Spreading the Word: Exploring a Network of Mobilizing Messages in a Telegram Conspiracy Group

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ABSTRACT

Telegram's design prioritizes user security and minimal content moderation, making it appealing for communities banned from mainstream platforms, such as conspiracy influencers or far-right movements. We examine the bi-directional behavior of users in a conspiratorial Telegram group chat during the COVID-19 pandemic from 2020-2023. We find that the network structure of this community evolved throughout the pandemic, where the network grew both in the number of active users, as well as in the number of interactions. This increased interconnectivity coincided with surges in planning discussions for associated offline protests.

CCS CONCEPTS

• Applied computing → Law, social and behavioral sciences; Psychology; • Human-centered computing → Collaborative and social computing; Collaborative and social computing design and evaluation methods; Social network analysis.

KEYWORDS

Telegram, social network analysis, conspiracy theories, collective action

ACM Reference Format:

Darja Wischerath, Emily Godwin, Desislava Bocheva, Olivia Brown, Jonathan Francis Roscoe, and Brittany I Davidson. 2024. Spreading the Word: Exploring a Network of Mobilizing Messages in a Telegram Conspiracy Group. In Extended Abstracts of the CHI Conference on Human Factors in Computing Systems (CHI EA '24), May 11–16, 2024, Honolulu, HI, USA. ACM, New York, NY, USA, 8 pages. https://doi.org/10.1145/3613905.3651888

1 INTRODUCTION

The growth of the internet has enabled interconnectivity on a global scale, driving the development of online communities and the subsequent evolution of our digital society. Community-centered social

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CHI EA '24, May 11–16, 2024, Honolulu, HI, USA

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ACM ISBN 979-8-4007-0331-7/24/05

https://doi.org/10.1145/3613905.3651888

media platforms have emerged as hosts to a myriad of online communities, reflecting a wide spectrum of interests and interactions [3, 22, 23]. Each platform is distinguished by a unique set of technical features—or affordances—that can not only shape user experience but also influence how communities form, interact, and evolve [5, 11, 44]. The same affordances that promote connectivity can inadvertently facilitate the spread of hate speech [25], misinformation [1, 47], and extreme ideologies [7, 9, 21, 31, 33]. This is somewhat accentuated on platforms with more lenient regulations: while mainstream platforms like Facebook, Reddit, and WhatsApp draw broad audiences with relatively strict content moderation, fringe platforms like Parler, Gab, and Telegram cater to those seeking platforms with more relaxed content rules and a higher tolerance for controversial discourse [43]. Additionally, as mainstream platforms enforce more stringent content moderation policies, users from communities that are in violation of policies or oppose them as a principle, start migrating to alternative platforms [28]. As a result, scholars and policymakers alike have begun to evaluate the implications of alternative platforms' influence in the collective propagation of harmful ideas and the potential mobilization of harmful action [12, 24, 27, 46].

For instance, the role of social media platforms in facilitating the discussion and development of conspiracy theories has garnered significant research attention, especially when it comes to fringe platforms [8]. Conspiracy theories are defined as beliefs that ascribe secretive, malevolent actions to powerful or influential groups [15]. Evidence suggests that individuals are attracted to conspiracy theories as they provide internally consistent and causally simplistic explanations for complex social and political events [15]. Drawing on this, it is unsurprising that conspiracy theories proliferate online as platforms afford the opportunity to share information and collaboratively construct and reinforce narratives [45]. This process is referred to as collective sense-making and is heightened when users perceive mainstream explanations as insufficient or untrustworthy, or when the information needed to make sense of a phenomenon is limited. The early stages of the COVID-19 pandemic aptly exemplify collective sensemaking and the resultant development of conspiracy theories. The initial lack of comprehensive knowledge about the virus, combined with inconsistent messaging from health authorities, created an information vacuum that was rapidly filled with a variety of unsubstantiated theories, ranging from the virus

being engineered as a bioweapon to speculations linking the spread of the disease to 5G technology [14].

The proliferation of conspiracy theories within online communities can have tangible offline consequences, both on an individual and collective level [17, 20, 36]. They can act as a radicalization multiplier in such contexts, capitalizing on pre-existing beliefs and grievances, and adding urgency to act [2]. For example, several incidents of individual violent extremism have been attributed to membership in online extremist communities related to conspiratorial ideologies. This includes the Christchurch Mosque shooting in 2019, linked to the Great Replacement conspiracy theory and its weaponization of grievances regarding perceived threats to cultural identity and demographic shifts, fueling a narrative of urgent action. The online spread of conspiratorial ideas has also led to several instances of collective action, especially when said theories amplify distrust in institutions and governments and has generally amplified anti-government sentiments [15]. Various COVID-19 conspiracy theories led to a significant rise in protests around the world, with notable gatherings in major cities such as London, Paris, and Washington D.C., largely organized via online communities [14]. The Capitol Riots is another notable example, which saw an organized collective of 2000 supporters of Donald Trump descend on the US Capitol in 2020 under the guise of election result falsification [19, 22]. This was linked to QAnon, a conspiracy theory with significant online traction broadly arguing that a clandestine group of global elites are threatening society [26].

Although previous research has highlighted the importance of the role of online communities in inciting and organizing offline collective action, there has been little exploration of the role of networks—as hosted by particular online platforms—in information sharing and organization for collection action [34]. Yet, understanding the structure of an online community and the narratives that are consensualized within that community is key to explaining the norms that members develop for their behavior, as well as identifying the roles and influence of specific users [34]. There is some preliminary evidence that social validation from online networks can positively impact protest attendance [34], however, little is known about the spread of grievances and planning-related messages in networks during the time of offline protests.

Expanding on the research gap described above, we explore the spread of grievances, violent messages, and planning-related messages in a heavily conspiratorial Telegram group network. The choice of Telegram, a cloud-based instant messaging service with 800 million monthly users, known for its strong focus on user privacy, is pivotal to our study. Telegram hosts various modes of communication including information-distributing 'channels' and discussion-oriented 'groups' resulting in a unique platform that supports diverse user interactions [6, 32]. The former enables certain users to assume leadership roles, broadcasting information to large audiences, while the latter facilitates active participation and user interaction, accommodating discussions of up to 200,000 members. Groups can be directly tied to channels. Whilst Telegram does ban content deemed illegal, it notes that "this does not apply to local restrictions on freedom of speech" (Telegram, 2023). This policy makes Telegram an attractive place for users and organizations banned from mainstream sites, such as conspiracy theory

influencers, the far-right, and other extreme actors [18, 40, 42]. Telegram groups were instrumental in organizing numerous protests, for example the 2022 storming of COVID testing sites in the UK [39], the significant anti-lockdown protests in Germany, which were so impactful that they led the German government to contemplate banning the platform [16], or anti-Black Lives Matter protests in the UK [4]. Our study thus focuses on how Telegram's design and technical affordances facilitate the networked spread of harmful ideas, selecting a specific case study to explore the following research questions:

How are messages with violent, planning, threat, and grievance content circulated across the Telegram group network?

How does the distribution of these messages across networks change alongside protest-inciting events in the UK?

2 METHODS

2.1 Case study context

We selected 'The Light Paper Distribution' for our analysis, a Telegram group linked to the Telegram channel 'The Light Paper'. At the time of data collection, the Light Paper Distribution group chat comprised 4,025 members. The Light Paper channel serves as a key communication outlet for a prominent UK conspiracy-oriented newspaper (or self-proclaimed 'Truthpaper') called 'The Light'. It emerged during the COVID-19 pandemic, it spread misinformation and conspiracy theories around COVID-19, vaccinations, and lockdowns. Today, it plays a pivotal role in leading the UK conspiracy movement, disseminating anti-mainstream, polarizing rhetoric related to various topics [35]. Its influence is amplified through unique community-driven distribution methods, where members are encouraged to bulk order newspapers for distribution in local areas like supermarkets and fairs or participate in the 'neighborhood initiative', where they nominate postal codes for door-to-door deliveries. The Light Paper Distribution group chat was initially created to organize the distribution of the newspaper amongst volunteers and has now become a hub for broad discussions and coordination, including the mobilization of protests during the COVID-19 pandemic. Critically, newspapers like The Light are not limited to the UK: the organization itself has sister newspapers in Ireland and Australia, and in Germany, a comparable publication exists under the name 'Kommunikationsstelle Demokratischer Widerstand'. All are present on Telegram.

Our case study choice capitalizes on Telegram's distinct structure of combining channels for information dissemination and group chats for engaging extensive dialogues, aligning with our objective to explore the circulation and impact of specific types of messages within Telegram networks.

2.2 Data collection

Telegram Desktop has a feature that allows chat history downloads by group chat members into a JSON file [29]. We gained ethical approval from the University to create an account to download all text messages from November 2020 to October 2023. Our data collection practices are in line with Telegram T&C's [37]. The resulting dataset consisted of 198,229 text messages. We did not collect other media (e.g., audio, video, image) associated with the

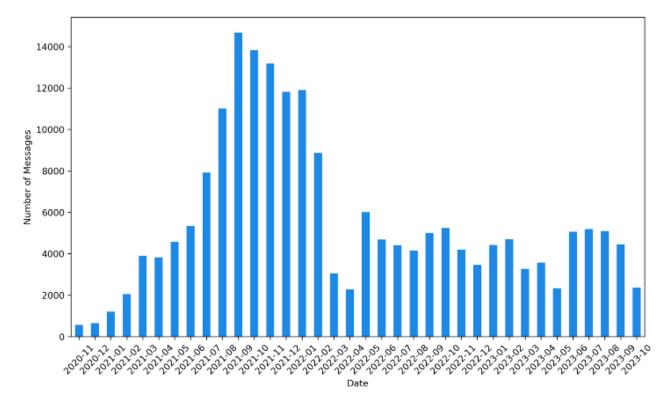


Figure 1: Number of messages in The Light Distribution per month.

messages. Figure 1 shows an overview of the volume of monthly messages for the duration of our dataset.

2.3 Data analysis

To explore the prevalence of inciting messages, we first conducted a dictionary analysis using the Grievance dictionary's [41] subcomponents of grievance, planning, violence, and threat. Next, we created a network of interactions consisting of replies, mentions, and forwards, and visualized that network at two time points between 2020-2021 to capture notable events during the COVID-19 pandemic, as well as the overall network from 2020-2023. We focused on the period during UK lockdowns (11/2020 - 03/2021) and the period during the vaccine rollout (05/2021 - 12/2021).

2.3.1 Dictionary analyses. We first conducted a dictionary analysis of all messages in the group to determine the prevalence of messages related to planning, grievances, violence, or threat. To calculate this, calculated the percentage of dictionary words in a given post. We used sub-dictionaries of planning, threat, violence, and grievance from the Grievance dictionary [41]. We further created user scores based on the messages that originated from that user. Scores are based on the average number of words of the planning dictionary that are used in a message by that user. For example, when user A replies to user B, the percentage of planning words used in that message will contribute to user A's, but not user B's, score.

2.3.2 Network structure. The network comprises four distinct interaction types: Replies, mentions, and forwards, which are divided

into two interactions. Forwards go first from the user who forwarded the message into the group to the external user or channel, and then from the external user or channel to group chat. The bifurcation of forward interactions allows us to accurately assess which external sources are commonly drawn-upon by the group and which users forward messages most often, as well as assigns planning scores to nodes of forwarded messages. Within the network, nodes represent individual users and larger node size denotes a higher user score of planning words. To identify central nodes in the network, we calculated degree centrality for each node based on its respective number of in- and out-degree edges. In the visualizations, this is denoted through node color, where a darker color shows a more highly connected node. To aid interpretability we varied node sizes between each visualization but used the same ratio (1:5) throughout all graphics.

We note that while we used anonymous IDs for network generation, in the data the information of the origins of forwarded messages and mentions in text were only available with their full screen names. Therefore, a minimal number of nodes are duplicated in the network.

3 RESULTS

3.1 Dictionary analyses

Dictionary analyses revealed high levels of planning and violence within messages sent during the months of offline events (Figure 2). Planning words reached peaks during the months where large

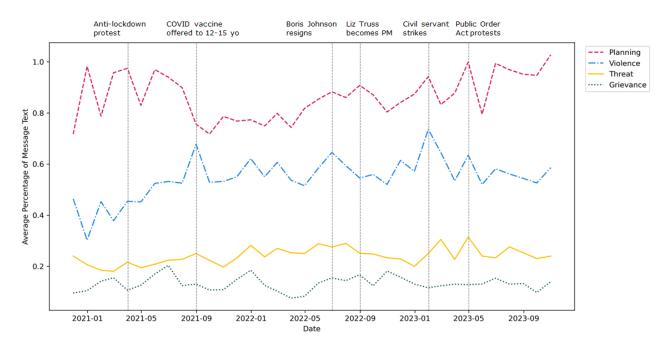


Figure 2: Average percent of message text corresponding to each dictionary category. The data presented here was aggregated by month and key events that occurred during the peak months are highlighted. Note that this is not a representation of a causal relationship.

protests occurred, comprising 1% of an average message text; similarly, violence words peaked at 0.6% of an average message text. This primarily occurred in months where emotionally charged, contentious events occurred such as the introduction of COVID-19 vaccinations to minors in September 2021, or post-lockdown political events in the UK like the resignation of Boris Johnson, the Partygate scandal [30], or the passing of the Public Order Act which signified a time of public political unrest in the UK. Messages containing threat words peaked in a similar fashion (with a peak of 0.3%), as did expressions of grievances (with a peak of 0.2%).

3.2 Network analysis

The overall network comprised 400,813 interactions, made up of 275,529 replies, 114,980 forwards, and 10,304 mentions (see Figure 3 for an overview of the network). The network is clustered around The Light Paper Distribution group and The Light Paper channel, with distinct sub-communities of channels and groups based on interaction type. The clustering around interaction type indicates that there are a limited number of sources that group members tend to prefer and trust. Furthermore, individual user's use of planning words was not correlated to the user's degree centrality, indicating that distributing information related to planning offline action (as evidenced by a high level of planning content detected in our dictionary analyses) may be more of a community-led effort rather than being primarily led by central users.

The evolution of the network (see Figure 4) reveals a similar structure clustered around The Light Paper Distribution group and the Light Paper channel, with increases in engagement levels, based

both on the number of nodes in the network as well as the average number of edges. During the UK lockdown period (11/2020 - 03/2021) the network comprised 969 nodes with 14,462 interactions and an average of 6.5 edges per node. During the vaccine rollout period (05/2021 - 12/2021) the network grew significantly (see also Figure 1), comprising 9,644 nodes with 163,359 interactions and an average of 8.7 edges per node. This growth not only indicates that The Light Paper grew in popularity but also signals an increase in community engagement.

4 DISCUSSION AND FUTURE DIRECTIONS

We examined the bi-directional messaging behavior of users in The Light Paper Distribution group chat during and after the COVID-19 pandemic, where a large number of protests occurred in response to lockdowns, vaccine rollouts, and governmental instability and upheaval. Over time, the network became denser both in number of interactions, as well as in number of active participants.

Dictionary analysis revealed increases in planning during months of offline protests and drops in months without protests. This implies an increase in logistical planning and organizing for offline mobilization, both from within the network, as well as coming from external material forwarded into the group. This supports findings from prior research highlighting the fundamental role of organization amongst group mobilization efforts in collective action research [4, 34]. Interestingly, the most central nodes were not the highest in planning scores - rather, mobilization efforts came from within the community, involving a steady and equal stream of information and opportunities from many users. Previous research

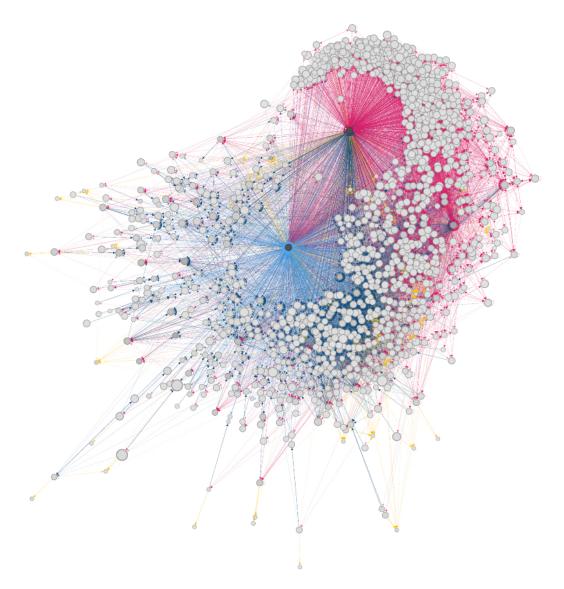


Figure 3: Overall network (11/2020 - 10/2023) of the Light Paper Distribution for nodes with > 30 edges. Larger node size denotes more use of planning words. Darker color denotes higher node degree centrality. The two dark-gray central nodes denote The Light Paper Distribution group (bottom node) and The Light Paper channel (top node). Pink lines show replies, yellow lines show mentions, light blue lines show forwards into the channel, dark blue lines show forwards from users.

has highlighted the connective role of the online context in organizing collective action [17], and our findings further support this indicating that online collective action discourse is less centered and more dispersed about the relevant collective action network.

We further found increases in violence and threat around discussions of specific events that were emotionally charged. This was especially prominent during the vaccine rollout to children and adolescents in late 2021, which caused large outcries and various forms of collective action, from legal threats made to schools to protests, encompassing concerned parents and anti-vaccination groups [38]. Another spike occurred during the era of political unrest in the UK which began with the uncovering of the Partygate

scandal in 2022, the subsequent resignation of PM Boris Johnson [30] and the start of the cost of living crisis. The Partygate scandal, which revealed that members of the UK government hosted parties during national lockdowns, echoed grievances around the equity of lockdown rules and fears of lockdown imposing a new world order. These findings are in line with previous research which highlighted the importance of grievances in motivating collective action and recruiting new members to the cause [4].

Group chats on Telegram foster participation by a range of actors, combining internal and external communication and information circulation [6]. That is, even though public group chats can include

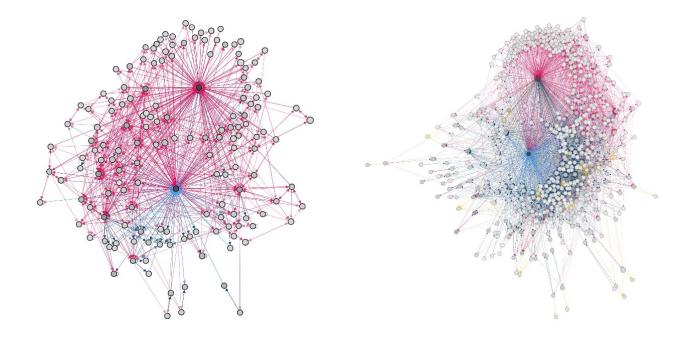


Figure 4: From left to right: Lockdown period (11/2020 – 03/2021) network for nodes with > 10 edges and vaccine rollout period (05/2021 – 12/2021) network for nodes with > 30 edges. Larger node size denotes more use of planning words. Darker color denotes higher degree centrality. The two dark-gray central nodes denote The Light Paper Distribution group (bottom node) and The Light Paper channel (top node). Pink lines show replies, yellow lines show mentions, light blue lines show forwards into the channel, dark blue lines show forwards from users.

a large number of members, their design enables participation, exchange and community building [6]. Particularly, affordances like forwarding messages from other users or channels create a sense of interconnectivity between communities [10], allowing calls to action to spread between networks [17]. The implications of this research suggest that Telegram's unique platform affordances, such as the ease of community engagement and the limited content moderation, not only facilitate broad participation and community building but also play a significant role in the amplification and spread of extreme narratives related to collective action. This dynamic points to the potential for digital platforms to both empower grassroots mobilization and challenge traditional mechanisms of information control and governance [6].

We note here that this research does not establish causal relationships between the spread of planning messages online groups and participation in offline events. Rather, our findings offer insights into patterns and correlations within the data, suggesting possible connections that warrant further investigation. Our approach highlights associative trends that emerge from the analysis, such as increased spread of planning materials and a growth of the network. As social validation has been shown to positively impact engagement in offline collective action [34] and reactions to posts are common on Telegram, we aim to continue the project to examine engagement with posts through likes, replies, and mentions in order to ascertain the community's reaction to calls to action. We

will further explore the relationship between Telegram's unique features of authority-led broadcast channels and community-led group chats and social validation of mobilizing messages.

In this paper, we show the ubiquity of mobilization calls in a Telegram group and discuss how the platform's features afford and encourage mobilization. Particularly in the age of reduced API access [13], gaining insight into a closed group poses a great opportunity for researchers to understand online antecedents to offline mobilization. We explored calls to action and discussions of violence, threats, and grievances in a telegram group network associated with the UK conspiracy scene. We found that users used more planning words in their messages in months when offline events such as protests occurred and used violence and threat words more during emotionally charged political events such as the Partygate scandal or the passing of the Public Order Act.

ACKNOWLEDGMENTS

This work was part-funded by the Engineering and Physical Sciences Research Council (EPSRC grant ref: EP/W522090/1) as a PhD studentship to D.W. as an EPSRC iCASE with B.I.D. and J.F.R. This work also was part-funded by the Engineering and Physical Sciences Research Council (EPSRC grant ref: EP/SO22465/1) as a PhD studentship to E.G. via the CDT in Cybersecurity TIPS-at-scale. The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

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