must be others who support and elaborate on the new version and its potential to assist in the

construction of resilience" (Buzzanell, 2010, p. 9). The theory also recognises that these resilience processes are always interconnected. Some of the processes outlined above (e.g., affirming identity anchors, crafting normalcy) work together to "promote a sense of normalcy by stressing continuity in ways that help provide stability linguistically [and] materially" (Buzzanell, 2010, p. 9). It is clear that, in this important sense, promoting and maintaining resilience frequently requires navigating the tensions between continuity and change. In relation to the Chinese community, Long et al. (2021) note that at multiple levels (individual, relational, and community), what are perceived to be identity anchors, such as traditional Chinese cultural values (e.g., perseverance and hard work, or solidarity and collectivism), may encourage the community to focus on taking productive action when challenged by the crisis. It may also be the case that "cultural beliefs about harmony between humans and nature including that everything has its natural course (i.e., Tao) may help individuals reframe adverse situations and find meaning in suffering" (Kuang et al., 2022, p. 72), which could imply that the resilience processes identified in Buzzanell's typology "may encompass different subdimensions (e.g., collective in addition to individual identity anchors) in Chinese as opposed to Western cultures" (Kuang et al., 2022, p. 72). To understand how UK ethnic Chinese people enacted resilience, we ask: How did the UK Chinese communities communicatively constitute and maintain resilience in the face of the huge societal disruption caused by the Covid-19 pandemic? We also ask: What key lessons can be learned from this study for public health communication to improve resilience-building for ethnic minority communities?

3. Method

The study received ethics approval from the University of Leicester ethics committee. In total, 154 participants of varied socio-demographic backgrounds were recruited between March and November 2021. Twenty-nine focus groups (119 females and 35 males) were conducted to reach data saturation. Chinese community members were defined as adults who self-identify as ethnically Chinese and who live in the UK. Participants ranged in age from 18 to 75 years and included students, housewives, retirees, manual and office workers, professionals, and small business owners. Participants were recruited in Manchester and Leicester. In Manchester, participants were recruited via a Chinese community organisation. In Leicester, participants not affiliated with Chinese community organisations were recruited by two Mandarin- and Cantonese-speaking research assistants at community hubs (e.g., Chinese churches, supermarkets, restaurants). Including both affiliated and non-affiliated participants helped ensure a broader range of perspectives in our dataset.

Participants received project information and provided informed consent. As the study was conducted during a period of high Covid-19 transmission, all focus groups were organised online, enabling the collection of real-time experiences rather than retrospective accounts. Focus groups were conducted in Cantonese, Mandarin, or English according to participants' preference. Moderators (the research assistants) were bilingual or multilingual, facilitating communication in participants' preferred languages (see Table 1). Initial data analysis was conducted in the original language used in each focus group to preserve meaning and shared cultural understandings. Focus groups consisted of three to eight participants, and lasted between 39 and 84 minutes (average 62 minutes). All sessions were audio-recorded, transcribed, and anonymised. Recruitment ceased after the 29th focus group when discussions became repetitive, indicating data saturation (Hennink et al., 2019). Data analysis followed a deductive approach, with themes coded in alignment with Buzzanell's typology. The deductive qualitative approach enables the researcher to use

existing theory to examine meanings, processes, and narratives (Fife & Gossner, 2024, p. 1), but it carries the risk of confirmation bias. To mitigate this, analysis was conducted collaboratively, with continual cross-checking and reflexive discussions to ensure the communication theory of resilience was used as a sensitising and generative framework rather than a restrictive lens that obscured nuance.

Table 1. Participants' demographic information.

Focus group	Age group	Language used	Gender
1	Mixed (middle-aged and elders)	Cantonese	Male
2	Elders	Cantonese	Female
3	Mixed (middle-aged and elders)	Cantonese	Female
4	Mixed (young adults and adults)	Cantonese	Mixed
5	Middle-aged	Mandarin	Mixed
6	Adults	Mandarin	Female
7	Adults	Mandarin	Mixed
8	Elders	Cantonese	Female
9	Elders	Cantonese	Mixed
10	Young adults	English	Female
11	Mixed (middle-aged and elders)	Mandarin	Mixed
12	Middle-aged	Cantonese	Mixed
13	Mixed (young adults and adults)	Cantonese	Mixed
14	Adults	Mandarin	Mixed
15	Middle-aged	Cantonese	Mixed
16	Young adults	Mandarin	Mixed
17	Young adults	English	Mixed
18	Young adults	Cantonese	Mixed
19	Mixed (young adults and adults)	Cantonese	Mixed
20	Mixed (middle-aged and elders)	Mandarin	Mixed
21	Adults	Mandarin	Female
22	Mixed (middle-aged and elders)	Mandarin	Female
23	Middle-aged	Mandarin	Female
24	Middle-aged	Cantonese	Mixed
25	Young adults	English	Mixed
26	Middle-aged	Mandarin and English	Mixed
27	Adults	Cantonese	Mixed
28	Middle-aged	Mandarin	Mixed
29	Middle-aged	Mandarin	Female

Note: Age categories—young adults = 18–25; adults = 26–44; middle-aged = 45–64; elders = 65+.

4. Findings

As noted above, this study utilises Buzzanell's (2010) five-category typology ("crafting normalcy"; "affirming identity anchors"; "maintaining communication networks"; "constructing alternative logics"; and "legitimising negative feelings while foregrounding productive action"), which is derived from her communication theory of

resilience. We use the typology to better understand how community resilience was fostered and maintained within the UK Chinese communities during the Covid-19 pandemic and how our participants engaged with the issue of vaccine hesitancy. Quotations from participants are identified by focus group (FG), speaker (Sp), and gender.

4.1. Crafting Normalcy

Restoring normalcy was clearly a central concern for many participants after the pandemic had caused huge disruptions in their lives. Frequently they expressed the view that they just wanted things to get back to normal and vaccination would ensure this: "That's why I chose to get vaccinated. I just want to return to my previous life" (FG5, Sp3, Male). Others emphasised that by sticking together and following medical advice they can play their part in ensuring a return to a more normal life for everyone: "When everyone does one thing together, you reduce the risk of disease in the community…everyone can go out with confidence, go out for activities, eat, and live a normal life" (FG3, Sp5, Male). In relation to "crafting normalcy," elderly participants were particularly keen to emphasise that ultimately the health crisis was not something entirely new: "People of our age have seen everything, all storms" (FG2, Sp1, Female). Others made it clear that despite the extraordinary circumstances, they were doing their best to craft a normal life: "I also take precautions, protect myself and my family, and live a normal life" (FG22, Sp4, Female). Some participants, however, explicitly acknowledged that their task was to construct, or at least accept, a "new normal" which involved going along with a change in government policy: "It is really like what the British leadership said, so our new slogan is to let this virus coexist with life" (FG11, Sp3, Male). Participants said they adapted to living with the pandemic and noted this necessitated acceptance of the vaccine: "You can travel or go home to visit relatives…so you accepted this vaccine" (FG22, Sp3, Female). Some participants expressed the view that after the vaccine rollout, returning to normal activities as much as possible was necessary for the community's well-being: "Hiding at home can really take a toll on your mental health….Now that more people have been vaccinated…let's resume some normal life as soon as possible" (FG13, Sp2, Female).

4.2. Affirming Identity Anchors

In regard to Buzzanell's (2010) process of "affirming identity anchors," it was clear that, despite being a minority ethnic group, many participants stressed that they had a duty to the whole of society, not just their group. One stated: "I should fulfil my responsibility as a citizen and should take the injection" (FG1, Sp3, Male). Several emphasised that Britain was a key part of their lived identity, one noting that "since we live in the UK, we must trust the British government" (FG1, Sp4, Male). Although some expressed concerns as to whether or not the British vaccines were appropriate for Chinese people, "In our Chinese community…[we] may be different from the British" (FG5, Sp1, Female), others were reassured by the fact that people from their own community were part of the teams working on vaccinations, "News said there were many Chinese people in the Oxford vaccine development team" (FG1, Sp1, Male). Almost all of our participants did, however, strongly emphasise the importance of their cultural identity as ethnic Chinese British people and indeed many were happy to be seen to respond to the pandemic in ways which they believed were true to that identity, even if it marked them out to the rest of the population. One person illustrated this by relating a story about a confrontation with some white British who were telling them they should not wear masks. A participant said, "My son said to him these are our freedoms, you have your freedom to demonstrate, we have our freedom to wear masks….If you pull my mask with your hands, I will beat you, I have learned Tai Chi" (FG9, Sp3, Female). This

is an interesting assertion that living in a pluralist society means people have choices and freedoms, while at the same time it re-emphasises the values of the ethnic minority group, which act as a strong identity anchor for that community. Many participants emphasised the different levels of identity that motivated their sense of duty, with one stating, "With my vaccine I hope to protect myself, my family, and the community" (FG23, Sp2, Female). Finally, a number of participants, recent arrivals from Hong Kong, drew on that specific Chinese community identity to emphasise their understanding of the importance of protection and vaccination in combating dangerous viruses: "Because of SARS, we Hong Kong people are very aware" (FG18, Sp5, Female).

4.3. Maintaining Communication Networks

In relation to the third process in Buzzanell's (2010) typology, "maintaining communication networks," almost all participants emphasised that maintaining communicative relationships was very important: "You can't be isolated from things and cut off ties with the outside world" (FG22, Sp4, Female). Participants across the focus groups highlighted how essential it was to maintain communication networks within their communities for sharing information, influencing opinions, and seeking reassurance regarding the pandemic and the vaccination. Almost every participant mentioned that they regularly used social media platforms such as WeChat to maintain their networks: "There were many discussion groups, and everyone…will chat in that group about whether you have vaccinated and what your attitude is" (FG7, Sp2, Male). Many participants emphasised that maintaining communication networks has never been easier: "There are so many channels for you to get information. Whether it's messages between friends, doctors' comments on the vaccine situation on YouTube, or radio stations" (FG1, Sp4, Male). While mediated communications were very important, most participants mentioned that direct interpersonal relationships were still significant: "I think word of mouth is useful as well, because it comes from our neighbours and friends" (FG25, Sp5, Male). Participants frequently identified specific Chinese community organisations and groups as being important communication networks; religious organisations were seen as highly important by a significant number of people across different focus groups. One participant said, "The information given to me by friends from the church is quite positive" (FG23, Sp2, Female). Several participants mentioned expertise in relation to their friendship groups at church: "I heard the brothers and sisters in our church, all doctors….So I feel more assured" (FG11, Sp2, Female). Some people made the point that belonging to a communication network you could trust was very important: "The more trustworthy people around you to tell you [about the vaccine]…makes you more confident" (FG19, Sp4, Female).

4.4. Constructing Alternative Logics

In relation to the process of "constructing alternative logics," participants demonstrated attempts to collaboratively reframe the health crisis. Despite the concerns they had in vaccinating the elderly, some reframed it as not a potentially worrying health decision but as an act of personal freedom: "My mother is in her 90s and she said that she must vaccinate. Only by vaccinating can she be free" (FG2, Sp4, Female). Another participant reframed the act of going to get the vaccine alone, not as a worry but as an act of independence: "Many friends said that as an old man, you should not go alone to get vaccinated. I said that I am not afraid. I can get the vaccine myself and come back without bothering others" (FG4, Sp2, Male). Other participants reframed personal fears about the vaccination by shifting attention to the courage of medical staff: "Medical staff risked their own lives and were among the first to receive the vaccine, so what should we be afraid of?" (FG3, Sp4, Female). Others advocated a fatalistic perspective on life to reduce

anxiety around risk and find some relief from a stressful context: "Just believe that life has a certain destiny. If it is you, it is you, if not, it is not you" (FG3, Sp2, Female). Even though ultimately it was a personal choice and people were not breaking the law by refusing to vaccinate, some participants did not articulate it like that, with one participant stating, "I don't think you have any choice" (FG3, Sp2, Female). This reframes the situation as one where vaccination is a requirement, and this logic simplifies the decision in a challenging environment. Other participants, in order to mitigate their anxiety, constructed the virus as something familiar that they could overcome: "I treat it like a cold, a normal thing. Because I feel that there may be no end to this virus" (FG22, Sp3, Female). This reframes Covid-19 from an acute crisis to an endemic reality, similar to a common cold, certainly requiring vigilance and action but not acceptance of defeat and fear. Reframing Covid-19 as a manageable condition like a cold encourages adaptation and continuing with life as the only viable way to deal with the situation.

4.5. Legitimising Negative Feelings While Foregrounding Productive Action

Regarding the processes of "legitimising negative feelings while foregrounding productive action," many participants highlighted that they were determined to press on with life despite understanding the risks of Covid-19. Some acknowledged the negative impacts of Covid-19 but enthusiastically stated it was important to take action to end the threat: "This pandemic has really caused misery all over the world. If we citizens don't get vaccinated, we will be even less able to defeat this virus" (FG3, Sp1, Female). Others spoke about the kind of practical advice they offered family and friends in the community: "If you get vaccinated, take two pills of paracetamol immediately, drink more water, and don't do strenuous exercise" (FG1, Sp4, Male). Some participants offered advice about maintaining a good positive attitude through the crisis: "Don't let the epidemic suppress you….Protect yourself, take two injections, and nothing will happen" (FG8, Sp3, Female). Other participants linked this kind of personal productive action with the fact that you were helping your community: "I still wear a mask….In fact, you not only protect yourself, but you can also indirectly help others" (FG7, Sp3, Male). Many participants reflected on the coping mechanisms they employed to reduce anxiety and mitigate the concerns about the risks of the Covid-19 vaccine. One participant noted that they had lived with anxiety for a long time but they saw hope in the vaccine: "I saw reports that a vaccine had begun to be developed and clinical trials had begun. These are very exciting to me, and I am looking forward to the vaccine. Of course, I will also have some worries about this vaccine" (FG23, Sp5, Female). Others were determined to push concerns to the background: "I'm not really worried about side effects…like the only people that seem to be complaining about them are people who are really against vaccines. Crazy people" (FG25, Sp2, Male). Another participant argued that the probability of risk pushed negative emotions into the background:

> I mean, the only thing I can really think of is the probability of getting a really bad blood clot from the AstraZeneca one. The probability of that happening is much lower than that of a very severe symptom of Covid. (FG17, Sp4, Female)

When discussing how the authorities could specifically help communicate the positive benefits of vaccination to UK Chinese people, many participants noted that such action was notably absent: "I think if there are some more professional news in Chinese, it may be of great help to those of us who are not very good at English, and let us understand some things better" (FG23, Sp7, Female). However, they were frequently happy to offer advice about how to take action, one suggesting, "If you gather a bunch of Chinese people, to say, they've had

good experiences, and then show that video to Chinese people or older Chinese people" (FG24, Sp1, Female). This point about the need for more culturally-specific communication resources was a common view amongst many participants, and a number of people across different focus groups articulated creative solutions like this one, which frequently involved the idea of involving Chinese community members.

5. Discussion

A number of studies (Yu, 2021; Zhao, 2020) have highlighted that Chinese people in Western societies were frequently negatively impacted by right-wing rhetoric about the pandemic including US President Trump's continual attempts to deploy racist tropes around Covid-19 (calling it the "China virus," etc.), which caused huge anxiety and even resulted in significant mental health issues (Stolte et al., 2022). UK Chinese communities are highly visible and at times suffered from discrimination and targeting from some elements of the white British community. We have not focused directly on this specific issue—some aspects have been researched elsewhere (Al-Talib et al., 2023; Gies, 2023)—but in our findings we have noted instances where UK Chinese people display resilience and a determination to maintain their own viewpoints and cultural norms even when confronted by challenging situations.

Our main focus was on UK Chinese communities engaged in building and maintaining community resilience, and we would argue that the processes identified in Buzzanell's (2010) typology were a useful place to start to understand the sense-making activities of the participants in this study. It is clear that most participants prioritised a return to a "normal" life while acknowledging that what they were doing was adapting to a "new normal." This *crafting normalcy* (Buzzanell, 2010) was seen by most as an essential reaction to the disruption to life brought by the Covid-19 pandemic and an important responsibility to family, community, and society. Additionally, many participants spoke about a new reality where having the vaccine was viewed as the key to being able to work, travel, and socialise, and saw those who opposed vaccination as purveyors of misinformation or even dismissed them as "crazy people." However, it would be wrong to represent all participants as thinking as one on the pandemic: While most ultimately expressed support for the policies of government and health agencies, a significant minority raised concerns when UK and Chinese Covid-19 policies differed, particularly regarding lockdown restrictions and vaccinating the elderly. This perhaps reflected very little attempt by UK health agencies to focus communication efforts on issues which were important for the Chinese communities. Instead, participants spoke about their own efforts and their own determination to face the crisis, and this could be seen as a demonstration of individual resilience, but what is interesting is that while doing so, most participants framed their decisions or actions as part of a wider communal effort to build a new normal and get on with life. In this sense, our study echoes Buzzanell's (2019, p. 68) findings that resilience can be conceptualised as "a constitutive process through which people reintegrate and actively construct their new normal through language, interaction, networks, and attention to their identities and identifications."

As noted above, the Covid-19 pandemic exacerbated anti-Asian discrimination and xenophobia in many Western countries such as Canada, the UK, and the US, and resulted in increased levels of stress linked to racism-related interactions toward Chinese communities. Stolte et al. (2022) conducted a US-based survey study which found that those who identified as Chinese reported greater perceived distal stress linked to racism-related vigilance. A response to this kind of stress in our study was what Buzzanell (2010) labels the process of *affirming identity anchors*, which manifested itself in different ways for our participants.

Buzzanell's (2010) research noted that religion is frequently a key identity anchor for people in a crisis, and it was interesting to see this to some extent reflected in the UK Chinese communities. In the West, this is perhaps more of a US rather than a British societal feature, but for some participants their membership of their local church was a key identity anchor upon which they relied. More broadly, for all participants, their Chinese culture and identity was hugely important and many spoke about differences between the Chinese community and the "white British." For some, there was an interesting juxtaposition between emphasising their responsibility as a British citizen, an identity anchor considered significant and meaningful to their sense of who they are, while at the same time acknowledging their difference as a Chinese person in a diverse, multicultural society. For others, it was important to differentiate themselves from some other British citizens, and in doing so they emphasised their position as a resilient strong people in the face of adversity, which could be expressed through specifically Chinese skills like knowledge of Tai Chi. In this sense, the study can be seen to reinforce the work of Kuang et al. (2022, p. 85), which extends understanding of Chinese cultural values as a source of anticipatory resilience that provides support during periods of adversity. Notably, some participants were keen to emphasise that the UK Chinese were a heterogeneous population, with Hong Kongers being particularly keen to point out their difference from mainland Chinese. Interestingly, it was this group who stressed that it was their identity as "Hong Kong Chinese" and their "experience of previous adverse events" (Kuang et al., 2022, p. 72), such as the SARS crisis, which aided in constituting resilience in the face of Covid-19.

It was very clear from our focus groups that *communication networks* were essential to the process of building and maintaining resilience for our participants. For most people in a period of acute disruption, communication networks become ever-more essential (Houston, 2018), and this ranges from top-down (government, agencies, health bodies) to the bottom-up neighbourly interactions. All these can be essential resilience-building resources, and our participants did express views about all levels within this "communication ecology" (Houston, 2018) which surrounds people. It was very clear that certain networks were essential for day-to-day communication interactions: Family and friends were unsurprisingly very important in people's lives. As noted above, the Christian churches, for quite a number of participants, were seen as centres of trustworthy information, particularly about the vaccine. It was a communicative resource where people felt included, shared stories, and were able to engage with people (medical professionals) who had knowledge and expertise, and this reduced anxiety for many in these networks. Houston (2018, p. 20) argued that "research could consider the role of social media in community resilience talk," and it is clear that for many of our participants of all ages, various social media platforms were continually deployed to collectively share their experiences and discuss their feelings about the pandemic and the vaccine. What is also clear is that people made efforts to enact and maintain resilience, but they had to do it largely on their own, with little dedicated health communication resources directed toward this community.

Constituting resilience by reframing the crisis, or as Buzzanell (2010) puts it, *putting alternative logics to work*, was frequently evident in the discussions within our focus groups. For many, this involved referencing their cultural beliefs/heritage or directly pointing to cultural differences. Some people spoke about how they understood the current crisis as just another one of life's "storms," which Kuang et al. (2022, p. 71) note echoes the Taoist belief "that everything has its natural course…[which] may help individuals reframe adverse situations and find meaning in suffering." Kuang et al. (2022, p. 72) also note that "individuals can draw from cultural beliefs and discursive resources about adversity to cultivate anticipatory resilience." Repeating a belief like "life has a certain destiny" taps into a whole cultural resource around

Taoist/Confucian ideas of *ming* (destiny), where one accepts destiny but also lives virtuously, fulfilling one's obligations to family, community, and government (Kuang et al., 2022). It's important to draw attention to this because, as Southwick et al. (2014) noted, the cultural processes and cultural resources deployed by communities to maintain resilience in the face of adversity are still largely understudied. We observed above how Hong Kongers in particular mentioned their experience of SARS, and a key reframing process involved contextualising the present crisis through the lens of previous crises. As Buzzanell (2010) explains, a crucial aspect of resilience is how communities apply past lessons to prepare for future events, and our focus group members talking about how the current pandemic could be understood as a new version of SARS was of course part of their sense-making process. Attempting to find understanding in something familiar was a way to reduce anxiety—after all, they had adapted to and survived SARS.

The final process of building resilience in Buzzanell's (2010) typology is where people "legitimise negative feelings while foregrounding productive action," and it was clear that the participants in our focus groups did appear to feel free to express their fears about the virus and the "misery" it had brought. Yet there was a general focus on actions to take in response to the virus, many of which were oriented toward how the community had to change to face the new challenge. Much of this was about fostering collaborative action, such as ensuring everyone paid strict attention to the hygiene guidelines, and of course offering advice and encouragement about the necessity to vaccinate. People generally were not afraid to voice some concerns about the vaccine, but this was usually couched in terms of acknowledging some risk, while the risk of not vaccinating was viewed as vastly greater. Long et al. (2021, p. 4) noted that culture is a hugely neglected topic in both the study of and taking action for community resilience, even though it should be "foundational to shaping resources and practices to cope with adversity." It was clear from our focus groups that participants felt they were overlooked in relation to health communication, but as we noted above, participants were always prepared to offer culturally and linguistically appropriate, creative, and actionable solutions which they felt would be helpful to the agencies involved in health communication efforts.

6. Conclusion

Long et al. (2021, p. 4) make the point that "extant resilience research has relied mostly on North American empirical data and constructs anchored in Eurocentric epistemology," and argue that a "grounded approach privileging participants' voices and accounts is also needed to add greater specificity and cultural insights." This study has attempted to take account of this and similar calls by opening a space in our focus group research for UK Chinese people to speak about their lived experiences, feelings, and concerns in a time of great disruption brought about by Covid-19. They have given voice to the processes which they enacted in order to constitute and maintain resilience during the pandemic. Houston (2018) argued that too little is still known about what individuals in resilient communities talk about, and our aim in this project was to shed some light on this. He also argued that to "advance understanding of communication and community resilience, research is needed to develop an insight into how communication systems and resources (the communication ecology) affect community resilience" (Houston et al., 2015, p. 139). We would concur with this and also add that more communication research is needed that considers how "historical and structural inequalities" are impediments to community resilience (Acosta et al., 2017, p. 6). From our study, it is clear that one key inequality concerns communicative resources, and in preparing for the next pandemic, UK governmental and health agencies should focus efforts on understanding the cultural and language requirements of ethnic minorities in multicultural Britain. Similar to the recommendations made by other

studies on pandemic experiences of ethnic minority communities in the UK (Stolte et al., 2022; Ekezie et al., 2023), we find a need for policymakers and health authorities to work closely with community organisations to co-produce culturally appropriate health and social care information. The information needs to reflect community members' varied demographic characteristics, including intragroup identity, language, age, living conditions, and socioeconomic status. Better resources, including disseminating channels and mental health support, should be provided to the community, as well as training for community health workers to help build stronger health communication networks, which can benefit community resilience. Finally, as noted at the beginning of this article, the work of Betancourt et al. (2003) and others has made an important contribution to reflecting on cultural competence and health communication. Indeed, Betancourt et al. (2003) proposed a three-level framework for cultural competence addressing the organisational (e.g., leadership), structural (e.g., language access), and clinical (e.g., provider–patient relationship) levels. The case they make seems even more important in light of the Covid-19 pandemic because, as they highlight, communication is the bridge to health outcomes, and when cultural or linguistic barriers exist, health messaging is always negatively impacted.

7. Limitations

The study was unable to recruit extremely marginal participants such as refugees and undocumented migrants who did not wish to take part in the project. Therefore, we acknowledge that their understanding and experiences of vulnerability and resilience in the pandemic may be different from the views reported in this article. Future research could endeavour to recruit participants whose Covid-19 pandemic experiences may be determined by other priorities such as the intention to avoid contact with the authorities even in a health crisis.

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Conflict of Interests

In this article, editorial decisions were undertaken by Jenny Zhengye Hou (Queensland University of Technology).

Data Availability

Data are available upon reasonable request.

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ARTICLE

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(Re)Contextualizing Organizing Inequities: The Communicative Production of Worker Vulnerability in Global Supply Chains

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Abstract

Global supply chains are the infrastructure of contemporary capitalism and produce, define, and determine the vulnerabilities of labor. Yet much communication inquiry into work conditions does not position either risk or vulnerabilities of labor with regard to these global chains. For organizational communication studies, supply chains also offer an opportunity to recontextualize work inequities and vulnerabilities by moving beyond container metaphors of organizing and single-case studies. This article, therefore, draws upon multiple ethnographic projects conducted in India and China to examine the vulnerabilities faced by various marginalized worker groups enmeshed in global supply chains to identify three communicative conditions that fundamentally shape these vulnerabilities: fluidity, visibility, and disarticulation. Fluidity is explored through a study of fast-fashion workers in China, a primary sourcing hub for global mega-platforms such as Shein and Temu. Visibility is examined via onion supply chains in India, focusing on women whose labor is collectively essential but individually disposable. Finally, disarticulation highlights how garment workers in global cotton supply chains in India are severed from their communities, livelihoods, and each other. We argue that analyzing worker vulnerability necessitates attention to all three communicative conditions, advocating for the use of multi-sited ethnographies as a means to grasp these vulnerabilities.

Keywords

disarticulation; fluidity; labor; supply chains; visibility; vulnerability

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1. Introduction

Supply chains—sprawling, transnational, multi-tiered systems that connect producers, suppliers, intermediaries, and consumers across continents—now face an intensifying confluence of crises that span logistical, geopolitical, environmental, technological, and social domains. The fragilities that the Covid-19 pandemic revealed continue to disrupt global supply chains, compounded by logistical and operational disruptions, increasing volatility of trade policies and the vagaries of tariffs, acute material shortages, infrastructural bottlenecks, technological risks, and climatic shocks. Even as AI technologies transform supply chains into highly sophisticated systems by enabling predictive analytics, optimization, and automation, a persistent and prevailing crisis deepens—the systemic vulnerability of labor.

Ethical and legal accountabilities in modern supply chains depend on robust communicative capacities, especially the ability to collect, verify, and exchange information across multiple tiers. As governance regimes increasingly mandate verifiability and transparency, organizations face growing pressure to build information systems that can meaningfully trace labor conditions and reveal human rights risks embedded deep within production networks. However, persistent structural inequities, fragmented data, lack of transparency, and weak cross-tier communication allow exploitation to remain hidden, suggesting that communication failures significantly contribute to supply chain crises. Thus, communication is not merely an administrative function but the very infrastructure through which supply chains fulfil or neglect their responsibilities to prevent labor abuse and address broader global challenges.

Workers in the Global South remain the most invisible and precarious link in supply chains, facing hazardous working conditions, limited rights, and acute risks. For instance, in Bangladesh's garment sector, workers face wage theft, repression, and unsafe working conditions; despite supplying major global brands, many factories routinely pay below minimum wages and retaliate against union activity (Anner, 2019). Fast-fashion brands relying on such labor often escape scrutiny, despite sharing factories and labor conditions, due to differences in consumer perception and uneven parameters of corporate visibility (Shirgholami & Cole, 2025). Similarly, vulnerabilities experienced by migrant, gendered, and marginalized labor have been documented in industries such as cobalt mining (Amnesty International, 2024; Faber et al., 2017), cocoa production (Barrientos, 2014; LeBaron & Gore, 2020), and cottonseed production (Ramamurthy, 2011). These examples underscore how supply chains rely on vulnerable labor, shielded by layers of informal work, weak enforcement of ethical standards, and fragmented governance.

We therefore aim to understand and grapple with these acute vulnerabilities of labor and examine the broad global communicative conditions under which these vulnerabilities are shaped. We ask: How do specific communicative conditions in supply chain relationships generate and intensify risks of worker vulnerability? In particular, we adopt a constitutive perspective to examine three communicative conditions that characterize worker vulnerability in supply chain contexts: fluidity, visibility, and disarticulation. We conceptualize vulnerability not merely as an economic inevitability but as an outcome of relational and discursive organizational practices.

Our analysis treats communication as a generative force that produces worker vulnerability, a form of risk that, when unaddressed, escalates into ongoing crises across multiple organizations and organizing sites. In doing so, we position supply chains as ongoing, dynamic, relational, and contested organizing processes

embedded in the day-to-day lives of actors. From a communicative standpoint, fluidity captures the continual movement and reconfiguration of social relations where communication shapes shifting boundaries, identities, and roles. Visibility refers to the discursive processes governing whose presence is amplified or muted within organizational settings. Disarticulation denotes the communicative severing of workers from the social, spatial, and institutional ties that sustain them, producing patterns of isolation within supply chains.

We seek to shed light on the multifacetedness of global labor vulnerabilities by synthesizing three studies of labor in supply chains from the Global South, namely India and China. We begin by outlining our three main sensitizing concepts—fluidity, visibility, and disarticulation—followed by our methods. We then present the first case on fluidity, drawn from an ethnographic study of upstream garment workers in the global fast fashion chain in China. For the second case, we turn our attention to a regional agricultural supply chain in Maharashtra, India. Finally, for the third case, we turn back to the garment industry focusing on cotton mill workers in sustainable organic cotton supply chains in India. Lastly, we discuss the implications of the vulnerabilities and crises produced by the three communicative conditions.

2. Supply Chains in Crisis: Vulnerability, Fluidity, Visibility, and Disarticulation

Communication processes are deeply implicated in how contemporary vulnerabilities are both constituted and experienced (Frandsen & Johansen, 2020). Such vulnerabilities are produced at a global scale (Stohl & Ganesh, 2025) and deeply embedded in capitalist crises. Yet, research in organizational communication has not deeply considered how we might think through worker vulnerabilities in these global terms. Global supply chains represent one locus for such inquiry, and only a few organizational communication studies have been conducted on the subject (Dempsey et al., 2023; Ganesh et al., 2025).

We understand worker vulnerability in supply chains specifically as the social and material precariousness experienced by workers on a day-to-day basis. Scholars such as LeBaron and Gore (2020), Bair (2005), and Phillips (2013) have examined how vulnerability in global supply and commodity chains is not episodic but is structurally produced through business models reliant on economic liberalization, subcontracting, and opaque labor governance structures. LeBaron's (2021) research highlights that vulnerability is not merely an individual actor's condition but is systemically and trans-organizationally embedded in supply chains. Migrant and forced labor are especially exposed to vulnerability due to their exclusion from formal governance mechanisms, cost pressures, limited bargaining power, and corporate outsourcing. Such risks are typically impelled onto disposable workers. Research shows that corporate social responsibility initiatives often fail to address these systemic drivers of supply chains and make little progress in fulfilling commitments for living wages and instead focus on superficial compliance that retains deeper vulnerabilities (LeBaron et al., 2022). Phillips (2011) argues that governance in global production establishes hierarchical forms of vulnerabilities where informal and migrant labor is rendered exploitable through legal and geographic detachment between workers and the firms that profit from their labor.

In this study, we move beyond these logistical and economic explanations by adopting a constitutive perspective on communication to investigate how vulnerability is produced, sustained, and perhaps resisted in supply chains. Inspired by scholarship on the communicative constitution of organizations, we conceptualize supply chains as ongoing accomplishments of communicative practices rather than fixed

structures (Ashcraft et al., 2009; Cooren, 2015; McPhee & Zaug, 2009). In this view, discourses, narratives, reporting mechanisms, and visibility regimes shape who counts as legitimate actors and whose voices are excluded. This lens allows us to unpack how everyday practices, gendered roles and norms, language, and visibility tools both reveal and reproduce communicative systems of control, surveillance, and marginalization.

Such analysis is much needed. The pressures and risks that strain supply chains, such as economic inequities, shifting political relationships, global pandemics, travel bans, wars, and environmental devastations, have made it commonplace for us to hear about supply chain disruptions in the news. And yet, supply chain analysis does not often get attention in communication studies, perhaps because the conditions in which they operate are considered to be material and thus extra-communicative. However, there are several developments in critical communication inquiry that make the study of supply chains not only relevant, but compelling.

First, the material turn in organizational communication and attention to the interlacing of communication and capitalism (Kuhn, 2024) implies that we need to see communication processes as driving forces in supply chains and not as dependent variables; communication analyses, in turn, help move beyond resource-driven views of supply chain management (SCM). Second, we add to critical research on global supply chains demonstrating that vulnerabilities and risks are unevenly distributed across Global North–South production networks, with risks and uncertainty routinely imposed onto workers in the Global South (Alamgir & Banerjee, 2019; Bair, 2010; Selwyn, 2018; Tsing, 2009). Within these extractive organizational arrangements, crises are not anomalous events but are normalized through everyday communicative practices. Consequently, workers in the Global South function mainly as "shock absorbers" for supply chain risks, bearing the consequences of frequent disruptions, sustainability demands, and market volatility despite limited voice or control over organizational decisions.

And third, given the deep-rootedness of global crises in our contemporary communication ecology, communication is up front and center both in the production and the resolution of supply chain crises. Three concepts in particular help us place communication in a more constitutive place vis-a-vis contemporary crises in supply chains: fluidity, visibility, and disarticulation.

2.1. Fluidity

Bauman (2000) uses the term "fluidity" to describe the relentless speed of modern society, where everything is constantly changing, and maintaining stability is challenging. Fluidity has been increasingly applied to SCM and related fields. Unlike Bauman's (2000) view of fluidity, SCM research tends to emphasize the ability to coordinate resources across different locations and times, thereby enabling the smooth and efficient flow of goods (Bueno-Solano et al., 2022; Sodhi & Tang, 2021). Such managerial approaches to fluidity tend to overlook social problems caused by the pursuit of efficiency.

The engagement with fluidity in organizational communication studies, however, is broad and comes from empirical research on fluid social collectives (Ganesh, Stohl, & Kim, 2022; Smith, 2022; Wilhoit & Kisselburgh, 2015) and inquiry into what constitutes organization itself. Studies of fluidity have explicitly challenged container metaphors for organizations, both dismantling the rigid boundaries between organization/organizing as well as formal organization and formless ones (Dobusch & Schoeneborn, 2015). Ganesh and Stohl (2021) use fluidity to describe today's organizational communication phenomena in terms

of volatility, uncertainty, complexity, and ambiguity, examining fluidity from four perspectives: structures, institutions, agency, and identity. Other recent work (e.g., Kuhn, 2024) invokes process-based ontologies to argue that *all* organizations are "better understood as fluid practices" (p. 39). These multiple views of fluidity have resulted in it turning into an umbrella metaphor for organization in much the same way that the container metaphor itself was (Clegg & Baumeler, 2010).

Cruz and Sodeke (2021) challenge dominant neoliberal views on fluidity, exploring postcolonial fluidity in the organizing efforts of Nigerian street hawkers and Liberian market women. They reframe fluidity as a communicative power site where marginalized organizational actors interact with powerful external forces. We adopt this lens to recognize that pressures to optimize the flow of goods from suppliers to consumers have produced an unbalanced power system that entrenches vulnerability, particularly among factory workers positioned at the lower end. Drawing on workers' everyday experiences of space and time, we examine how this vulnerability materializes.

2.2. Visibility

Visibility in SCM is broadly conceptualized as the extent to which stakeholders can access timely, accurate, and comprehensive information across the entire network, from sourcing and production to distribution and labor conditions (Barratt & Oke, 2007). Visibility is seen as a strategic resource that enables real-time responsiveness, forecasting, risk mitigation, automatic decision-making, and regulatory compliance (Caridi et al., 2014). Visibility in SCM scholarship largely focuses on enhancing logistical efficiencies, improving tracking and tracking mechanisms, and, through timely and accurate exchange of data, reduces information asymmetries (Bartlett et al., 2007; Busse et al., 2017; Kraft & Zheng, 2021; Lee et al., 2014; Somapa et al., 2018). Communication, in this conceptualization of visibility, is assumed to be linear, transmission-focused, and information-based.

Our study draws from scholarship that conceptualizes visibility more broadly, not as neutral or purely informational, but as a deeply political and socially constructed category (Brighenti, 2007, 2010). Visibility is not merely about being seen or unseen; rather, visibility is produced through power relations, institutional structures, and mediated technologies that determine *how* one is seen, who controls visibility, whose voice is heard and diminished, and its socio-political implications.

Brighenti (2007) argues that visibility functions as a social field that enables recognition, control, inclusion, and exclusion. Scholars like Flyverbom (2022), Albu (2019), and Leonardi and Treem (2020) extend this to the digital realm, showing how algorithms and platforms shape architectures of visibility curating what is seen, datafied, and considered governable. Ganesh, Stohl, and James (2022) emphasize that visibility within global organizations is often uneven, with marginalized voices rendered invisible or only made hypervisible in surveillant, tokenistic, or disciplinary ways. Thompson (2005) and Treem et al. (2024) show that while visibility can enable agency and amplify presence, it can also reinforce surveillance, hierarchy, and vulnerability. Across these perspectives, visibility emerges not as a static phenomenon but as a contested terrain where recognition, inclusion, and representation are constantly negotiated.

Therefore, we take the view that visibility serves as a communicative condition shaped by power, institutional structures, and strategic representation. Rather than being neutral or inherently empowering,

visibility can expose workers to surveillance, control, and exclusion, especially in transnational and precarious labor contexts. This perspective reframes visibility as a relational and contested process that often deepens vulnerability.

2.3. Disarticulation

The notion of disarticulation, first expressed in Samir Amin's (1976) work, extends Marx's idea that capitalist expansion necessitates the transformation of use-value into exchange value. That is, human labor is no longer conceived of in terms of its embedded value in local communities: instead, it is temporally abstracted, measured in terms of hours and therefore standardized, and made exchangeable—and so workers are paid hourly or by the volume of output regardless of how important or useful their work might actually be (Marx, 2024). As Amin (1976) argues, work has no local meaning apart from the fact that it involves the procurement of money. Such temporal abstraction and standardization facilitate a hierarchy of labor that distinguishes between various levels of skill, and as Federici (2004) has argued, it is fundamentally gendered and raced because it rests on bodily work even as it dismisses it as a form of labor, or places feminine/feminized or Black labor at the bottom of labor hierarchies.

Disarticulation has been an important concept in commodity chain analysis (Bair & Werner, 2011). It draws attention to the idea that the transformation of use–value into exchange–value involves a separation between workers and communities. In Hall's terms, as subaltern identities are articulated into capitalist systems, i.e., as they are transformed into workers, laborers, or employees (Hall, 1983, as cited in Grossberg, 1986), they are separated from their roles as parents, siblings, children, and citizens. Ganesh et al. (2025) argue that disarticulation is particularly important in Global South contexts because contemporary supply chains "arrange entire countries at the manufacturing peripheries of global capitalism" (p. 355).

We use the term "severance" to draw attention to this communicative feature of disarticulation. While Sayer (2002, p. 25) says that for Marx severance referred to the separation of the conditions of production from the producers (workers) themselves, Cheney (2001, p. 137) refashioned the concept for organizational communication studies to implicate the:

> Severance of people from each other in any authentic sense of community and democracy; severance of control over business from its people—as in the subordination of employees' interests to the concerns of often very distant consumers or investors; and severance of people from "place" in the sense of devalued connections with community, locale and land.

As Ganesh (2018) argues, severance thus implies the vulnerabilization of communities and the transformation of people in place into nodes in networks.

While the concepts of fluidity, visibility, and (less so) disarticulation have been discussed in communication scholarship, they have rarely been mobilized to explain how supply chain relationships organize and intensify worker vulnerability across production contexts. We argue that attending to these concepts as communicative conditions crafts a powerful lens for understanding why precarity persists across diverse settings. While dominant SCM frameworks measure risk through logistics, auditing, and pressure indexes, they fall short of representing workers' lived experiences of vulnerability. Thus, our research question guides

our analysis of three cases to show how vulnerability materializes in practice and shapes the everyday realities of labor in global production networks.

3. Methods

We follow a longstanding analytic tradition in comparative ethnography (Simmons & Smith, 2019) that argues for the value of analyses that make comparisons across multiple ethnographic projects, not necessarily to improve generalizability, but to generate rich global views of communicative processes (e.g., Tracy & Scott, 2006). Our work is based on three cases that differ in geography, social context, and communicative environment in order to demonstrate that the conditions of fluidity, visibility, and disarticulation are global mechanisms that produce worker vulnerability across settings. We use each case to provide a distinct empirical vantage point on one communicative condition, although our analysis also establishes that all three conditions are present across sites.

The three studies were conducted by the authors, each one responsible for fieldwork and initial analysis in their respective contexts. All researchers adhered to institutional review protocols to ensure participant confidentiality, informed consent, and responsible fieldwork practices. Tracy's (2020) framework for qualitative rigor, researcher positionality, and reflexivity was addressed through prolonged immersion in the field, ongoing reflexive memo-writing, and collective sensemaking during joint analysis. All researchers share cultural, contextual, and linguistic proximity with the communities studied. The cases have been drawn from larger, distinct ethnographies of global supply chains. Here, their juxtaposition enables an analysis that foregrounds everyday communicative processes through which supply chains are organized, contested, and experienced by workers across time and space.

The first case is based on a multi-sited ethnography carried out in China between June and August 2025, involving approximately 45 days of fieldwork in Yiwu and Guangzhou, two major hubs for fast-fashion production and trade. This fieldwork included roughly 130 hours of participant and non-participant observation in factories, wholesale markets, garment worker labor markets, workshops, and exhibitions, as well as approximately 80 on-site interviews with factory workers, factory owners, wholesalers, e-commerce retailers, and international buyers. Interviews ranged from 10 minutes to two hours and were supplemented by extensive fieldnotes documenting spatial arrangements, temporal rhythms, and communicative interactions across production and exchange sites.

The second case draws from a multi-year, multi-sited ethnographic project in Maharashtra, India, focused on labor-intensive agricultural supply chains. About 80 interviews across the agricultural supply chain were conducted, of which 20 were with women, each lasting between 15 minutes and one hour. Fieldwork also involved mapping the onion supply chain across winter and summer seasons by tracing the movement of onions from farms to local bazaars. Interviews and observations were conducted at onion farms, wholesale markets of varying scales, traders' warehouses, government research centers, retail markets, and communal spaces. Particular attention was paid to women workers' narrated accounts of their daily routines, labor roles, interactions with traders and farmers, and the challenges produced by unstable markets and the intersection of paid labor with domestic responsibilities.

The third case is derived from a multi-year, multi-sited ethnographic project examining communicative conditions under which sustainability is produced in the global organic cotton garment industry. Fieldwork traced supply chains from designers and retail outlets in the Global North, especially Sweden, to Indian garment factories, spinning mills, and farmer cooperatives involving over 140 interviews and approximately 300 observation hours. The vignette analyzed in this study is based on a daylong visit to a spinning mill supplying organic cotton textiles domestically and internationally. Data for this case included recorded and transcribed interviews with factory managers alongside extended, unrecorded interactions with seven women workers. Detailed fieldnotes were taken during and after these interactions and later compiled and narrativized following established ethnographic conventions (Emerson et al., 2011).

Analysis of interview transcripts, fieldnotes, observational records, and ethnographic vignettes proceeded iteratively and collaboratively, guided by qualitative analytic traditions emphasizing reflexivity, comparison, and theory generation (Charmaz, 2014; Tracy, 2020). The research team first engaged in joint discussions to identify sensitizing concepts and to select analytically rich vignettes from each case. First-person vignettes were developed following guidance from Miles and Huberman (1994) and Tracy (2020) to highlight analytically relevant moments, illustrating how participants described their experiences with crisis while faithfully representing participants' experiences and preserving confidentiality. The vignettes selected and presented in the analysis not only provide rich narrative descriptions but also illuminate broader theoretical concepts.

Open coding was then conducted to identify communicative practices and notable incidents within and across sites (Saldaña, 2016; Strauss & Corbin, 1990). Through axial coding, relationships among codes were explored to examine how communicative processes organized labor conditions, power relations, and experiences of vulnerability. Theoretical coding further integrated these relationships into higher-order analytical categories that cut across cases while remaining grounded in their specific contexts (Charmaz, 2014; Thornberg & Charmaz, 2014).

Comparative coding was used throughout the analytic process to identify patterns and contrasts across the three supply chains, enabling the researchers to theorize how different organizational, social, and spatial configurations produce distinct yet related forms of labor vulnerability. This approach allowed for the generation of nuanced, context-sensitive interpretations rooted in lived experience, while also supporting collective theoretical reflection across cases (Tracy, 2020). The following case studies, each narrated in first person, illustrate the communicative conditions of worker vulnerability in practice.

4. Case Study One: Fluidity and Everyday Crisis in Fast-Fashion Production

I met three kinds of workers in the markets, workshops, and factories of Yiwu and Guangzhou: long-term workers, temporary workers, and those who recently started family workshops. Long-term workers typically have annual contracts with factories, work long hours, and are deeply embedded in the production end of fast-fashion supply chains. Conversely, temporary workers move fluidly between factories, deciding when and where to work. Besides large or medium-sized factories, there are family workshops in urban villages, many of whose owners were once factory workers. They are also deeply embedded in the production side of the fast-fashion supply chains but also try to move into the exchange end. Each type of labor is spatiotemporally suspended and constrained differently in the fluid system, which shapes its vulnerability in different ways.

I reached out to Peilin, a 28-year-old engineer born into a family of garment factory workers, facing several hardships. Peilin invited me to his family's home and showed me around nearby factories. A typical day for a long-term worker starts at 8 am at the factory, followed by lunch around 12, either at the dining hall or at home, and then work until 6 pm. After a brief dinner, they return to work and finally can go home after 10 pm. In a month, these workers could take one or two days off. With this routine, they appear to be perpetually present in the factories. However, they were paid by the piece rather than by the hour, which created the impression that their presence was voluntary rather than required.

When I probed this observation, Peilin's aunt explained that she couldn't stop working because her pause would halt the next step in production, affecting her coworkers' livelihoods as each worker is responsible for a specific stage in making the clothing. After completing their tasks, they either bundle or hang the clothing and pass it on to their coworkers, creating pressure to maintain a timely workflow. As Peilin's father said: "When you ask for leave, you still need to find a temporary worker to replace you. The cost of hiring a replacement is more than what you earn if you take time off."

One worker said, "there is no piece rate for working as a long-term worker even though it offers more stability," as she discussed why long-term work is not an option. Garment workers' job markets in Guangzhou emerge and spread across urban villages, mostly located along the streets. A recruiter often brings samples with a cardboard tag listing the unit price and size. Workers assess the difficulty of the piecework and inquire about the factory locations and machine conditions. Using this information, they quickly calculate their daily earnings and negotiate with recruiters. Temporary workers protect their expected piece rate and don't need to work every day. If they make good money from one task, they can take a day or two off and start over for new opportunities.

However, the on-again and off-again job pattern makes it difficult for temporary workers to build strong relationships with their peers, creating very isolating conditions for them. Wang, a typical temporary worker, rents a bed, not even a room, on a daily basis in an urban village of Guangzhou where six workers share a space of less than 10 square feet. The environment is obviously cramped and stuffy, but Wang seemed satisfied with affordable overnight pay (1.50 USD), giving him more flexibility to move from town to town while carrying the garments. Besides this temporary residence, Wang also rents a room in Humen, a city near Guangzhou, where the rent is cheaper. As July is both the off-season for the garment industry and the typhoon season in Guangzhou, causing significant challenges for job seekers like Wang who returned to Humen to rest and explore job opportunities there.

Liu and her husband had just started their family workshop. They had been working in various factories in Guangzhou for about 15 years, starting in their 20s. Liu invited me to dinner in their one-bedroom, one-bathroom apartment with four sewing machines and household items occupying the living room. The couple works and eats in the living room. During the summer holiday, their two children visit from their hometown, suggesting that they also engage in childcare during working hours. When I visited, their 14-year-old boy was scrolling through his phone in the bedroom with two bunk beds, while the 5-year-old child was attached to his mom. Liu's husband was carrying a bag of clothing samples from wholesalers they have known for years. This meant they would need to work from morning to night over the next two days to complete the order and only then spend one day at amusement parks with their children. According to Liu, the key factor that enabled them to start their business was their familiarity with many nearby wholesalers

and factory owners, who could get them relatively stable orders. For large orders, they also recruited temporary workers from job markets to help. Many family workshops begin their operations in this manner. The couple shared that they are now planning to rent a floor to expand their business.

From the daily spatiotemporal experiences of garment workers, these examples show how fluidity as a communicative power site (Cruz & Sodeke, 2021) leads to their vulnerability in three ways. The fluid labor systems within factories transform long-term factory workers into processual objects, resulting in spatiotemporal "pressure" to be constantly present in factories for higher earnings and to keep pace with their peers' ongoing work. In the process of seeking a good piece rate, temporary workers are caught in on-again off-again job patterns, which communicatively "isolates" them and makes their work lives nomadic, preventing them from forming deep, lasting relationships. Family workshop startups experience the "collapse" of boundaries between their workspaces and homes, as well as between work and care time.

5. Case Study Two: Visibility, Gendered Labor, and Vulnerability in the Onion Supply Chain

Onions, a common pantry item, have gained notoriety in India due to their susceptibility to such supply chain crises as extreme price fluctuations, market vagaries, and loss of produce. Onion production, supply, and distribution are often fraught with political controversy, public uproar, and farmers' despair over unstable prices. The core onion supply chain typically comprises actors such as farmers, traders, large wholesale government-supported markets, laborers, women workers, and various government regulatory agencies. Interviews with most major supply chain actors acknowledged the critical role women played in the chain. However, despite their presence in occupational arenas, women workers remain invisible, on the peripheries of the chain, and are considered highly vulnerable actors.

Women workers are exposed to multiple contingencies stemming from a variety of supply chain issues and do not typically have the agency and access to resources to adequately manage the risks affecting their livelihood. While onion producers are the most adversely affected actors during extreme weather conditions and the resulting market uncertainty, women workers also face the brunt due to their dependency on either farmers or traders for their daily wages. Thus, for women workers, vulnerability is built into their everyday experiences and is defined by three key aspects that interplay with their visibility and invisibility in supply chains—their positionality, sequestration, and precarity.

First, women workers are positioned on the outer peripheries of the chain. Workers have multiple points of engagement in the chain; however, due to the highly gendered division of labor, they are confined to specific spaces. For instance, women workers perform diverse essential tasks at the production level and post-harvesting activities such as picking onions, cleaning, sorting, and packing. Many women also work at warehouses, shed-like structures built to store harvested onions. There, they grade, sort, and pack onions based on their freshness, color, size, and type. Some women stay home to take care of young children but link themselves indirectly to the chain by participating in the sewing economy and earn piece rate wages for stitching gunny bags used for packaging onions. Thus, women uphold and balance multiple occupational identities as homemakers, farmers, laborers, and workers.

In spite of their pervasive yet peripheral presence, women are absent from influential auction spaces. Onions are auctioned on a massive scale in wholesale markets; farmers bring in onions in batches of hundreds of pounds at a time in pick-up trucks to the wholesale market. Traders then place bids on each truck as the market officials facilitate and oversee the auction process. While observing the auctions, I noticed that women were noticeably excluded. Later on farms, when I asked why they didn't participate in auctions, most workers said, "No, no, women don't go to the markets or auctions, our husbands take the onions in tractors. We take care of the house and do all the farm work." When I further probed about their absence in the auction and why they do not directly conduct business with traders, the women reiterated:

> We don't have the time for that. As soon as we are done with household chores, we immediately get started with the farm chores and continue with that until evening, so there is no time to go to the market. This is our job, on the farm.

In some large auctions, women were marginally present, as laborers who helped farmers reload their trucks, but were absent from the auction itself. These positions and roles were solidified in the chain, and the women seemed to have disciplined themselves to operate with these gendered divisions that resulted in the devaluation of their labor.

Second, women workers faced vulnerability due to the constantly looming threat of sequestration from the chain. One worker said, "Most of us don't own agricultural land. I care for and work on other people's farms or toil as laborers at traders' warehouses with nothing to show for ourselves." As seasons altered, so did the nature of the work, which temporarily severed their connection with the chain, as they took up work on soybean or grape farms, or even foraged for fruit and berries to be able to eat.

The roles occupied by women workers within the chain are thus seasonal, temporary, and unstable, fluctuating in response to regional patterns of agricultural production, shifting labor demands, and changing market conditions. This spatial sequestration is characterized by direct disconnection from critical spaces of the supply chain, such as the auction markets, warehouses, farms, and government offices. To avoid the risk of losing connection to the supply chain, some women opted for another form of employment—sewing gunny bags at home as a fallback option to use their time productively, contribute to their household income, and support their children's educational needs. As one worker said, "It's not much; we can hardly buy sufficient groceries to sustain two people with the money. But it's better than doing nothing all day."

Third, due to their tenuous and enclosed positions, women workers often found themselves on the precarious thresholds of the supply chain. Their participation in the chain is dependent on external contingencies, as one woman working on a farm said:

> See that woman over there, her leg is cramped and swollen, and despite that, she is here. If we don't work today, there's no food tomorrow. We are planting these delicate saplings by hand, carefully one at a time; there's no machine for that. After all this hard work, if the crop gets damaged due to unseasonal hail, then it's a disaster for the farmer. We won't get more jobs if the onion production is low. But when the farmer gets a good price in the market, they are able to help us out and pay us more.

The participation of women throughout the chain underscores the criticality of their active engagement, which at the same time is considered disposable labor. Their presence in the chain grants them the opportunity to earn an additional income for their families, but this presence does not guarantee agency. They are "present" but on the terms of the other actors that employ them. Their precarity is especially compounded during times of environmental and socio-political upheavals in the supply chain as women workers get limited attention in policies and programs. Even if any such programs crafted specifically for women workers did exist, they were unaware of them and lacked access to information and resources.

Brighenti (2010) notes that being visible does not guarantee recognition, which involves being seen as legitimate and valuable. Despite being supply chain actors, because of their positionality on the margins, susceptibility for sequestration, and inherent precarity of their identities, women workers are not bestowed the same degree of legitimacy, officiality, and credence that other actors receive, with rarely any scope for upskilling their positions in the chain.

6. Case Study Three: Disarticulation and Severance in Garment Chains

We walk past huge bales of ginned cotton stored neatly along the warehouse wall of this large spinning mill in the southern Indian state of Tamil Nadu, and as we leave, I pause by the door to see the names and photos of workers on various committees. We know that over 90% of all workers in the factory are female, so I am not surprised to see that the committees are entirely composed of women. But I note the last names: Sharma, Nag, Mandagi, Jakaki, Jakaki ("Again? They must be sisters," I think) and realize that none of them are Tamil.

A while later, we are at the factory director's office, and we reiterate our request to engage with workers. Seven women are ushered into the room by a floor manager, and we are offered the opportunity to speak with them and ask them about their work. The HR manager and the director are, of course, present, so Kashi and I have to tread carefully, and the conversation is somewhat stilted in the beginning. Queries about whether they like their job are out of the question. I begin with a very standard: "Where are you from?" "Orissa" and "Andhra" are the only two responses. How long have you been working there, I continue: between two to five years. Covid, they say, was difficult as they could not go home, but the factory managers were kind and kept them employed. In trying to get them to say something about the quality of their lives, I ask: "Would you bring your families here to work with you?" One says no, a few say maybe, and one, who I discover later is one of the women named Jakaki, says she already did. It is not uncommon, we discover later, for people to bring a younger sibling to the factory for work a year or two after they begin. All of them send money back to their villages and they miss where they lived. They enjoy going out for movies together once or twice a month on the single day that they get off from work every week. Their only friends are other workers in the factory. The factory houses them in a large three-storey hostel behind the factory. I ask them how they like it there. "We like it a lot," they say, as their managers look at them. "It is safe," say others. They all work shifts of between 9 to 10 hours a day, six days a week, staggered depending upon the volume of work and the urgency of the orders.

The managers also talk with us about the working conditions. They tell us that the vast majority of the women are from outside the state; that some of them are Dalit and others are Adivasi, or tribal women. They run regular health camps for their workers, and in line with several of their buyers, provide wages that meet living wage standards. After our meeting, we walk back to the hostel behind the factory. The building is surrounded

by a concrete wall, about eight feet high, and the gate that we enter is solid, with a gigantic old lock on the outside (why the outside, not the inside, I wonder). We enter the very clean and well-swept compound and look up at the building. Several eyes peer cautiously back at us through the dormitory windows—some smiles, of course, for Kashi, but I note the reserved expressions. We turn left and go into the dining hall, where we are served lunch: simple, tasty, and spicy vegetarian Tamil food. I notice a few pictures of Hindu deities on the wall. I ask how old the women are: about 18 to 25–26 for the most part. How long do they work there? A few years, and then they go back to their villages and get married. When we inquire as to why local workers do not work at the factory, the answer from the manager is—they do, but there are not many of them, and the women who come in from other states need the work more.

It is common for garment factories across Tamil Nadu to hire women from elsewhere, and a large number of them come from relatively faraway states like Orissa as well as the closer neighboring state of Andhra Pradesh. More broadly, the migration of women from one part of the country to urban centers across the south to take on manual labor, domestic work, factory work, and sometimes sex work, indexes the vulnerabilities in their lives that cause them to leave: economic hardships and perilously low wages, the failure of male figures in their lives, and gender and caste-based violence. But what our experience in the factory revealed was that the act of moving away for the women could itself inaugurate new forms of vulnerability in the form of "multi-layered" severance: a quasi-forced separation from family and community ties, as well as sequestration from the ebb and flow of everyday life outside the factory.

This severance is not only multi-layered, but it is also "surveillant." While the factory was in many senses being responsible by enforcing strict curfews, ensuring women did not go out alone and returned on time, everyday life was consequently overdetermined by the factory in a manner akin to a total institution where everything from their salaries, demanding work schedules, friendships, food, and culture was managed by the factory. The issue of food also reflects how Brahmanical customs such as vegetarianism can pervade collective life: while several of the women (notably Dalit or Adivasi) likely ate meat at home when they could afford to do so, the default common denominator at the hostel was local, vegetarian, South Indian food. The presence of Hindu deities on the walls of the cafeteria, while designed to help women feel at home, also reinforced the centrality of Hindu culture and served to marginalize Christian, Buddhist, or Muslim identities.

Severance is also "affective": We were told that while women could not carry their mobile phones into the factory, all of them, without exception, had one. It was clear that women at the factory certainly called and texted their families every day, perhaps more than they ordinarily would. Their physical separation from their homes was a kind of emotional deprivation that made itself evident even in the muted comments we heard from women in the somewhat staged focus group. The separation from the family was also accompanied by a paradoxical increase in the responsibility to the family itself: Several women told us that they were the primary breadwinners in the family and they sent the entirety of their paychecks back home. Affective bonds, feelings of responsibility, and an obvious sense of loneliness thus set an underlying emotional tone for the worker. Even as management set up regular social events, competitions, and celebrations in order to keep morale up, the fact that morale needed to be kept up was telling. This multilayered, surveillant, and affective severance was the communicative foundation upon which disarticulation was made possible.

7. Analysis and Discussion

Our accounts shed light on multiple kinds of worker vulnerabilities, including gender, impoverishment, overwork, isolation, financial precarity, physical and mental health and wellbeing issues, and workplace hazards. What we have shown, however, is that vulnerability is shaped and conditioned by the larger communication environment in which workers operate, namely fluidity, visibility, and disarticulation, which transcend individual workplace dynamics and constraints.

Across the three cases, fluidity, visibility, and disarticulation take on different analytic weights. In the fast-fashion garment chain, fluidity is salient through rapid spatiotemporal reorganization of labor; in the agricultural onion chain, visibility and recognition of women's work are uneven; and in the organic cotton chain, disarticulation is evident through severance in the enforced separation of workers' productive and social lives. Analytically, this variation shows that worker vulnerability is engendered through varying configurations of communicative conditions that are contextually amplified and often overlapping. These cases together demonstrate that supply chain vulnerability is best understood as a relational and communicatively constituted process, one that endures across industries and national contexts.

It may be evident to the reader that elements of one case can be found in another: For instance, the lives of women in the agricultural chain had clear elements of fluidity as well as visibility. The workers in the garment factory were also rendered visible through surveillance even as they experienced severance. And workers in China who experienced fluidity also had been severed from their families and communities. The sequestration that women in the onion supply chain experienced was an inversion of the severance that mill workers experienced, but both underscore the pivotal role of the chain in creating boundaries of inclusion and separation. Below, we summarize what our studies reveal about the nature of vulnerabilities in these three communicative conditions across all three cases.

First, fluidity, as a foundational feature of fast fashion that emphasizes the efficient flow of goods from suppliers to consumers, clearly leads to the vulnerability of laborers at the upstream, production end of supply chains. This is particularly the case in terms of their pressures of having "9–9–6" jobs that kept them constantly at work for 72 hours a week. It was also evident in their isolation that stemmed from their on-again, off-again work experiences; a phenomenon echoed in the other two cases as well. And finally, fluidity was clear in how boundaries were collapsing for workers between workplaces and homes, as well as between work and care time.

While visibility in the form of real-time tracking of the movement of commodities is a critical feature of SCM, it is not merely about charting data points. Rather, visibility influences whose appearance is validated and who is muted, thus playing a powerful role in shaping the vulnerability of actors. Women workers and laborers occupy a paradoxical position; they are visible enough to signal their ongoing participation and yet they remain structurally absent in the high-value spaces of the chain, leaving them present at the margins but invisible where it matters the most. This, in turn, makes workers vulnerable to involuntary sequestration. Because they occupy peripheral spaces, supply chain contingencies compel workers to separate from the chain, further contributing to their invisibility, underscoring the precarity that workers face. As a result of their vulnerable positions, women workers rarely attain recognition and influence that could make a legitimate and visible difference in their lives.

Disarticulation is a constitutive feature of supply chains, and we focused upon the notion of severance to draw attention to the performance of work and labor itself to find that severance, for migratory workers in particular, was multilayered, encompassing both separation from home as well as separation from the environment in which they currently lived. Severance was, moreover, surveillant, with every aspect of workers' lives and identities managed. And severance was also affective in the sense that it was emotionally fraught: Workers were racked with homesickness even as they experienced feeling responsible for those people they had left behind in the form of sending home money and participating vicariously in their families with their smartphones.

These features of the communication environment—fluidity, visibility, and disarticulation—also have implications for how we understand the contemporary crisis, and we identify three kinds of crises evident in each case. First, contemporary environmental crises are deeply textured by the fluid conditions of contemporary capitalism (Bauman, 2000; Kuhn, 2024). In the case of the fast-fashion industry, the Zara model adopted by now mammoth platforms like Shein and Temu has sped the industry up into an "ultra-fast" stage (Camargo et al., 2020). The relentless pursuit of rapid design, small-order production, and turnaround leads to significant environmental waste, including excessive water and chemical use, waste, and CO_2 emissions (Niinimäki et al., 2020). In the same vein as Sassen (2014), who more than a decade ago argued that systemic complexity produced brutality, here we show that systemic liquidity produces vulnerability.

Visibility regimes accentuate impending political crises as well as economic ones (Brighenti, 2010). Unstable trade policies such as abrupt tariff changes, export bans, or shifting trade alliances create cascading disruptions that disproportionately impact marginalized workers positioned at the fringes of supply chains. For instance, in 2023–2024, the Indian government banned onion exports to curb domestic inflation, resulting in severe losses for farmers who faced plummeting prices, unsold stock, and restricted access to international markets (Tirodkar, 2023, 2024). Such regulatory changes led to political blame games, resulting in widespread wage disruptions for agricultural laborers, particularly women. Rather than protecting precariously positioned workers, extreme policy fluctuations underpinned by political upheaval can exacerbate their invisibility in the chain and consequently, add to their vulnerability.

Finally, disarticulation and the severance of workers from each other and their communities contribute to a third kind of crisis: the fragmentation of civic and cultural life. This is evident not only in the case discussed here, but it is also evident when age-old modes of craft production crumble in the face of industrial modes of production. Across the global south, as traditional connections have broken down, they have not been replaced with what scholars like Daniel Lerner or Wilbur Schramm referred to as the onset of a more rational and cosmopolitan system; instead, they have resulted in the fragmentation of communities and cultures. Without romanticizing traditional systems and modes of craft production (which in the case of India are deeply inflected with caste and patronage; see Shekar & Nandurkar, in press), it is still clear that global supply chains fragment societies precisely because they are global.

By theorizing fluidity, visibility, and severance as communicative conditions, this study challenges logistics-centered SCM frameworks by revealing how supply chains actively constitute labor vulnerability through everyday discursive and relational practices that structure how workers are moved, seen, and displaced. This reframing challenges dominant SCM models that separate the "social" and "operational" domains of supply chains and treat vulnerability as a logistical by-product, instead revealing it as

communicatively produced risks that accumulate across sites and societies. In doing so, the study offers a new lens for understanding crisis as a cumulative set of communicative arrangements that normalize vulnerabilities and obscure its human costs.

Our study suggests that industry leaders should incorporate relational and communicative indicators such as worker turnover, displacement, and migration patterns into risk assessments and attend to the social, political, historical, and communal crisis contexts that sustain hidden forms of precarity in supply chains. Leaders should evaluate how production schedules, living arrangements, and factory geographies sever workers from family and community, and should treat social disconnection as a material risk factor and not as a natural condition. Practical interventions require redesigning the communicative processes so that, even within today's backdrop of perpetual crisis, workers' vulnerability is not treated as an inevitable outcome. Creating space for long-term relationship-building with workers, cooperatives, and local communities and strengthening independent worker voice is essential for equitable supply chain relationships.

8. Conclusion

While the three cases offer detailed and situated insights into how vulnerability is communicatively conditioned, it remains limited by access constraints, researcher positionality, time-boundedness, and the localized nature of observations. A lot more remains to be done about tracing the shape of contemporary forms of vulnerability. Future research should continue to use longitudinal and comparative ethnographic approaches to provide more comprehensive and nuanced understandings of multiple forms of worker vulnerability.

Our study assists with this important project by putting forth three communicative conditions that engender worker vulnerability in supply chains—fluidity, visibility, and disarticulation. The fluidity of supply chains, augmented by volatile market demands, ceaseless working hours, and an ever-changing subcontracting network, fragments accountability and obscures labor conditions. Workers face severance from home and families, coupled with selective visibility that produces compliance while concealing exploitation, and distorted inclusion in occupational spaces in supply chains. These circumstances amplify the vulnerability of marginalized workers who remain structurally invisible yet essential to production. We have also shown that multi-sited, comparative ethnographic approaches to studying labor in supply chains offer an immersive and context-rich insight into workers' lived experiences, revealing how vulnerabilities are negotiated in everyday practices, the situated meanings, informal arrangements, and affective dimensions of labor to show that vulnerability is not only experienced but communicatively constituted through interactions and exclusions.

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Conflict of Interests

The authors declare no conflict of interests.

Data Availability

The data that supports the findings of this study are not publicly available due to the need to protect the confidentiality of the research participants.

LLMs Disclosure

No large language model (LLM) tools were used in the research, analysis, or writing of this manuscript.

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ARTICLE

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Storytelling Networks and Social Capital for Disaster Resilience: Empowering Narrative Agency in Diverse Communities

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Abstract

Prior studies have established the importance of social capital in fostering disaster resilience especially among diverse and marginalised populations. Yet, most have focused on its structural dimension, treating social capital as a pre-existing attribute. Limited attention has been given to its communicative underpinning—how shared meaning-making, particularly through storytelling networks as open and participatory spaces, actively constitutes social capital. Addressing this gap, this study draws on storytelling networks theory and the notion of narrative agency to examine how community self-organised storytelling networks, comprising agents, stories, and practices, shape collective sensemaking as the foundation of social capital. Based on 36 in-depth interviews with community members, emergency practitioners, and service providers, the study reconceptualises social capital through a participatory storytelling lens and advances a critical understanding of narrative agency amid power asymmetries. It also offers practical insights into how diverse storytelling agents co-make social capital and outlines directions for future research.

Keywords

disaster resilience; diverse communities; narrative agency; social capital; storytelling networks

1. Introduction

Social capital has proven important across all phases of disaster management (e.g., mitigation, preparedness, response, and recovery) in both disaster resilience (e.g., Meyer, 2017; Uekusa, 2020; Zhao et al., 2025) and risk communication research (e.g., Chu et al., 2021; Liu, 2022). Despite drawing on different theories from Bourdieu (1985), Coleman (1988), Putnam (1993), and Woolcock and Narayan (2000), scholars converge in defining social capital as either relationships/ties with associated resources, or as norms that facilitate

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collective action and civic engagement (Chamlee-Wright & Storr, 2011). Empirical studies show that social capital enables access to stage-specific information: from pre-disaster warnings, evacuation routes, and mitigation plans, to timely updates and response strategies during crises, to relief supplies, recovery programs, and community (re)building in the aftermath (Xiong & Li, 2024). Social capital is vital for diverse and marginalised populations who often rely on bonding ties with family, kin, and friends for information support, while lacking bridging capital (ties across groups) and linking capital (connections to power structures) in disasters (Panday et al., 2021).

However, most disaster research on social capital emphasises its "structural" or "relational" aspects by evaluating the strength of ties, density of networks, scale of relationships, and their "impact" on disaster-related outcomes (e.g., Cai, 2017; Liu, 2022; Xiong & Li, 2024). Social capital has long been treated as a fixed asset or property associated with resources accessible within networks and convertible into other forms of capital (e.g., economic, cultural). Even the communitarian view of social capital (Putnam, 2000) interprets trust, reciprocity, and public good—vital to disaster resilience—as "outcomes" of networks, associations, and group memberships. By contrast, limited attention has been given to the communicative underpinnings of social capital, namely, social capital accrued through communicative acts (Matheson & Jones, 2016). There is a synergy between social capital and communication (Rojas et al., 2011): Shared meaning-making both constitutes and is constructed by social ties. Therefore, a communicative approach to social capital shifts the focus from diffusion of information via social ties to the (co-)construction of shared meaning as the very basis of social capital. In this sense, communication is not instrumental but constitutive of social capital.

To address the under-examined communicative dimension of social capital in disaster contexts, this study examines storytelling as a communicative act in its making. Storytelling is approached as an open, fluid process of sensemaking among multiple agents, centred on the production/negotiation of shared meaning (Bietti et al., 2019; Copeland & de Moor, 2018). It foregrounds agency and improvisation, complementing structural social capital by capturing its evolving nature. As such, this study draws on storytelling network and narrative agency theories to analyse how storytelling dynamics shape bonding, bridging, and linking capital as co-constructed schemas for collaborative resilience. While storytelling networks, rooted in communication infrastructure theory (Kim & Ball-Rokeach, 2006), traditionally identify three core agents—residents, community organisations, and media—this study reframes them as open, dynamic systems. Narrative agency (Lueg, 2023; Weder & Weaver, 2025), the capability to transport ideas across fields (e.g., from communities to authorities and vice versa) and to interact with other communicators, becomes crucial for the boundary-crossing and norm-negotiating that shape social capital.

Empirically, this study reports findings from a larger project examining how diverse communities perceive the role of storytelling as collective sensemaking in the (co-)making of social capital in disasters. In Australia, diverse communities, commonly referred to as culturally and linguistically diverse (CALD) communities, comprise multicultural groups from non-Caucasian, non-English-speaking backgrounds (Hou et al., 2025). Fieldwork conducted in Cairns, an Australian regional city, involved 36 interviews with diverse community members, emergency practitioners, and service providers. On one level, our findings extend storytelling network theories by foregrounding the role of storytelling intermediaries (e.g., community leaders), incorporating both planned and emergent narratives, and revealing the multi-flow (e.g., top-down, peer-to-peer, bottom-up) of storytelling, all underpinning social capital as shared meaning-making.

On another level, the study enriches the under-theorised communicative dimension of social capital through a critical lens of narrative agency, recognising its potential to traverse power structures and build linkages through negotiated sensemaking among social agents.

2. Literature Review

2.1. Social Capital, Diverse Communities, and Disaster Resilience

Despite challenges in theoretically defining social capital and methodologically evaluating its cross-level (e.g., individual, collective) effects, most disaster research draws on two schools of thought. On the one hand, structural and relational social capital focuses on resources available to individuals within (formal or informal) networks of relationships (Bourdieu, 1985; Burt, 1992; Coleman, 1988). This school of thought conceptualises social capital as "the ability of actors to secure benefits by virtue of membership in social networks or other social structures" (Portes, 1998, p. 6). On the other hand, communitarian and cognitive social capital emphasises shared norms, trust, and civic virtue that facilitate collective action for the public good (Putnam, 1993, 2000). Unlike the former micro social capital, this macro approach links the vitality of civil society to the stock of social capital.

Both schools have been criticised for their limitations, especially the "dark side" of social capital. Structural social capital in closed networks can lead to social exclusion, corruption, or elite domination, while communitarian social capital rests on normative and nostalgic assumptions of pre-existing values (Meyer, 2017). Consequently, empirical research increasingly adopts a typology of social capital comprising: (a) bonding capital—close-knit relationships (e.g., family, friends, neighbours) that promote cohesion yet risk exclusivity and homogeneity; (b) bridging capital—outward connections across groups or communities that provide diverse resources but may further marginalisation; and (c) linking capital—vertical ties to those in power (e.g., authorities, institutions) that grant access to scarce resources while often reproducing inequalities (Aldrich, 2012; Panday et al., 2021).

Social capital plays a pivotal role in disaster resilience—the adaptive capacity of communities and systems to "bounce back" after adversity (Kanjilal et al., 2024). Although disaster research often concentrates on the "recovery" phase, scholars increasingly contend that resilience spans all stages of the disaster lifecycle. Robust social capital can facilitate access to critical information for pre-disaster preparedness (Shah et al., 2024), support coordinated responses during crises (Chu et al., 2021), and mobilise resources for sustained recovery and community wellbeing (Meyer, 2017). Yet, despite growing institutional recognition of social capital, authorities often struggle to build trust and meaningful relationships with communities (Xiong & Li, 2024). In contrast, community-based or grassroots-led disaster practices have gained prominence, drawing on local knowledge and networks to cultivate "constructive resilience" that emerges "alongside dominant societal structures that are either oppressive or ineffective" (Parker, 2019, p. 2).

Social capital is especially crucial for diverse and marginalised populations, who face systemic inequalities (e.g., socioeconomic divides, language barriers) yet lack resources during disasters (Uekusa, 2020). Ethnic minorities (e.g., Asian, Latin/Central American, and African communities) tend to value collectivist and family-oriented cultures and therefore rely heavily on bonding capital for immediate support. However, they often possess limited bridging and linking capital, constraining access to diverse resources and institutional

assistance needed for long-term recovery (Uekusa et al., 2022). Addressing these disparities requires deliberate efforts to cultivate, as Uekusa (2020) advocates, "disaster social capital"—a context-specific, experiential, and improvisational form of social capital. Unlike ordinary social capital, which is nurtured gradually through routine interactions, disaster social capital often emerges rapidly in response to emergencies and is shaped by a heightened sense of "common fate" among affected communities.

Despite these insights, much disaster resilience research privileges a structural view of social capital as a pre-existing attribute measurable by indicators such as tie strength, network density, and relationship scale (Cai, 2017; Liu, 2022; Xiong & Li, 2024). This approach risks overlooking how social capital comes into being. Essentially, at the heart of all conceptions of social capital lies the shared meaning-making through communicative acts (Rojas et al., 2011). Put simply, social capital is a communicative construct in constant flux. For diverse and marginalised communities, this communicative dimension is critical to disaster resilience. A more nuanced understanding is needed for the participatory process of social capital through which social agents co-construct meaning, negotiate power relations, and develop shared narratives. The following sections therefore turn to communicative approaches to social capital (2.2) and introduce the theoretical lenses of storytelling networks and narrative agency (2.3).

2.2. Communicative Approaches to Social Capital

Communication flows through social ties while constituting their communicative foundation. Coleman (1988) recognised this link: Information inheres in social relations. Similarly, Bourdieu (1985) emphasises the interplay between symbolic (e.g., reputation, image) and social capital, and Putnam (1993) conceptualises social capital as norms and civic engagement, both highlighting the communicative dimensions. Rojas et al. (2011) thus define communicative social capital as both a structural feature and information flow, whose interplay generates diverse pathways for the (co-)making of social capital. The interplay between social ties and communication is dialectical: Social ties gain mobilising potential when suffused with communicative practices; communication sustains social ties and fosters civic participation (Matheson & Jones, 2016). Essentially, communicative social capital foregrounds the construction of shared meaning—collective sensemaking—echoing pragmatist accounts of social interaction (Mead, 1967) and Habermasian (Habermas, 1984) communicative action. For this reason, this article cautions against reducing social capital to the number or quality of network ties but instead refocuses on their underlying communicative dynamics.

Nevertheless, much of the extant research bridging communication and social capital tends to emphasise the functionality or impact of communication as a conduit or channel for building social relationships. For example, community resilience scholars position communication and media as key attributes and critical infrastructure for strengthening local connectedness through information sharing (e.g., Hanson-Easey et al., 2018; Warburton et al., 2013). Other studies operationalise communication in terms of its forms (e.g., traditional, mass, or digital/social media) or levels (e.g., interpersonal, inter-group, or cross-cultural) to examine their contributions to social capital (e.g., Jeffres et al., 2013; C. Lee & Sohn, 2015; R. Lee & Jones, 2008). These perspectives, however, devote minimal attention to the communicative processes per se—how shared meaning-making develops through communicative acts.

Only a few studies examined the constitutive role of communication to social capital. Rojas et al. (2011) analysed how communication variables, such as news attention, media exposure, and conversational

frequency, interacted with structural features like network size and associational membership to foster civic/political participation. They conceptualise communication as fundamental to societal integration: at the system level through news consumption, at the individual level through interpersonal discussion, and both amplified through ties at the community level. They conclude that social capital is not merely a by-product of networks or media use but emerges from the interplay of institutional affiliations, interpersonal talk, mass media, and community ties.

Matheson and Jones' (2016) study of post-earthquake Christchurch offers another example of a communicative approach to social capital. They found that communicative social capital was unevenly distributed, or even experienced as deficient, among the most affected populations. By analysing communicative elements, such as gaining knowledge about disaster recovery, participating in public discussions, and creating shared cultural meaning, they demonstrated how social capital can be generated through mutual understanding and social learning that result from residential talk.

More recent work has empirically tested the positive correlations between communication and social capital among multi-ethnic communities in disasters (Cai, 2017; Liu, 2022). Drawing on communication ecology theory, Liu (2022) found ethnicity-based divergence in how communities linked to separate, rather than unified, communication networks, shaping social capital creation and disaster-coping outcomes. Cai (2017), using photovoice integrated with social media, showed how bridging and linking capital, often difficult to attain yet vital for vulnerable groups, could be cultivated across geographical and socioeconomic divides.

Yet inequalities in communicative capabilities and resources continue to constrain the (co-)making of social capital *among* and *by* diverse and marginalised populations. Uekusa (2019) introduces "linguistic capital," an institutionalised form of cultural capital, to capture the barriers minorities face in accessing information and support networks due to limited English proficiency. Without sufficient linguistic capital, minority communities struggle not only to communicate with broader society—hindering the development of bridging capital—but also to advocate for self-interests to policymakers and authorities, thereby limiting linking capital. These information asymmetries and communication inequalities underscore the need for inclusive approaches that enable the participatory making of social capital, whereby different social agents exercise agency in co-constructing shared meaning and values as the foundation for collective action (e.g., resilience-building). In this regard, storytelling networks and narrative agency, elaborated below, offer explanatory power for understanding the complex interplay between communicative acts and the (co-)making of social capital.

2.3. Storytelling Networks, Narrative Agency, and Social Capital

Differing from transmissive modes of communication, storytelling in this study refers to a dynamic exchange among the teller, the tale, and the audience, a socially constructed form of collective sensemaking that, in turn, constitutes the foundation of social capital (McDowell, 2021). As a collaborative process, storytelling embraces fragmented information and interactional moments through which tellers and listeners co-construct stories/narratives (Boje, 2013). When sudden disruptions occur within a cultural niche (e.g., disasters, pandemics), storytelling becomes a primary social activity of adaptive sensemaking. Multiple narratives emerge simultaneously across sites, producing what Boje (1995) calls "plurivocity." The adaptive value of storytelling lies in its capacity to create spaces where multiple agents make sense of uncertainty and

co-develop responses to wicked problems that none can solve alone (Bietti et al., 2019). Storytelling, especially digital storytelling—collaborative workshops for co-creating digital stories/videos—has thus gained traction in community-based participatory projects due to its connective potential across cultures (Copeland & de Moor, 2018).

Research has demonstrated the role of storytelling in building bonding, bridging, and linking capital. As social glue, storytelling brings community members together by fostering a sense of belonging, identity, and connectedness (Bietti et al., 2019). For example, *mehmani*—a type of Afghan intergenerational storytelling—helped refugee youth to maintain links with cultural legacy (Quirke & Howarth, 2018). Storytelling also enables boundary-crossing by carrying authentic voices across networks, thereby building bridging capital (Chamlee-Wright & Storr, 2011). As communities of practice do not work automatically, storytelling plays a unifying role in mobilising diverse groups while mediating relationships towards collective action. Moreover, it holds potential for building linking capital with powerful sources. Copeland and de Moor (2018) identified digital storytelling as a much-used medium for conveying authentic experiences not only across horizontal civic networks but also vertically to reach upstream stakeholders.

More broadly, storytelling network, derived from communication infrastructure/ecology theories (Ball-Rokeach et al., 2012; Kim & Ball-Rokeach, 2006), offers a framework for mapping the dynamics among social agents in a web of co-constructing shared meaning for social capital. It highlights three, locally embedded agents who draw resources from networks to participate in sensemaking, generate local knowledge, and mobilise civic action: (a) residents, engaging with family, friends, and neighbours; (b) community service organisations/nonprofits; and (c) media, especially participatory media (e.g., community radio, social platforms) that develop social relationships and community cohesion (Kanjilal et al., 2024; Matheson & Jones, 2016; Rojas et al., 2011). Liu (2022) extends this to include four components— interpersonal ties, media storytelling, community-based organisations, and official emergency management communication—as a storytelling network for navigating disaster-related challenges.

While storytelling network studies quantitatively measure the correlations between communication and civic participation (social capital), they offer limited insights into how multi-agent, multi-dimensional storytelling interplays to co-construct shared meaning. As such, Naughton (2014) recommends collecting narrative data—personal, reflective, and experiential accounts—about what might form social capital, to complement and reinvigorate structural network analyses. Lueg's (2023) typology of time-based narratives, drawing from Boje (1995, 2013), is illuminating for understanding multi-dimensional storytelling:

1. Planned narratives (oriented towards the past) are official tools for organisations to frame the history in ways that benefit themselves and prompt the subordinates to follow without criticism. In disaster contexts, it can be understood as the top-down, prescriptive disaster resilience narratives.
2. Living stories (created "on the go") are improvisational creation and construction between all sorts of agents as sensemaking of lived experiences.
3. Antenarratives (narratives-to-be) are provisional, contested storylines for guiding future sensemaking as a coherent narrative. They serve as a hub for co-telling living stories, where change agents negotiate what story can enter their own fields. In disaster contexts, this could be understood as the "resilience" antenarratives, where government-driven narratives interplay with community living stories to negotiate what counts as resilience.

This triad transforms storytelling networks into open systems where power dynamics evolve: Not all stories gain legitimacy or have equal chances to travel across fields (e.g., from communities to governments, and vice versa). In this regard, the notion of "narrative agency" is critical to shift focus from organisationally prescribed messaging to what diverse storytellers/agents do and construct as they negotiate frames, improvise fragments, and co-create resilience norms. "Narrative agency" thus refers to the capacity to move ideas across fields, translate or contest dominant narratives, and co-construct shared values (Lueg, 2023; Weder & Weaver, 2025). While Lueg sees narrative agency as contingent on a story's tellability and its capacity to resonate with core players in a target field, Weder and Weaver emphasise its reflexivity—co-constructing shared values through dialogue with other communicators/agents within broader, complex narrative environments.

Despite the analytical potential of juxtaposing storytelling networks with narrative agency, few empirical studies have fully unpacked the constitutive role of storytelling to the (co-)making of social capital in disasters. Chamlee-Wright and Storr's (2011) work is an exception, showing how social capital as shared narratives of a close-knit, family-oriented community shaped residents' recovery strategies following Hurricane Katrina. However, their analysis remains focused on the impact of social capital on recovery, rather than the constitutive relationships between storytelling and social capital. To address this gap, this study centres on diverse community storytellers who interact with other key players (e.g., emergency management authorities, community service providers) and multilayered narratives within storytelling networks to co-construct shared meaning of social capital that, in turn, informs resilience action. Thus, the key research question is:

> How do diverse community members engage with different agents, stories, and practices within storytelling networks to co-create shared meaning fundamental to social capital for disaster resilience?

3. Methods

This study employed a qualitative approach to address the research question. Departing from structural network analysis, it examined how storytelling networks, as open, participatory sensemaking spaces, emerge through diverse community members' reflective accounts, complemented by insights from emergency management and community service representatives. We focused on the collective sensemaking in self-organising, emergent networks: *who* are storytellers, *what* is constructed, and *how* shared meaning develops in practice as integral to the (co-)making of social capital. Accordingly, resilience is understood as a socially negotiated construct (e.g., how "resilience" is continually contested or reconstructed through communicative practice), rather than as a prescriptive term defined by a set of measurements.

Fieldwork was conducted in Cairns, an Australian regional city prone to natural hazards (e.g., cyclones, floods) and characterised by cultural diversity, with Chinese/Mandarin, Japanese, and Nepali among the commonly spoken non-English languages (Australian Bureau of Statistics, 2024). As a migration city, Cairns exhibits strong bonding capital within cultural groups, while cross-cultural and institutional connections are facilitated through intermediaries (e.g., multicultural associations, service agencies; Hou et al., 2025). We developed partnerships with the local council and nonprofits to gain access to otherwise hard-to-reach communities. These partnerships helped to identify community leaders, both formal (e.g., bilingual caseworkers) and informal (e.g., respected individuals), who proved crucial in offering research support and cultural guidance.

Primary data comprised 36 interviews with members from Bhutanese, Congolese, Chinese, Colombian, Indonesian, Filipino, and Japanese groups (n = 28), alongside emergency practitioners and service providers (n = 8; see Table 1). Most interviews were conducted in English; in cases where participants preferred otherwise, bilingual community leaders served as interpreters. The interview guide framed questions about "storytelling networks" and "narrative agency" in accessible language: (a) Who do you usually seek information from or talk to during disasters? (b) What types of stories or information do you communicate, trust, or feel connected to? (c) How do you experience communications from governments, support agencies, and other community members in developing shared understanding or collective action in disasters? (d) Do you feel community voices are effectively communicated to broader, higher levels? And (e) What changes would you like to see or create through dialogue with others to foster better collaboration?

Table 1. Participant information.

Category	Code	Language	Gender	Age range (y/o)	Years in Australia	Role
Bhutanese	CL1	English; Nepali	Male	30–50	2–10	Community leader
	CM2	Nepali	Male	>50	10–20	Member
	CM3	English; Nepali	Male	<30	2–10	Member
	CM4	English; Nepali	Male	30–50	<2	Member
Chinese	CL5	English; Malay	Female	>50	>20	Community leader
	CM6	English; Chinese	Female	30–50	10–20	Member
	CM7	Chinese	Male	>50	2–10	Member
	CM8	Chinese	Male	30–50	10–20	Member
Colombian	CL9	English; Spanish	Male	<30	<2	Community leader
	CM10	Spanish	Male	<30	<2	Member
	CM11	Spanish	Female	<30	<2	Member
	CM12	Spanish	Female	<30	2–10	Member
Congolese	CL13	English; Swahili	Male	30–50	2–10	Community leader
	CM14	English; Swahili	Male	30–50	<2	Member
	CM15	Kinyarwanda	Female	>50	2–10	Member
	CM16	Swahili	Female	30–50	2–10	Member
Indonesian	CL17	English; Balinese	Female	>50	>20	Community leader
	CM18	English; Javanese	Female	>50	>20	Member
	CM19	English; Javanese	Female	30–50	10–20	Member
	CM20	English; Daya	Female	30–50	10–20	Member
Filipino	CL21	English; Samoan	Female	<30	>20	Community leader
	CM22	English; Filipino	Male	30–50	10–20	Member
	CM23	English; Filipino	Female	>50	>20	Member
	CM24	English; Tagalog	Female	<30	<2	Member
Japanese	CL25	English; Japanese	Female	30–50	10–20	Community leader
	CM26	Japanese	Female	30–50	>20	Member
	CM27	English; Japanese	Male	>50	>20	Member
	CM28	English; Japanese	Female	<30	10–20	Member

Table 1. (Cont.) Participant information.

Category	Code	Language	Gender	Age range (y/o)	Years in Australia	Role
Emergency Management	EM29	English; Chinese	Male	30–50	10–20	Police
	EM30	English	Male	30–50	>20	Police
	EM31	English; Hindi	Male	30–50	10–20	Official
	EM32	English	Female	30–50	>20	Practitioner
	EM33	English	Female	<30	>20	Officer
Service Provider	SP34	English; Spanish	Male	>50	>20	Consultant
	SP35	English; Spanish	Male	>50	10–20	Consultant
	SP36	English; Sinhala	Female	30–50	>20	Executive

Notes: CL = community leader; CM = community member; EM = emergency management; SP = service provider.

To capture the communicative dynamics inherent in social capital, our analysis adopted a relational lens—analysing how participants framed their perspectives in relation to others, that is, how meaning-making occurs across multiple agents. Informed by the preceding literature while attentive to grounded knowledge, three key components of storytelling networks emerged from the data: agents (storytellers), stories (multilayered narratives), and practices (approaches to developing shared understanding toward [co-]making social capital). Narrative agency was analysed in terms of initiatives taken by storytelling agents (e.g., communities, governments) to reconcile divergent narratives of resilience through integration, negotiation, or reconstruction.

4. Findings

While not devaluing direct messaging and scientific instructions for disaster resilience, participants described storytelling as one of the most accessible and inclusive ways of communication. As many explained, it lowers the barriers to joining public discussion, bridging isolated voices, and sharing ideas in less confrontational ways outside mainstream or official channels. A Congolese participant commented: "Storytelling is like music—it can be our shared language, although we do speak different ones" (CM14). A Colombian participant agreed: "A good story, whether it's through music, dance, or even football, can connect people from diverse backgrounds" (CM10). Likewise, a local council officer recalled an exhibition of refugee experiences that explicitly recognised storytelling as a communicative foundation of social capital:

> There were so many people there, migrants, families, and important leaders, even in the middle of a one-in-100-year flood. The Councillor said, "These creative things [storytelling, artworks] are what hold communities together. We can't lose that when disasters come, because they are creating the fabric of the safety net and social cohesion." (EM33)

4.1. Storytelling Networks: Open Yet Contested Spaces of Collective Sensemaking

Community participants did not use the term "storytelling networks" directly, but their accounts clearly pointed to the ways they self-organise or develop communicative networks during emergencies. These storytelling networks appear extensive, adaptable to contexts, and serve to cross boundaries for developing

shared understanding and exchanging local knowledge. The seven cultural/ethnic groups (see Table 1) described networks that were both convergent and divergent but collectively reflected shared needs and challenges.

4.1.1. Agents

Agents are trusted storytellers whom community members turn to for disaster communication and support networks. As found in prior studies (e.g., Cai, 2017; Liu, 2022; Uekusa et al., 2022), multi-ethnic communities heavily rely on bonding capital, while feeling limited in bridging and linking capital. Accordingly, our data revealed family and communities, community service providers, governments, and media as the main layers of storytelling agents, each carrying different weight in shaping community risk perceptions and resilience action.

Family, friends, and community peers were seen as the most immediate, trusted storytellers. One Japanese participant explained: "My own people, my own community—that's who I'd listen to first" (CM26). Children and the youth were seen as crucial messengers within migrant families. As one government official confirmed, "Kids often become the family's link to the outside world. They're the ones who pick up the language at school and can explain what's going on" (EM31). For migrants living alone, compatriots or fellow nationals became critical lifelines, often connected through cultural associations, social media groups, or informal gatherings. A Japanese single mother shared:

> Because of the language barrier, I don't have many friends here. But when I go to my child's playgroup, I meet other Japanese parents. That's where I feel connected and get my information. (CM26)

Community leaders, either formal (e.g., paid bilingual caseworkers) or informal (well-connected individuals), emerged as significant storytellers. They were simultaneously the bonding figures within communities and the intermediaries that build bridging and linking capital. Their intermediary role lies in seeking, translating, and contextualising official information into relatable messages to community members, while connecting them with essential support networks. Not only do communities regard them as the "boots on the ground," but emergency practitioners and service providers also wish to build "community leader networks" with them. A service provider commented:

> Community leaders are also cultural leaders. They're the go-to people—trusted connectors who "join the dots." Whether it's government or service agencies, if they want to engage the Sudanese community, for example, they need to know who that key person is. (SP36)

Other communities and community service organisations, such as Centacare Multicultural Services, Red Cross, and Cairns and Regional Multicultural Association (CARMA), were also considered as important storytellers. While some participants preferred to stay with their own groups, many recognised this to be self-limiting. Others emphasised the need for connecting with different cultures. Multicultural festivals and events were repeatedly mentioned as valuable platforms to share stories and build cross-cultural understanding. Additionally, participants praised Centacare's efforts to develop culturally diverse storytelling for disaster communication, including their self-produced multilingual cyclone safety videos (see https://www.youtube.com/@centacarefnq).

Governments and media were seen as authoritative storytellers, though often at a distance. Most community participants chose to follow instructions from the local council, the police, and emergency agencies, partly due to their cultural propensity to respect authority. Yet direct relationships with these institutions (linking capital) were rare. Still, community leaders and bilingual members acted as intermediaries, seeking information from official channels like the Bureau of Meteorology or the council's disaster dashboard and passing it on. Mainstream media (e.g., ABC) was valued for disaster updates but criticised for underrepresenting diverse communities as merely victims. Many therefore turned to community or ethnic media (e.g., WeChat for Chinese, Nichigo Press for Japanese), where they felt more fairly represented or could advocate self-needs.

Overall, the agents identified in communities' storytelling networks are neither fixed nor exhaustive but constantly shifting across contexts. When linking capital with Australian governments felt out of reach, diverse communities sometimes turned to their home-country consulates for guidance on making sense of official instructions. This dynamic shows that storytelling agents are deeply relational, yet with imbalanced power in collective sensemaking.

4.1.2. Stories

Within self-organising storytelling networks, participants reported multilayered stories/narratives including fragments or floating pieces of information, which flow through and are simultaneously (re)produced by storytelling agents. Corresponding to Lueg's (2023) typology, our data identified three types of stories: planned emergency narratives from governments, living stories from the ground, and antenarratives arising from the intersection of government prescription and community creation. Each of these stories offered a space for sensemaking of disaster resilience, carrying different implications for building bridging or linking capital.

Evidently, planned emergency narratives from governments penetrated various storytelling networks. Disseminated through all other agents, these "official" messages reflected a top-down, managerial logic—framing resilience for diverse or minority communities as "achieving the same recovery rate as the broader community" (EM30). Resilience was reduced to a checklist of measurable outcomes (e.g., houses rebuilt, losses recovered), overlooking practical cultural needs from diverse communities. For many, the lack of cultural sensitivity in standard narratives undermined meaningful relationship building with diverse communities. A Chinese participant shared:

> The [official] information feels vague and formal, with no cultural link or personal touch. It doesn't help build relationships. Instead on Facebook I see real stories and experiences. They're down-to-earth and much easier to connect with. (CM7)

As counter-narratives, living stories, rooted in lived experiences, seemed to powerfully bridge people across cultures. These stories offered both practical disaster-coping strategies and collective therapeutic effects. An Indonesian participant found stories like "how to eat pasta without fire, or how to wash when there's no hot water" (CM18) useful, while a Filipino participant described "Reading others' stories makes me feel we're all in this together" (CM23). In this regard, living stories became vital for building bridging capital, nurturing community spirit and solidarity. Further, some community leaders emphasised the importance of keeping

alive cultural resilience stories that connect disaster preparedness with cultural traditions. A Bhutanese leader shared stories about Hindu rituals to build resilience and harmony with nature:

> Our [Hindu/Vedic] rituals are not merely religious observances; they are profound expressions of our connection with nature, community, and the cosmic rhythm. For example, the biannual rituals of Ubhauli and Udhauli are practised among communities: Ubhauli, observed during the spring, marks the upward migration to the highlands and is a prayer for a good planting season; and Udhauli, in the winter, signifies the descent to the lowlands and is a thanksgiving for a successful harvest. These rituals acknowledge seasonal transitions and the uncertainty that comes with them—droughts, floods, or crop failure. By practising these rituals, communities psychologically prepare for potential hardships, reinforcing a sense of unity, foresight, and spiritual endurance. (CL1)

The contrast between planned emergency narratives (featuring prescribed behaviours) and community living stories (sharing lived experiences) gave rise to antenarratives—provisional, contested storylines around resilience in the making. The antenarrative thus became a salient site of negotiation, where both emergency management and communities sought to promote their own ideas, collectively shaping meaning-making of resilience as the foundation for potential collaboration. Consequently, a shared vision that emerges from the resilience antenarrative relates to place-based, culturally responsive approaches to resilience. A Congolese community leader illustrated:

> For communities, resilience isn't just infrastructure or technology. It's built on clear communication, cultural understanding, and trust. We can teach what a cyclone is, but only through community-driven efforts can people grasp what it really means and why it matters to get prepared. (CL13)

4.1.3. Practices

Given the multiplicity of agents and narratives within storytelling networks, storytelling practices—communicative approaches to meaning-making and trust building—appeared varied and adaptive. Echoing prior literature (e.g., Liu, 2022; Matheson & Jones, 2016; Rojas et al., 2011), our findings identified three prevailing modalities of storytelling: interpersonal, mediated, and organisational communication. Each mode served as a means of cultivating social capital in distinct yet interrelated ways.

Interpersonal storytelling, whether individual or collective, was consistently described as the most reliable, and even nostalgic, form of building bonding and bridging capital, particularly in a regional city like Cairns. It was especially important for newly arrived refugees and migrants unfamiliar with local climatic or natural environments. A Congolese participant asserted: "Talking to people is like creating a 'neighbourhood watch'—people share what's going on and look after each other. It's old-fashioned, but it works. Everyone comes together and listens to each other" (CM14).

Community leaders and service providers echoed that interpersonal storytelling, often enacted through home visits, was essential for reaching isolated or vulnerable members who may have limited means or avoid building social capital with outsiders. These personalised interactions helped establish a "circuit of care," connecting the vulnerable such as the elderly without English skills, migrants with disabilities, and single parents with small kids, to essential support networks. A Bhutanese community leader shared, "Our cultural

association has a 'Members Databank' to identify those in urgent need so they won't be left behind during emergencies" (CL1).

Mediated communication typically emerged through community leaders' intermediary storytelling to disseminate or reinterpret official narratives. All seven community leaders agreed that official messages required not only linguistic translation but also cultural adaptation to resonate with diverse communities, laying a communicative foundation to social capital. Common practices included simplifying terminology, using visuals, and embedding culturally appropriate expressions. For instance, a Chinese community leader described adapting the official disaster preparedness campaign's key messaging, "Weather doesn't plan but you can," which, when translated literally, "sounded awkward" (CL5). Instead, she reframed it using a familiar Chinese proverb: "Unexpected storms arise in the sunny sky; Repair the roof before it rains" (*tianyoubucefengyun*, *weiyuchoumou*). Such reframing illustrated how cultural adaptation can transform templated messaging into shared moral wisdom.

Also, mediated communication manifested in using ethnic media and community radio for cross-cultural storytelling and norm-enacting (e.g., collectivism) toward collective sensemaking. One notable example was a WeChat group established by a Chinese police liaison in Cairns—"Police–Civilian Mutual Aid Group"—which effectively mitigated power hierarchies. The following quote underscored how mediated storytelling can humanise authority and build linking capital through culturally attuned engagement:

> The police officer regularly posted key messages in Chinese or shared official links with simple translation. People then discussed in the chat group, shared experiences, and offered help. Over time, trust grew between us and the police. Of course, this works well in Cairns, but things might be different in big cities like Brisbane. (CM6)

Organisational communication, led by emergency agencies and service providers, often took forms of community consultations and cultural events. Yet participants' responses revealed a clear divide. Consultations were frequently seen as extractive rather than participatory, reinforcing pre-determined agendas. One Indonesian participant shared frankly, "My house was gone in the floods. I can tell you my story, but if you're not going to help me rebuild or find accommodation, what's the point of telling my story?" (CM19). Such sentiments expose a trust deficit on governments, where community storytelling risks being instrumentalised for data collection rather than relationship building. Conversely, post-disaster cultural events organised by community service providers were seen as genuine spaces for collective storytelling and building connections. A CARMA executive explained:

> We host a multicultural festival every September to celebrate resilience and encourage people to share knowledge and regain strength. Everyone comes together like one big family. That's what CARMA is supposed to do. (CL17)

4.2. Uneven Narrative Agency in Co-Making Social Capital

The previous section illustrated storytelling networks as open yet contested spaces filled with multiple agents, narratives, and storytelling practices. Such plurivocity (Boje, 1995) generates multilayered, sometimes competing sensemaking around resilience, suggesting that social capital, based on shared

meaning and value, is not static but continually in the making. However, storytelling networks are never level playing fields: Powerful voices (e.g., governments) dominate the space while others (e.g., diverse communities) are marginalised. Such asymmetry foregrounds narrative agency: the capacity of narrators to transport their preferred meanings/ideas into other discursive fields in ways that resonate with existing norms, thereby co-creating shared meaning as a foundation for co-making social capital.

Since planned emergency narratives often lack cultural sensitivity, government narrative agency emerged through efforts to adapt standardised instructions to place-based, culturally diverse needs. As one community service provider observed, "The current emergency messaging system is very white. The disaster response space in Australia is generally not multicultural" (SP34). Another emergency practitioner echoed, "The federal agencies deliver a national model that rarely has a dedicated focus on diverse communities" (EM32). These comments reflect a persistent disconnect that hinders linking capital between government and diverse communities. Recognising this, some emergency agencies began experimenting with culturally embedded approaches to build shared understanding of disaster resilience. A local police liaison officer described how he exercised narrative agency by contextualising official messages for migrant learners:

> Tomorrow I'll go to a TAFE [Technical and Further Education] class to talk about emergency preparedness. Many students have limited English, so we work with teachers to create simple, interactive activities. For refugee groups from Africa or Bhutan, who might fear uniformed officers, we focus on showing them we're here to help, not to cause trouble. (EM29)

Beyond direct engagement, government agencies increasingly collaborate with community leaders and service providers to translate or reframe official narratives using community languages, visuals, trusted ethnic media, and multicultural events. Inclusivity, once peripheral, has thus become a guiding principle for narrative adaptation. An emergency practitioner reinforced, "We've got very limited staff. Outside the 9-to-5 working hours, it's communities that look after communities" (EM32). Yet, despite their intermediary role of connecting policies to people, community leaders' contributions remain largely under-recognised. The emergent "community leader networks" therefore function as a key, though under-resourced, pathway to building linking capital across institutional and cultural boundaries.

On the community side, narrative agency often begins with reconciling internal discrepancies in risk perceptions, where bonding capital may inadvertently constrain collective disaster preparedness. A Bhutanese community leader captured this tension:

> When we tried to prompt preparedness before cyclones, some members said, "We survived wild winds and rain in refugee camps with bamboo huts. Now we live in concrete buildings. Why should we worry?" This trauma-hardened sense of resilience, rooted in members' past displacement, can obscure awareness of natural hazards in Australia. (CL1)

In response, community leaders deploy narrative agency to localise and humanise risk communication, translating, filtering, and circulating official messages via multiple outlets (e.g., Facebook pages, WhatsApp groups, home visits). As the Bhutanese leader explained, "People have different literacy levels. We filter the source of information, so we don't share irrelevant or untrue things. We translate updates, post them online, and make messages relatable" (CL1). Such selective translation and cultural sensemaking represents an

effort of reflexive storytelling, where community leaders act as storytelling intermediaries who reconstruct meaning, reinforce bonding capital, and pave the way for bridging and linking capital with external stakeholders.

Further, community narrative agency emerged in a more advocacy-oriented, bottom-up form, pushing diverse voices into policy agendas. Although this form of narrative agency remains nascent, participants expressed frustration at being excluded from decision-making. A Congolese community leader noted, "Many of our members feel invisible. We're transient, so our issues aren't followed through or seen as valued" (CL13). Similarly, a service provider added, "Multicultural communities feel really isolated. CARMA has only had one visit from the State member since the election—they feel forgotten" (SP36). It is therefore strongly felt among diverse communities that the dominant narrative privileging a rational and managerial logic of resilience must be disrupted and reimagined through co-creating resilience as culturally grounded practices. Only through such narrative reconstruction can shared understanding emerge to co-make social capital for collaborative resilience.

Two key frames emerged as the focus of community narrative agency: capacity building and place-(re)making. Community leaders advocated for resource investment to strengthen members' capabilities against disasters and for institutional recognition of their leadership. As one Filipino leader argued, "The current narrative emphasises self-resilience—more of a Western norm. In our collectivist culture, mutual help is how we survive" (CL21). She provided an example, "When evacuation alerts come, people without transport rely on us, the community leaders. We need resources to do that" (CL21). Elevating this frame (i.e., capacity building) into policy agenda could foster community leadership and develop diverse emergency workforces and inclusive support networks. In addition, diverse community members emphasised cultural preservation and place-(re)making as essential to social cohesion. An Indonesian participant commented:

> It's hard to find a place for our communities to meet. We go to libraries or halls, but they're often booked out. It'd be great to have a multicultural centre where people can connect, and where councils or governments could also visit us regularly [linking capital]. (CM18)

As noted above, while both management and communities exercised narrative agency to embed their priorities within each other's fields, their power asymmetry has profoundly shaped co-creative meaning-making. Notably, community-driven narrative agency remains largely individualised, reliant on the goodwill or initiative of a few leaders rather than on formally organised, collective approaches. Without systemic support, their voices cannot yet reach a "critical mass" capable of reshaping dominant narratives or influencing policy frameworks. To enable more equitable co-making of social capital, institutional recognition and resourcing are urgently needed to strengthen community leaders' narrative agency, support service providers and NGOs as linkage-makers, and advance storytelling networks as engines of social capital development.

5. Discussion and Conclusion

Departing from traditional emphases on structural social capital in disaster resilience research (Chamlee-Wright & Storr, 2011; Meyer, 2017), this study advances a communicative perspective by examining storytelling networks as open, participatory spaces of sensemaking among multiple agents.

It foregrounds the act of storytelling as a dynamic, relational practice through which shared meanings, and thus the foundation to social capital, are continually co-created. Building on emerging literature on communicative social capital (e.g., Jeffres et al., 2013; Matheson & Jones, 2016; Rojas et al., 2011), this study empirically demonstrates how multi-agent, multilayered storytelling underpins the development of social capital. Because both storytelling and social capital are participatory and adaptive, storytelling's generative capacity for sensemaking amid uncertainty positions social capital as in the making, rather than a static property. This resonates with Uekusa et al.'s (2022) notion of disaster social capital—contextual, experiential, and improvisational forms of social connections that emerge through disasters and may also generate opportunities.

Specifically, the study revealed the synergy between storytelling and social capital: Storytelling both constitutes and is shaped by social ties, especially within diverse communities navigating disaster contexts. Community members self-organised storytelling networks by prioritising different agents—family, friends, peers, community leaders, service providers, governments, and media—as relevant storytellers. Their interactions revealed uneven social capital: strong bonding capital (close ties), limited bridging capital (cross-community linkages), and deficient linking capital (connections with authorities). Drawing on Lueg's (2023) triad of stories, namely, government-planned emergency narratives, community-generated living stories, and resilience antenarratives in this study, participants made sense of resilience through interpersonal, mediated, and organisational storytelling practices. These communicative processes sustain and are shaped by social capital. For example, through connections with service providers and community leaders, emergency practitioners adapted templated narratives to better meet culturally specific needs.

Central to this process are community leaders who acted as key intermediaries of storytelling and relationship building. Whether formally or informally positioned, they actively filtered, translated, and reframed official narratives into culturally resonant messages while connecting vulnerable members to essential support networks. Their trusted leadership has been acknowledged by emergency practitioners and service providers, though rarely institutionalised or formally supported. Importantly, these leaders strived to balance integration into Australian systems with preservation of their own cultural heritage, which is critical for sustaining societal social capital (Putnam, 2000). In this regard, the findings usefully addressed the under-examined role of community leaders as key meaning-makers in disaster resilience research (Hanson-Easey et al., 2018).

Further, this study identifies narrative agency as a critical factor shaping participatory sensemaking and thus the co-making of social capital across unequal power relations. As scholars explain (Lueg, 2023; Weder & Weaver, 2025), narrative agency concerns narrators' capacity to move ideas across fields (e.g., from governments to communities, and vice versa) while interacting with other storytellers within broader, complex narrative environments. In this study, the dominant managerial logic embedded in planned emergency narratives often overshadowed community voices. Communities with limited linguistic capital (i.e., English; Uekusa, 2019) struggled to negotiate dominant narratives or articulate self-needs, though some exercised narrative agency by filtering or reframing official messages to enhance community relevance. However, this agency largely operated at an individual level, typically through a few bi-/multi-lingual community leaders, rather than adopting organised, collective approaches. Empowering community narrative agency, therefore, requires systemic support, sustained resourcing, and inclusive communicative platforms that foster genuine dialogue between authorities and communities. For example, creating spaces

for multimodal storytelling (e.g., visual, oral, digital) from grassroots, leveraging ethnic media for policy input, and strengthening community leaders' advocacy capacity are all critical steps toward enhancing narrative agency among linguistic minorities.

Overall, this study contributes to the intersecting literatures on social capital, communication, and disaster resilience in several ways. First, it narrows the theoretical gap in communicative understanding of social capital by moving beyond network-structural approaches that assume pre-existing ties. Instead, it conceptualises social capital as continuously co-constructed through agents' storytelling practices within open yet contested meaning-making spaces. By highlighting the plurivocity (Boje, 1995) of storytelling, it foregrounds how power asymmetries shape the (co-)making of social capital. Second, it illuminates the under-recognised role of storytelling intermediaries, particularly community leaders, in driving information flow, mediating divergent narratives, and facilitating bridging and linking capital. Their emerging narrative agency underscores the need to embed community voices and leadership into institutional frameworks for collaborative resilience. Third, it offers a methodological contribution by advocating a narrative lens to trace the communicative pathways to social capital building. The tripartite framework of agents, stories, and practices provides analytical dimensions for examining how shared meaning-making and social capital develop through storytelling networks.

Practically, this study demonstrated the value of storytelling as a boundary-crossing tool for building social capital among emergency agencies, service providers, and diverse communities. Echoing Copeland and de Moor (2018), storytelling should be integrated into community participatory projects as an ongoing, co-creative practice, replacing extractive consultations. Crucially, community leaders must be recognised, resourced, and rewarded for their intermediary role. While their linguistic capital (i.e., English proficiency) is important, their agency extends far beyond translation: They contextualise information, build trust, mediate risk perceptions, and mobilise collective action. Targeted training and leadership development can strengthen their narrative agency, enabling them to participate meaningfully in government-led planning while advocating for community interests. Their narrative-building work may in fact be undertaken in community languages, underscoring the distinction between simple linguistic capital and narrative agency. Through such empowerment, social capital can grow over time at the interface between communication and relationship.

Finally, this exploratory study has limitations that point to directions for future research. As it relied primarily on interview data, it mainly captured participants' perceptions of the role of storytelling, rather than the actual content or impact of stories shaping collective sensemaking. Future research could incorporate narrative examples (e.g., texts, videos, digital posts) and case studies to examine how storytelling networks take shape, evolve, and contribute to bonding, bridging, and linking capital across relational and cognitive dimensions. Also, the intermediary role of community leaders warrants deeper theorisation as a mechanism for building level-transcending social capital. Longitudinal and ethnographic studies could further unpack how everyday storytelling practices in diverse communities generate, sustain, and reconfigure social capital across both emergency situations and longer-term resilience-building.

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Conflict of Interests

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Data Availability

Data are kept confidential in accordance with the ethics approval.

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