

Tactical Coordination Strategies of Pop-Culture Communities Under Automated Moderation

Zhangye Luo

School of Computer Science, Xijing University, Xi'an, China
dalangwu353@gmail.com

Abstract Many traditional anomaly detection systems heavily rely on tracking external links to identify automated manipulation. However, highly organized pop-culture communities often adopt tactical, human-driven strategies—termed coordinated algorithmic action (CAA)—that attempt to evade these traditional link-centric models. To explore these evasion-oriented tactics, this study conducted an exploratory single-case analysis of a targeted network mobilization event. A core sample of 162 original posts was collected by tracking a campaign-specific hashtag over a 25-day period. Rather than employing semantic similarity metrics, this research deliberately measured temporal distribution and exact-match replication to capture the rigid, template-based discipline unique to fan mobilization. The data revealed significant temporal clustering, with 60 posts generated on a single peak day. Furthermore, the analysis identified an extreme exact-match replication rate of 75.31% based on strict, campaign-mandated multi-character templates. Additionally, 63.58% of the sample contained no external links. These findings suggest that human-coordinated actors effectively utilize synchronized pure-text templates to minimize URL-based algorithmic flags, highlighting a potential qualitative blind spot in traditional monitoring assumptions.

Keywords coordinated algorithmic action, collective fan action, exact-match replication, anomaly detection, computational communication

1 Introduction

Computational communication extensively studies coordinated manipulation on social media platforms (Ng & Carley, 2026; Terumalasetti & Reeja, 2024). To detect hidden networks, researchers traditionally use cross-platform external links (URLs) as the core tracking anchor (Giglietto et al., 2023). Consequently, many mainstream anomaly detection algorithms are built upon this URL-centric assumption, primarily targeting automated bots (Wu et al., 2024; Zhang et al., 2025). However, this detection paradigm faces challenges when applied to highly organized pop-culture communities (Treré & Bonini, 2022). Unlike bot-driven astroturfing (Keller et al., 2020), digital fan groups demonstrate unique, human-driven mobilization patterns based on a collective understanding of platform

algorithms, often referred to as coordinated algorithmic action (CAA) (Zhang et al., 2024). Unlike traditional digital activism, CAA emphasizes the explicit, collective intent of human users to manipulate algorithmic visibility without relying on automated scripts. To evade moderation and maximize visibility, these communities frequently abandon traceable external links (Cai et al., 2023). Instead, they rely on highly homogenized pure text and specific hashtags, enforcing strict template replication among human users (Treré & Bonini, 2022).

To empirically explore this "URL-absent" strategy, this study adopts an exploratory single-case design (Yin, 2018). Specifically, a targeted mobilization event surrounding SEVENTEEN member Joshua was selected as a critical case, because K-pop fan communities represent

one of the most highly disciplined and organized forms of collective algorithmic action in contemporary digital culture (Lee & Abidin, 2023; Zhang et al., 2024). The study analyzes a core sample (N = 162) collected during the peak activity period. Importantly, to accurately reflect the strict copy-and-paste discipline of fan culture, this study deliberately utilizes exact string matching rather than semantic models to measure exact-match replication. Ultimately, this exploratory research contributes to the understanding of CAA in digital communities. By observing the shift from URL sharing to pure-text template synchronization, this study provides descriptive evidence of how algorithmic moderation can be bypassed by organic human actors. These findings suggest that future anomaly detection architectures could benefit from integrating qualitative insights into template-based coordination.

2 Methods

Current anomaly detection models heavily rely on tracking external links (URLs), which often fail to identify the tactical coordination mechanisms within highly organized digital communities. Addressing this blind spot, this study adopts a single-case study design (Yin, 2018). It selects a targeted network mobilization event surrounding a specific pop-culture figure as the core observational object to empirically test the limitations of traditional models in specific contexts.

Data was collected using browser-based automated scripts targeting the core hashtag #JOSHUAxSLANDER (referencing the musical artist SLANDER) on the X platform, where organizational fan accounts on the platform publicly mandated a specific text template for mass posting. The observation period was set from July 25 to August 18, 2025, covering the core mobilization cycle. The initial raw extraction yielded overlapping interactions, which were subsequently filtered to exclude pure retweets and promotional spam, isolating only original user-generated posts containing the target hashtag. After cross-validating tweet IDs and text similarity to remove non-independent records caused by algorithmic push notifications, a final empirical dataset of 162 core posts (N=162) was established. To quantify the coordination characteristics, the study extracted two key variables: text link attributes and temporal distribution features. The former utilized pattern

matching to retrieve HTTP identifiers, performing a binary classification (URL-present / URL-absent) to depict the morphological changes of the information carriers. The latter parsed Unix timestamps from tweet metadata, aggregating the sample into a daily frequency sequence to detect the synchronous burst intensity at specific nodes.

The reliability of this study is grounded in the algorithmic data processing workflow. Feature extraction was executed through predefined pattern-matching logic, which accurately operationalizes the strict copy-and-paste discipline of fan mobilization. To determine coordinated behavior, a "temporal-cross" validation mechanism was introduced. Considering that single-dimensional outliers (e.g., sudden volume spikes) could be random, the study focused on the synchronous presentation of explosive growth at specific nodes and a significant tendency toward link absence (URL-absent). The synchronous overlap of these two anomalous indicators serves as the empirical basis for identifying tactical coordination, thereby enhancing the accuracy of profiling behavioral anomalies in specific mobilization contexts. To ensure research ethics, this study strictly utilized publicly available aggregate data. No personally identifiable information (PII) was extracted or analyzed.

3. Results

The data analysis generated objective measurements regarding the temporal distribution, link attributes, and exact-match replication of the collected sample. Based on the predefined measurement framework, the results are categorized into three subsections below.

3.1 Binary Classification of Link Attributes

The analysis of information carriers within the dataset yields data on the utilization of external URLs. Figure 1 presents the binary classification of the posts based on the presence of HTTP links. Within the total sample (N = 162), 103 posts were categorized as "URL-absent," accounting for 63.58% of the entire dataset. Conversely, 59 posts contained external links and were categorized as "URL-present," representing the remaining 36.42%. The data shows that the pure-text format constituted the majority of the sample in this specific event.

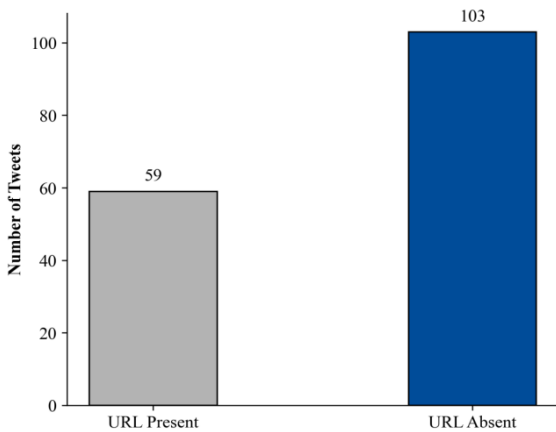


Figure 1. Frequency of External Links in the Core Sample

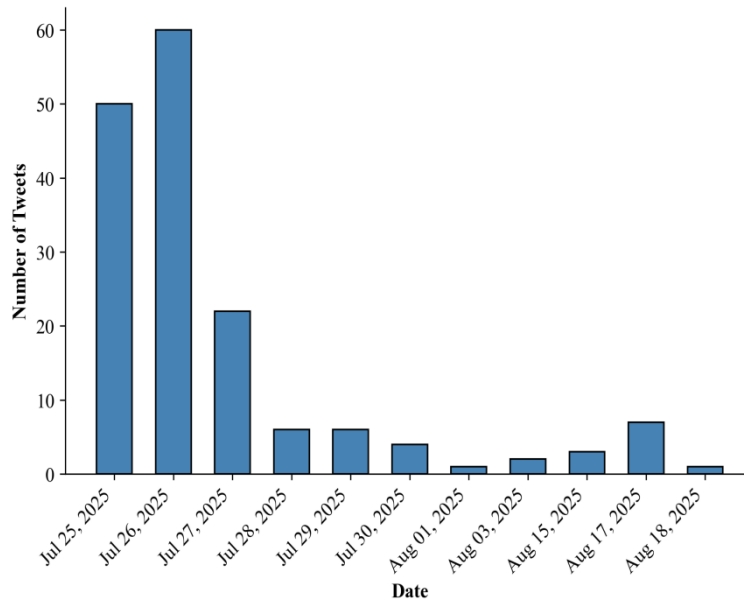


Figure 2. Daily Posting Volume During the Observation Period

3.3 Exact-Match Replication Rate in the Core Sample

The text normalization and pattern-matching process generated specific measurements regarding message uniformity. Out of the 162 core posts, the script identified 122 posts that contained the exact publicly mandated campaign template ("LOVE IS GONE BUT NOT WITH JOSHUA # 조슈아의 _ 선물 _LoveIsGone#JOSHUAx-SLANDER"). In the context of organic human typing, exact matches of lengthy templates are extremely rare; thus, this 75.31% replication rate strongly indicates rule-based coordination. These 122 posts matched the core template completely after the algorithmic removal of whitespace characters and case normalization.

3.2 Temporal Distribution of Posting Volume

The temporal distribution of the 162 collected posts displays specific concentration patterns during the observation period. As illustrated in Figure 2, the posting volume reached its highest levels during the initial two days of the monitoring window. Specifically, the dataset recorded 50 posts on July 25, 2025, and 60 posts on July 26, 2025. Following this initial phase, the daily posting frequency decreased. From July 28 to August 18, the daily volume remained below 10 posts, with an anomaly occurring on August 17, which recorded a minor secondary peak of seven posts.

4 Discussion

The empirical results reveal a high rate of exact-match replication (75.31%) alongside a significant absence of external URLs (63.58%) during the concentrated mobilization period. This behavioral pattern aligns closely with previous research on "algorithmic activism" (Treré & Bonini, 2022). Rather than sharing external links, users in this pop-culture community rely on synchronized, pure-text templates to manipulate platform visibility. This finding supports the theory that digital fan groups possess a strong collective understanding of algorithms (Zhang et al., 2024). They deliberately adapt their communication strategies to complicate traditional detection systems.

Because many anomaly detection models are trained on traditional bot-like behaviors, they frequently prioritize tracking URL sharing, which often approaches 80% to 90% prevalence in traditional bot networks (Pacheco et al., 2021). In stark contrast, the high rate of URL-absence in this sample highlights a strategic deviation. The innovation of this study lies in exposing the blind spots of traditional moderation architectures. Current anomaly detection models and social bot identification frameworks still heavily depend on cross-platform URL tracking (Pacheco et al., 2021; Zhang et al., 2025). While this study does not analyze backend moderation logs, the intentional stripping of URLs—a primary feature used by public bot-detection APIs—theoretically allows coordinated actors to bypass conventional tools. The pure-text templates allow human actors to blend into natural platform traffic, aiming to evade URL-centric scrutiny. However, this study has several methodological and inferential limitations. First, the research infers coordination primarily from behavioral patterns, specifically text similarity and temporal clustering. It lacks direct evidence of internal coordination mechanisms or propagation pathways. Second, the reliance on exact string matching introduces a method-induced bias. This strict filtering approach accurately identifies rigid templates but may ignore semantically similar yet organically generated content. Finally, as a single-case study (Yin, 2018), this research provides empirical observation rather than a falsification of the general URL-centric paradigm.

Looking forward, these limitations offer clear directions for future research. To address the evolving evasion tactics of digital communities, future anomaly detection frameworks must move beyond simple link tracking. Researchers should incorporate short-text semantic similarity and advanced natural language processing to identify tactical coordination in complex social media environments (Ng & Carley, 2026; Wu et al., 2024).

5 Conclusion

Current anomaly detection systems on social media heavily depend on tracking external links to identify automated manipulation. However, as existing literature suggests (Lee & Abidin, 2023), digital fan communities constantly adapt their strategies, actively seeking to bypass automated

moderation. Therefore, this study investigated a targeted network mobilization event to explore these evasion-oriented tactics. The empirical results demonstrated clear patterns of algorithmic adaptation. The analysis of 162 core posts revealed a synchronized temporal burst, with the highest posting volume occurring within the first two days. Furthermore, the dataset showed an extreme exact-match replication rate of 75.31%. This high rate resulted from users repeatedly posting a rigid, predefined pure-text template. Moreover, 63.58% of the sample contained no external links at all. These objective measurements suggest a deliberate shift in digital mobilization. Instead of sharing URLs, actors use synchronized pure text to manipulate platform visibility while avoiding link-centric spam filters. This strategy points to a theoretical vulnerability in current monitoring algorithms.

However, this research acknowledges several fundamental limitations. The study infers coordination solely from behavioral patterns like text similarity, lacking direct evidence of internal communication pathways. Additionally, the exact string matching method introduces a selection bias. This bias accurately captures rigid templates but may ignore semantically related organic posts. Finally, as a single observational case, this research cannot falsify the general URL-centric paradigm. These limitations provide clear directions for subsequent studies. Future anomaly detection architectures must evolve past simple link-tracking mechanisms. Researchers should integrate short-text semantic similarity analysis into their models to identify hidden coordination. Future work should also include multiple comparative cases to validate these behavioral patterns. By combining semantic analysis with temporal clustering, computational communication can better address the tactical adaptations of highly organized digital communities.

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