



Selected Papers of #AoIR2023:  
The 24th Annual Conference of the  
Association of Internet Researchers  
Philadelphia, PA, USA / 18-21 Oct 2023

## **COLLECTIVE SENSEMAKING AND INTERSEMIOTIC DISSONANCE: A STUDY OF CRISIS DISCOURSE ON TIKTOK**

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### **Introduction**

TikTok, a Chinese social media application founded in September 2016, had an initial focus on entertainment content, such as lip-syncing or dancing videos (Montag et al., 2021). Over time, TikTok has grown to have an estimated 1 billion global users that produce and share videos about healthcare, life hacks, and more (Ruby, 2023). Previous TikTok research conducted by Zhao et al. (2021), Zulli et al. (2022), and Abidin (2019) has considered the impact of the application's affordances and structure on activism, mimesis, and microcelebrities. However, one under-researched category within TikTok scholarship is crisis discourse as current research focuses on the COVID-19 pandemic (Carter et al., 2021).

Crisis informatics, a term coined by Christine Hagar in 2006, represents an interdisciplinary area of study that focuses on the interactions of people, organizations, information, and technology during emergency events (Hagar, 2013). Studies in this field have highlighted the vital role of social media users during a crisis cycle. Of interest to us are users contributing to the process of collective sensemaking, which is incremental through the transformation and integration of new information into cognitive schemata; this process is essential in crises as sparse information is used for decision-making (Pentina & Tarafdar, 2014). Previous collective sensemaking scholarship has focused predominantly on Twitter. (Reuter & Kaufhold, 2018). However, there is a need to examine the process of sensemaking in other field sites contemporarily used for crisis communication.

By asking “What role does TikTok play in collective sensemaking during a crisis?”, this study contributes to crisis informatics and the nascent body of literature looking at

Suggested Citation (APA): Khoury, C., & Hemsley, J. (2023, October). *Collective Sensemaking and Intersemiotic Dissonance: A Study of Crisis Discourse on TikTok*. Paper presented at AoIR2023: The 24th Annual Conference of the Association of Internet Researchers. Philadelphia, PA, USA: AoIR. Retrieved from <http://spir.aoir.org>.

TikTok. It does so by considering the 2020 Port of Beirut, Lebanon explosion, which was shared on TikTok and obtained more than 50 million views. Drawing from a semiotic analysis approach, the preliminary findings reveal how intersemiotic dissonance obscures the collective sensemaking process after a crisis event. Implications of the findings motivate further research into implicit crisis communication norms in multi-modal structures.

## Background

### *Context*

On August 4th, 2020, the Port of Beirut exploded due to misgoverned ammonium nitrate (“They Killed Us from the Inside,” 2021). As a result, there were over 200 fatalities, thousands displaced, and significant damage to the city’s infrastructure. The Lebanese and other concerned individuals were glued to their screens as citizen reports kept the world updated via social media.

### *Respecting their legacies*

In conducting crisis informatics research, researchers may aim for objectivity through detachment from the crisis and resulting harm. Given the long-term mental and physical impacts still faced by the Lebanese community - which the first author is a part of - it is impossible to disregard the realities of the crisis. To remember the lives lost as a result of the explosion, a list of the martyrs are listed here: <https://tinyurl.com/beirutmartyrs>.

## Methods

### *Data Collection*

To examine the discourse pertaining to the August 4, 2020, Port of Beirut explosion, snowball searching was used to discover relevant hashtags. The process first began by searching for hashtags related to #lebanonblast (Figure 1).

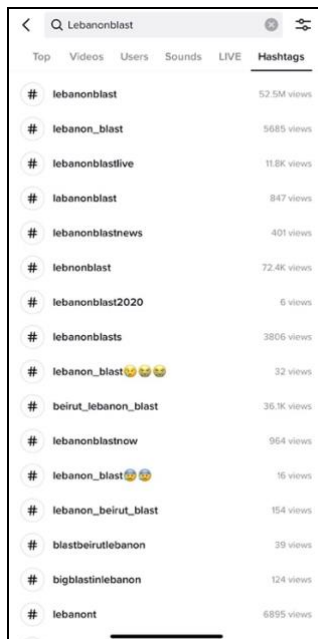


Figure 1: Query result for #lebanonblast

Only hashtags with more than 5,000 views were considered. Similarly for each hashtag, only the top videos with more than 10,000 views were considered. After collecting videos from each hashtag that met the criteria, accompanying hashtags from the resulting videos were used. An example is provided in Figure 2, which is a video that includes the searched hashtag #lebanonblast and relevant hashtags #prayforlebanon and انفجار\_بيروت# (#beirut\_explosion in Arabic).



Figure 2: Video snowballing using other included hashtags

For videos that met the above criteria, ScrapeTikTokComments.js - a publicly available web scraping script - was used to collect information for 26 videos. The following data were collected: URL, Creator Name, Creator Number of Followers, Video Posted Date, Number of Likes, Number of Comments, and Comments. A limitation of this work is that the tool only collects up to 3,000 comments.

### *Data Analysis*

The analysis was divided into main two components; videos and comments.

#### I. Videos

Gillian Rose's *Visual Methodologies* informed the foundation of video analysis, with a specific focus on semiology, which questions how images make meanings (2001). The semiotic analysis considered how each individual video collectively contributed to a cultural understanding of the crisis event. Given the varying lengths of the TikTok videos, analysis of auditory, visual, and textual signs were considered at the following time increments: cover page,  $\frac{1}{3}$  through,  $\frac{2}{3}$  through, and last section. For example, a 45-second video's signs would have been analyzed on its cover page, at 15 seconds, 30 seconds, and then at the end.

## II. Comments

Rooted in Foucault's ideas, discourse refers to "...groups of statements that structure the way a thing is thought, and the way we act on the basis of that thinking" (Rose, 2001). To understand how the TikTok community came to understand the Port of Beirut explosion, comments were studied through discourse and inductive content analysis. By considering discourse in comments supplementarily to meaning signaled by videos, we can examine the implications of collective sensemaking of a cultural event.

### **Preliminary Findings**

Preliminary analysis reveals discursive formation, or the way meanings are connected together, between video and discourse. Users watching videos about the explosion participated in systematic sensemaking using the multi-modal signals afforded by the content. In alignment with other studies of visual communication, the TikTok videos enabled users to situate themselves in the place of the impacted person and land. A significant amount of the videos were of the creator's own vantage point as they recorded the explosion. The varying impacts of the disaster were seen in the reactions to the point of explosion, which varied from a jolted screen to a completely disoriented visual surrounded by shattered glass and debris.

Results of the data analysis reveal a theme of intersemiotic dissonance that obscures the collective sensemaking process. Intersemiotic dissonance, as described by Yu, is when elements diverge semiotically rather than merge to inform a unified meaning (2021). Unique to TikTok, creators have the ability to select a sound and add visuals like text or images throughout their video. Each of these elements, illustrated in Figure 2, are instances of signals which contribute to sensemaking. Yet if creators chose to include contradictory or hypocritical elements that somehow cause tension with other elements, viewers of the content could experience tension in their sensemaking process. Examples of this include a creator's explosion footage having a sound in the electronic dance music (EDM) genre or a watermark with their username. Comments in these videos were filled with criticism of the author's choices, which sparked debate and additional commentary that drove down relevant crisis discourse, including how to participate in relief efforts or the "real" cause of the crisis. In contrast, videos that used the original audio of the footage, solemn music, and/or text that only related to crisis information had comments that more clearly contributed to collective sensemaking.

The preliminary findings reveal intersemiotic dissonance obscuring crisis discourse, thus negatively influencing the process of collective sensemaking. Further research is needed to evaluate the sociotechnical forces that shape the communication etiquette of videos of a sensitive nature in order to enable apt collective sensemaking.

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