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Hate Narratives and Collective Memory: A Methodological Perspective for the Study of Antisemitism on Social Media

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Abstract

Social media platforms have become central arenas for public debate and the construction of collective memory, while simultaneously amplifying polarization and hate speech. Within this context, antisemitism represents a form of online hostility, often intertwining historical narratives with contemporary geopolitical conflicts. The present contribution examines online debates in Italy surrounding Holocaust Remembrance Day between 2022 and 2025, with attention to the discursive changes following the outbreak of the Israeli-Palestinian conflict in October 2023. Using a methodological approach combining Social Network Analysis and Natural Language Processing, the study analyzes both user interactions and the semantic structure of discussions on platform X. The main findings reveal significant changes in network configurations and thematic contents, with increasing fragmentation and a growing overlap between political discourse on the Middle East conflict and antisemitic narratives. The results also highlight the importance of integrated computational approaches for understanding the evolution of online hate speech.

Keywords: *Online antisemitism; hate speech; social network analysis; natural language processing; collective memory; social media.*

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1. Introduction

The widespread diffusion of social media over the past decade has profoundly transformed public discourse. Digital platforms have become central infrastructures for political participation and the construction of collective memory (Fuchs, 2021). At the same time, they increasingly serve as spaces where polarization, hate speech, and emotionally charged content

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can spread rapidly through highly interconnected networks (Himelboim et al., 2017; Vandebosch & Rothmund, 2024).

Among the various forms of online hostility targeting minority groups, antisemitism represents a particularly significant case. It has demonstrated a strong capacity to reconfigure itself across different social and communicative contexts (Langmuir, 1990). Antisemitic online discourse frequently combines traditional stereotypes with narratives linked to relevant geopolitical conflicts and historical reinterpretations (Hübscher & von Mering, 2022; European Commission, 2024). Recent studies highlight how online antisemitism often emerges through discursive frames that blur the distinction between criticism of Israeli political actions and hostility toward Jews as a collective group (Bjola & Manor, 2020; Siegel, 2020).

The analysis of these dynamics requires methodological approaches capable of capturing both the structural organization of online interactions and their semantic content, to inform policymakers and digital platforms in countering online hate. Along these lines, the European Commission has recently called "... social media platforms to action" to tackle online antisemitism, following its surge in recent years (European Commission, 2024).

The present contribution proposes a methodological framework for monitoring and detecting online hate speech that may emerge following an exogenous shock capable of influencing public discourse. Specifically, the study examines online narratives on the Shoah and Jews in the Italian context using an integrated analytical framework that combines Social Network Analysis (SNA; Wasserman & Faust, 1994) and Natural Language Processing (NLP; Mikolov et al., 2013). The main purpose is to investigate how commemorative events and contemporary geopolitical conflicts contribute to reshaping both the relational structures of online debate and the semantic domains through which antisemitic narratives can emerge and circulate in the digital space. The analysis focuses on debates on the platform 𝕏 (formerly Twitter) surrounding Holocaust Remembrance Day, as well as on the evolution of narratives following the outbreak of the Israeli–Palestinian conflict on October 7, 2023. The dataset covers online exchanges from 2022 to 2025, including the acquisition of Twitter by Elon Musk in October 2022. Since then, the platform has undergone major structural and usage changes, including modifications to API access and content moderation policies, which may affect data collection results (Hickey et al., 2025). However, all research data were extracted in February 2025 for the entire period under analysis. Consequently, no differences in data collection arise between the pre- and post-transition phases of the platform. Any potential bias would therefore apply uniformly across the dataset.

2. Methodology

The contribution responds to calls for a paradigmatic shift in the study of antisemitism by integrating relational and content-based analyses. In recent years, mixed-method strategies

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combining SNA with computational text analysis have become important in the study of online communication and hate speech (Himelboim et al., 2017; Fonseca et al., 2024; Rawat et al., 2024). SNA allows researchers to reconstruct relational structures among users, identify influential actors, and detect communities within digital communication networks. Moreover, NLP techniques enable the analysis of large textual datasets and the identification of latent thematic structures in online discourse.

The proposed approach, combining SNA and NLP, allows for the detection of polarization dynamics and the analysis of the evolution of themes and discursive frames over time, including the circulation of offensive discourse. This integration is particularly well-suited to the study of online antisemitism. The focus is on user-generated content and on interactions that develop within digital platforms, where hate narratives emerge, spread, and evolve through complex relational structures. Social media data are used to construct different types of networks: user networks based on interactions among accounts, and word networks derived from the textual content of messages, by mapping topics emerging from the analysis of posts. This dual perspective enables the joint examination of who interacts with whom and which content circulates. Moreover, it offers a comprehensive review of the processes through which antisemitism discourses surrounding the commemoration of Nazi-Fascist victims on Holocaust Remembrance Day (January 27th) are disseminated.

The proposed approach consists of the following steps. First, after data cleaning and pre-processing, interaction networks are constructed to represent the relationships among online users. The SNA includes calculating structural indicators (density, reciprocity, components) and centrality measures, as well as applying community detection algorithms to identify groups of users characterized by similar interaction patterns and discursive behaviors (Clauset et al., 2004). At the same time, textual data were processed using Text Mining (Ignatow & Mihalcea, 2016), including tokenization, stop-word removal, and TF-IDF weighting. To identify latent themes within the discourse, Structural Topic Models (STM) were applied, enabling the analysis of thematic prevalence and temporal and user-community correlations (Roberts et al., 2019). By combining structural indicators with thematic representations of discourse, the approach offers an integrated analytical framework capable of identifying who drives the diffusion of online discourse, which narratives are conveyed, including those containing explicit antisemitic content, and how they are embedded within digital communication structures.

3. Online Data Collection

The empirical analysis focuses on the dynamics of racism and intolerance in online discourse. Holocaust Remembrance Day represents moments of heightened discursive intensity, in which widely shared narratives coexist with symbolic conflicts, making latent tensions within public debate visible (Siegel, 2020). Following the terrorist attack, carried out by Hamas on October

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7, 2023, and the subsequent Israeli military response in the Gaza Strip, which resulted in thousands of civilian casualties, a renewed form of online antisemitism has emerged and intensified. It is characterized by the tendency to conflate the Israeli government with "the Jews" as a unified collective and to express hostility toward Jews as such.

The dataset analyzed consists of posts collected from the platform 𝕏 during the week surrounding Holocaust Remembrance Day (three days before and three days after January 27th) for four consecutive years from 2022 to 2025. By comparing the two periods before October 7, 2023 (2022, 2023) and after October 7, 2023 (2024, 2025), the study assesses how public attention to Holocaust-related themes has changed. Data were collected using *NodeXL*, a software commonly used to analyze social media networks (Smith et al., 2010). Keyword-based queries included terms such as *Holocaust, Shoah, Nazism, Jews, antisemitism, and January 27*, restricted to Italian-language content. The dataset includes textual content, user attributes, and interaction ties such as reposts, mentions, and replies.

Some descriptive network data are reported in Table 1. A reduction in the number of nodes is observed in 2024, followed by renewed growth in 2025. Moreover, the overall number of arcs increases, indicating greater interaction intensity and broader discussion. By contrast, connectivity measures indicate a strengthening of the network structure in the 2024-2025 period, with an increase in the size of the largest connected component and a reduction in average geodesic distance, reflecting greater reachability among users. Network density exhibits oscillations across periods, mirroring phases of expansion and contraction in relational ties accompanying the reorganization of online discussion.

Table 1. Network measures for the weeks analyzed from 2022 to 2025

	2022	**2023**	**2024**	**2025**
Nodes	8,895	9,405	8,231	10,168
Arcs	12,060	12,420	14,822	16,398
Nodes in the largest component	6,303	7,423	8,231	8,903
Average geodesic distance	6.2	6.0	5.3	5.3
Density (index base 2022 = 100)	100.0	92.1	143.6	104.1

4. Main Findings

The analysis reveals significant transformations in both the structure of interaction networks and the thematic configuration of the online debate. In the years before 2023, discussions appeared relatively cohesive and centered on institutional actors, journalists, and media organizations. Political leaders and major news outlets served as central hubs for disseminating commemorative narratives. However, following the escalation of the Israeli-Palestinian conflict, the network became more fragmented and polarized. Although institutional actors remain influential, the debate increasingly involves issue-specific communities and highly

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interactive clusters organized around political narratives and media coverage. For example, Figure 1 shows the interaction network among 𝕏 users, grouped into communities, during 2024. Specifically, the network highlights journalists and media organizations, such as *Federico Rampini*, *Corriere della Sera*, *Il Foglio*, and *ANSA* (influential in 2024), or *Marco Fattorini*, *Paolo Berizzi*, *Il Fatto Quotidiano*, and *La Repubblica* (pre-2024), as well as institutions such as the Ministry of Foreign Affairs (*Farnesina*, in 2024) and the *Quirinale* (pre-2024). On the political side, *Antonio Tajani* and *Partito Democratico* (in 2024), *Giorgia Meloni*, *Ignazio La Russa*, and *Fratelli d'Italia* (pre-2024), or *Matteo Salvini* (in 2022 and 2024), become the key actors. Some groups include journalists, civic associations, and media outlets, while others focus on political factions and individual politicians. Furthermore, news agencies serve as central hubs for information dissemination. Overall, the identified structures highlight the most active communities, highly interactive users, and potential discussion hotspots, providing a clear map of the network's informational and political dynamics. Compared to the 2022-2023 period, the 2024-2025 network on platform 𝕏 shows increased centrality of digital media and civic associations, alongside a rise in users engaged in issue-specific debates, while institutional political actors are increasingly mediated by others.

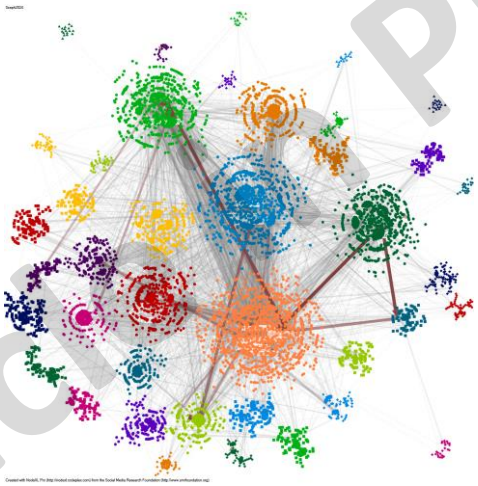


Figure 1. Visualization of the interaction network among 𝕏 users grouped into communities - week 2024

From a semantic perspective, discussions before 2023 focus primarily on Holocaust remembrance, the victims, and historical reflection. In the later period, themes related to the Middle East conflict become more prominent (Topics 4 and 21) and sometimes overlap with narratives that incite hate toward Jews by blaming them for Israeli government actions (Topic 24). The topic structure in 2024 (Figure 2) appears more fragmented and less centered on the traditional themes of Holocaust Remembrance Day. Although the most relevant topic (Topic 15) includes keywords related to fascism, Mussolini, and Italy, references to the Shoah and remembrance are distributed across several topics rather than forming a single dominant cluster.

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A notable element is the emergence of topics connected to contemporary geopolitical debates, particularly the Israeli-Palestinian conflict, with keywords such as *Israel*, *Palestinians*, *Gaza*, and *Zionism*. This suggests that discussions around Holocaust remembrance are increasingly intertwined with current political issues, indicating a shift from a primarily commemorative discourse.

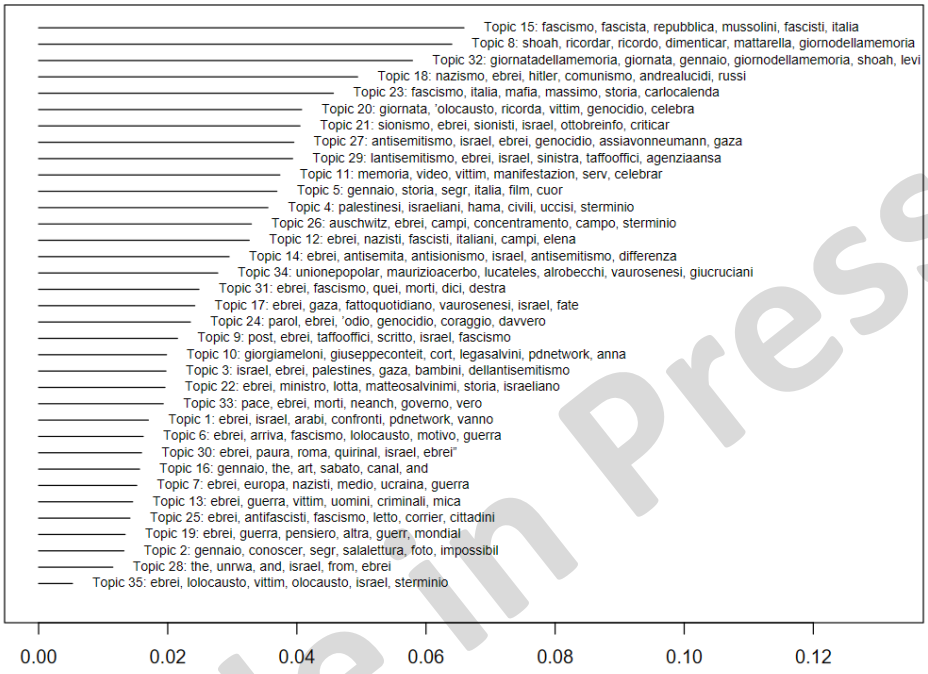


Figure 2: Main topics identified through STM in online debate - week 2024

To conclude, the study provides evidence of important transformations in online debates surrounding Holocaust Remembrance Day in Italy. In 2024, the semantic shift toward the growing centrality of themes related to the Israeli–Palestinian conflict is accompanied by increased network fragmentation and the emergence of novel forms of antisemitism. They emerge through the projection of the actions of the Israeli government onto the semantic representation of Jews as such. The results highlight how geopolitical events can reshape digital narratives of historical memory and foster increased online identity-based hostilities.

By integrating SNA with NLP techniques (including Text Mining and STM), the research captures both the structural dynamics of online interactions and the semantic evolution of public discourse. The analysis was coupled with the identification of a publicly salient temporal window for data collection, anchored to institutional dates such as commemorations or elections, and the scrutiny of an exogenous shock capable of shifting public debate. The approach constitutes an effective strategy for detecting semantic change in online discourse.

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From a methodological perspective, integrating network analysis and computational text analysis offers a valuable framework for studying the evolution of online hate speech and can be extended to the analysis of other forms of digital racism and xenophobia (De Benedictis et al., 2026). It is also applicable to analogous contexts such as Islamophobia, hostility toward migrants, particularly immigrants, and discrimination against ethnic and religious minorities.

Taken together, the observed changes suggest a weakening of the commemorative function of Holocaust Remembrance Day and an increasing instrumentalization of Holocaust memory within contemporary political debate. These findings can inform policymaking on the need to raise awareness about the Holocaust, protect pluralism of opinions, and improve online content moderation. To address antisemitism and similar forms of online hostility, societies must first understand the roots and causes of identity-based hate (The Economist, 2026). Accordingly, this study contributes to academic and public debate on online opinion polarization and informs governments and digital platforms in developing evidence-based policies grounded in conceptualized facts and expressed concepts about the online Holocaust discourse.

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