RESEARCH BRIEF

Algorithmic Curation and Its Effects on LGBTQ Youth Civic Engagement

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Abstract

This study examines how TikTok's algorithmic recommendation system shapes the visibility of civic and political content among young LGBTQ+ users. Drawing from a dataset of 1,000 TikTok videos, it models algorithmic curation as a process that both personalizes and fragments exposure to civic discourse. By first dividing LGBTQ+ youth TikTok users into twenty distinct 'personas' — from "Policy Nerd Gen Z" to "First-Time Voter" — and then simulating "For You" feeds for each of them, this study reveals that civic content on TikTok is (1) unevenly distributed to users, and (2) selectively clustered away from users who TikTok labels as less visibly tied to their queer identity or less "political."

Part 1 – Introduction

Through a mixed-method approach that combines computational data collection, persona-based feed simulations, and engagement normalization, this study demonstrates how algorithmic curation amplifies certain expressions of activism while suppressing others. These results suggest that civic engagement on TikTok operates less as a neutral exchange of information and more as an algorithmically mediated performance designed to attract attention and boost visibility rather than encourage real civic dialogue.

More broadly, this research situates TikTok within the evolving media ecosystem in which young people increasingly receive news and form civic identities. As recommendation systems shape what users encounter, they influence not only patterns of attention but also perceptions of democracy and civic participation itself.

Understanding TikTok's algorithmic logic is thus essential to understanding how digital infrastructures shape the flow of information, influence civic awareness, and ultimately shape the modern public/civic world. This study, which investigates these properties of TikTok's algorithmic curation in the context of young LGBTQ+ users, highlights the inequality of exposure to civic content among the nation's fastest-growing voting bloc (Human Rights Campaign, 2023).

Part 2 – Literature Review

This chapter collects scholarship on algorithmic polarization, digital subcultures, and identity performance with a focus on how social media platforms curate political content for LGBTQIA+users and shape their civic participation. It explores four areas: **(3.1) echo chambers and queer information ecosystems, (3.2) algorithmic culture and platform power over marginalized identities, (3.3) LGBTQ subcultures and aesthetic communities,** and **(3.4) youth queer civic engagement and technopolitics.**

3.1 Echo Chambers, Filter Bubbles, and Queer Information Ecosystems

Echo chambers (Sunstein, 2001) and filter bubbles (Pariser, 2011) explain how users are exposed primarily to ideologically reinforcing content – in other words, content that strengthens their existing beliefs while limiting exposure to opposing perspectives. In LGBTQ contexts, these dynamics also determine whether queer-affirming or identity-specific civic discourse surfaces. Studies such as Barberá et al. (2015) and Bakshy et al. (2015) show that while algorithms can expose users to diverse views, they often reinforce pre-existing preferences, creating insular queer "identity bubbles" that may support in-group solidarity but limit cross-movement coalition building.

YouTube's recommendation system can lead to ideological "pathways" (Ledwich & Zaitsev, 2019), while research by Munger and Phillips (2020) highlights the role of user agency. This means that platformization is not just about hosting content, but about how recommendation systems and algorithms actively shape what users see and how communities form. TikTok's rapid alignment to identity cues (De Souza et al., 2022; Klug, 2023) can create deeply personalized queer feeds that encourage sustained civic engagement but also heighten insularity.

3.2 Platformization, Algorithmic Culture, and Power over Marginalized Identities

Platformization, or the process of social life increasingly being organized through digital platforms (van Dijck et al., 2018), shapes how LGBTQ communities appear, interact, and organize online. Algorithms operate as cultural scripts (Caplan & boyd, 2016), rewarding platform-friendly aesthetics while deprioritizing complex political discourse. Noble (2018) and Pasquale (2015) argue that algorithmic systems perpetuate systemic inequality, which for queer creators can mean shadowbanning, content suppression, or algorithmic invisibility for politically sensitive material (Crawford et al., 2022).

3.3 LGBTQ Subcultures, Aesthetic Communities, and Political Identity

Queer online activism aligns with Hebdige's (1979) idea of aesthetics as symbolic resistance and Thornton's (1995) concept of subcultural capital. In digital queer spaces, aesthetics—such as Pride flag integrations, drag performance visuals, and platform-specific slang—function both as identity signals and as algorithmic optimization strategies. Research on platform algorithms shows TikTok's system favors recognizable styles (Bhandari & Blose, 2023), encouraging conformity that boosts reach but risks flattening ideological diversity.

3.4 Youth Queer Civic Engagement and Technopolitics

Research suggests that many queer youth use social media as a space where identity expression and civic engagement overlap, though these experiences vary significantly across platforms and individuals (Loader, Vromen & Xenos, 2014). In this study, drawing on qualitative interviews and ethnographic observation with LGBTQIA+ adolescents, participants described navigating context collapse, managing multiple audiences at once as they shared personal and political content (Marwick & boyd, 2011). They also reported learning to work with platform algorithms, using specific posting strategies to increase visibility and reach (Tufekci, 2014). While Marwick and boyd's framework predates the rise of TikTok and its algorithmic ecosystem, their analysis remains useful when read in dialogue with newer research (Marwick & boyd, 2011). Features like duets and stitches allow queer youth to build on one

another's content, supporting collaborative activism and participatory political expression (Vromen et al., 2016; Jenkins et al., 2016). At the same time, internal community gatekeeping shapes who is seen as credible or "authentically" queer in online spaces, influencing participation and visibility (Clark, 2022). Together, these dynamics suggest that LGBTQIA+ civic engagement on social media emerges through an ongoing negotiation among community norms, platform affordances, and algorithmic curation– not through a single universal experience (Loader, Vromen & Xenos, 2014; Tufekci, 2014).

3.5 Gaps and Contributions of This Study

Research on algorithmic auditing has traditionally relied on real-time sock-puppet testing- using fake accounts to see how algorithms respond (Sandvig et al., 2014; Narayanan & Kapoor, 2021). However, with the passage of the 2024 U.S. election, this project situates itself within the emerging literature on retrospective algorithm analysis, which emphasizes archival reconstruction and offline evaluation. In simpler terms, instead of testing algorithms live by pretending to be users, this project looks back at saved data to see how algorithms worked in the past.

1. Archival Approaches

Some researchers (Caplan & boyd, 2018; Freelon, 2022) show that instead of just looking at temporary social media posts that appear in feeds, you can study saved collections of posts. These collections often come from big data pulls through platform tools. Under the EU's Digital Services Act, social media companies must keep archives that researchers can access, and those archives are what this project uses to gather data

2. Persona Simulation

Algorithmic bias studies (Ribeiro et al., 2019; Robertson et al., 2023) demonstrate how defining personas reveals differential exposure pathways. By adapting this to historical data, this project shows that persona-driven auditing can be done post hoc, provided strong archival datasets exist. This matters because it expands the tools available to researchers: instead of only relying on live testing,

we can reconstruct how different types of users would have been treated in the past, offering insights into systemic bias, inequality, and the long-term civic impacts of algorithmic design.

3. Offline Policy Evaluation

Econometric methods (Dudík et al., 2014; Swaminathan & Joachims, 2015) provide a statistical foundation for evaluating algorithms without needing live system access. Applying IPS and DR estimators enables researchers to test counterfactuals e.g., "what would conservative vs. queer personas have seen?" even when the original recommendation environment no longer exists.

4. Content Coding in Queer Media Studies

Building on Ahmed (2006), Gray (2009), and newer TikTok studies (Abidin, 2021; Literat & Kligler-Vilenchik, 2022), this project codes content as intersections of civic messaging, identity performance, and platform incentives. The coding schema (see Table 3) aligns with both queer theory and digital media analysis, ensuring interpretability.

Conclusion: The literature supports that historical reconstruction is a valid extension of platform audit methodologies. It acknowledges limitations in fidelity but produces meaningful insights into systemic bias, exposure, and platformed civic discourse. Put plainly, even if we can't perfectly recreate how algorithms worked in the moment, analyzing archived data still shows us important patterns in how platforms shape visibility, identity, and political participation.

PART 3 – Methodology

Dataset and Platform Focus

All data used in this study were drawn exclusively from TikTok collected during the 2024 election period (Pinto et al., 2024) to ensure platform consistency and algorithmic comparability. The dataset extracted comprised 1,000 videos collected through a controlled search and recommendation sampling process using public-facing video URLs, captions, hashtags, engagement metrics, and timestamps. Each video record included quantitative variables (views, likes, comments, shares) and qualitative tags (topics, civic mobilization indicators, ideological framing).

Personas and Feed Simulation

Twenty personas were developed to represent a spectrum of TikTok users, including demographic, ideological, and interest-based archetypes. Each persona was associated with a specific combination of hashtags, engagement patterns, and identity markers that informed the simulated "For You" feed.

Personas included

Ballroom Enthusiast, Trans Rights Advocate, Creator-Activist, Music + Politics, Queer Youth Progressive, Policy Nerd Gen Z, Comedy Fan, Conservative Student, Community Organizer, News Junkie, STEM Student, Faith & Family Voter, Civic Volunteer, Campus Leader, Local Issues Buff, Satire Channel, Mutual Aid Builder, Neutral Entertainment User, Ally Voter, and First-Time Voter.

For each persona, the algorithmic curation model filtered and ranked videos by relevance using composite scoring based on:

- Keyword/hashtag alignment (semantic similarity to persona interests)
- Engagement normalization (z-score standardization of likes, comments, and shares)
- Recency weighting (time-based exponential decay function)

Each simulated feed consisted of the top 100-ranked videos for every persona, generating 2,000+ unique pairwise comparisons and enabling Jaccard similarity analysis of overlapping video recommendations.

Quantitative Analysis

Metrics were computed in three key dimensions:

- Civic Exposure Rate – proportion of civic or political content per feed
- Average Normalized Engagement – interaction rate adjusted for audience scale
- Feed Overlap Index – Jaccard similarity of video URLs across personas

Together, these measures quantify both how much civic content users see and how distinct those exposures are across the broader TikTok ecosystem.

PART 4 – Results

Civic Exposure by Persona

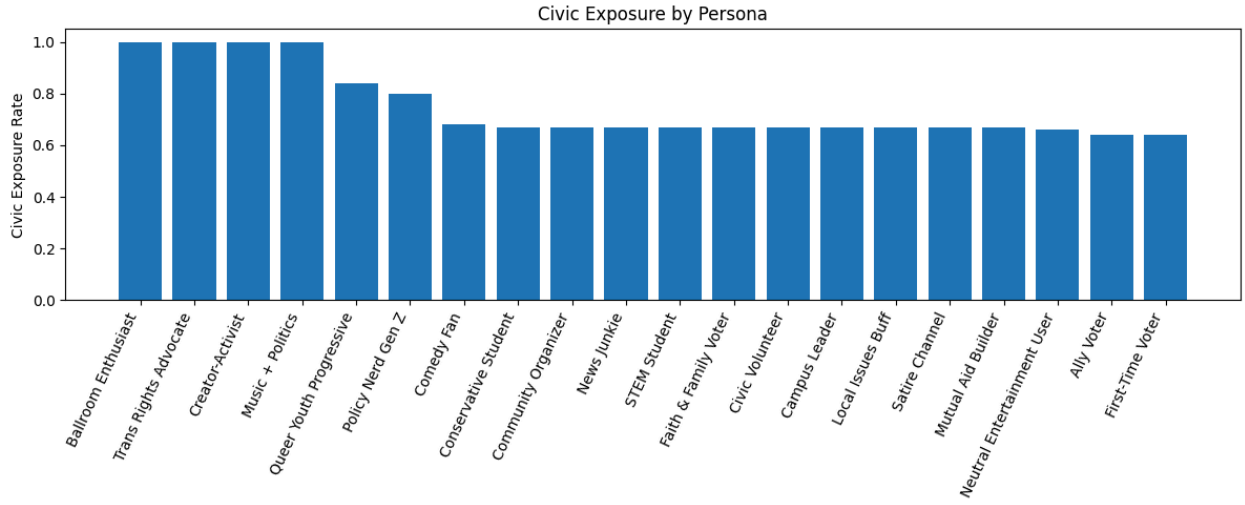


Figure 1 — Civic exposure rates are unevenly distributed across identity and interest categories (twenty TikTok personas).

As shown in **Figure 1**, the highest civic exposure was recorded among Ballroom Enthusiast, Trans Rights Advocate, Creator-Activist, and Music + Politics personas– all of which reached a perfect 1.00 Civic Exposure Rate, indicating that nearly all videos in their feeds contained civic or political themes. These personas were characterized by their engagement with queer culture, expressive aesthetics, or explicit advocacy, suggesting that TikTok's algorithm amplifies civic messaging most strongly when paired with performance or identity-based content.

The Queer Youth Progressive and Policy Nerd Gen Z personas also exhibited high civic exposure rates of 0.84 and 0.80, respectively, showing that policy-oriented and justice-minded users receive a substantial share of civic content even without overt performance cues.

By contrast, First-Time Voter (0.64), Ally Voter (0.64), and Neutral Entertainment User (0.66) experienced the lowest civic exposure, with feeds dominated by entertainment and lifestyle content. This suggests that TikTok's algorithm

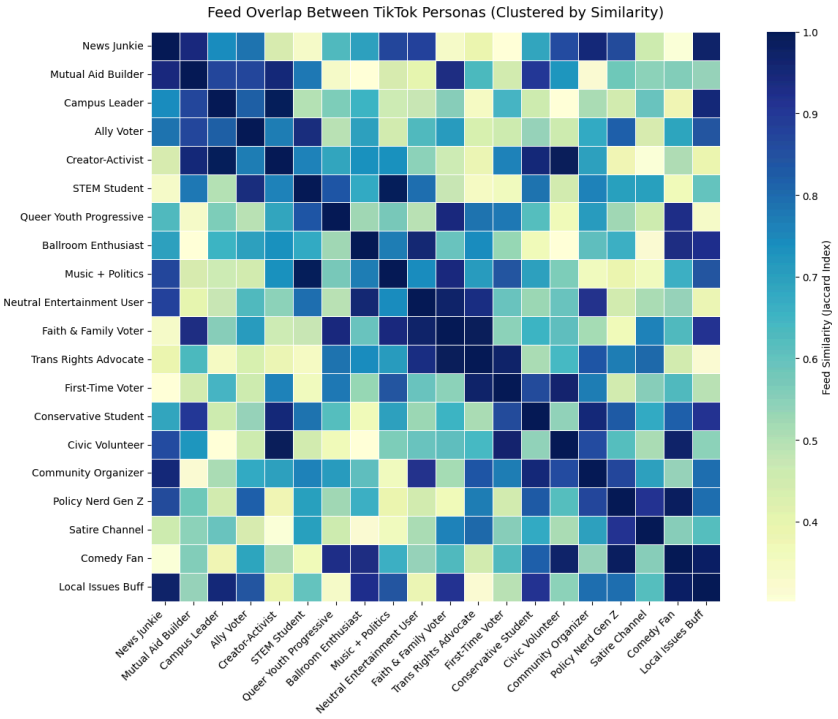
privileges users with established civic or identity markers, creating a stratified ecosystem where political information is delivered selectively.

Engagement Patterns

As shown in **Figure 1**, engagement levels varied modestly across personas. Average normalized engagement ranged from 0.155 to 0.244, with Policy Nerd Gen Z (0.244), Ally Voter (0.223), and First-Time Voter (0.203) ranking highest.

Interestingly, some lower-exposure personas showed higher engagement, implying that entertainment-style political messaging generates more interaction than purely activist-oriented content.

This finding aligns with theories of the attention economy: TikTok's algorithm rewards emotional resonance and audiovisual dynamism over informational complexity. Thus, while civic content may saturate certain communities, engagement incentives still prioritize virality over substance.



Feed Overlap and Algorithmic Fragmentation

Figure 2 — Feed overlap heatmap reveals a clear structure of algorithmic clustering by identity and interest categories:

As shown in **Figure 2**, Queer and activist personas (e.g., Queer Youth Progressive, Trans Rights Advocate, Creator-Activist, Ballroom Enthusiast) exhibit moderate-to-high internal overlap, forming a cohesive civic visibility cluster.

Conservative, faith-based, and STEM personas form smaller, distinct clusters, rarely intersecting with activist or cultural feeds.

Neutral or entertainment-oriented personas show minimal overlap with either cluster, representing algorithmic silos of non-civic content.

Overall, mean feed similarity remained **below 0.20**, illustrating TikTok's capacity to partition user experiences based on inferred identity and ideological alignment.

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Summary of Quantitative Findings

Persona	Civic Exposure Rate	Avg. Engagement	Feed Size
Ballroom Enthusiast	1.00	0.194	100
Trans Rights Advocate	1.00	0.186	100
Creator-Activist	1.00	0.155	100
Music + Politics	1.00	0.155	100
Queer Youth Progressive	0.84	0.191	100

Policy Nerd Gen Z	0.80	0.244	100
Comedy Fan	0.68	0.185	100
Conservative Student	0.67	0.191	100
Community Organizer	0.67	0.191	100
News Junkie	0.67	0.191	100
STEM Student	0.67	0.191	100
Faith & Family Voter	0.67	0.191	100
Civic Volunteer	0.67	0.191	100
Campus Leader	0.67	0.191	100
Local Issues Buff	0.67	0.191	100
Satire Channel	0.67	0.191	100
Mutual Aid Builder	0.67	0.191	100
Neutral Entertainment User	0.66	0.168	100
Ally Voter	0.64	0.223	100
First-Time Voter	0.64	0.203	100

PART 5 – Interpretation and Conclusions

Across the 1,000 TikTok videos analyzed, algorithmic curation consistently tied civic exposure to identity signaling (the public display of belonging, values, or political stance through performative cues rather than substantive engagement). Personas marked by cultural performance, queer visibility, or explicit activism received near-total exposure to political content. Meanwhile, users without strong identity cues were algorithmically filtered into apolitical, entertainment-heavy feeds.

TikTok has become one of the most influential sources of information for young people and a space where entertainment, news, and civic life now all coexist. Because of this, the functioning of "the algorithm" matters immensely. The common assumption is that TikTok's recommendation system simply mirrors user preferences: if you engage with comedy, you get more comedy; if you watch political videos, you see more politics. But over time, this logic shifts. Algorithms do not only reflect interest, they actively construct it, continuously refining what seems relevant based on patterns of engagement and inferred identity.

This creates a self-reinforcing feedback loop. The algorithm learns from a user's early interactions, gradually narrowing the scope of content exposure. What begins as personalization turns into curation, and eventually into segmentation. Two users with similar intentions to learn about civic issues can end up inhabiting vastly different informational worlds, not because of disinterest, but because the system has decided what "belongs" in their feed.

Such systems have implications far beyond entertainment. When TikTok functions as both a social network and a civic information platform, its recommendation engine becomes an architect of democratic experience. It determines who sees discussions about voting, rights, or social movements and who remains excluded from them. In doing so, the platform reinforces social divisions while appearing to celebrate open discourse and the diverse marketplace of ideas.

Understanding TikTok's algorithm is, therefore, not only a technical question but a civic one. It challenges us to reconsider what it means to engage in public life on a platform governed by algorithmic curation rather than an equal, nondiscriminatory "doling out" of content to users. The issue is not that personalization exists but rather that personalization, when left unchecked, can reshape our sense of community and influence how the next generation—who are raised on these platforms—comes to understand democracy.

These findings have significant implications for the queer community. The United States is undergoing a period of democratic backsliding (Levitsky & Ziblatt, 2018), marked by new restrictions on voting rights (Brennan Center for Justice, 2023) and increasingly narrow electoral margins (McDonald, 2022). In this environment, the political behaviors of communities once seen as "too small to matter" carry growing influence. LGBTQ+ voters, in particular, represent a politically active and rapidly expanding electorate whose civic engagement is shaped by digital ecosystems like TikTok (GLAAD, 2022; Flores et al., 2020). Understanding how algorithmic curation mediates their political exposure is crucial as the nation approaches upcoming elections and ballot measures where smaller voting blocs have an increasingly greater influence in civic life.

Historically, queer people have been used as political instruments, their identities leveraged or vilified to serve broader ideological goals (Canaday, 2009; Faderman, 2015). This study shows that, today, this manipulation may operate through algorithmic design. TikTok's recommendation systems not only shape how queer users engage civically, but also determine who gets access to civic discourse in the first place. Filter bubbles and engagement-based curation amplify certain identities while rendering others nearly invisible, reinforcing hierarchies within already marginalized communities (Cotter, 2019; Bishop, 2021). This isn't just about natural algorithmic curation—it's about exclusion. When algorithms decide which narratives are seen, who is heard, what counts as "engagement," and how that shapes what content a person sees, they effectively redraw the boundaries of civic participation. And when the

architecture of visibility and belonging is designed for engagement rather than truth, democracy stops being a shared space and becomes a filtered one.

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