

Mud angels, mobilisation and the media

How national and international print papers framed the 1966 Florence flood

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ABSTRACT

In 1966, the river Arno flooded Florence inflicting massive damage to cultural heritage sites. A group of national and international volunteers known as the “mud angels” collaborated to recover and repair damaged art works. To understand how news coverage may have contributed to this mobilisation, our study applied content and visual frame analyses to print newspaper articles nationally and internationally covering the flood to assess how these publications framed this extreme event. The findings illustrate that the majority of articles employed a catastrophic frame with negative tones. In an application of construal-level theory, which posits that concrete images increase perceived spatial proximity to the event, the majority of articles were found to have pictures spatially close. These findings contribute to the contemporary discussion of the role of visual frames in the media, specifically on extreme weather events related to climate change.

KEYWORDS

Florence flood, mobilisation, extreme weather event, climate change, visual framing theory, construal-level theory

INTRODUCTION

On November 4, 1966 the river Arno overflowed in Florence, causing “one of the most devastating disasters in modern history” (Devine, 2005, p. 16), specifically in damages to cultural heritage sites. At the National Central Library, located near the river, almost one million bibliographic units were submerged by the water (Biblioteca Nazionale Centrale di Firenze, n.d.) that reached 4 metres. Within the span of a few days, volunteers from Italy flocked to Florence to aid the restoration process, with more joining from abroad in the weeks after (Devine, 2005). The Italian press referred to them as “angeli del fango”, or “mud angels”, as they collaborated with locals to clean the city and restore the damaged heritage from the mud the waters had left (Grazzini, 1966). The angels are considered one of the “first grassroots communities” in Italy, bearing a “strong symbolic value” that has been revived and transformed by other social movements that came afterwards (Portaliou, 2007, p. 163).

We wanted to understand how newspaper reporting in 1966 might have contributed to the ensuing global mobilisation of the “mud angels”. The following research article is an empirical,

inductive study that analysed the visual frames used within printed national and international newspapers covering the event, as well as content of the visuals.

Studying this specific event is important, because figures show that if a flood of the same magnitude as 1966's were to hit Florence again, the level of the water at the National Central Library would be 70 cm higher than in 1966 - at an estimated 4.7 metres (Autorità di Bacino del fiume Arno, 2007) -, and most of the city centre would be flooded again (Autorità di Bacino Distrettuale dell'Appennino Settentrionale, 2022). Hence, analysing how the media covered this historical extreme weather event provides crucial insights to suggest how contemporary media might report on future events, and potentially how future coverage might mobilise the public to take similar collective action.

Our study adds to current academic discussions that deplore the lack of action (Ballantyne, 2018) and effective engagement of the public resulting from climate communication (including, but not limited to, extreme weather events such as floods). Notably, Anderegg and Goldsmith (2014) state that "emerging methods that facilitate rapid assessment of spatial and temporal patterns in public interest and opinion could be exceptionally valuable for understanding and responding to these events' effects". While this study did not assess previous public interest or opinion, our analysis of the coverage of the 1966 Florence flood as a case study offers a relevant addition to academic discourse on how climate-related media coverage might spur and shape ensuing social action.

Despite the wide literature dedicated to the topic (Devine, 2005), only two papers directly studied the media's response to the flood. In 1980, Alexander reviewed the Italian and British coverage of the event, but the study was not based on a systematic data collection. Similarly, Fadigati (2009) analysed the photojournalistic coverage of some Italian printed magazines, but the data collection was also not systematic.

Deploring a lack of "systematic investigation" into what contributed to people's motivation to recover the cultural heritage works after the flood, Kumar conducted a content analysis of correspondence items, and found that the media played a significant role in the organisation of the response (2020, p.2). Alexander recognized that media reactions to the flood "may help us to understand how future hazards are to be faced and how environmental decision-making has been affected during the aftermath" (1980, p. 27). Our research addressed this research gap with a systematic content analysis of print media coverage, offering potential insights into

people's motivations as a result of visual framing and visual content in print coverage. This leads to the following research question: *How did international and national outlets frame the 1966 Florence flood?*

This study will first provide a literature review of the minimal research related to the Florence flood and news coverage of the event, before expanding into studies on the role of media coverage inspiring collective action and narrowing on the context of print media specifically.

LITERATURE REVIEW

Research specific to the flood mainly studied the narration of the events and heritage preservation (Kumar, 2020). Alexander is the only study that (partially) reviewed the daily print coverage of the flood, finding political use of the disaster (e.g. in the *Corriere della Sera*) and an emphasis on human misery in Italian magazines (1980). Environmental and human effects were prioritised in Italian newspapers, which exaggerated “human drama” (Alexander, 1980, p. 33). In contradiction with this, Fadigati (2009) stated that media attention was more focused on the artistic heritage than on the population. Overall, “‘doomwatch’ attitude” was found to be prevalent in British and Italian newspapers (Fadigati, 2009, p. 33).

Despite debate on the long-term effects of the media to inspire collective action and create international solidarity (Borer, 2012), the media's power to bring issues to the global stage and spark public debate “cannot be underestimated” (Kyriakidou, 2008, p. 279). This is also the case for print coverage specifically. Indeed, for centuries print has been employed as an “organizational device” and played a key role in mobilising citizens (Peacey, 2013, p.15). Print newspapers create meaning, convey messages, legitimise actors and most notably stimulate collective action. In short, print media is “central to modern social movements” (Corrigall-Brown and Wilkes, 2012, p.3).

Similarly, Lee and Chan (2010) argue that collective action is not only driven by self-mobilising citizens through word-of-mouth, as we might have surmised in the case of the “mud angels”, but also “facilitated by the mass [...] media” (Kumar, 2020, p. 4). The simple act of informing an audience can actively increase its likelihood to participate in social collective action (Lee and Chan, 2010). Through common communication practices such as amplification of information, the media holds a “positive impact on mobilization” (Lee and Chan, 2010, p. 5).

In our study, print coverage might have significantly contributed to the mobilisation of the “mud angels”. Due to its exceptionality, the flood sparked extensive journalistic coverage worldwide (Alexander, 1980). Given the unforeseen and disastrous nature of the event, the coverage of the 1966 flood can be defined as a disruptive form of a media event, a so-called media disaster (Kyriakidou, 2008). Media disasters are described as unexpected events that disrupt daily coverage (Frosh and Pinchevski, 2018, Evans, 2018). “[H]istorically momentous happening[s]” (Cottle, 2006, p. 421), media disasters can indeed shift public perceptions of reality and “mobilise solidarities” (Lee and Chan, 2010).

Within academic research, they represented a “sub-genre” of media events (Kyriakidou, 2008, p. 276). Media events have been theorised within broadcasting media, radio or television, but not print newspapers (Cui and Xu, 2021). However Mihelj proposed that “all different media genres that interrupt the usual daily programming” can be defined as media disasters, including coverage that made use of images (2008, p. 473). The Florence flood and ensuing mobilisation of the “mud angels”, we argue, thus fits this sub-genre of media events.

Within news stories, articles accompanied by images were more likely to attract attention, as they influenced the reader’s selection of and decision to read the story (Corrigal-Brown and Wilkes, 2012). Images were particularly relevant to our study as mass print media’s use of them is “instrumental” (Heusser, 2019, p. 190) in shaping society’s sense of identity, national collective memory, opinions and reaction to events (O’Neill and Nicholson-Cole, 2009). Indeed, Borer (2012) stated that “we witness an expanding role of the image in prompting a civil society response” (p. 227-8).

By facilitating the spread of information, “the broadcasting of disasters by the media [can] bring a global population, albeit momentarily, into the compass of a global community” (Silverstone, 2006, p. 83, quoted in Kyriakidou, 2008, p. 275). While the impact on solidarity of media broadcasts covering disasters has been widely discussed, the following research study analysed print coverage of the flood. This is because, given the historical and social context, in Italy in the mid-60s, 31.5% of people above the age of 11 were reading newspapers, while only 11.8% of the population had a TV subscription (Istat, 1965). Therefore, to understand how the media framed the Florence flood and consequently potentially contributed to the mobilisation of the “mud angels”, headlines and/or images published in print newspapers during that time period have been analysed.

Next, we will present the theoretical framework employed to analyse our data set, in addition to methods and data collection sections.

THEORETICAL FRAMEWORK

Adapted from Entman's framing theory (1993), that the media covers the same topics in different ways, visual media framing theory refers to the emphasis of an issue and the viewer's causal interpretation or moral evaluation of it within an image (Brantner et al., 2011). Images have the power to create empathy in a kind of "para-social interaction" (Brantner, 2011, p. 527; Bernhard and Scharf, 2008) and contribute to an emotionally rich media environment in which "people find themselves forced to engage" (Joffe, 2008, p. 92). Images are "more salient than verbal texts" because they "connote witnessing and increase emotional participation" (Brantner, 2011, p. 525-526; Scheufele, 2004), creating social solidarity "from the perceived membership" among an audience (Cui and Xu, 2021, p.8). Photographs seen as iconic can nurture public engagement in the news in a crisis, and can exist in a public's collective memory (Zelizer, 2017; Chouliaraki, 2015; Hellemueller and Zhang, 2019).

Print photos were found to be particularly "emblematic" (Griffin, 2004, p. 383) for their textual embedment in the physical newspaper, "presenting a rigorous and nuanced approach to visual news framing" studies (Parry, 2011, p. 1190) as was sought in this research study. Visual frames have largely been observed as either episodic, by presenting an issue or case study and eliciting stronger results of emotional engagement, or thematic, by placing an issue in a broad context and have been found to be more persuasive in their messaging (Gross, 2008; Iyengar, 1996). However, frames can also be constructed through an inductive, exploratory approach in which images and their content are assessed (Culloty et al., 2019), an approach implemented in this study that is further detailed later in the Methods section.

Empirical and theoretical research has shown that the way visuals are framed plays an important role in the media and affects audience perceptions in times of crises ranging from war (Fahmy, 2010; Parry, 2010; Parry, 2011; Greenwood and Jenkins, 2015; Hellemueller and Zhang, 2019) to the Covid-19 pandemic (Catalan-Matamoros and Peñafiel-Saiz, 2019; Batova, 2021; Damanhoury and Garud-Paktar, 2021) and even climate change (Leiserowitz, 2006; Rebich-Hespanha et al., 2015; Rebich-Hespanha and Rice, 2016; O'Neill, 2019). Climate change has received notable contemporary attention in visual framing studies to understand

how audiences' attitudes are influenced by visuals, and if behaviours change as a result of these influences. Some of these studies applied visual framing analysis in tandem with construal-level theory, which proposes that an event's increased spatial distance leads individuals to describe the event abstractly rather than concretely enhancing, "the tendency to represent social events using high-level construals" (Fujita et al., 2006, p. 282). Duan et al. (2019) found that participants who "viewed abstract images were more likely to perceive climate change as a spatially and temporally distant issue" (p. 828) suggesting a lack of motivation to take action. Similarly, McCrea et al. (2008) found that, "individuals were less likely to procrastinate" taking action if an issue was presented as concrete (p. 1308).

METHODS

To answer our research question of how international and national outlets framed the Florence flood, this study operationalised visual framing and content analyses as defined by Culloty et al. (2019) denoting image content such as visual subjects and connoting interpretive frames from the image, image captions and story headlines (**Table 1**) in an inductive, exploratory approach.

Table 1. Research methods and associated levels of visual meaning.

Method type	Level of visual meaning	Example	Required Explication
Content analysis	Denotation: description of image content	Flooding	The identification of visual subjects (e.g. using the image, captions, and/or accompanying content) and any difficulties in defining the visual subject
Frame analysis	Connotation: application of interpretative frames	Climate-change impact	The definition of frames, the identification of frames (e.g. using the image, captions, and/or accompanying content) and any difficulties in applying the frame typology
Audience analysis	Denotation: understanding of image content Connotation: personal associations of content	"An example of freak weather"	The presentation of images to participants and the nature of their responses (e.g. are they referring to the subject itself or associated ideas about the subject?)
Ideological analysis	Mythology: application of theory	A deep ecology reading of flood imagery	Image selection criteria or context, applied interpretative theory (e.g. deep ecology, green washing)

Table 1. Culloty et al. (2019)

In an eye-tracking study, readers were found to "scan images and headlines"(Brantner, 2011, p. 526) to assess the worthiness of the article (Corrigall-Brown and Wilkes, 2012), alternating between the image, as a stimulus, and the headline of the newspaper (Bucher and Schumacher, 2006). Without an accompanying image, the headline can act as an "index" by which the reader may gain an influenced, "interpretation of the story" (Tannenbaum, 1953,

p.189). As such, this study employed the use of articles with images for content and visual frame analyses, and articles without images for a frame analysis of their headlines only.

Content analyses performed in this study assessed the contents of each image, and were categorised by the object determined to be the visual subject (eg. human; destruction), then sub-categorized to describe how the subject was being portrayed (eg. human / suffering; destruction / building). There were a total of 20 articles with more than one image accompanying a single article headline (1 international, 19 national). In these cases, content and frame analyses were assessed collectively as each unit of the sample was defined by the article, and not the images. Images were then classified as spatially far or close in application of construal-level theory to infer the concreteness of the image. An image was deemed spatially far if subjects were indistinguishable (i.e. human subjects' faces indeterminate) or the image applied a bird's eye view in its photographic angle. Spatially close images were those that brought the subject clearly in the reader's view (i.e. human subject's face discernible) creating a sense of closeness through the photographic angle. (All data entries can be found for reference in **Appendix 3: Data**).

Three frames were identified and defined through connotation following the content analysis of images: catastrophic, mobilisation and miscellaneous. The catastrophic frame has been employed in previous research to suggest high levels of negativity (Baden et al., 2019), and was defined in this study as articles that employed descriptively disastrous vernacular, and negative visual depictions for articles with images. For example, this catastrophic article published by *La Stampa*, "Florence neighbourhoods flooded again for clogged sewers not receiving water" from November 25, 1966 photographed human suffering spatially closely as children despondently cleaned a flooded and ruined classroom. With the "mud angels" in mind, the mobilisation frame was constructed to assess articles that expressed a form of organisation or encouragement to organise, and was expanded to assess for an indication of one of three message categories observed during analysis: call-to-action, solidarity or solution-focused. For example, a mobilisation framed article with a call-to-action message was found in the *Corriere della Sera* November 9, 1966 piece: "The appeals from Florence continue, We urgently need milk for children", which depicted a spatially close image categorised as "human/solidarity" as people organised a queue to receive bread. The miscellaneous frame was constructed and used for general news items relevant to coverage about the flood and applicable to this study, but more neutrally informative in their headlines, captions and images than emotionally stimulating. This

was exemplified by the *La Nazione* article from November 8, 1966: “First official list of flood victims” which, while negative, was not disastrous as much as informative, and contained a spatially far image of Florence and the swollen river. All images are contained for reference in

Appendix 1: Images.

Additionally, each article was assessed for its overall emotional tone as a component of the article and its frame (DeAngelo and Yeghyan, 2019) in one of three categories: positive, negative, or neutral (Martin et al., 2011). These categories allowed us to assess the base nature of the news items through their headlines, images and captions in potential correlation with other variables such as the article’s frame.

Finally, a keyword bank was compiled for outstanding descriptive terms from the article headlines that underscored the tone, such as “debris” and “desolate” as observed in articles with negative tones, to deepen our interpretations of how headlines might influence the reader’s perception of the article (Tannebaum, 1953). These keywords were individually noted for each article analysed and manually counted in a spreadsheet to use for the visualisations for Sample 1 keywords, Sample 2 keywords, all national article keywords, and all international article keywords. In the case where a keyword appeared in a slightly different form, such as the singular form of “death” and its plural form “deaths” or past-tense form “dead”, the words were combined into the same count under one word as their contextual meaning was used in the same way in the headlines.

All entries were entered manually into a spreadsheet (**Appendix 3: Data**). Apart from keyword entries, which were used for visualisations, all entries were input and manually recoded numerically using IBM SPSS Statistics Version 28.0.0.0 (190) to create cross-tabulation charts and clustered bar charts as well as to statistically test lambda-score analyses. The data visualisation software Flourish was used to create a distribution of the coverage across time and word-clouds of the keywords collected from headlines and captions from Sample 1, and headlines from Sample 2. For the sake of aesthetical coherence, Flourish was also used to visualise the graphic outputs generated originally with SPSS (original SPSS outputs shared in **Appendix 2: Codebook**). All results and corresponding visualisations are showcased in the Results section, after the Data Collection section.

DATA COLLECTION

Digitised archival files of newspaper articles about the flood were collected from the following newspapers: *The New York Times* (American), *The Guardian* (British), *Corriere della Sera* (Italian), *La Stampa* (Italian), *Il Messaggero* (Italian). The two international outlets represent the major nationalities of international volunteers comprising the “mud angels” (D’Angelis, 2006), while the three Italian newspapers are those with online archival search available among the most circulated national news outlets.

By sheer kismet, an interview with the Documentation Centre on Florence Floods at University of Florence (CEDAF) led to the procurement of physical copies of the Florence-based national newspaper *La Nazione*, an outlet that was initially discarded among our choices because it did not have an online archive. Its addition to the study was crucial as during 1960’s it was “one of the first four Italian newspapers by circulation, and perhaps the second - after *Corriere della Sera* - in terms of quality” and its printing press room, located in the city centre, was flooded (Naldini, 2009, p. 264).

Searches were also conducted for the French paper *Le Monde* and German paper *Die Zeit* as national publications representing additional prominent volunteer nationalities (D’Angelis, 2006). Unfortunately, complete online archival access and retrieval was not possible, and searches on alternative publications for *Le Figaro*, *Le Parisien*, *Süddeutsche Zeitung*, *Frankfurter Allgemeine*, *Tagesspiegel* and *Westdeutsche Allgemeine Zeitung* proved unfruitful.

Our final total sample resulted in 311 articles, 125 with an image and 186 without an image, between the time period of November 1, 1966 to December 1, 1966. This one-month period was chosen because, “in Italy, it took several weeks before a comprehensive picture of the level of disruption of national life emerged” (Alexander, 1980, p. 34) and, in the same time span, international coverage “remained high” (p. 32). Digitised archives were searched using the terms “Florence” AND “flood” for English-language outlets, and their translated equivalent “alluvione di Firenze” in Italian-language outlets. The physical copies of *La Nazione* procured were manually searched for their relevant articles to the selected time period, and photos were taken of each article and saved for later analysis. As we do not have online archival access to check that this sample was complete in its coverage of the desired time period, problems with this last-minute addition are discussed later in the Limitations section.

Figure 1 illustrates the distribution of the total sample population coverage across the studied time period. Four newspaper articles were removed from the sample: two from *Corriere della Sera* and two from *The Guardian* for being unrelated to Florence in their coverage of the flood.

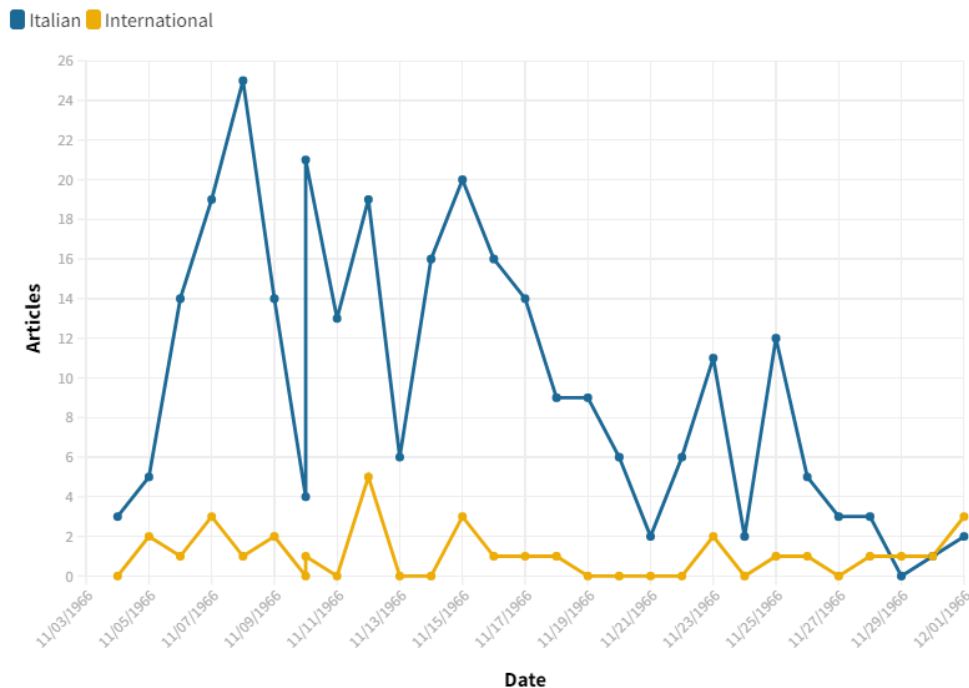


Figure 1. Distribution of the print media coverage of articles about the Florence flood between November 1st, 1966 and December 1st, 1966. Italian newspapers include *Corriere della Sera*, *La Stampa*, *Il Messaggero* and *La Nazione*. International newspapers include *The New York Times* and *The Guardian*.

The 311 articles were split into two samples: Sample 1 contained 125 articles with an image near or next (i.e. in the same page) to the relevant headline; Sample 2 held 186 articles without an accompanying image. Sample 1 images underwent a content analysis, and the image, headline and caption were assessed in a frame analysis, while Sample 2 only underwent a frame analysis due to the articles' lack of images for content analysis. Italian news articles were translated by co-author Edoardo Anziano, an Italian native speaker from Florence, and cross-checked with the translation software DeepL to ensure consistency of vocabulary. DeepL has been touted as having accuracy similar to a human translating journalistic texts with a reported difference of only 6.5% (Tavonis, 2014).

RESULTS

SAMPLE 1

Sample 1 contained a total of 125 news articles with an image on the same page as its headline.

Of the total sample population, 121 articles were published by national (Italian) newspapers, and 4 articles were published by international newspapers. Newspaper coverage nationally and internationally saw a marked increase immediately after the flood (November 5, 1966 to November, 12, 1966) with the highest concentration of publications on November 7, 1966 (14 articles) depicting the aftermath of the flood. Despite a slight increase in coverage on November 15, 1966, a noticeable downward trend of publications occurred from November 13, 1966 onwards as reparations progressed.

All of the international news articles exhibited negative tones, and the greater number of the national newspapers contained negatively toned articles (60.3%) followed by positive (27.3%) and neutral (12.4%). Collectively, international and national news outlets visually depicted the image subjects as close (55.2%), in negative tones (61.6%) and catastrophically framed (57.6%).

A narrowed focus on the relationship between the article's tone and frame produced a lambda score of 0.755 on a scale of 0-1, suggesting a relatively strong, positive correlation between the two variables. Indeed, the larger number of catastrophically framed articles were assessed as having a negative tone for the sample population. The majority of mobilisation framed articles were found to have a positive tone, while miscellaneous articles, or those categorised as general news items, held mostly neutral tones (**Figure 2**).

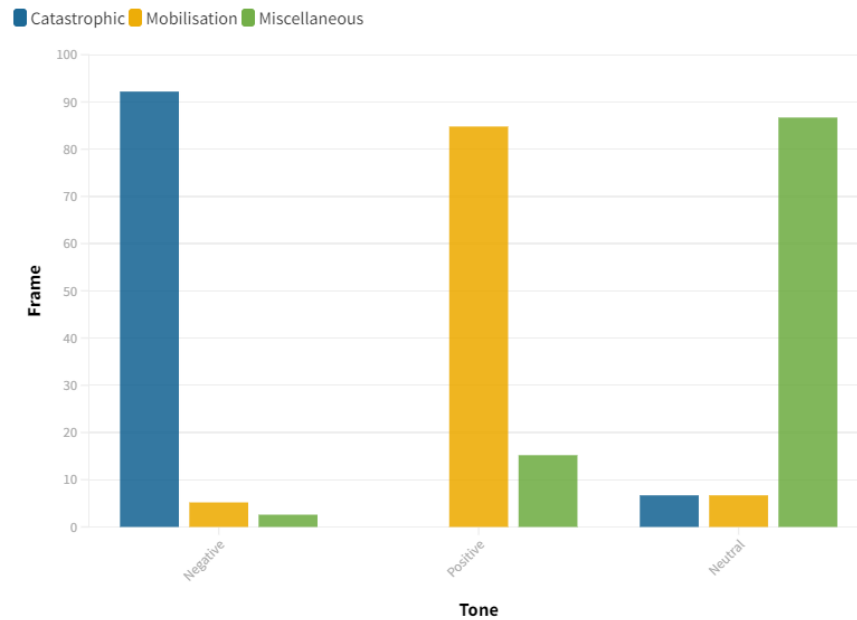


Figure 2. Sample 1 clustered bar visualisation of the cross-tabulation between tone and frame of the article images, headlines and captions as a part of the visual frame analysis.

While no statistical relationship was found between the tone of the article headline, image and caption, and the angle of the image in the article, **Figure 3** demonstrates that the majority of the images were presented as spatially close in their proximity across all three frames, indicating higher levels of concreteness overall. In the content analysis, a frequency chart of the subject categories contained within images found that most visuals portrayed humans (44.8%) that were suffering (44.6%) and depicted in close spatial proximity (48.9%).

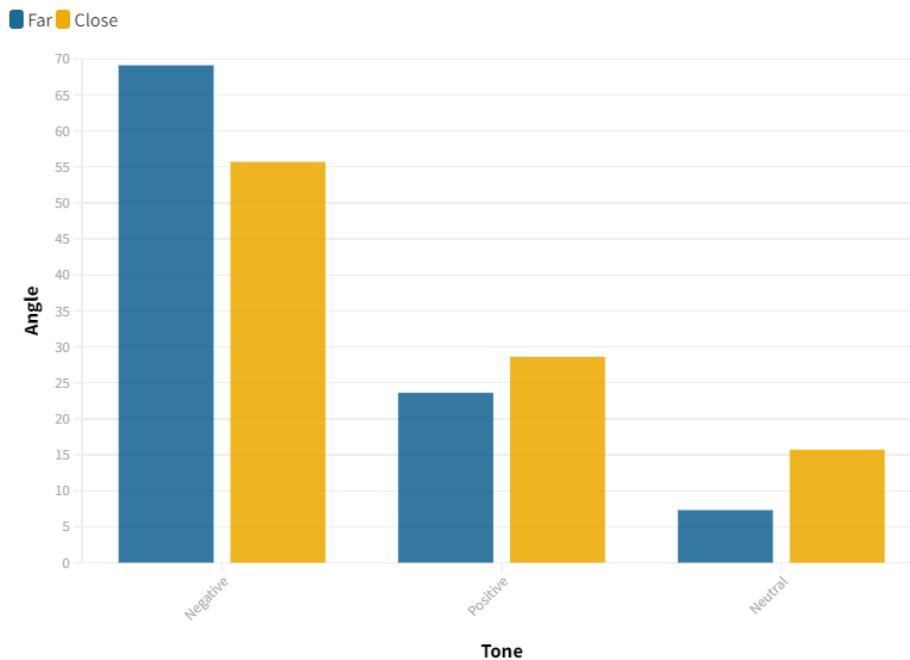


Figure 3. Sample 1 clustered bar visualisation of the cross-tabulation between tone of article images, headlines and captions, and angle of the image contained within the article.

Digging deeper into the mobilisation frame, Sample 1 contained 33 mobilisation-framed news articles that carried one of three messages: call-to-action; solidarity; solution-focused. All of the mobilisation articles were published by national news publications, making international and national mobilisation message analyses impractical for comparison. However, a cross-tabulation analysis revealed that 54.5% or 18 national news articles contained a solidarity message evoking a sense of community, compared to a solution-focus (27.3%) or call-to-action (18.2%), a message we might have expected to observe more in our analyses given the mobilisation of the “mud angels”. Of the 33 articles, 21 articles portrayed spatial closeness to the subjects (63.6%) in their images and 28 articles were found to have positive tones (84.8%) enhancing the concreteness of the visual and perhaps also its positive message.

SAMPLE 2

Sample 2 was composed of 186 headlines: 159 (85.5%) were published by Italian outlets, while 27 (14.5%) appeared in international newspapers. The overall coverage was concentrated between November 8, 1966 and November 17, 1966, while less coverage was detectable

immediately after the event (November 4, 1966 to November 7, 1966) and when essential services (e.g. schools) were returning to normal (November 18, 1966 to December 1, 1966).

A frequency analysis of the tone and the frame showed that the headlines were mainly negative (45.7%), with a predominance of a mobilisation frame (40.3%) over a catastrophic frame (36.6%). A closer look revealed that almost half (48%) of the headlines that employed a mobilisation frame showed solidarity.

Analysing the correlation between the tone and the frame (**Figure 4**), it appeared - not surprisingly - that in headlines with positive or neutral tones the catastrophic frame was not present. In addition, the vast majority of positive headlines apply a mobilisation frame. The correlation coefficient lambda showed a moderately strong, positive correlation (0.622) between tone and frame: negative headlines were framed catastrophically, while positive ones tended to be mobilisatory.

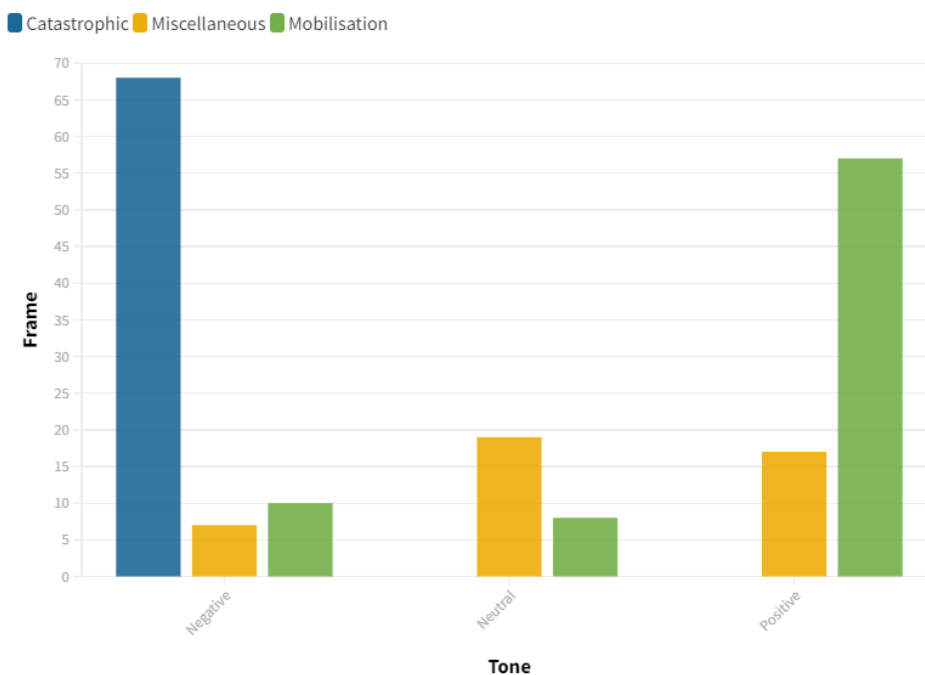


Figure 4. Sample 2 clustered bar visualisation of the cross-tabulation between the tone and frame of the headline.

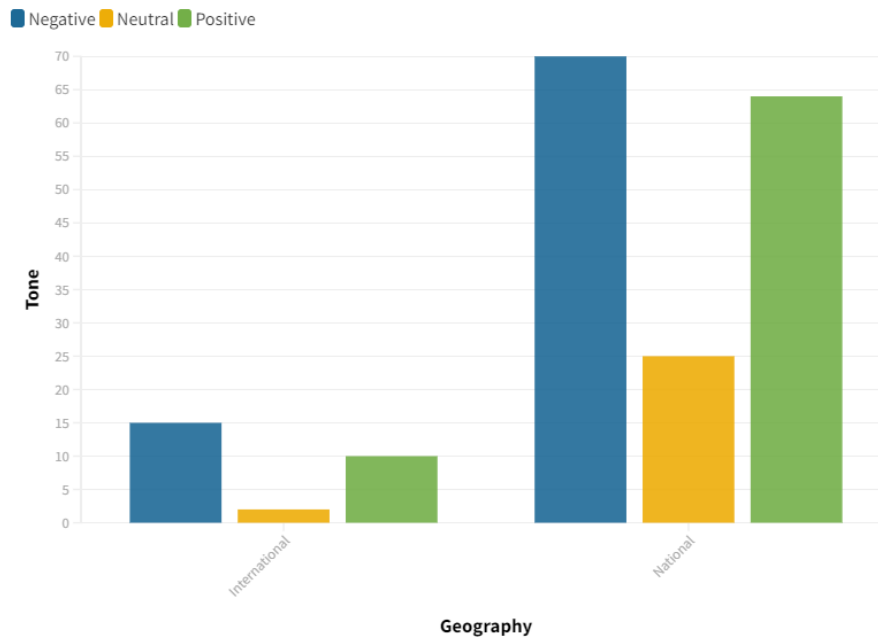


Figure 5. Sample 2 clustered bar visualisation of the cross-tabulation between geographical origin of the outlet and tone of the headline.

This is confirmed by **Figure 5** and **Figure 6**. Both in Italian and International newspapers the use of a negative tone and a mobilisation frame is slightly prevalent, while neutral tone was the least used.

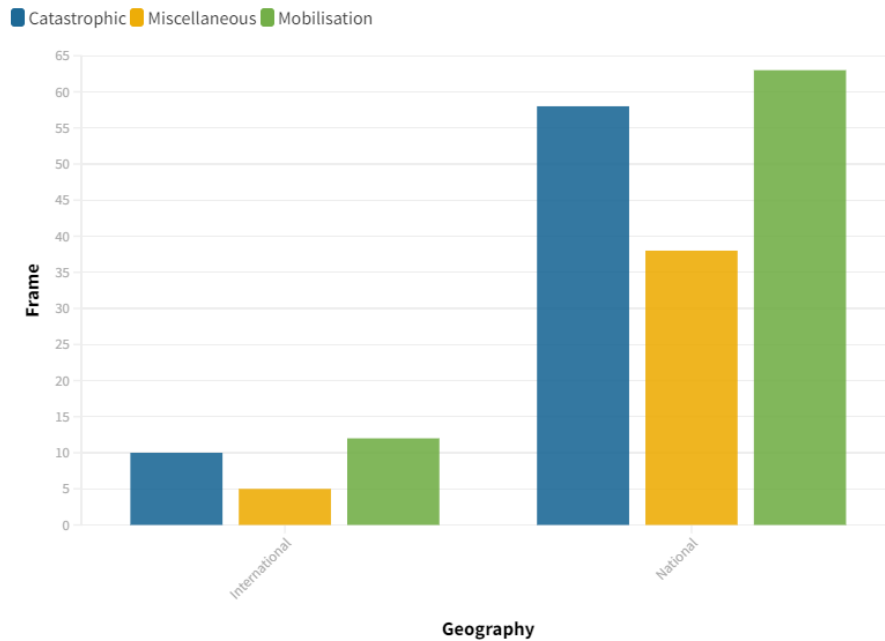


Figure 6. Sample 2 clustered bar visualisation of the cross-tabulation between geographical origin of the outlet and frame of the headline.

Similar patterns were detectable also when it comes to different types of mobilisation subframes (**Figure 7**). Most of the national and international headlines showed solidarity, but in the case of Italian outlets the difference between the different subframes is more marked, with solution-focused pieces that were twice the number of call-to-action. On the contrary, call-to-action in the international coverage was slightly more present than solution-focused headlines.

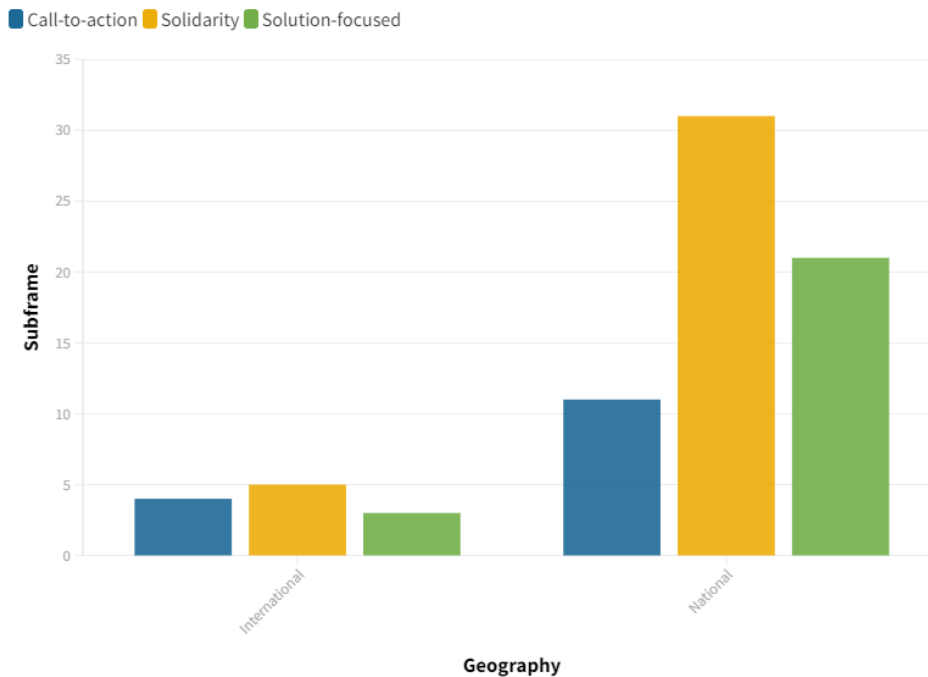


Figure 7. Sample 2 clustered bar visualisation of the cross-tabulation between geographical origin of the outlet and subframe of the headline.

KEYWORD CLOUDS

Keywords that contained particular emotional connotations were taken from headlines in Samples 1 and 2 to create word cloud visualisations showcasing patterns of word usage in Sample 1, Sample 2, international headlines across both samples, and national headlines across both samples.



Figure 8. Cloud visualisation of the keywords collected in Sample 1 from headlines of Italian and international newspapers. The different colours represent the geography of the publications: yellow for international and blue for national news publications.

Figure 8 represents all of the keywords collected and counted for Sample 1 categorised between international (yellow) and national (blue) articles. Due to the small number of international articles in Sample 1, the keyword bank appears dominated by national keywords. The keywords counted for the international articles occurred only once, and as such are seen as some of the smallest depictions in the figure. In the national sample, the word “save” appeared the most frequently with 7 different occurrences, followed by “debris”, “dramatic” and “flooded”. These keywords illustrate a sense of desperation and emphasise the negative tones observed in the majority of articles in Sample 1.



Figure 10. Cloud visualisation of the keywords collected both in Sample 1 and Sample 2 from Italian headlines and captions, encapsulating all national publication keywords. Here, the different colours do not pertain to any categories as seen in the previous visualisations.

Figure 10 represents the keywords collected from all national articles across Samples 1 and 2 combined. The colours visualised are a result of Flourish software and not adherent to assigned categories. In the national sample, the word “damaged” appeared the most frequently with 15 occurrences. The words “save” and “victims” appeared second most frequently with a count of 11 occurrences. As noted in the Results for Samples 1 and 2, these keywords continue to illustrate the largely negatively toned coverage observed in the sample populations describing the aftermath of the flood.

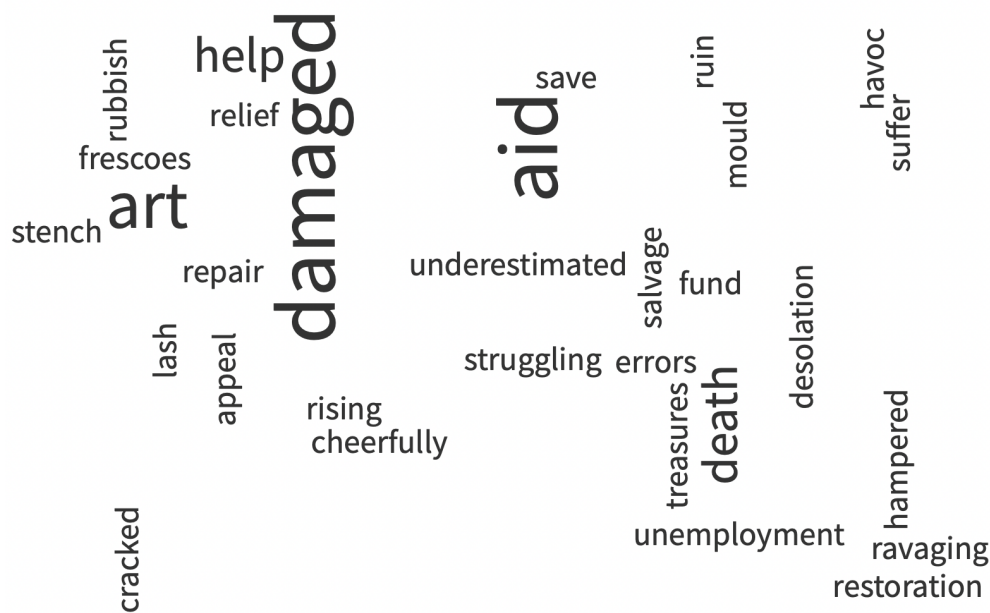


Figure 11. Cloud visualisation of the keywords collected both in Sample 1 and Sample 2 from international headlines and captions, encapsulating all international publication keywords.

A fourth word cloud visualisation was produced to capture all international keywords across the two samples as rendered in **Figure 10**. Due to the small sample size and final count of similar keywords the visual was poor in quality, but it also suggests that the words “aid” and “damaged” appeared the most frequently across international headlines in a similar thematic trend to national coverage.

DISCUSSION

Overall, the study found a congruence between the frames and tones in both analysed samples. The Sample 2 headlines analysis disclosed a prevalence of the mobilisation frame over the catastrophic and miscellaneous frames. It should be noted that the gap in numbers of catastrophic and mobilisation frames was quite small for the headline-only sample (3.7%). In contrast to this, our Sample 1 analysis of articles with images demonstrated that the catastrophic framing held the upper hand (57.6%). While a mobilisation framing might, unsurprisingly, strengthen the idea that the media indeed mobilised its audiences, articles with images were shown to be largely catastrophically framed, perhaps indicating that both frames contributed to the mobilisation of the “mud angels”.

Despite their differences in frame dominance, both samples showcased a mostly negative tone exemplified by the keyword clouds. Yet, there are nuances, specifically within the headline-analysis which are worth mentioning as they support Fadigati's (2009) study. Whereas most common keywords in our analysis of sample one revealed no major differences between international and national, as they were almost all negative, the data sample of the headline-only-analysis also included the words "solidarity" in national outlets and "art" in international outlets as part of the most common key terms. The prevalence of the term "art" seems to support Fadigati (2009) who found media coverage to put more emphasis on art pieces than on the local population. However, as we will discuss further on, articles with images did showcase a prevalent human-centred focus, in line with the other study conducted on print coverage (Alexander, 1980).

If we dig deeper into the mobilisation frame, it is noticeable that both samples revealed the "solidarity" subframe to be the most prevalent. Then came the solutions-focused subframe in second place, and lastly the "call-to-action" subframe within the image-sample and the Italian headline-only sample. In the international outlets of the headline-only sample, however, an interesting finding was disclosed: the call-to-action subframe in the international coverage was slightly more present than solution-focused articles. This might indicate that besides the solidarity framing, internationally - in coverage without accompanying images - a call-to-action framing was seen as more important, while in Italy coverage focused secondly on actual on-the-ground responses to the flood.

In other words, internationally, mobilisation could have been influenced mainly by a solidarity and secondly by call-to-action frame whereas nationally, mobilisation was most likely spurred by solidarity- and solution-focused-framed headlines. In general, featuring human subjects taking action (such as helping in the distribution of food rations), the solidarity subframe is then most likely to motivate mobilisation. This leads to a question that could be worth pursuing further: is the fact of seeing depictions of humans taking action potentially inspiring and motivating to imitate for readers?

Although a mobilisatory frame was more common in the headline-only sample while a catastrophic frame dominates the image-accompanied pieces, both samples were predominantly negative in tone. This corroborates Fadigati's (2009) own conclusion, that the media coverage on the Florence flood painted a "doom picture". As discussed in the next

sections, this is potentially significant as it seems to indicate that the mobilisation could have been influenced by a coverage which was largely negative.

Indeed, the prevalence of the negative tone, and specifically the frequent use of words such as “damage” and more notably “desolation” or “death”, paired with a frequent catastrophical framing, turned the 1966 Florence flood into a “contextually dramatic happening” (Lee and Chan, 2010, p. 9). Framed as a critical event, this increased the flood’s importance in the perception of the readers (Lee and Chan, 2010). Moreover, the framing of the flood into a critical event portrayed it as a media disaster (Kyriakidou, 2008). And so even though Borer (2012) doubts the potential of a global mobilisation to form, stating that media audiences find it “difficult to overcome apathy toward distant suffering” (p. 12), the mobilisatory framing found in our samples, and most concretely, the solidarity subframe, might have created a sense of community and cosmopolitanism – as per Kyriakidou’s (2009) definition as “a sense of global belonging and commitment to distant others” (p. 487). This is because the portrayal of the flood as a media disaster increases the likelihood of it positively influencing collective action: “Media disasters, that is, disasters that are publicly signalled by different media as major, often traumatic and, on occasion, historically momentous happenings, also frequently [...] invoke and/or mobilize solidarities” (Cottle, 2006, p. 421). Hence, the mobilisatory frame, even if negative, might have influenced the on-the-ground mobilisation of the “mud angels”. Besides increasing the flood’s importance, the negative tone of articles with images suggests that the visually-accompanied coverage also possibly instilled mobilisatory action, despite mainly being framed catastrophically. The findings seem to be in contradiction to the common understanding that “doom coverage” instils fear and is ineffective in motivating audience engagement (O’Neill and Nicholson-Cole, 2009). Nevertheless, O’Neill and Nicholson-Cole (2009) state that framing coverage in a familiar context might limit the “paralysing” effects of negative coverage. If our sample coverage instilled fear, then perhaps the context in which they were framed was familiar and relevant enough for the audience to engage readers regardless.

Interpreting the images of Sample 1 shows that the majority (56%) depicted subjects to be spatially closer than spatially far. While articles positive and neutral in tone portrayed mostly spatially-close subjects in the images, most images negative in tone used a spatially far angle. This is not a significant majority though (**Figure 3**), and so while the majority of articles were negative in tone, most also featured images with a spatially close angle. Following the construal-level theory, our findings seem to corroborate that spatially-close images increase the

concreteness of an event, rendering it more relevant to readers (Duan et al., 2019). Indeed, the here-applied construal-level theory states that the spatially closer an image portrays an event, the closer the happening feels to an audience, as opposed to spatially far images which are more likely to increase abstractness for readers (Fujita et al., 2006). Although spatially far images were employed, which potentially increased the abstractness of the reader's experience of the event - most notably an aerial view of the flood, something O'Neill et al. (2013) indicate is least engaging for readers - the majority of images employed spatially close depictions of the scene, which likely motivated readers to take action (McCrea et al., 2008). This finding is most relevant to contemporary use of images of extreme weather events, as closer shots in images are more likely to create a sense of urgency to respond and might significantly influence a readership to mobilise against contemporary crises.

While the construal-level theory provided a necessary foundation of this analysis, it would be interesting to code images beyond the categories "spatially far" and "spatially close". Specific differences were discussed in certain images in our sample, such as different types of "close" angles (eg. a full-shot of a group of human figures vs a closer-up shot of a child's face). Expanding on the construal-level theory then could provide further insights into what type of "spatially close" images motivated the most engagement and action among readers, rendering an interpretation of such images more solid.

In terms of content analysis, slightly over half of the images featured human subjects (54,5%). It should be noted that some images were repeated across news outlets and analysed as separate data entries given their respective, potentially distinct, framing. Given the human impact of and notable solidarity effort which mobilised after the floods, this emphasis on human depiction is not surprising. Out of the human-focused images, nearly half of them portrayed suffering (making them negative in tone). While in opposition to Fadigati's (2009) statement that the media paid more attention to the artistic heritage, our findings of the image-articles emphasising human misery are in line with previous findings by Alexander (1980).

Interpreted in combination with the findings on angle (82,1% of images depicting humans were spatially close shots), the finding suggests that the published images had a strong emotional impact (Brantner, 2011; Bernhard and Scharf, 2008). Not only did the human proximity in the images increase emotional engagement, it also increased the likelihood of influencing mobilisation, because emotions are key to incite collective action (Lee and Chan, 2010). Images

that depicted concrete destruction and suffering, together with spatial closeness are suggestive of episodic framing and as a result might have evoked a sense of crisis and ‘there-ness’, increasing empathy and active engagement (Joffe, 2008). If seen by readers, the images could then have been a major factor in mobilising them. While less persuasive, an episodic and concrete framing, on top of being more emotionally engaging, could potentially also be more mobilisatory than a thematic framing with a spatially far angle.

Contrary to this finding, a number of studies warn about the lethargy and passivity images depicting suffering can elucidate (Borer, 2012). A possible explanation for this seeming contradiction, is that negative coverage resulted in passive disengagement as a result of repetition - the current “over-saturation”, Borer (2012) explains, is the key factor leading to non-action (p. 16). Given our historical context, it is likely that while negative in tone and framed catastrophically, the episodic and spatially close images motivated a mobilisation, if and/or because coverage of events like the Florence flood was yet uncommon in the 60s in Italy. It should be added that this poses a note-worthy nuance to the generalisability of our findings, given that most visual coverage produced nowadays is published within the current over-saturated field (Borer, 2012).

A comparison between national and international outlets’ coverage revealed no major differences for headline-only analysis. The sample for content analysis was too limited to infer any interpretation in this regard. Most remarkably, print coverage across both national and international outlets portrayed the flood within a catastrophic or mobilisation frame and a negative tone, and emphasising concrete human-focused images. Contrary to findings by contemporary studies then, the coverage of the 1966 Florence flood might have contributed to a global sense of community and mobilisation while still being majoritarily negative in tone. Even within the negative tone, however, the mobilisation solidarity-subframe was prominent as was the episodic human-emphasis in images, increasing emotional engagement.

LIMITATIONS

We were unable to fully access French and German newspaper publications with archival retrieval from 1966, limiting our international sample size considerably compared to the Italian sample. We considered adding further English-language national publications, but we did not find alternative publications with an archive immediately accessible. We also unsuccessfully

attempted to assess digital archives available on national libraries and through third party organisations. In addition, 2 items collected from *The Guardian* were removed because they were not pertinent, further reducing the width of the international sample.

For the Italian paper *Il Messaggero* a free archive was available, but it only contained a preview of the first page. As a consequence, we were not able to analyse articles in the internal pages as was done for other publications. Due to the poor quality of the preview, we were unable to read the captions, and sometimes the images were hard to view and thus describe in detail. The opportunity to include *La Nazione* in the sample, as discussed in the Data Collection section, was crucial to our study. However, the physical copies made available by CEDAF were part of a personal collection that did not include every copy available within our selected timeframe.

Our sample is not exhaustive if compared to the amount of articles published about the Florence flood. In addition, its effects reverberated across a timespan longer than a month. A search for “alluvione di Firenze” from the 1st of November 1966 to the 1st of November 1967 returned more than 400 items only for the online archive of *Corriere della Sera*. In order to guarantee feasibility to the study, we limited our time frame to one month, basing our choice on previous literature on the flood. In addition, during our analysis, after approximately one month we started to see stories indicating the lifting of the state of emergency. The choice to limit the timeline is also reflected by categorising some of these stories - which indicate a sense of “moving forward” or “normality” - in the miscellaneous category, originally created for news items that were more neutral and informative. Inevitably, these decisions affected our ability to grasp the nuances of different framings which may have impacted mobilisation.

In Sample 2, we encountered several call-to-action messaged headlines mentioning the keyword “subscription” (6 occurrences) referring to fundraising efforts to support the flooded populations. These stories were only published by *Corriere della Sera* which had launched its own fundraising scheme, something the other outlets analysed did not do. Our study is not able to answer questions such as how this specific type of call-to-action is reflected in the imagery *Corriere della Sera* produced, or why this broader mobilisation is not present in other publications. Further investigations should be conducted to select articles that contain call-to-action headlines with thorough analyses of not only headlines, images and captions but also of the entire article.

Additionally, we can interpret our findings as a potential explanation for the international galvanisation witnessed in the formation of the “mud angels” and, more generally, of the wide international solidarity but, due to the methods of this study, we are not able to assess causation. Further studies should consider interviewing former “mud angels”, to better understand if and how the media played a role in sparking their mobilisation.

The study is relevant to the contemporary context of media coverage on extreme weather events, including, but not limited to, floods. However, given the difference in contexts - historical, social, environmental - our findings are not generalisable to current media coverage of natural catastrophes. The Florence flood was not directly connected with climate change in 1966, but this study’s findings can be placed within the broader discussion of how visuals are framed in stories related to extreme weather events, and provide insights into how these might mobilise global audiences contemporarily and in the future.

However, contemporarily, a growing diversity of media outlets has been found to hinder synchronisation among mass audiences since there are a wider variety of versions of the event available (Cui and Xu, 2021). Contemporary coverage of a similar event thus is likely to be more diverse and elicit different reactions and engagements among readerships. Another thing to consider is that while Hoffmann (2006) finds no major differences between mobilising information from print and digital outlets, visual information is received differently depending on the media format (Cui and Xu, 2021). Hence, the findings derived from our visual sample might not be applicable to formats outside of print.

Finally, the correlation between media coverage, consumption and mobilisation has yet to be studied in the case of the Florence flood. While print media shapes and influences collective action (Peacey, 2013), analysing if the “mud angels” actually engaged with the newspapers analysed in this study exceeds our scope. Although this study used international, widespread papers from the countries where the highest number of volunteers were from, this is an important pitfall that could be addressed in future research.

CONCLUSION

Amidst current climate changes and deadly disasters such as the 2022 floods in Durban, South Africa (Agence France-Presse, 2022), the question of how the media does and should cover extreme weather events without disengaging its audience is increasingly pressing (Ballantyne,

2018). While academic literature often focuses on contemporary coverage of climate-related media events, the present study is novel in that it provides unique insights into the media coverage of the 1966 Florence flood, an extreme weather event that elicited an unprecedented international mobilisation.

The aim was to determine how national and international print coverage framed the 1966 Florence flood in order to establish if lessons could be learned from the past. By analysing the print coverage of countries where most “mud angels” were from, the study not only provides insights into specificities of how visuals are framed within print media coverage on a flood and its ensuing mobilisation, but most interestingly offers possible suggestions on how this coverage might then have mobilised said “mud angels”.

Despite a limited generalisability due to aspects such as a non exhaustive sample size, unavailable access to non-English and non-Italian outlets, and the formats (printed photos) analysed, the findings of this study reveals relevant insights which add to contemporary discussions on how the media covers climate-related events.

Overall, the findings of both content and framing analyses reveal a negative, human-centred, spatially-close and catastrophically-framed visual coverage within articles with images, while headline-only articles have also been found to be generally negative, yet with a slight majority of mobilisation frames which were largely positive. Of these, the solidarity sub-frame was the most common. In part, as addressed in the discussion, this contradicts contemporary criticism of doom-coverage (Alexander, 1980). News images depicted concrete instances of the destruction and of humans working or suffering amidst it. By employing spatial closeness, the images of the flood are strongly emotionally engaging and create a sense of urgency to mobilise, correlating with the solidarity that formed in the “mud angels”. Despite a predominance in a negative tone and catastrophic and mobilisation framing, the print coverage might still have contributed to the formation of the “mud angels”, most notably by placing an emphasis on human-centred images. Given the print media’s central role in “modern social movements” (Corrigall-Brown and Wilkes, 2012, p. 3) as well as the exposure of chosen print newspapers during the time period, the analysed coverage presents a potentially high influencing factor that should not be underestimated.

No major differences were found between national and international outlets' coverage. Opposing common conclusions by contemporary studies criticising “doom coverage”, the following paper finds that the majoritarily negative coverage might still have engaged the public and contributed to a international mobilisation in the form of the “mud angels”. As such, this paper furthers the conversation on how contemporary media could cover current extreme weather events without disengaging audiences.

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