The Mediated Construction of Crises—Combining Automated and Qualitative Content Analysis to Investigate the Use of Crisis Labels in Headlines of Swiss News Media between 1998 and 2020

Daniel Vogler[1] , **Florian Meissner[2]**

1. University of Zurich
2. Macromedia University of Applied Sciences

ABSTRACT

The recent accumulation of crises has led scholars to diagnose that crises increasingly dominate news headlines. However, there is little empirical evidence for this diagnosis because previous research often misses the longitudinal perspective. To address this gap in research, we used automated content analysis to investigate to what extent five Swiss newspapers used the crisis label in their headlines between 1998 and 2020. In the next step, we applied topic modeling to the dataset of 10,458 articles with crisis labels in their headlines to detect which topics were covered under the crisis label. Finally, we used a qualitative content analysis to name and describe the automatically identified topics. Our exploratory longitudinal design calls into question the diagnosis of the increasing use of crisis labels in media reporting. Instead, the 2008 financial crisis and the COVID-19 pandemic stand out as strong drivers of crisis labeling in headlines.

KEYWORDS: crisis reporting, news media, headlines, topic model, qualitative content analysis, longitudinal study

---

CONTACT   Daniel Vogler   • E-mail: daniel.vogler@foeg.uzh.ch • University of Zurich

Introduction

From a sociological perspective, crises are not objective conditions but are "constituted in and through narrative" (Hay, 1996, p. 254). In modern mediated society, they are constructed through the media (Rossmann et al., 2018; Schranz & Eisenegger, 2011). People often turn to the news media to inform themselves about a crisis (Van Aelst et al., 2021; Westlund & Ghersetti, 2015). Thus, by framing and labeling an event as a crisis (An & Gower, 2009; Damstra & Vliegenthart, 2018), the news media play an essential role in constructing the crisis in the public (Hay, 1996; Schranz & Eisenegger, 2011) and influencing whether and to what extent an event is perceived as a crisis by the public (Coombs, 2012).

However, news media are very selective and strategic about the topics they cover and how they frame or label them (Greussing & Boomgaarden, 2015; Hase, 2023). The economic crisis of journalism (Meissner & Vogler, 2022) increases the incentives for news outlets to use crisis labels, as crises are events with high news values and might steer users' attention to news stories. Therefore, the tendency to tabloidize with emotional headlines (Magin, 2019; Rossman et al., 2017) or click-baiting strategies (Kuiken et al., 2017) could lead to more use of crisis labels in coverage, especially in headlines of news articles (Tandoc, 2014). The increasing relevance of social media, which also rewards such publication strategies (Magin et al., 2021), would further drive the use of crisis labels in news stories.

However, despite the interest in the role of the news media in the perception of crises by the public and the assumed development of a stronger focus on crises in the news media, few studies have comprehensively analyzed the news coverage of crises over a longer period. Most research focuses on singular events, while only a few studies use a longitudinal or comprehensive comparative perspective (for exceptions, see Krzyżanowski, 2009; Udris, 2019). We address this research gap by looking at a specific type of news coverage: news articles that use crisis labels in their headlines. We investigate how frequent events are labeled as crises in headlines of news articles and which events were labeled as crises in five leading Swiss news media outlets from 1998 to 2020. Switzerland is selected as a case because, as a small media market, it is highly

globalized. The international orientation makes Switzerland a compelling case for investigating the coverage of events labeled as crises.

Our study combines automated content analysis and qualitative manual content analysis. First, we use frequency analysis to investigate the share of the use of crisis labels in headlines over time and in different media types. Second, we apply a topic model to inductively determine which topics are labeled as crises in news coverage. Third, we used qualitative content analysis to name and describe these topics. The timeframe is well suited to investigate our two outlined research angles: an assumed increase in crises and the economic crisis of journalism. The investigated timeframe started in 1998, when media discourse in Europe was shaped by events such as the war in Kosovo and international economic turmoil, and ended in 2020, when the COVID-19 pandemic emerged. The period under investigation also includes the financial crisis in 2008 and its aftermath, as well as the refugee crisis in 2015, when many refugees from Syria fled from the consequences of the war in their home country.

Conceptual Framework: Mediated Construction of Crises

This study assumes that crises are phenomena grounded in cognitive perception and social negotiation processes (Hay, 1996; Schranz & Eisenegger, 2011). Thus, crises are constructed socially and by the news media. In recent years, crises have been increasingly analyzed from a social constructivist point of view (Zhao, 2020). For instance, in the introduction to the landmark *Handbook of International Crisis Communication Research*, its editors Schwarz et al. (2016) asserted that "Crises as social constructs emerge in social negotiation processes where the violation of societal values, beliefs, expectancies, and norms serve as fundamental reference for crisis stakeholders to decide whether a certain event, behavior, or process is labeled as crisis" (p. 3).

This definition also assumes there is no objective way to determine whether an event should be considered a crisis. Even if an event is labeled and consequently perceived as a crisis, the negotiation process continues as stakeholders participate in "co-creating the meaning of crises" (Coombs, 2012, p. 19). Schranz

and Eisenegger (2011) highlighted that in modern mediated societies, the public sphere, which is constituted by the news media, is where the narration of and discourse about crises happen in the first place. Thus, by labeling certain events as crises, journalists play an essential role in defining how the public perceives the potential threats of unfolding events.

A fruitful approach to understanding the social constructivist view on crisis and crisis reporting is the concept of media reality by German communication scholar Schulz (1976, 2011). According to the concept of media reality, media reporting is not a direct representation of reality but the outcome of specific professional procedures for selecting and presenting information. In media reality, the prevalence of (mediated) issues can differ significantly from their prevalence in the physical world. A typical example of this phenomenon is the often-stated gap between crime reporting and official crime statistics (Lowry et al., 2003). In addition, crises are shown to receive very different levels of attention, depending on where they take place (Pantti, 2019). Franks (2006), for instance, found an apparent disparity between Western media reporting on disasters in Western and non-Western countries. Franks (2006) concluded that there seems to be "no link between the scale of a disaster and the media attention it attracts" (p. 281).

An essential theoretical background in this regard is news value theory. Galtung and Ruge (1965) found that frequency, (attention) threshold, uniqueness, meaningfulness, consonance, unexpectedness, continuity, and composition are universal news factors. Concerning media coverage in the "north-western corner of the world" (Galtung & Ruge, 1965, p. 68), the authors noted that reference to elite nations, elite people, personalization, and negativism were further important criteria. Later studies have refined and complemented these traditional news factors several times. For instance, Maier et al. (2006) showed the increasing significance of conflict and violence as news values, and Harcup and O'Neill (2017) stressed the importance of the shareability of news, given the growing importance of social networks. Against the backdrop of news value theory, events labeled as crises are very appealing topics, as they speak to a broad range of news factors, such as negativity, unexpectedness, meaningfulness, and conflict. In this

context, there has been increasing academic attention to the key role that news media play in defining risk and crisis in the public arena. Studies have shown that crises are increasingly mediatized (Schranz & Eisenegger, 2011), and media reporting significantly affects the public framing of crises (Zhang & Hellmüller, 2017). This seems particularly important, given that during crises, usage rates of traditional journalistic media often drastically increase because they are the source where citizens expect to get the most reliable information (Reuters Institute, 2020). One of the key points of concern in this context is that mediated constructions are crucial to how societies effectively deal with risks and crises (Beck, 2009; Meissner, 2019).

Of course, traditional news media are not the only relevant actors in the process of mediating crises. The increasing significance of social networks for the definition and understanding of crises must be taken into account, for instance, concerning the early detection and framing of crises (Borden et al., 2020), advancing dialog with stakeholders (du Plessis, 2018), information dissemination (Jin, 2020), and opportunities for actors from the societal periphery to gain visibility (Rauchfleisch et al., 2021). However, even in the age of social media, news media reporting remains essential for identifying and labeling events as crises (van der Meer et al., 2017).

Research Interest, Research Question, and Hypotheses

From a constructivist perspective, the labeling of events as a crisis has an impact on how people perceive the events. Although media coverage of crises is a popular research object, scholarship on this topic remains fragmented. Many studies have focused on a single event or crisis type. Among the most frequently addressed themes of the recent past are the COVID-19 pandemic (e.g., Eisenegger et al., 2021), the Syrian refugee crisis (Chouliaraki & Zaborowski, 2017), the financial crisis (Schifferes & Coulter, 2013), and climate change (Hase et al., 2021), to name a few.

In this study, we look at a specific part of news coverage about crises as we investigate articles that use crisis labels in their headlines (Udris, 2019). The word crisis in the headline indicates that the article prominently frames and names the event covered as a crisis. Headlines are important for people to make sense of news,

as they offer summaries of the content of news stories and direct readers' attention to stories of interest (Lee, 2022) and influence their interpretation of events (Janét et al., 2022; Tannenbaum, 1953). In digital media environments, the purpose of headlines has shifted "from summarizing information to attracting the attention of potential readers" (Janét et al., 2022, p. 37); therefore, headlines more frequently contain attention-attracting features, such as the use of emotions or exclamations (Tandoc, 2014). Thus, the placement of crisis labels in the headlines of news articles seems particularly impactful from a constructivist perspective and has supposedly increased over time.

We discuss two main aspects driving the use of crisis labels. First, if crises occur more frequently, the use of crisis labels in news coverage will most likely increase. Indeed, scholars have assumed that media coverage of crises has been on the rise because of the increasing number of global, often interconnected, and long-term crises (Udris, 2019). Traditionally, the life cycles of crisis reporting have been considered short and highly predictable (Downs, 1972). However, events such as the Syrian refugee crisis, the unfolding climate crisis, and the COVID-19 pandemic have partially disrupted existing media routines for crisis reporting.

Second, recent developments in journalism might act as drivers for using crisis labels in headlines of news coverage. The economic crisis of journalism has led to more pressure on journalism, and ever-more competitive media markets are driving media organizations toward sensationalism in the race for attention (Magin, 2019; Meissner & Vogler, 2022). Economic pressure and the increasing relevance of social media incentivize the media to use more sensationalist headlines and to apply click-baiting strategies to attract users' attention to their articles (Janét et al., 2022; Kuiken et al., 2017; Pengnate, 2019; Tandoc, 2014). Therefore, we hypothesize the following:

H1: In their reporting, news media increasingly label events as crises.

Media types are essential factors to consider when investigating differences in news content (Strömbäck & Van Aelst, 2010; Udris et al., 2020). Tabloids and more market-oriented outlets use sensationalist and emotional reporting, especially in headlines

(Magin, 2019; Reinemann et al., 2012). At the same time, the tabloidization of different media types has been identified as a general trend that can be explained by structural and situational influences (Magin, 2019). For instance, Rossmann et al. (2018) showed that quality and tabloid papers amplified the risks of the A/H1N1 pandemic (swine flu) by emphasizing conflict and damage. Furthermore, identifying those responsible for causing or solving a crisis is a typical element of crisis reporting (An & Gower, 2009), especially in tabloid journalism (Kovář, 2020). Given the mixed evidence, we formulate an open research question (RQ):

RQ1: To what degree does labeling events as crises differ among media types?

Even in the age of global crises, it is important to note that some crises are covered extensively by the media, while others are not (Pantti et al., 2012). This finding is commonly associated with a distance bias, meaning that, geographically, culturally, and economically, more distant countries appear less often in the news when affected by a disaster (Berlemann & Thomas, 2019). Notorious points of criticism of media coverage include the intensified use of elite sources (Mellado et al., 2021) and an increased co-orientation of journalistic reporting across different media types, leading to a limited degree of variance in media reporting during crises (Damstra & Vliegenthart, 2018). From a constructivist perspective, this is relevant, as assigning a crisis label to an event affects how people perceive a topic (Janét et al., 2022; Tannenbaum, 1953). For instance, labeling the arrival of refugees as a crisis instead of a positive frame supposedly affects how people perceive refugees (Kovář, 2020). Based on the abovementioned themes and insights, as well as the research gaps identified in the state of research, we ask the following:

RQ2: Which topics are labeled as crises in news coverage?
RQ3: How has the salience of topics labeled as crises in news coverage evolved over time?

Differences between media types have been shown at the topical level, for instance, regarding the focus on hard news and soft news

in Switzerland (Udris et al., 2020). Thus, we investigate whether the topics labeled as crises differ between the media types.

RQ5: How does the salience of topics labeled as crises in news coverage differ among media types?

Methods

Our sample included news articles from five Swiss media outlets. The selected articles were published between 1 January 1998 and 31 December 2020 and contained the word crisis (German: *krise*) in their headlines (n = 10,458). The media sample consisted of the quality newspaper *Neue Zürcher Zeitung (NZZ)*, the mid-range newspaper *Tages-Anzeiger* with its Sunday edition *SonntagsZeitung*, and the tabloid *Blick* with its Sunday edition *SonntagsBlick*. The media articles were accessed through the Swiss Media Database. In addition, we determined the number of articles published in the five outlets every year (total n = 2,806,352 articles).

We computed a topic model for all articles that mentioned the word crisis in the title using Latent Dirichlet Allocation (LDA) (Blei et al., 2003; Jacobi et al., 2016). The method structures a corpus of n documents into a given number (k) of topics. The calculation was done in RStudio using the package topicmodels (Grün et al., 2024). Before modeling, we converted all letters to lowercase, removed stop words, and applied stemming.

Although topic models run unsupervised, the number of topics (k) the model should produce must be defined beforehand. We calculated perplexity measures (Jacobi et al., 2016) for models with 2–100 topics to define the number of topics. Usually, perplexity measures are plotted, and the number of topics is determined by visually inspecting the plot. Based on the perplexity measures, we calculated a segmentation analysis using the package segmented in R (Muggeo, 2003, 2015) to statistically define the number of topics for the model. For this purpose, we ordered our cases with perplexity measures according to their number of topics from lowest to highest and then assigned them ranks (2–100). The procedure led to a breaking point of 16.56, indicating that a model with 16 or 17 topics is the most suitable solution for our corpus. Finally,

we manually checked models with 10–20 topics for the plausibility and interpretability of their topics. The manual validation supported the solution with 16 topics.

We used qualitative content analysis to ensure accurate naming and description of the topics. For this purpose, 10 articles from each of the 16 topics were randomly selected and analyzed. The randomized selection of articles ensured that we could grasp the content of a topic comprehensively and validate our automatically identified topics. For seven topics, more than 10 randomly selected articles were needed to reconstruct clear descriptions. Therefore, we additionally analyzed the 10 articles with the highest probability of belonging to the topic under review, resulting in 230 articles.

The qualitative content analysis was based on the principle of inductive coding, which originates in the grounded theory approach (Glaser & Strauss, 2017). We chose the inductive approach because we wanted the naming and description of the topics not to be guided by our prejudices or first guesses based on the word lists. Instead, we systematically identified shared thematic features across the articles on each topic to add depth to the analysis and provide accurate topic descriptions. The codes were related to the character of the crisis, the affected societal group or economy branch, the scale of the crisis, its portrayed effects (local/regional/national/international/global), and the tonality (optimistic/pessimistic), if applicable. The names of the topics and their defining terms are shown in Table 1.

Results

Salience of crisis labels in headlines over time

As a first overall measure, we show that 0.4% of the total reporting of the analyzed Swiss news media had a reference to crises in their headlines. The analysis of articles with crisis labels over time did not reveal a very clear pattern (see Figure 1). The results show that the share of articles with crisis labels peaked in 2009 following the financial crisis and again in 2020 during the COVID-19 pandemic. The last year of our investigation is an obvious outlier and illustrates the scale of the pandemic as a crisis from a longitudinal perspective. These findings do not confirm the assumption of

increased use of crisis labels in the headlines of Swiss news media outlets over the last 23 years, which we assumed for Hypothesis 1. Rather than a linear increase in crisis labeling, we see an unsteady development with two significant crisis events.

We see a significant difference when we compare the number of articles with crisis labels in their headlines with the share of these articles in the total coverage. When measured against the total coverage, the first year of the pandemic shows by far the highest share of such crisis reporting. The relative salience of articles with crisis labels in 2020 is higher (1.7%) than during 2009 (0.9%)—the year following the financial crisis. The same pattern does not occur if we compare the amount of reporting (number of articles) over time. In this case, the financial crisis and pandemic seem to have a similar effect on the amount of crisis labeling. This finding results from the decreasing yearly number of articles published by the investigated outlets.

FIGURE 1   **Amount (number of articles, Left graph) and share of articles with crisis labels in headlines (in % of total coverage, right graph) per year.**

Salience of crisis labels in headlines per media type

We also analyzed whether the use of crisis labels in headlines differs in the analyzed outlets (RQ1). First, we calculated the average yearly share of articles with crisis labels in the headline per outlet.

Over time, we see distinct patterns by visually inspecting the plot (see Figure 2). Interestingly, the quality newspaper *NZZ* has the highest share of articles with crisis labels in its reporting (0.56%). In addition, the Sunday newspaper *SonntagsZeitung* (0.50%) and the mid-range outlet *Tages-Anzeiger* (0.35%) show considerable use of the crisis label. The Sunday tabloid newspaper *SonntagsBlick* (0.32%) and the tabloid newspaper *Blick* (0.21%) show the lowest share of crisis labels in their headlines.
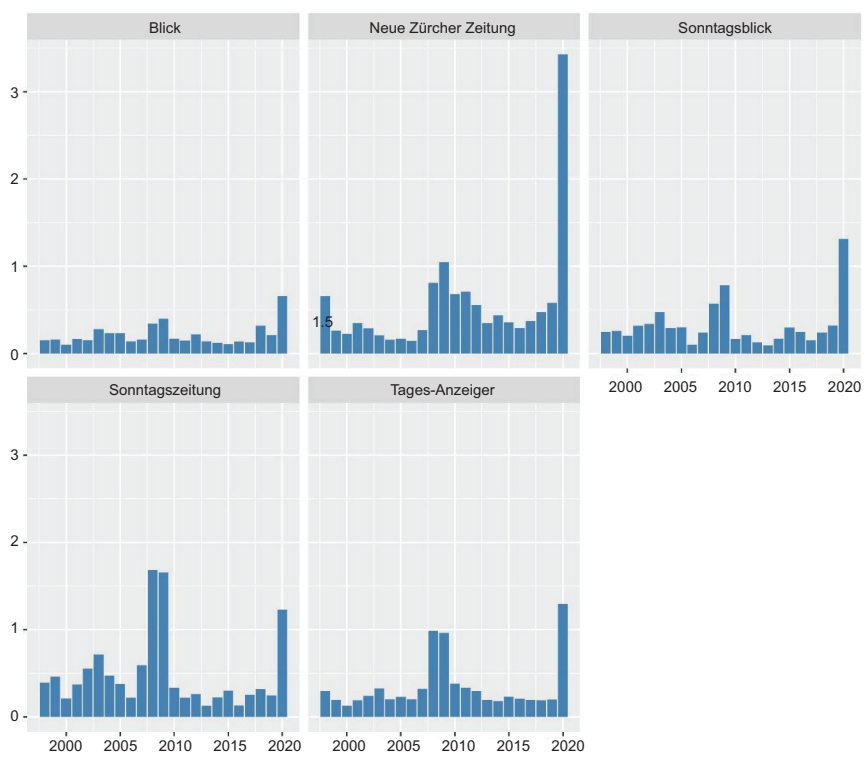

FIGURE 2 **Share of articles with crisis labels in headlines per outlet (in % of total coverage)**

Salience of topics in articles with crisis labels in headlines

With our analysis, we identified, named, and described 16 topics (see Table 1). The results show a variety of topics, many related to financial or economic themes and politics (RQ2). However, there are also topics related to sports or personal life crises.

TABLE 1   Topic Model for Coverage with Crisis Labels in Headlines (n = 10,458)

Topic label	Number of documents	Share of documents in %	Top 10 terms in German	Top 10 terms in English
Global Financial Crisis	1,106	10.6	bank, finanzkrise, ubs, börse, investor, anleger, kredit, notenbank, aktien, geld	bank, financial crisis, ubs, stock market, investor, investor, credit, note bank, shares, money
Crises of Sports Organizations	940	9.0	trainer, saison, team, null, punkt, sieg, fussball, tor, minute, mannschaft	coach, season, team, zero, point, victory, football, goal, minute, team
Foreign Political Crises	924	8.8	regierung, politik, partei, präsident, parlament, wahl, mehrheit, linke, ministerpräsident, land	government, politics, party, president, parliament, election, majority, left, prime minister, country
International Conflicts	835	8.0	präsident, amerikanisch, russland, usa, irak, russisch, krieg, land, uno, israel	president, american, russia, usa, iraq, russian, war, country, uno, israel
Corporate Performance Crises	781	7.5	mrd, mio, gewinn, quartal, null, unternehmen, umsatz, verlust, vorjahr, konzern	billion, million, profit, quarter, zero, company, sales, loss, previous, year, group
Personal Life Crises	673	6.4	leben, frau, kind, arbeit, mensch, jung, leute, alt, familie, mann	life, woman, child, work, human, young, people, old, family, man
National Economics	660	6.3	wirtschaft, stark, rezession, wachstum, hohe entwicklung, arbeitslos, preis, tief, höher	economy, strong, recession, growth, high development, unemployed, price, low, higher
Swiss Political and Corporate Crises	646	6.2	schweiz, zürich, bundesrat, kanton, zürcher, bund, bern, fdp, svp, klar	switzerland, zurich, federal council, canton, zurich, federal, bern, fdp, svp, clear

(*continues*)

Topic label	Number of documents	Share of documents in %	Top 10 terms in German	Top 10 terms in English
Corporate and Industry Crises	630	6.0	unternehmen, firma, branche, kunde, mitarbeiter, klein, schweiz, stelle, geschäft, angebot	company, firm, branch, customer, employee, small, switzerland, job, business, offer
Crises in the European Union	558	5.3	euro, deutsch, europäisch, deutschland, europa, staat, italien, frankreich, griechenland, länder	euro, german, european, germany, europe, state, italy, france, greece, countries
International Economics	545	5.2	international, länder, japan, wirtschaft, china, land, staat, regierung, usa, dollar	international, countries, japan, economy, china, country, state, government, usa, dollar
Financial Impact of Crises	521	5.0	prozent, franken, million, milliarde, geld, zahlen, dollar, stadt, null, hotel	percent, franc, million, billion, money, numbers, dollar, city, zero, hotel
Crises of Societal Institutions	490	4.7	politik, gesellschaft, welt, recht, glaube, besser, menschen, geschichte, sozial, art	politics, society, world, law, belief, better, people, history, social, kind
Public Health Crises	464	4.4	corona, pandemie, massnahme, coronavirus, menschen, woche, person, betroffen, virus, situation	corona, pandemic, measure, coronavirus, people, week, person, affected, virus, situation
Personalized Scandals	358	3.4	chef, null, medien, new york, kritik, bekannt, britisch, zeitung, london, öffentlich	chief, zero, media, new york, criticism, known, british, newspaper, london, public
Political crisis management	327	3.1	massnahme, mittel, ziel, problem, müsste, entsprechen, künftig, notwendig, besteht, international	measure, means, goal, problem, should, correspond, future, necessary, exists, international

   The following descriptions, obtained through the qualitative content analysis, allow for systematic naming and a more nuanced understanding of the topics. However, it is important to note that the basic analysis—the topic modeling approach—is data-driven, resulting in topics that are not always completely distinct or that do not have the same gravity (for instance, economic crises vs. personal life crises).

- Global Financial Crises: This topic entails articles that explain the events and consequences of financial crises. Articles are typically related to organizational crisis management. Due to the characteristics of financial crises, this perspective is typically international (while often looking at domestic effects). Example of a typical headline: "The U.S. Federal Reserve puts fighting the crisis above all else" (*Neue Zürcher Zeitung*, March 19, 2009).
- Crises of Sports Organizations: In sports reporting, various adverse developments, such as a series of losses or an important player who wants to leave a club, are labeled as crises. What is considered a crisis is much less severe and disruptive than in other topics but follows the inherent logic of sports journalism. Example of a typical headline: "Ice-cold Lucerne aggravates Thun's crisis" (*Tages-Anzeiger*, October 5, 2019).
- Foreign Political Crises: This topic is related to governmental crises and other forms of typically internal political conflicts, such as civil war or a crisis of a particular political party. It is international only because political crises occur in different countries, not between countries. Example of a typical headline: "A government crisis looms in Rome" (*Tages-Anzeiger*, June 13, 2003).
- International Conflicts: This topic is related to various political crises typically associated with the Middle East, including conflicts between countries and international crisis diplomacy. Example of a typical headline: "NATO intervenes in refugee crisis" (*Neue Zürcher Zeitung*, February 2, 2016).
- Corporate Performance Crises: This topic concerns corporate crises caused by challenging economic environments or external shocks. It also entails cases of companies that are resilient

to external circumstances. There is no particular geographic focus. There is no particular geographic focus. Example of a typical headline: "Munich Re in the wake of the crisis" (*Neue Zürcher Zeitung*, November 9, 2011).

- Personal Life Crises: This topic entails articles on personal crises, how larger societal crises affect people individually, and how people deal with these circumstances. These crises are discussed in the context of popular culture, society, and sports. Example of a typical headline: "Crisis haircut - how sick is Britney really?" (*Blick*, February 20, 2007).
- National Economics: This topic examines the impact of financial crises on national economies or specific sectors, such as the hotel trade. The perspective is economic and focuses on economic and social fallout, typically of the global financial crisis in 2008 and the following years. Example of a typical headline: "Russia hit hard by the economic crisis" (*Neue Zürcher Zeitung*, March 31, 2009).
- Swiss Political and Corporate Crises: This topic has a clear regional focus on Switzerland. It entails both political and business/economic crisis themes. The common denominator here is the Swiss geographical and political context, not a particular crisis type. Example of a typical headline: "This is how Raiffeisen intends to master the crisis" (*Tages-Anzeiger*, August 29, 2018).
- Corporate and Industry Crises: Articles on this topic are typically related to corporations or entire branches facing crises. Articles, for instance, discuss how organizations/branches have successfully overcome a crisis. There is no particular geographic focus. Example of a typical headline: "CEOs reveal their recipe against the crisis mood" (*SonntagsZeitung*, December 25, 2011).
- Crises in the European Union: Articles on this topic are typically related to crises within the European Union (EU) or crisis responses by the EU Commission or its member states. Crises related to the currency Euro, the debt crisis of various South European states, the refugee crisis, and the COVID-19 pandemic are part of this topic. Again, the common denominator here is not the type of crisis but the European context, often

with references to the institutions of the EU. Example of a typical headline: "EU leaders plan liberation blow in refugee crisis" (*Tages-Anzeiger*, September 2, 2015).

- International Economics: This topic deals with the impact of financial crises on national and international economics. It is shaped by a political perspective, focusing on crisis management by state leaders and international organizations. The regional focus is on China, Europe, and Switzerland. Example of a typical headline: "Corona Crisis: Government Debt Mountains Larger Than After World War II" (*Neue Zürcher Zeitung*, October 14, 2020).

- Financial Impact of Crises: This topic is related to several crises that touch on aspects of (mostly financial) security, whether in a socioeconomic, organizational, or public context. Typically, local, regional, or national levels are addressed. Example of a typical headline: "Crisis doubles Neuchâtel state deficit" (*Neue Zürcher Zeitung*, September 1, 2009).

- Crises of Societal Institutions: This topic assembles articles that provide a philosophical or broader societal perspective on crises. It revolves around debates on how crises affect society, democracy, and science or how they result from human actions. Example of a typical headline: "Freedom in times of crisis" (*Neue Zürcher Zeitung*, December 31, 2010).

- Public Health Crises: How local and national governments mitigate various threats to public health is the key theme of this topic. The impact on society or individual organizations is another important aspect. The COVID-19 pandemic is particularly salient on this topic. However, it also entails other public health crises, such as the outbreak of the Mad Cow Disease or the Bird Flu. Example of a typical headline: "This is how the Zurich parties want to master the Corona crisis" (*Tages-Anzeiger*, April 29, 2020).

- Personalized Scandals: Crises closely tied to (and sometimes caused by) individual actors lie at the heart of this topic. It includes organizational crises, industries in crisis, political crises, and personal scandals. Example of a typical headline: "Duchess Meghan is in the pregnancy crisis" (*Blick*, December 7, 2018).

- Political Crisis Management: Articles on this topic typically deal with political crisis management and crisis prevention measures. These are predominantly related to political, economic, and business contexts. Example of a typical headline: "New measures against US mortgage crisis" (*Neue Zürcher Zeitung*, February 13, 2008).

Salience of topics in articles with crisis labels in headlines over time

When looking at the salience of the individual topics covered under crisis labels, we see very different patterns over time (RQ4 – see Figure 3). Some topics show continuously increasing, decreasing, or stable salience, whereas others do not follow a clear trend and are skewed toward one or a few years. For instance, the salience
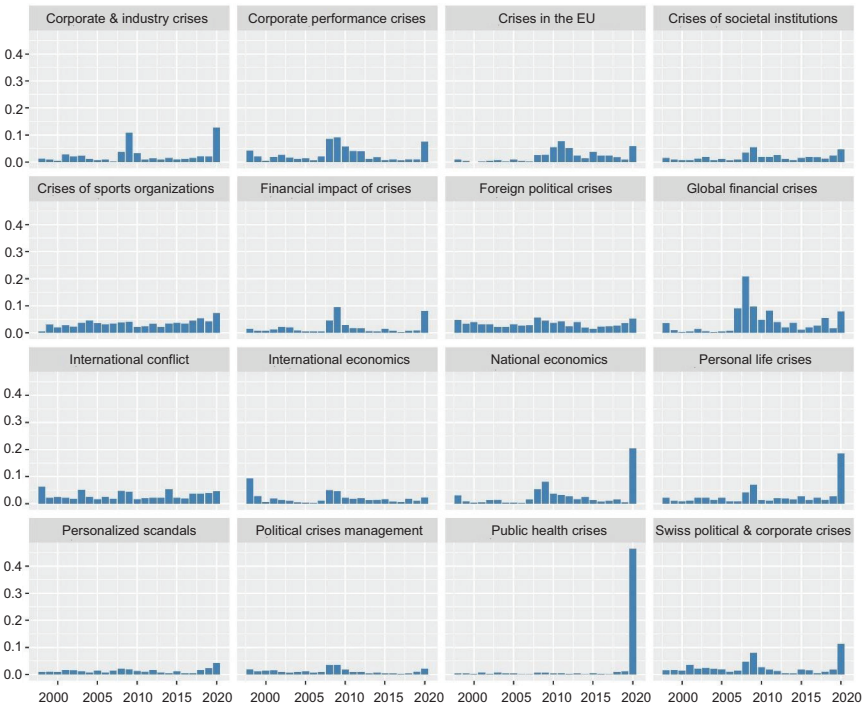

FIGURE 3 **Salience of Topics in Articles with Crisis Labels in Headlines per Year (in % of Total Coverage)**

of crises of sports organizations increases over time, whereas the salience of crises of national economies is more volatile. However, two topics stand out: global financial crises and public health crises. Many other topics have increased salience following the 2008 financial crisis or the COVID-19 pandemic in 2020. As an overarching crisis, the pandemic affected many parts of society, such as the economy and personal well-being (personal life crises). Similar yet unclear effects can be identified in the scope of the 2008 global financial crisis.

Salience of topics in articles with crisis labels in headlines per media type

We also analyzed whether the salience of topics in articles with the crisis label in headlines differs between the outlets (RQ5 – see Table 2). If we look at the three most covered topics per outlet, we see clear differences. The tabloids *Blick* and *SonntagsBlick* have very similar topical focuses in their reporting. Both outlets emphasize the crises of sports organizations (27.9% and 23.8%, respectively), personal life crises (12.8% and 13.4%, respectively), and Swiss political crises (9.0% and 12.7%, respectively). Thus, articles in tabloids that use crisis labels in their headlines cover soft news, include individual aspects of crises, and are typically domestically focused. The Sunday paper *SonntagsZeitung* also focuses on the crises of sports organizations (13.7%) and Swiss political crises (11.5%). However, the most covered topic is the global financial crisis (15.6%). The quality newspaper *NZZ*, known for its extensive financial reporting, also emphasizes economic aspects in articles with the crisis label in headlines by focusing on global financial crises (12.5%) and corporate performance crises (11.4%). In addition, foreign political crises (10.6%) were covered extensively. Finally, the mid-range outlet *Tages-Anzeiger* primarily focuses on foreign political crises (10.4%) and global financial crises (8.4%). International conflicts (8.6%) were covered quite extensively as well.

Discussion

The study investigated how frequently and related to which topics events are labeled as crises in the headlines of Swiss news media

TABLE 2 Share of topics in news articles with crisis labels in headlines per outlet

Label	Neue Zürcher Zeitung	Tages-Anzeiger	Sonntags-Zeitung	Blick	Sonntags-Blick
Corporate and industry crises	4.6%	6.8%	10.6%	5.4%	11.7%
Corporate performance crises	**11.4%***	4.3%	2.8%	1.8%	0.5%
Crises in the EU	6.4%	6.1%	1.6%	2.8%	1.0%
Crises of societal institutions	5.1%	5.1%	5.1%	2.1%	2.5%
Crises of sport organizations	4.2%	7.4%	**13.7%***	**27.9%***	**23.8%***
Financial impact of crises	2.7%	7.9%	7.3%	6.6%	7.2%
Foreign political crises	**10.6%***	**10.4%***	2.7%	3.6%	2.2%
Global financial crisis	**12.5%***	**8.4%***	**15.6%***	5.1%	3.7%
International conflicts	8.7%	**8.6%***	4.4%	6.6%	5.5%
International economics	6.7%	5.3%	1.7%	1.4%	2.0%
National economics	8.5%	4.3%	4.1%	3.3%	4.0%
Personal life crises	3.8%	7.0%	9.9%	**12.8%***	**13.4%***
Personalized scandals	2.6%	4.5%	3.1%	4.9%	3.7%
Political crisis management	5.0%	1.0%	2.2%	1.0%	0.5%
Public health crises	4.0%	4.8%	3.5%	5.8%	5.7%
Swiss political and corporate crises	3.3%	8.1%	**11.5%***	**9.0%***	**12.7%***

*Note: * indicates the three most covered topics per outlet.*

with a longitudinal design from 1998 to 2020. Our data do not support the widespread assumption that such crisis reporting has increased over the last few years. Instead, we see two outliers—the years following the 2008 financial crisis and the COVID-19 pandemic in 2020. These findings are in line with Udris's (2019) similar findings on the financial crisis on coverage with crisis labels in the Swiss media. Hence, we conclude that the emergence of major global crises, such as the financial crisis and the COVID-19

pandemic, is a crucial factor driving the use of crisis labels in the headlines of news media reporting.

Instead of relying on a scholarly definition of a crisis and sampling the news media data accordingly, the data-driven approach we used for our study inductively shows what topics are labeled as crises by news media in Switzerland. We see a heterogeneous picture with prominent topics, such as financial, corporate, and public health crises. However, we also find some rather surprising topics, for instance, crises of sports organizations or personal life crises. Furthermore, some events that one would expect to be distinct topics in crisis reporting, such as refugee or climate crises, did not appear prominently in our dataset. Overall, we see a pronounced use of crisis labels in the coverage of economic issues in Swiss news media, including national and international economies and corporations. Public health crises were relevant only in the last year of our investigation, which included the outbreak of the COVID-19 pandemic. Apart from outliers, such as the pandemic, we do not see significant changes in individual topics over time.

Based on these insights, we believe that news media use crisis labels for a variety of different topics. It is also thinkable that crisis labels are used for different purposes. For instance, the media can use it to alarm readers about an urgent topic or problem (Chadefaux, 2014; Kalogeropoulos et al., 2015). This could also be due to their professional self-concept as a watchdog (Hanitzsch, 2011), holding the powerful accountable (e.g., by calling out a government crisis). On the other hand, scandalization and sensationalism can be motives to increase attention and generate more revenue (Meissner & Vogler, 2022) or part of a political agenda by news outlets themselves (Puglisi & Snyder, 2011), by journalists working at news outlets (Hassell et al., 2022) or by actors such as political elites using news media as platforms for strategic communication (Entman & Stonbely, 2018; Mancini, 2018). For further research, we recommend that interview studies add more depth and detail to why, how, and when journalists use crisis labels in headlines of their articles.

In any case, it is reasonable to assume that headlines are the most prominent place for journalists to signal crises to readers. Going further, we argue that news media are key actors in labeling events as crises. In media reality (Schulz, 1976), what

constitutes a crisis is not primarily subject to a social negotiation process (Schwarz et al., 2016), but it is, after all, the result of an editorial decision. Our study showed that journalists use crisis labels in a rather flexible way for a variety of very different phenomena that differ strongly in their gravity (e.g., economic crisis vs. crisis of a sports club). At the same time, as we have pointed out in the introduction, news media are very strategic about the topics they cover and how they frame or label them (Greussing & Boomgaarden, 2015; Hase, 2023). In this context, news values help understand why journalists emphasize negativity. This means that—if we consider news media to be central actors in society that signal the emergence of a crisis—what we see as a crisis might be more strongly influenced by media logic than previously assumed. However, this assumption certainly mandates further research, particularly regarding media effects.

Furthermore, our analysis demonstrates that there are notable differences between different types of news outlets. We see quite clear differences between the outlets regarding the share, development, and topical focus of news articles with the crisis label in headlines. Thus, our analysis of crisis labeling by news media supports the notion that media types are important structural antecedents of media coverage (Strömbäck & Van Aelst, 2010). On the one hand, we see typical patterns: more hard-news-oriented reporting in the quality newspapers *NZZ* and the mid-range outlets *Tages-Anzeiger* and *SonntagsZeitung* compared to a more soft-news-oriented reporting in the tabloids *Blick* and *SonntagsBlick*. However, we also find the lowest share of crisis labeling in the two tabloids, which is quite surprising, given that tabloids commonly employ much negativism in their reporting (Magin, 2019; Eisenegger et al., 2021). One could argue that crisis labels are very common in the coverage of economic issues because the news media "can use seemingly simple and uncontested indicators such as falling stock market prices, state debts, etc." (Udris, 2019, p. 134). This would partially explain why *NZZ*, an outlet renowned for its business reporting, has such a high share of crisis labels in its reporting.

Our study has some limitations. Despite its comprehensive approach, the investigation is limited to a single

country. Generalizability, therefore, remains limited, even though Switzerland is a very internationally oriented country, given its small size. The most critical limitation, however, is the sampling procedure through explicit mentions of the word crisis in the headlines of the news articles. The approach we chose is based on theoretical assumptions related to the construction of crises and the focus on labeling events as crises. However, this might have led to certain biases. Not all articles that cover events related to a crisis contain a crisis label in their headlines, as its use is a deliberate choice by journalists. Sometimes, events surrounding a crisis will become widely known, and articles without crisis labels in the headlines will follow in subsequent coverage, especially when the event loses its immediate news value. Some events are not necessarily labeled as crises, even though people would most likely associate them with crises. Two prominent examples are the climate crisis and the refugee crisis, which do not appear as topics in our analysis. We checked the dataset and found little mention of these two events with crisis labels. One explanation could be that they are labeled differently in Swiss media (e.g., with the more neutral term "climate change" as opposed to "climate crisis") or were not seen as relevant enough from a Swiss perspective.

Conclusion

To respond effectively to the crises that societies around the globe are facing, it is necessary to gain a profound understanding of how news media and communication contribute to the construction of crises in the public. Contrary to this assumption, our study has shown that certain events stand out, such as the financial crisis or the pandemic, while the more long-term trend in the use of crisis labels in headlines of Swiss news media is very stable. It is just as important to understand which topics are *not* labeled as crises (such as climate change) to identify possible deficits in public debate.

Our study also contributes from a methodological stance to the study of crisis communication, as we combine automated content analysis and qualitative content analysis. Scholars increasingly demand such designs, given the lack of validity and analytical depth diagnosed for many purely computational approaches (Boukes et

al., 2020; Muddiman et al., 2019). With data-driven automated analysis, we were able to identify meaningful structures in a large corpus of media articles with a crisis label. The qualitative analysis helped us gain a deeper understanding of the automatically identified clusters of news articles (i.e., topics). Such mixed-methods approaches are meaningful to reduce complexity in the context of crisis communication, where often one has to make sense of large amounts of data (Vogler & Meissner, 2022). In this way, the study highlights the complex interdependencies between crises and news reporting.

ORCID

Daniel Vogler ⓘ
Meissner ⓘ

References

An, S. K., & Gower, K. K. (2009). How do the news media frame crises? A content analysis of crisis news coverage. *Public Relations Review*, *35*(2), 107–112. https://doi.org/10.1016/j.pubrev.2009.01.010

Beck, U. (2009). *World at risk.* Polity Press.

Berlemann, M., & Thomas, T. (2019). The distance bias in natural disaster reporting – Empirical evidence for the United States. *Applied Economics Letters,* *26*(12), 1026–1032. https://doi.org/10.1080/13504851.2018.1528332

Blei, D. M., Ng, A. Y., & Jordan, M. I. (2003). Latent Dirichlet allocation. *The Journal of Machine Learning Research, 3*, 993–1022.

Borden, J., Zhang, X. A., & Hwang, J. (2020). Improving automated crisis detection via an improved understanding of crisis language: Linguistic categories in social media crises. *Journal of Contingencies and Crisis Management*, *28*(3), 281–290. https://doi.org/10.1111/1468-5973.12308

Boukes, M., Van de Velde, B., Araujo, T., & Vliegenthart, R. (2020). What's the tone? Easy doesn't do it: Analyzing performance and agreement between off-the-shelf sentiment analysis tools. *Communication Methods and Measures*, *14*(2), 83–104. https://doi.org/10.1080/19312458.2019.1671966

Chadefaux, T. (2014). Early warning signals for war in the news. *Journal of Peace Research, 51*(1), 5–18. https://doi.org/10.1177/0022343313507302

Chouliaraki, L., & Zaborowski, R. (2017). Voice and community in the 2015 refugee crisis: A content analysis of news coverage in eight European countries. *International Communication Gazette, 79*(6–7), 613–635. https://doi.org/10.1177/1748048517727173

Coombs, W. T. (2012). Ongoing crisis communication: Planning, managing, and responding (3rd ed.). Sage.

Damstra, A., & Vliegenthart, R. (2018). (Un)covering the economic crisis? Over-time and inter-media differences in salience and framing. *Journalism Studies, 19*(7), 983–1003. https://doi.org/10.1080/1461670X.2016.1246377

Downs, A. (1972). Up and down with ecology – the 'issue-attention cycle'. *Public Interest, 28*, 38–50.

Du Plessis, C. (2018). Social media crisis communication: Enhancing a discourse of renewal through dialogic content. *Public Relations Review, 44*(5), 829–838. https://doi.org/10.1016/j.pubrev.2018.10.003

Eisenegger, M., Oehmer, F., Udris, L., & Vogler, D. (2021). *Lessons learned? The quality of media coverage in the first and second waves of the coronavirus pandemic*. Research Center for the Public Sphere and Society – University of Zurich. https://www.foeg.uzh.ch/dam/jcr:dc76063c-417f-466c-8977-25dd1aa9d3b9/JB_2021_Coronastudie_II_EN_final.pdf

Entman, R., & Stonbely, S. (2018). Political scandals as a democratic challenge| Blunders, scandals, and strategic communication in US foreign policy: Benghazi vs. 9/11. *International Journal of Communication, 12*, 24.

Franks, S. (2006). The CARMA Report: Western media coverage of humanitarian disasters. *The Political Quarterly, 77*(2), 281-284. https://doi.org/10.1111/j.1467-923X.2006.00771.x

Galtung, J., & Ruge, M. H. (1965). The structure of foreign news: The presentation of the Congo, Cuba and Cyprus crises in four Norwegian newspapers. *Journal of Peace Research, 2*(1), 64–91. https://doi.org/10.1177/002234336500200104

Glaser, B., & Strauss, A. (2017). *Discovery of grounded theory: Strategies for qualitative research*. Routledge.

Greussing, E., & Boomgaarden, H. G. (2017). Shifting the refugee narrative? An automated frame analysis of Europe's 2015 refugee crisis. *Journal of Ethnic and Migration Studies*, *43*(11), 1749–1774. https://doi.org/10.1080/1369183X.2017.1282813

Grün, B., Hornik, K., & Blei, D. M., Lafferty, D. L., Phan, X., Matsumoto, M., Nishimura, T., & Cokus, S. (2024). *Package topicmodels* [Software]. https://cran.r-project.org/web/packages/topicmodels/index.html

Hanitzsch, T. (2011). Populist disseminators, detached watchdogs, critical change agents and opportunist facilitators: Professional milieus, the journalistic field and autonomy in 18 countries. *International Communication Gazette, 73*(6), 477–494. https://doi.org/10.1177/1748048511412279

Harcup, T., & O'Neill, D. (2017). What is news? News values revisited (again). *Journalism Studies, 18*(12), 1470–1488. https://doi.org/10.1080/1461670X.2016.1150193

Hase, V. (2023). What is terrorism (according to the news)? How the German press selectively labels political violence as "terrorism". *Journalism, 24*(2), 398–417. https://doi.org/10.1177/14648849211017003

Hase, V., Mahl, D., Schäfer, M. S. & Keller, T. R. (2021). Climate change in news media across the globe: An automated analysis of issue attention and themes in climate change coverage in 10 countries (2006-2018). *Global Environmental Change, 70*, https://doi.org/10.1016/j.gloenvcha.2021.102353

Hassell, H. J., Miles, M. R., & Reuning, K. (2022). Does the ideology of the newsroom affect the provision of media slant?. *Political Communication, 39*(2), 184–201. https://doi.org/10.1080/10584609.2021.1986613

Hay, C. (1996). Narrating crisis: The discursive construction of the winter of discontent'. *Sociology, 30*(2), 253–277. https://doi.org/10.1177/0038038596030002004

Jacobi, C., van Atteveldt, W., & Welbers, K. (2016). Quantitative analysis of large amounts of journalistic texts using topic modeling.

Digital Journalism, 4(1), 89–106. https://doi.org/10.1080/21670811.2015.1093271

Janét, K., Richards, O., & Landrum, A. R. (2022). Headline format influences evaluation of, but not engagement with, environmental news. *Journalism Practice, 16*(1), 35–55. https://doi.org/10.1080/17512786.2020.1805794

Jin, X. (2020). Exploring crisis communication and information dissemination on social media: Social network analysis of Hurricane Irma tweets. *Journal of International Crisis and Risk Communication Research, 3*(2), 179–210. https://doi.org/10.30658/jicrcr.3.2.3

Kalogeropoulos, A., Svensson, H. M., Van Dalen, A., De Vreese, C., & Albæk, E. (2015). Are watchdogs doing their business? Media coverage of economic news. *Journalism, 16*(8), 993–1009. https://doi.org/10.1177/1464884914554167

Kovář, J. (2020). A security threat or an economic consequence? An analysis of the news framing of the European Union's refugee crisis. *International Communication Gazette, 82*(6), 564–587. https://doi.org/10.1177/1748048519832778

Krzyżanowski, M. (2009). Europe in crisis? Discourses on crisis events in the European press 1956–2006. *Journalism Studies, 10*(1), 18–35. https://doi.org/10.1080/14616700802560468

Kuiken, J., Schuth, A., Spitters, M., & Marx, M. (2017). Effective headlines of newspaper articles in a digital environment. *Digital Journalism, 5*(10), 1300–1314. https://doi.org/10.1080/21670811.2017.1279978

Lee, N. Y. (2022). Headlines for summarizing news or attracting readers' attention? Comparing news headlines in South Korean newspapers with the New York Times. *Journalism, 23*(4), 892–909. https://doi.org/10.1177/1464884920929202

Lowry, D. T., Nio, T. C. J., & Leitner, D. W. (2003). Setting the public fear agenda: A longitudinal analysis of network TV crime reporting, public perceptions of crime, and FBI crime statistics. *Journal of Communication, 53*(1), 61-73. https://doi.org/10.1111/j.1460-2466.2003.tb03005.x

Maier, M., Ruhrmann, G., & Klietsch, K. (2006). *Der Wert von Nachrichten im deutschen Fernsehen: Ergebnisse einer Inhaltsanalyse 1992–2004* [The value of news in German TV:

Results from a content analysis 1992–2004]. Landesanstalt für Medien Nordrhein-Westfalen.

Magin, M. (2019). Attention, please! Structural influences on tabloidization of campaign coverage in German and Austrian elite newspapers (1949–2009). *Journalism, 20*(12), 1704–1724. https://doi.org/10.1177/1464884917707843

Magin, M., Steiner, M., Häuptli, A., Stark, B., & Udris, L. (2021). Is Facebook driving tabloidization? A cross-channel comparison of two German newspapers. In M. Conboy & S. Eldridge II (Eds.), *Global tabloid. Culture and technology* (pp. 56–74). Routledge.

Mancini, P. (2018). Political scandals as a democratic challenge|"Assassination campaigns": Corruption scandals and news media instrumentalization. *International Journal of Communication, 12*, 20.

Meissner, F. (2019). The Fukushima disaster and the "Clash of Risk Cultures": Japanese and German journalists' perceptions of a nuclear crisis. *Global Media Journal, 9*(2), 1–23. https://doi.org/10.22032/dbt.40623

Meissner, F., & Vogler, D. (2022). Kriselnder Journalismus, boomende PR? [Journalism in crisis, booming PR?] In S. Pranz, H. Heidbrink, F. Stadel, & R. Wagner (Eds.), *Journalismus und Unternehmenskommunikation [Journalism and corporate communication]* (pp. 235–249). Springer Fachmedien. https://doi.org/10.1007/978-3-658-35471-8_12

Mellado, C., Hallin, D., Cárcamo, L., Alfaro, R., Jackson, D., Humanes, M. L., Márquez-Ramírez, M., Mick, J., Mothes, C., I-Hsuan, C., Lee, M., Alfaro, A., Isbej, J., & Ramos, A. (2021). Sourcing pandemic news: A cross-national computational analysis of mainstream media coverage of Covid-19 on Facebook, Twitter, and Instagram. *Digital Journalism, 9*(9), 1261–1285. https://doi.org/10.1080/21670811.2021.1942114

Muddiman, A., McGregor, S. C., & Stroud, N. J. (2019). (Re)claiming our expertise: Parsing large text corpora with manually validated and organic dictionaries. *Political Communication, 36*(2), 214–226. https://doi.org/10.1080/10584609.2018.1517843

Muggeo, V. M. (2003). Estimating regression models with unknown break-points. *Statistics in Medicine, 22*(19), 3055–3071. https://doi.org/10.1002/sim.1545

Pantti, M. (2019). Crisis and disaster coverage. In T. P. Vos, F. Hanusch, D. Dimitrakopoulou, M. Geertsema-Sligh, & A. Sehl (Eds.), *The international encyclopedia of journalism studies.* https://doi.org/10.1002/9781118841570.iejs0202

Pantti, M., Wahl-Jorgensen, K., & Cottle, S. (2012). *Disasters and the media.* Peter Lang.

Pengnate, S. (2019). Shocking secret you won't believe! Emotional arousal in clickbait headlines: An eye-tracking analysis. *Online Information Review, 43*(7), 1136–1150. https://doi.org/10.1108/OIR-05-2018-0172

Puglisi, R., & Snyder Jr, J. M. (2011). Newspaper coverage of political scandals. *The Journal of Politics, 73*(3), 931–950. https://doi.org/10.1017/S0022381611000569

Rauchfleisch, A., Vogler, D., & Eisenegger, M. (2021). Public sphere in crisis mode: How the COVID-19 pandemic influenced public discourse and user behaviour in the Swiss Twittersphere. *Javnost-The Public, 28*(2), 129–148. https://doi.org/10.1080/13183222.2021.1923622

Reinemann, C., Stanyer, J., Scherr, S., & Legnante, G. (2012). Hard and soft news: A review of concepts, operationalizations and key findings. *Journalism, 13*(2), 221–239. https://doi.org/10.1177/1464884911427803

Reuters Institute. (2020). *Digital News Report 2020.* University of Oxford. https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2020-06/DNR_2020_FINAL.pdf

Rossmann, C., Meyer, L., & Schulz, P. J. (2018). The mediated amplification of a crisis: Communicating the A/H1N1 pandemic in press releases and press coverage in Europe. *Risk Analysis, 38*(2), 357–375. https://doi.org/10.1111/risa.12841

Schifferes, S., & Coulter, S. (2013). Downloading disaster: BBC news online coverage of the global financial crisis. *Journalism, 14*(2), 228–252. https://doi.org/10.1177/1464884912460171

Schranz, M., & Eisenegger, M. (2011). The media construction of the financial crisis in a comparative perspective–An analysis of newspapers in the UK, USA and Switzerland between 2007 and 2009. *Swiss Journal of Sociology, 37*(2), 241–258.

Schulz, W. (2011). *Politische Kommunikation: Theoretische Ansätze und Ergebnisse empirischer Forschung* [*Political communication:*

Theoretical approaches and results of empirical research]. VS Verlag für Sozialwissenschaften.

Schulz, W. (1976). *Die Konstruktion von Realität in den Nachrichtenmedien: Analyse der aktuellen Berichterstattung* [*The construction of reality in the news media: analysis of current reporting*]. Alber.

Schwarz, A., Seeger, M. W., & Auer, C. (2016). Significance and structure of international risk and crisis communication research. Toward an integrative approach. In A. Schwarz, M. W. Seeger, & C. Auer (Eds.), *The handbook of international crisis communication research* (pp. 1–10). Wiley & Sons.

Strömbäck, J., & Van Aelst, P. (2010). Exploring some antecedents of the media's framing of election news: A comparison of Swedish and Belgian election news. *The International Journal of Press/Politics*, *15*(1), 41–59. https://doi.org/10.1177/1940161209351004

Tandoc Jr., E. C. (2014). Journalism is twerking? How web analytics is changing the process of gatekeeping. *New Media & Society, 16*(4), 559–575. https://doi.org/10.1177/1461444814530541

Tannenbaum, P. H. (1953). The effect of headlines on the interpretation of news stories. *Journalism Quarterly, 30*(2), 189–197. https://doi.org/10.1177/107769905303000206

Udris, L. (2019). Political communication in and about crises. Potentials of a fragmented field. *Studies in Communication Sciences, 19*(1), 131-152. https://doi.org/10.24434/j.scoms.2019.01.009

Udris, L., Eisenegger, M., Vogler, D., Schneider, J., & Häuptli, A. (2020). Mapping and explaining media quality: Insights from Switzerland's multilingual media system. *Media and Communication, 8*(3), 258–269. https://doi.org/10.17645/mac.v8i3.3140

Van Aelst, P., Toth, F., Castro, L., Štětka, V., Vreese, C. D., Aalberg, T., Cardenal, A. S., Corbu, N., Esser, F., Hopmann, D. N., Koc-Michalska, K., Matthes, J., Schemer, C., Sheafer, T., Splendore, S., Stanyer, J., Stepięska, A., Strömbäck, J., & Theocharis, Y. (2021). Does a crisis change news habits? A comparative study of the effects of COVID-19 on news media use in 17 European countries. *Digital Journalism*, *9*(9), 1208–1238. https://doi.org/10.1080/21670811.2021.1943481

Van der Meer, T. G., Verhoeven, P., Beentjes, J. W., & Vliegenthart, R. (2017). Disrupting gatekeeping practices: Journalists' source selection in times of crisis. *Journalism*, *18*(9), 1107–1124. https://doi.org/10.1177/1464884916648095

Vogler, D. and Meissner, F. (2022). Tackling the Information Overload. In W.T. Coombs and S.J. Holladay (eds)., *The Handbook of Crisis Communication* (pp. 53-65). Wiley. https://doi.org/10.1002/9781119678953.ch4

Westlund, O., & Ghersetti, M. (2015). Modelling news media use: Positing and applying the GC/MC model to the analysis of media use in everyday life and crisis situations. *Journalism Studies*, *16*(2), 133–151. https://doi.org/10.1080/1461670X.2013.868139

Zhang, X., & Hellmueller, L. (2017). Visual framing of the European refugee crisis in Der Spiegel and CNN International: Global journalism in news photographs. *International Communication Gazette*, *79*(5), 483–510. https://doi.org/10.1177/1748048516688134

Zhao, H. (2020). Explicating the social constructionist perspective on crisis communication and crisis management research. *Journal of Public Relations Research, 32*(3–4), 98–119. https://doi.org/10.1080/1062726X.2020.1802732