

Tracking Public Interest Through Google Trends: Comparative Analysis of Global Movements

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ABSTRACT

This paper examined the digital dynamics of three significant social justice movements: Black Lives Matter (2020), South African unrest (2021), and Mahsa Amini protests (2022) through the lens of Google Trends analysis. By tracking search interest patterns during key events, the study explored how each movement gained momentum and sustained visibility online. The analysis revealed distinct public engagement patterns for each movement: The Black Lives Matter movement experienced global peaks in search interest, with sustained attention driven by discussions on police reform and racial justice. The South African unrest saw sharp, localized spikes in search activity, particularly during moments of heightened tension such as the looting incidents and the government's deployment of the military. The Mahsa Amini protests demonstrated sustained, high-level interest globally, with search trends reflecting the growing international focus on human rights and state repression in Iran. The findings highlighted how search engines like Google played a pivotal role in amplifying these movements, documenting societal reactions, and shaping the global public discourse. This study underscored the power of digital platforms to reflect and influence the trajectory of social movements across different political and cultural contexts.



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1. Introduction

In recent years, digital platforms played a pivotal role in shaping social justice movements, amplifying their messages, mobilizing supporters, and influencing public discourse [1]. Notable examples included the Black Lives Matter movement of 2020 (BLMM) [2], the South African (SA) unrest of 2021 [3], and the Mahsa Amini (Iran) protests of 2022 [4], all of which marked significant moments in the global fight for justice and equality. This paper aimed to explore the digital dynamics surrounding these movements, with a particular emphasis on analyzing public engagement through Google Trends data.

The rise of digital platforms revolutionized social activism [5], allowing for rapid information dissemination and the formation of global networks of support. However, the effectiveness and impact of digital activism varied considerably across different political, cultural, and social contexts [6]. By examining search trends related to the BLMM, SA unrest, and Iran protests, this research sought to reveal how public interest fluctuated over time and how each movement's unique characteristics influenced its digital visibility.

This study adopted a data-driven approach, focusing on Google search volume and engagement patterns to provide a comparative analysis of how these movements leveraged digital platforms to spread their messages and maintain public attention. While movements like BLM demonstrated the potential for sustained global digital activism, others, such as the SA unrest and Iran protests, exhibited distinct digital dynamics that were influenced by their respective sociopolitical contexts.

Despite extensive studies on digital dynamics in protest movements [7], this research introduced a novel approach by conducting a comprehensive comparative analysis of three distinct social justice movements. Unlike previous studies that often focused on individual movements [8] [9] or specific digital platforms [10], this research focused solely on Google Trends data to offer a detailed view of how public search interest fluctuated during these movements. By examining these movements across varied cultural and political contexts, the study provided new insights into how search engagement strategies impacted the global visibility and effectiveness of these social justice campaigns. This novel approach enhanced the understanding of digital activism and highlighted both the unique and shared characteristics of digital dynamics in diverse protest contexts, contributing valuable knowledge to the field of digital social movements.

The core of this research addressed the gap in understanding the role of digital platforms, particularly search engines, in modern social movements. By analyzing search trends, this study aimed to uncover both shared and unique aspects of digital activism across varying global contexts. The analysis contributed to a deeper understanding of how Google Trends data reflected public engagement and shaped the digital dynamics of these social justice movements.

The primary objective of this research was to investigate the temporal dynamics of public engagement with these movements through Google Trends data. By systematically examining search trends during these three critical moments, this research provided insights into how public interest developed, peaked, and fluctuated during the lifecycle of these protests. Ultimately, this study aimed to contribute to the broader discourse on the role of digital platforms in shaping, amplifying, and sustaining social movements in the modern era.

2. Research methodology

This research employed a systematic methodology to analyze public engagement and discourse surrounding three significant protest events through Google Trends analysis. Data was collected using the Google Trends API and the Pytrends library, focusing on specific keywords related to the BLMM, the SA unrest, and the Iran protests. After refining the dataset through pre-processing steps, the comprehensive analysis revealed patterns and shifts in societal discourse, offering valuable insights into public information-seeking behavior and digital engagement during these pivotal moments of unrest.

2.1 Data Collection

In this research, Google Trends analysis was employed to assess public search interest in key terms related to three major protest events, revealing insights into digital discourse and engagement. For the BLMM, keywords such as "George Floyd protests," "Black Lives Matter 2020," and "Defund the police" were analyzed using the Google Trends API and the Pytrends library. The data covered the period from May 30, 2020, to June 11, 2020, and included significant dates marked with vertical lines, highlighting moments of intense public interest and digital mobilization. For the SA unrest, keywords like "Looting," "State of Emergency," and "Protest" were examined from July 9, 2021, to July 21, 2021, capturing search interest during key moments of civil unrest. Similarly, the Iran protests were analyzed using keywords such as "Mahsa Amini protests," "Iran Protests 2022," and "Iranian Protests," with data collected from September 27, 2022, to June 3, 2023. This analysis marked significant events, including "Bloody Friday" and the "Burial Controversy," demonstrating substantial digital engagement and growing international awareness throughout the protest period.

2.2 Pre Processing

To analyze Google Trends data over time, pre-processing was streamlined by standardizing date formats and renaming columns to align with the research framework. The dataset was filtered to include only the date and search interest levels for each relevant keyword. This refined dataset facilitated the exploration of search trends, enabling visualizations that plotted keyword interest over time and highlighted significant dates, such as the onset of unrest or key events, including the deployment of the South African National Defense Force (SANDF).

2.3 Google Trend Analysis

In conducting a comparative analysis of the digital media signatures associated with three significant events, a comprehensive Google Trends analysis was employed to evaluate search interest in specific keywords. This analysis aimed to identify patterns and shifts in societal discourse, highlighting how the perceived importance of these events evolved within the digital realm. By revealing insights into public information-seeking behavior and digital engagement during periods of social unrest, this approach provided a nuanced understanding of the dynamics at play in the digital landscape.

3. Results and Discussion

This section presented a comprehensive analysis of the Google Trends data across three significant protest movements considered. By examining public search interest over time, the analysis revealed how pivotal events, media coverage, and governmental actions shaped the dynamics of public engagement. The following subsections explored the temporal peaks, sustained engagement patterns, and socio-political implications of these movements, offering insights into how online discourse evolved in response to each protest. Additionally, this section highlighted cross-movement comparisons, identifying distinct protest archetypes and patterns of information diffusion.

3.1. BLMM Google Trend analysis

Figure 1 illustrated significant shifts in public interest surrounding the BLMM 2020, as captured by Google Trends. The search term "George Floyd protests" exhibited a prominent peak on May 31, coinciding with the aftermath of police escalation on May 30. This suggested heightened public engagement and media attention in response to the immediate unrest. As the graph showed, this initial spike reflected the intense focus on the protests during the early stages of the movement.

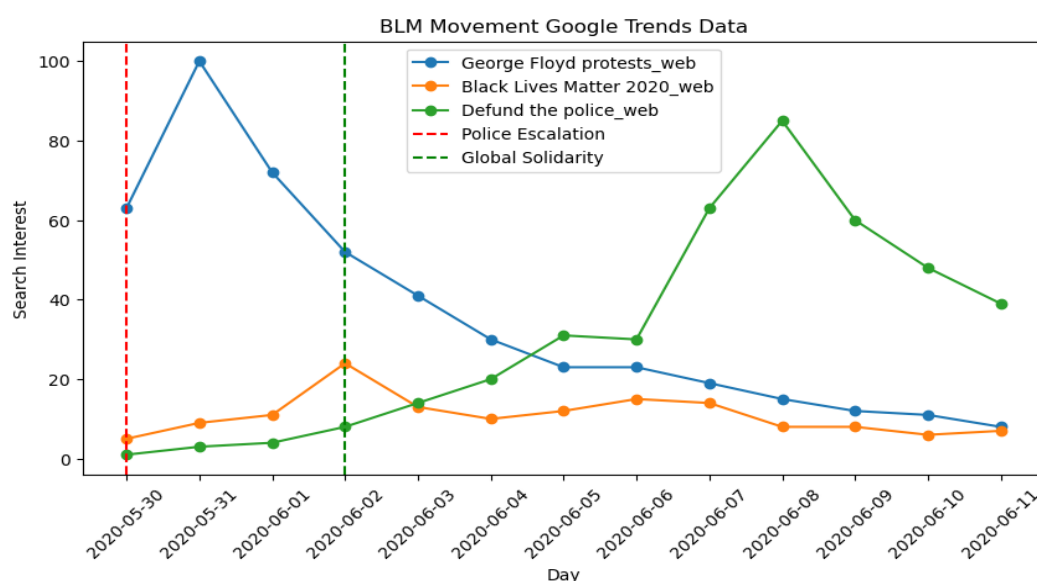


Figure 1. Google Trend Data Analysis of BLMM, Source: Author's analysis, 2024.

In contrast, "Defund the police" witnessed its peak later, around June 7, marking a shift in the public discourse from immediate protests to broader conversations about police reform and policy changes. The timing of this rise aligned with growing advocacy for systemic changes in law enforcement, indicating a transition from reactionary mobilization to more sustained policy-focused debates.

The "Black Lives Matter 2020" search term remained at a relatively steady level, reflecting consistent interest in the movement throughout the period. This stable trajectory emphasized that while attention to specific events, such as police actions, may have fluctuated, the overall movement retained a steady grip on public consciousness. Additionally, the enduring search interest in "Defund the police" post-June 7 suggested that the discourse surrounding structural reforms persisted beyond the immediate aftermath of the protests, highlighting the long-term influence of the movement.

The vertical red and green dashed lines in the graph represented key moments i.e. police escalation on May 30 and the onset of global solidarity protests on June 2. These lines further contextualized the relationship between pivotal events and spikes in search interest, suggesting that these occurrences were critical in mobilizing widespread attention. The consistent search activity over the following days illustrated the sustained public engagement with the movement, which expanded from reactionary protests to broader policy discussions.

Overall, the Google Trends data underscored the dynamic nature of public interest in the BLMM, illustrating how pivotal events, media coverage, and evolving societal debates shaped online search patterns. The movement's lasting impact was evidenced by the gradual decline in protest-related searches, paired with the continued focus on reform-oriented issues, which pointed to a significant shift in societal discourse and advocacy efforts following the George Floyd protests.

3.2. Analysis of SA Unrest Google Trends Data (July 9 - July 21, 2021)

Figure 2 illustrated the public interest trends during the South African unrest of 2021, based on Google Trends data. The graph highlighted key points in public attention, starting with low levels of interest on July 9, 2021. As the unrest began to unfold, particularly with the "Start of Unrest," there was a sharp increase in search activity, primarily for the term "Looting," which peaked at a maximum value of 100 on July 13, 2021. This significant spike correlated with the intensification of looting incidents, media coverage, and the rapid dissemination of unrest-related information during the peak of the events.

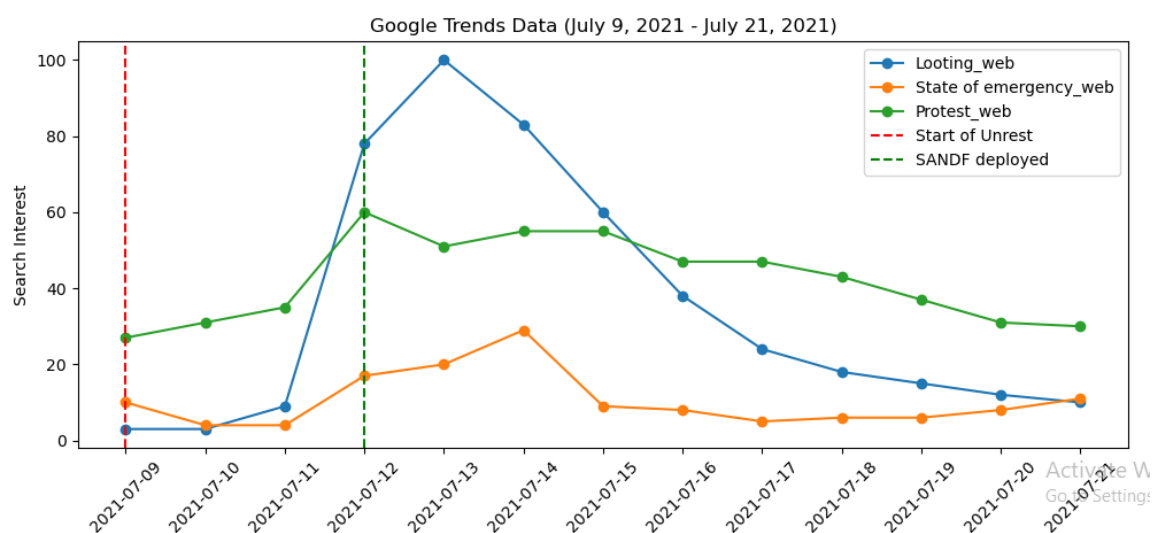


Figure 2. Google Trend Data Analysis of SA Unrest, Source: Author's analysis, 2024.

The SANDF deployment on July 12, marked by the green dashed line, triggered a notable rise in public interest, especially around searches for "State of Emergency." This suggested that the deployment of security forces and governmental measures was a focal point for public concern, reflecting an emphasis on the nation's response to escalating violence and instability.

The search trend for "State of Emergency" remained elevated after the SANDF deployment, reinforcing the public's sustained interest in government interventions throughout the crisis.

Although the term "Looting" experienced a rapid decline after July 13, public attention remained relatively high for "Protest" and "State of Emergency," indicating that while looting-related incidents began to decrease, public focus shifted toward understanding broader protest activities and the ongoing state of emergency measures. The gradual decline of all search terms toward the end of the analyzed period signified a return to relative stability, although a consistent level of search interest persisted, reflecting continued public concern regarding the aftermath of the unrest and its implications.

Overall, this analysis revealed that public attention during the SA unrest of 2021 was driven primarily by key moments of violence and the government's response. The search trends demonstrated how public interest surged in response to media coverage, governmental actions, and on-the-ground events, offering insights into the public's perception and understanding of the unrest.

3.3. Analysis of Iran Protest Google Trends Data (September 30 - October 15, 2022)

Figure 3 offered an insightful analysis of search interest trends during the Iran protests of 2022, specifically focusing on key events that shaped public attention. The data reflected how search interest fluctuated in response to significant moments, such as Bloody Friday (highlighted by the red dashed line) and the controversy surrounding Mahsa Amini's burial (green dashed line).

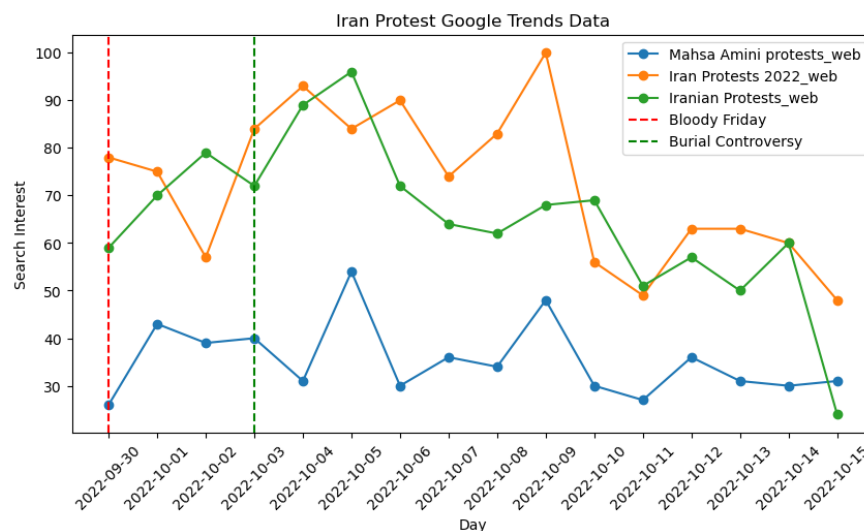


Figure 3. Google Trend Data Analysis of Iran Protest, Source: Author's own analysis conducted in 2024.

Search interest for "Iran Protests 2022" experienced a prominent peak on October 8, 2022, reaching close to 100 on the scale, signifying heightened public engagement during this critical phase of the protests. This surge coincided with intensified media coverage and protests reaching a tipping point, leading to widespread global and local attention. In contrast, the keyword "Mahsa Amini Protests" displayed moderate yet persistent levels of search interest throughout the period, indicating that while the protests triggered by Mahsa Amini's death generated substantial interest, the attention around her specific case was more sustained over time rather than spiking at individual moments.

The term "Iranian Protests" similarly showed strong and consistent interest throughout the analyzed period, although its trajectory displayed more frequent fluctuations compared to the other keywords. This suggested that the broader discourse on Iranian protests, while closely tied to specific events, captured diverse layers of public interest that spanned beyond Mahsa Amini's case, reflecting overall unrest across the country.

Significant events such as Bloody Friday on September 30 and the burial controversy on October 2 played critical roles in driving the spikes observed in search behavior. These events created focal points of attention, generating immediate interest, while the sustained search activity in the following days reflected prolonged public and global interest in understanding the ongoing protests and their broader implications.

Overall, the Google Trends data captured the evolving nature of public engagement during the Iran protests of 2022. Public interest peaked around key events but also remained relatively high throughout the period, illustrating the complex dynamics between specific triggers and enduring societal concerns surrounding the protest movement.

3.4. Google Trends Analysis of Protest Movements

The Google Trends data analysis across the protest movements spanning the South African unrest of 2021, the Iran protests of 2022, and the global Black Lives Matter (BLM) movement provided critical insights into the temporal dynamics of public attention. The analysis revealed key patterns of how social, political, and media events influenced the intensity and duration of online search interest, offering a window into the broader societal response to these movements.

1) *Temporal Peaks and Public Attention:*

For all three case studies, a consistent observation was the sharp rise in search interest corresponding to pivotal protest events. In the SA unrest (Figure 2), the most significant spike in search activity, particularly around terms like "Looting," occurred on July 13, 2021, reflecting heightened attention during the most intense phase of the protests. Similarly, in the Iran protests (Figure 3), a notable peak in search interest for "Iran Protests 2022" was observed on October 8, 2022. For the BLM movement, substantial spikes were evident during key events, such as the trial of Derek Chauvin, which prompted increased searches for "George Floyd" and "BLM" around April 2021. These temporal peaks suggested that public attention was closely tied to the unfolding of major events, such as the deployment of military forces or significant legal developments.

2) *Sustained Engagement vs. Event-driven Spikes:*

While immediate spikes in search interest aligned with critical protest events, there was a notable difference in the sustainability of public attention across the cases. The analysis of the SA unrest showed that search interest for terms like "State of Emergency" and "Looting" declined steadily after peaking. In contrast, the Iran protests demonstrated more prolonged periods of high search interest, particularly for broader terms like "Iranian Protests." The BLMM exhibited a similar pattern of sustained engagement, with ongoing interest reflecting a broader societal commitment to racial justice, even after the peak moments of unrest in 2020. This indicated that while the initial triggers may have varied, the issues underlying these movements continued to resonate with the public.

3) *Influence of Media and Government Responses:*

The role of media coverage and government responses appeared to be a crucial factor in shaping public search behavior. In the SA unrest, the SANDF on July 12, 2021, marked a key moment that amplified public searches around "State of Emergency." Similarly, in the Iran protests, media reports surrounding "Bloody Friday" triggered surges in search activity. In the context of BLM, extensive media coverage of protests and police responses significantly influenced public interest, particularly during high-profile cases of police brutality. These trends underscored the influence of media reporting and state interventions in driving public interest across all movements.

4) *Cross-Movement Comparative Trends:*

The comparative analysis of these movements revealed distinct differences in public engagement patterns. For instance, the search interest for terms like "Mahsa Amini Protests" and "Iranian Protests" exhibited less dramatic peaks compared to the SA unrest but maintained relatively high levels throughout the analyzed period. Conversely, the BLMM experienced consistent search interest, with terms like "Black Lives Matter" and "Systemic Racism" remaining relevant over time. This suggested that while the intensity of events may have varied, sustained public focus on broader socio-political issues contributed to continuous online engagement.

5) *Socio-Political Implications:*

The fluctuations in search interest across these movements also reflected broader societal reactions and the public's desire to understand complex political, economic, and social factors driving the unrest. In all cases, search interest extended beyond the protest events themselves, encompassing related themes such as governmental measures and key figures like George Floyd and Mahsa Amini. This indicated that protest movements served as catalysts for wider public engagement with underlying socio-political issues.

6) *Protest Archetypes and Information Diffusion:*

From the analysis, it was evident that different protest movements exhibited distinct archetypes in terms of information dissemination and public interest evolution. The SA unrest followed an archetype characterized by short, sharp peaks driven by immediacy, while the Iran protests demonstrated sustained engagement reflecting deep-rooted societal grievances. The BLM movement's archetype aligned with ongoing social discourse, maintaining engagement through continuous advocacy and community mobilization. These archetypes provided valuable insights into how movements leveraged digital platforms to maintain momentum.

4. Conclusion

In conclusion, the Google Trends analysis revealed how public attention to protest movements fluctuated in response to key events, media coverage, and governmental actions. Each movement followed its own unique pattern of engagement, yet commonalities existed in how critical moments drove surges in search interest. Understanding these patterns was crucial for analyzing the digital dynamics of protest movements, as it highlighted the role of online platforms in shaping public discourse and amplifying social justice causes across global contexts. The sustained engagement seen in movements like BLM and the Iran protests further indicated the lasting impact these events had on society, even after the initial surge of attention faded.

References

- [1] J. Earl, T. V. Maher, and J. Pan, "The digital repression of social movements, protest, and activism: A synthetic review," *Science Advances*, vol. 8, no. 10, article eabl8198, 2022.
- [2] R. R. Mourao and D. K. Brown, "Black Lives Matter coverage: How protest news frames and attitudinal change affect social media engagement," *Digital Journalism*, vol. 10, no. 4, pp. 626-646, 2022.
- [3] N. Phungula, "Understanding the dynamics of South Africa's July 2021 social unrest," *Journal of Nation-building & Policy Studies*, vol. 8, no. 1, pp. 71-87, 2024.
- [4] F. Mubarak, "Riots or revolution? A framing analysis of the Mahsa Amini protests in US and Iranian media," *Media Asia*, pp. 1-25, 2024.
- [5] N. Alperstein, *Performing Media Activism in the Digital Age*. Springer Nature, 2021.
- [6] M. G. Chon and H. Park, "Social media activism in the digital age: Testing an integrative model of activism on contentious issues," *Journalism & Mass Communication Quarterly*, vol. 97, no. 1, pp. 72-97, 2020.
- [7] L. G. Smith, L. Piwek, J. Hinds, O. Brown, and A. Joinson, "Digital traces of offline mobilization," *Journal of Personality and Social Psychology*, vol. 125, no. 3, pp. 496, 2023.
- [8] L. K. Jones, "# BlackLivesMatter: An analysis of the movement as social drama," *Humanity & Society*, vol. 44, no. 1, pp. 92-110, 2020.
- [9] K. Kretschmer, R. Njuguna, and A. Budree, "Social Media Activism in South Africa," in *International Conference on Human-Computer Interaction*, Cham: Springer Nature Switzerland, July 2023, pp. 223-233.
- [10] C. Klein, R. Reimann, I. O. Quintana, M. Cheong, M. Ferreira, and M. Alfano, "Attention and counter-framing in the Black Lives Matter movement on Twitter," *Humanities and Social Sciences Communications*, vol. 9, no. 1, pp. 1-12, 2022.