

# The Impact of Events in the War in Ukraine on Pro-Russian Narratives: The Case of Twitter

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## ABOUT THE PROJECT

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The National Consortium for the Study of Terrorism and Responses to Terrorism (START) is a university-based research, education and training center comprised of an international network of scholars committed to the scientific study of terrorism, responses to terrorism and related phenomena. Led by the University of Maryland, START is a Department of Homeland Security Emeritus Center of Excellence that is supported by multiple federal agencies and departments. START uses state-of-the-art theories, methods and data from the social and behavioral sciences to improve understanding of the origins, dynamics and effects of terrorism; the effectiveness and impacts of counterterrorism and CVE; and other matters of global and national security. For more information, visit [www.start.umd.edu](http://www.start.umd.edu) or contact START at [infostart@umd.edu](mailto:infostart@umd.edu).

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## Introduction

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The strategic use of information to influence and shape public perceptions in a way that would weaken the enemy has been studied extensively across various conflict environments, from insurgencies, interstate wars, to conflicts short of war. Yet the proliferation of social media platforms has enabled state actors to increase the speed and volume through which they can use information to gain a competitive edge. Russia has taken advantage of new technology to invest heavily in its information operations capabilities to weaponize the information environment against domestic opponents and international adversaries, including the United States, Ukraine, former Soviet republics, NATO, and the EU.<sup>1</sup> Information operations, which we define as the use of propaganda to achieve a competitive advantage over an enemy, via social, digital, and/or conventional media, have various goals, which include sowing antagonism among the adversary state's public, undermining trust in the adversary's political institutions, and shaping war narratives.<sup>2</sup>

This project explores the evolution of pro-Russian discourse in response to the changing international milieu and resurgent competition against the West. Significant developments, whether initiated by Russia or in response to other states' policies, have a potentially transformative power that can alter the nature of rivalry. Such events can impact, for example, public and global opinions that could lead to shifts in alliances and changes in domestic support. Therefore, understanding adversaries' management of such events in the information sphere merits attention for its relevance to great power competition. Building on this idea, the report investigates variation in pro-Russian discourse on Twitter in response to three significant events, the Battle of Kherson in Ukraine, the Bucha massacre in Ukraine, and NATO's announcement regarding official membership invitations extended to Sweden and Finland.

Specifically, this study addresses two major questions. First, how do different international events—the onset of war, civilian killings, and a significant geopolitical development (other than the onset of war)—impact the nature and frequency of pro-Russian narratives on social media? Second, how can states exploit various narratives to reduce domestic and international costs associated with different international developments and actions they undertake?

This report is the first in a series of two studies that examine the above questions across three social media platforms—Twitter, Telegram, and Weibo—to tap into potential variations in our observations depending on various audiences that are most likely to utilize each of the platforms. These different audiences are of strategic importance to Russia. Twitter's top audiences are mostly democracies<sup>3</sup> (7 out of 10 top ten countries with most Twitter users<sup>4</sup>), including India, which has been courted by both the United States and Russia in a global competition for influential allies.<sup>5</sup> Telegram's top audiences are

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<sup>1</sup> Mölder & Sazonov (2018).

<sup>2</sup> Linvill and Warren (2020); Perez and Nair (2022).

<sup>3</sup> Regime type is based on the Economist's Democracy Index (2022).

<sup>4</sup> Twitter users by country statistics come from WorldPopulationReview.com (2023).

<sup>5</sup> Mello (2023).

more diverse—only 4 out of top 10 countries with most users represent democracies.<sup>6</sup> This platform is also popular among Russians, who constitute its second most prolific users after India. Telegram’s importance is, thus, connected to its popularity among Russia’s domestic audiences and international audiences (India) that Russia seeks to align closer to its geopolitical interests. Finally, Chinese users have a dominant presence on Weibo (approximately 83% of all users) followed by Taiwanese users (approximately 4.7% of all users).<sup>7</sup> China has emerged as Putin’s significant political and economic ally in the great power competition that pits the United States against China and Russia. A report from the Office of the Director of National Intelligence concluded that China has played a critical role in enabling Russia to continue its war in Ukraine by helping to lower the costs from Western sanctions and through the sale of technology for military purposes.<sup>8</sup>

The next section discusses existing insights on Russia’s use of information operations and formulates key expectations regarding different events’ impact on variation in pro-Russian narratives on Twitter. We then discuss our methodology for collecting and identifying data that we used to examine our propositions. Next, we highlight key results from our analysis and discuss the implications of this study.

## Russia’s Information Operations—Existing Insights

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Past research on Russia’s use of information operations is vast, with a dominant focus on exploring pro-Russian content from the state-affiliated Internet Research Agency (IRA) on Twitter. Empirical studies examine the dynamics through which institutions, such as IRA, spread their message, the messages’ content, and their influence. There is no clear agreement in the empirical literature on how effective Russia’s propaganda has been. For example, some demonstrate that Russians who set up fake accounts and posed as Americans were effective in using social media to create antagonism,<sup>9</sup> while others note limited effect.<sup>10</sup> Capturing the actual impact of information operations on social media is challenging, and thus most studies tackle the question of process rather than outcome.

Existing studies show that the dynamic behind information operations and online content creation is molded to take advantage of a specific target’s societal vulnerabilities and involves amplifying divisions using fake accounts. This was the case, for example, when fake accounts targeted left-leaning audiences with messages that focused on police brutality while fake accounts inflamed right-leaning audiences by focusing on issues related to immigration.<sup>11</sup> A similar strategy of driving a wedge was found in Russia’s information campaigns against NATO.<sup>12</sup> Russia relies extensively on trolls or fake accounts to project specific identity, linguistic, and cultural markers that appeal to different communities that such accounts

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<sup>6</sup> Telegram users by country statistics come from WorldPopulationReview.com (2023).

<sup>7</sup> Daniel (2023).

<sup>8</sup> Garver (2023).

<sup>9</sup> For example: Arif et al. (2018).

<sup>10</sup> For example: Watanabe (2017).

<sup>11</sup> Golino et al. (2022); Freelon et al. (2020).

<sup>12</sup> Starbird et al. (2020).

try to penetrate and build trust with.<sup>13</sup> IRA's postings have been associated with promoting rumors, conspiracy theories, emotional responses, fearmongering, scapegoating, and calls for direct action.<sup>14</sup> Research also shows that Russia uses information operations to strengthen its support among the Russian-speaking diaspora by injecting a heavy dose of propaganda into Russian radio and TV broadcasts.<sup>15</sup>

Most research concentrates on a single case related to a political or social event, such as the 2016 U.S. Presidential elections. When scholars analyze messages over an extended period, they often do so without connecting them to a broader theoretical framework that links narratives to the strategic management of international rivalries. Comparative analysis usually focuses on analyzing the nature of messages across Twitter, Facebook, Instagram, and Alphabet either through data collected from these platforms or case studies on the use of such media based on secondary sources.<sup>16</sup> Existing studies are not merely limited to social media analysis, however. Focus on Russia's information operations using newspapers, radio, TV, and film is also present in current research.<sup>17</sup> Methodologically, most research that relies on data from social media platforms is based on content analysis of messages, descriptive statistics, and the mapping of users' social network connections, while hypothesis testing based on statistical models is used less frequently.

This report contributes to existing body of research by situating pro-Russian narratives in the broader context of strategic competition. In doing so, we can derive testable expectations regarding variation in the strategic use of such communication and discern patterns in narrative depending on distinct types of events using original data from Twitter.

## How Do Different Events Generate Variation in Pro-Russian Rhetoric: Expectations

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States that are embedded in multiple rivalries rely on domestic cohesion and the ability to secure external allies to effectively compete against adversaries.<sup>18</sup> Allies play an important role not only in bolstering the state's military capability but also in creating economic linkages and generating capital that could be used for military purposes or to improve domestic economic conditions.<sup>19</sup> Domestic support is also a critical factor in sustaining the rivalry. When the costs of military engagements result in the worsening of domestic conditions, and they offset the benefits to groups and individuals within the electorate, there is a greater chance that such groups will turn their support away from the leader.<sup>20</sup> Thus, the government's

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<sup>13</sup> Arif et al. (2018).

<sup>14</sup> Bastos and Farkas (2019).

<sup>15</sup> For example: Veebel et al. (2022).

<sup>16</sup> For example: Innes et al. (2022); DiResta et. al (2018).

<sup>17</sup> For example: Malksoo (2018); Veebel et al. (2022).

<sup>18</sup> For example: Sorokin (1994); Rooney (2018).

<sup>19</sup> For example: Rooney et al. (2022).

<sup>20</sup> Rooney (2018).

actions and the actions of the enemy have the potential to generate domestic and international costs that a state needs to manage effectively in the context of adversarial relationships. For Russia this has meant reducing the possibility of costs from domestic opposition as it invaded Ukraine and avoiding costs that could emerge from losing the backing of international allies that Russia needed to help the country survive the onslaught of Western economic sanctions. Pro-Russian narratives can be considered as one of the tools that can help to offset these potential costs and can be employed with greater frequency to shape domestic and international perceptions in a way that is favorable to the state.

At the same time, not all events generate the same type of costs for a state that is embedded in a rivalry and, consequently, do not demand the same type of a response. While information campaigns require low investment,<sup>21</sup> their benefit to the state is likely to be greater if they appeal to selected audiences. Situating information operations in the context of the broader strategy of cost management, enables us to derive three key expectations about the way in which different events are likely to impact the nature of pro-Russian rhetoric.

### **Event Type 1: The Onset of War (The Battle of Kherson)**

Any battle event is costly for a state and when such an event occurs in the initial stages of the war, it requires the leader's effort to reduce either existing or potential opposition to war. While research shows that governments generally tend to enjoy domestic support at the beginning of a military campaign as citizens rally behind the government, this support is temporary.<sup>22</sup> The onset of the Ukraine war carried potential domestic costs regarding the impact of Western sanctions, military casualties, uncertainty about conscription, and outrage—Russians and Ukrainians share close ties; in 2022, 64 percent of Russians said that Russians and Ukrainians were one people.<sup>23</sup> While early in 2022, some 53 percent of Russians mentioned that they “definitely” supported military action in Ukraine, studies of focus groups placed these individuals as unconditional and dogmatic supporters. This means that close to half of Russian citizens were not strongly committed to supporting the government's policy (28%) or opposed military action/were not sure about it (20%).<sup>24</sup> Among the latter group, there was an expression of anxiety regarding the right course of action and horror about the unfolding developments. It is also worth noting that the level of domestic support for the invasion was smaller than support for the annexation of Crimea.

Collectively, these numbers show that Putin still needed to build support for the invasion. Putin also faced an initial wave of protests as the invasion began and used his authoritarian power to unleash massive arrests. The use of pro-Russian rhetoric following the onset of the battle therefore would benefit the government in reducing potential domestic costs linked to the invasion in addition to relying on threats of future arrests.

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<sup>21</sup> Polyakova (2018).

<sup>22</sup> For example: Mueller (1973); Johannson et al. (2021).

<sup>23</sup> Kizlova and Norris (2022).

<sup>24</sup> Vokov and Kolesnikov (2022).

Research shows that leaders can ramp up the emotions of fear by emphasizing the immediate threat posed by the enemy to mobilize domestic support.<sup>25</sup> According to terror management theory (TMT), the awareness of death leads people to side with those who are close to them, their in-group, to shield them from the anxiety that awareness of their mortality can spur.<sup>26</sup> When the in-group is threatened, people's support for values that emphasize the welfare of humanity was also found to decrease for those with more right-leaning political views.<sup>27</sup> Considering the impact that heightened emotions of fear play on people's values, the government can present itself as the only actor capable of protecting its population as it creates a clear boundary between the in-and out-group.<sup>28</sup> This implies that references to the enemy, in this case Ukraine, as seeking physical destruction of Russians and/or destruction of Russian culture, should help the government sustain its domestic support for the invasion. Such narratives capitalize on the inherent fear that one's survival is at stake, therefore increasing Russian citizens' support for the in-group and disregard for past close connections with the Ukrainians and the detrimental consequences of an international invasion on humanity's welfare. Thus, our expectation is that:

*1) The Kherson battle is likely to have an impact on increasing the frequency of pro-Russian narratives with themes of physical and cultural threat posed by Ukraine.*

## **Event Type 2: Civilian Massacre (Bucha Massacre)**

An event that involves massive and deliberate targeting of civilians—like the Bucha massacre—carries the potential of significant costs domestically and internationally. Killing of civilians violates the Geneva Convention, and thus such crimes could be alienating to international allies whose support Russia needed as the invasion began but who were not ideologically aligned with Russia on issues related to governance and human rights. India, for example, has played an important role in maintaining trade with Russia and has helped the state evade Western sanctions.<sup>29</sup> While India's human rights record is patchy—a U.S. report noted the government's role in extrajudicial killings, torture, and targeting of minorities—the country nevertheless has reaffirmed its embrace of values such as democracy, human rights, and the rule of law.<sup>30</sup> Given India's mixed record, Russia could have anticipated the possibility of negative reactions from its ally and seek to reduce the fallout from the Bucha massacre. Indeed, after the global media publicized the evidence of the massacre, India condemned the killings at the UN meeting and called for an independent investigation.<sup>31</sup>

The massacre also created the possibility of domestic costs, especially from close to half of the population whose views on the war were either mildly supportive or who opposed it/expressed uncertainty about it. Such groups may be more vulnerable to shifts in values triggered by atrocities. Research shows, for example, that disasters, crisis, and other humanitarian tragedies create feelings of guilt, grief, and

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<sup>25</sup> Mueller (1973).

<sup>26</sup> Jonas and Fritsche (2013).

<sup>27</sup> Naveh-Kedem and Sverdlik (2019).

<sup>28</sup> Mueller (1973); Rooney (2018).

<sup>29</sup> Lin et al. (2022).

<sup>30</sup> Singh (2023); The White House Joint Statement (2022).

<sup>31</sup> Parashar (2022).



empathy towards the victims.<sup>32</sup> Given the likelihood of both domestic and international costs associated with civilian massacres involving women and children, our expectation is to observe an increase in diverse pro-Russian narratives after the event that would seek to deny the atrocity or include positive gestures, such as focus on peace talks or the Russian military restoring public utilities in Ukraine.<sup>33</sup>

Shifting attention from the atrocity is also likely to emerge given the prevalent use of diversion as a tactic by governments to achieve various policy goals.<sup>34</sup> In his study of the Kremlin's reliance on trolls to produce pro-government comments, Sobolev (2019) finds that Russian online trolls were effective in distracting users who participated in conversations using comments related to political topics. In the case of Bucha, one such diversion might involve presenting Western rivals other than Ukraine, such as EU countries, NATO, or the United States, as destabilizing forces in the global community and thus limiting possible fallout from the massacre with important allies like India, which has also been courted by the United States. Diversion, denial, and positive gestures are likely to resonate more with those who are either appalled by Russia's actions in Bucha or have uncertain emotions regarding the event and its implications. Here, however, the goal may not necessarily be to win support for the government—it may be too challenging given the gravity of killings and emotions they elicit among these audiences—but the objective might be to reduce anger and criticism.

At the same time, there is also an interest in catering to the dogmatic, more hawkish supporters. This means, that the massacre could also trigger an increase in themes about Ukraine posing a physical and cultural threat to Russia. This theme may not resonate with international audiences and domestic groups that are less committed to the regime as justifying killing by equating civilians such as women and children with threats to Russia's existence might further alienate such actors when their feelings of empathy, guilt, or grief have been triggered. Overall, our expectation is that:

*2) The Bucha massacre is likely to have an impact on increasing the frequency of pro-Russian narratives with themes of denial, positive gestures, physical and cultural threats posed by Ukraine, and Western rivals' threat.*

### **Event Type 3: International Political Event Undertaken by the Rival (NATO Membership Offer)**

A significant international event that can alter the balance of power between adversaries could prompt a change in narratives because it has the potential to create new costs for a state. NATO's offer to extend membership to Finland and Sweden was historic, as both states were previously neutral and avoided confrontation with Russia. Since the end of the Cold War, Russia expressed its opposition to NATO's eastern expansion. Given the military strength of the alliance, and the perspective that it would enhance its northern security with Finland and Sweden as new members, the announcement about NATO's expansion conflicted with Russia's interests. Not only would this expansion improve NATO's capability to defend the Baltic states, but reliance on Sweden's and Finland's expertise in managing and

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<sup>32</sup> Wayment (2004).

<sup>33</sup> Russia has used denial as a tactic in other contexts. For example, when investigators uncovered Russia's Internet Research Agency's role in sowing discord during the 2016 U.S. elections, pro-Kremlin narratives referred to the news of social influence as nonsense (DiResta et al. 2018).

<sup>34</sup> Weiss and Tschirhart (1994).

maneuvering the Arctic would be an important win for the alliance as global warming makes the Arctic a strategic region in great power competition.<sup>35</sup>

From an international perspective, other states could see NATO's expansion as a sign of Western strength. States that took a neutral stand in the war on Ukraine could see the expansion as a signal of the shifting balance of power in favor of NATO. The theory of bandwagoning posits that states are likely to ally with more powerful states to reap the benefits coming from their relationship with expected winners.<sup>36</sup> Considering this, pro-Russian rhetoric would likely seek to diminish the political significance of this event by presenting NATO and Russia's other rivals as threats to Russia/global security and/or highlighting such rivals' internal weaknesses. Thus, our expectation is that:

*3) NATO's announcement of a membership offer to Sweden and Finland is likely to have an impact on increasing the frequency of pro-Russian narratives with a theme of Western rivals' threat to Russia and/or global security.*

## Data & Methodology

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To examine pro-Russian discourse across three different events, we collected data from Twitter (now renamed X), focusing on messages in the one-week period leading up to the event, during the event itself, and in the one-week period after the event. The total number of observations includes 15 days for each event and 54,383 total tweets posted by 32,1 unique users.

We collected tweets from Twitter using the official application programming interface (API). Specifically, we utilized the Historical Academic Search API to query Twitter's entire catalog of tweets. Due to the large volume of tweets discussing the war in Ukraine, we developed a Boolean-based keyword search for each event to filter out as much noise as possible and maximize the probability of collecting tweets focusing on the events of interest (see Appendix A). Even so, this still resulted in the collection of tens of thousands of tweets for each event, which posed a challenge for the detailed manual coding methodology developed for this study. Therefore, following similar research efforts,<sup>37</sup> we took a 15% random subsample of the full sample of tweets we collected for each event and subjected them to manual coding and analysis.

We placed two additional parameters on our Twitter API queries. First, we limited our data collection to English language tweets. Besides the language requirement, we did not place any geographic limits on the tweets, meaning English language tweets could come from many parts of the world. Second, we limited our sample exclusively to original tweets, quote tweets, and reply tweets, excluding all retweets from our analysis. While retweets can be helpful in observing how specific narratives disseminate on Twitter and for identifying potentially influential users who frequently have their content shared, in terms of content analysis, it would result in the duplication of the same tweets potentially thousands of times.

Each tweet was coded for the presence/absence of specific pro-Russian narratives: references to Ukraine posing physical threats to Russia; any Russian responses to physical threats posed by Ukraine; references to Ukraine posing cultural threats to Russia; any Russian responses to cultural threats posed by Ukraine;

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<sup>35</sup> Forsberg et al. (2022).

<sup>36</sup> For example: Mowle and Sacko (2007).

<sup>37</sup> Golovchenko (2020).

references to Ukraine posing a political threat to Russia; denials of Russian massacre of civilians and/or other actions Russia has been accused of; references to Russia's positive gestures towards Ukraine; references to Russia's military superiority; references to Ukraine's military inferiority; and references to threats to global security or to Russia posed by any of Russia's rivals other than Ukraine and/or Russia's/Ukraine's contiguous neutral states. This study conducts empirical testing of our hypotheses for the subset of these pro-Kremlin themes. Specifically, our statistical analysis focuses on the following themes, coded as dichotomous variables.<sup>38</sup>

1) Physical threats posed by Ukraine to Russia and/or Russian responses to those threats.

(An example includes a tweet like this one: *@78D\_lulz @GeromanAT Kherson has not been leveled at all -- and you can't cite one single piece of evidence that it has. And don't pretend you actually give a damn about eastern Ukrainians (ethnic Russians) who've been under their own govt's bombs for 8yrs*)

2) Cultural threats posed by Ukraine to Russia and/or Russian responses to those threats.

(An example includes a tweet like this one: *@Dangerouslytal @ClintEhrlich Yeah, 8 years of Kiev killing Russian speaking citizens in E Ukraine is nothing. Starting preparatory shelling of Donbass (week before the Russian attack) "is nothing" UKR wanting NATO membership "is nothing" You are just uninformed fool, who believes the war started in February*)

3) Russia's rivals<sup>39</sup> (other than Ukraine) and/or Russia's and Ukraine's contiguous neutral states posing threats, such as threats to Russia and/or global security.

(An example includes a tweet like this one: *@AFP Based on record, NATO and USA posses a direct threat to global peace and security, we should thank Russia and China for showing them the red line!*)

4) Denial of actions that Russia is accused of committing.

(An example includes a tweet like this one: *You may not believe me. I have relatives in Kyiv, Kharkov and Kherson. The shelling is carried out by the Ukrainian military. When it's over, the evidence will come. So far, only eyewitness accounts. I have no reason not to believe them.*)

5) Russia's positive gestures towards Ukraine, other Western rivals, and/or contiguous states. (An example of positive gestures includes a tweet like this one: *The exit of Russian troops to Kherson has been secured. The North Crimean Canal has been unblocked, the possibility of water supply to the Crimea has been restored. All tasks assigned to the groups of Russian troops for the day have been completed successfully. Russian MoD*)

To consider the impact that an event's occurrence (our independent variable) has on changes in frequency of specific types of themes (our dependent variable), we relied on ARIMA modeling. Because the tweets collected occur over a two-week period, incorporating the dynamic elements of the data is crucial to capture the underlying data generating process and determine the effect of the events at hand. ARIMA modeling is a method developed for modeling time series<sup>40</sup> and is appropriate for this analysis.

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<sup>38</sup> For the theme of "rivals' threat" we assigned numerical codes to different states and organizations, such as the United States, NATO, EU.

<sup>39</sup> We considered any actor that opposed Russia's invasion of Ukraine as a rival.

<sup>40</sup> Box and Jenkins (1970).

## Analysis & Findings

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We identified a total of 6,532 pro-Kremlin tweets in our sample of 54,383 tweets that matched the search for relevant events. The pro-Kremlin tweets constitute 12 percent of all the original messages. While this number is low, it does not imply that pro-Russian rhetoric is marginal. Narratives can gain traction through retweets, which then have the potential to reach much wider audiences. Among this sample of tweets, approximately 33 percent focused on more than one theme.

The smallest number of pro-Russian themes that we noted across the tweets,<sup>41</sup> regardless of a theme type, is associated with the onset of the battle event (239 times that a pro-Russian theme was mentioned in tweets the day of the event and seven days post-event), while the civilian massacre has the most (3,644). An international event undertaken by the rivals—NATO membership offer extended to Sweden and Finland—has 1,872 pro-Russian themes in tweets on the day of the event and over the course of seven days after. The biggest spike in pro-Russian themes in tweets occurred in the context of the Bucha massacre. We noted less than 500 pro-Russian themes in our sample over the course of seven days before the global media reported on the massacre, while over 3,600 such themes were present on the day the reports about the massacre came in and during the seven days after. We now focus on examining the validity of our expectations by looking at the statistical significance of the events' impact on the frequency of specific themes.

### **Battle of Kherson**

The battle of Kherson triggered an increase in pro-Russian narratives that focus on physical threats posed by Ukraine and the ways in which Russia responds/should respond to these threats. The impact of this intervention (battle onset) on the shift in the frequency of the “physical threats” theme is statistically significant at 0.01 level,<sup>42</sup> thus there is a strong support for the expectation that a battle's onset is likely to increase narratives that exaggerate in-group/out-group separation by invoking the threat that the other poses to one's survival. This effect does not, however, apply to the “cultural threats” theme.

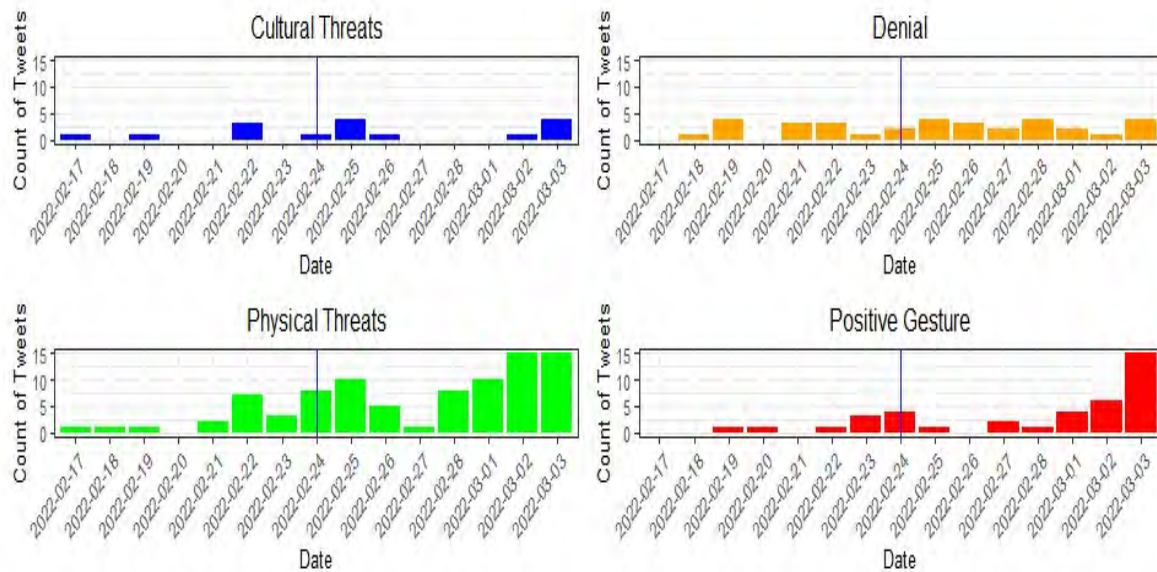
The theme of “physical threats” constitutes 28 percent of all pro-Russian narratives coded for this event (before, during, and after), with 83 percent occurring on or after the battle's onset (Figure 1). The number of narratives with focus on “cultural threats” is small overall—only 16 (5.1 percent of all pro-Russian themes for this event). The analysis also shows that even though there are more themes of “denial” and “positive gestures” that occurred on and after the event, the battle's onset had no statistically significant impact on increasing the frequency of postings with such themes.

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<sup>41</sup> The number of pro-Russian themes is different from the number of pro-Russian tweets as it is possible for a single tweet to include more than one theme.

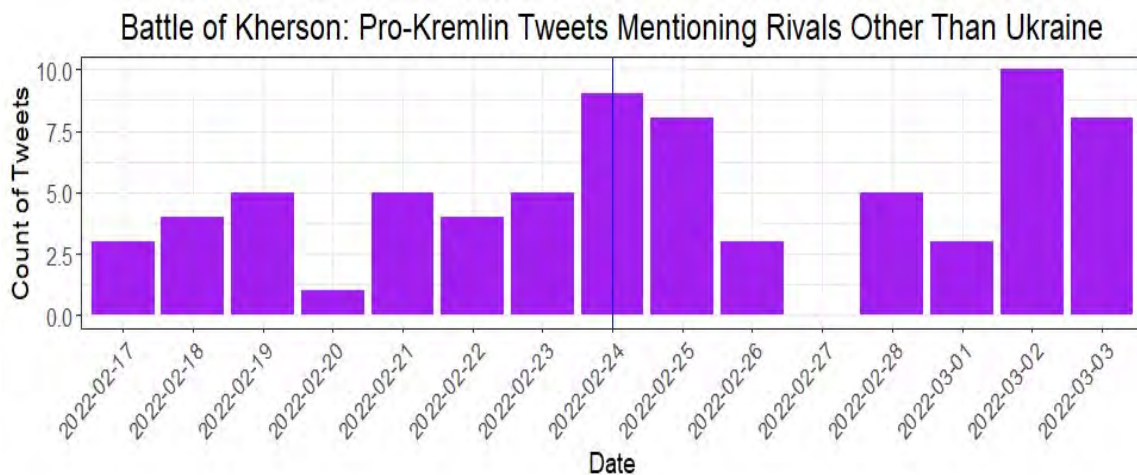
<sup>42</sup> Results are based on insights from ARIMA model, see Appendix B, for full results.

Figure 1: Theme frequency before, during and after the battle: Cultural threats/response to cultural threats, Physical threats/response to physical threats; Denial; Positive gestures



Finally, our results show that there is an increase in themes that reference the threat to global stability/Russia posed by Russia’s rivals (other than Ukraine) after the battle’s onset, but this shift is not statistically significant (Figure 2). While there is a noticeable spike on the day of the event and immediately after, there are also two days with a substantial dip in the number of “rivals’ threat” theme in tweets and a day without any reference to the theme. The increase then starts to intensify on the last two days of our observations.

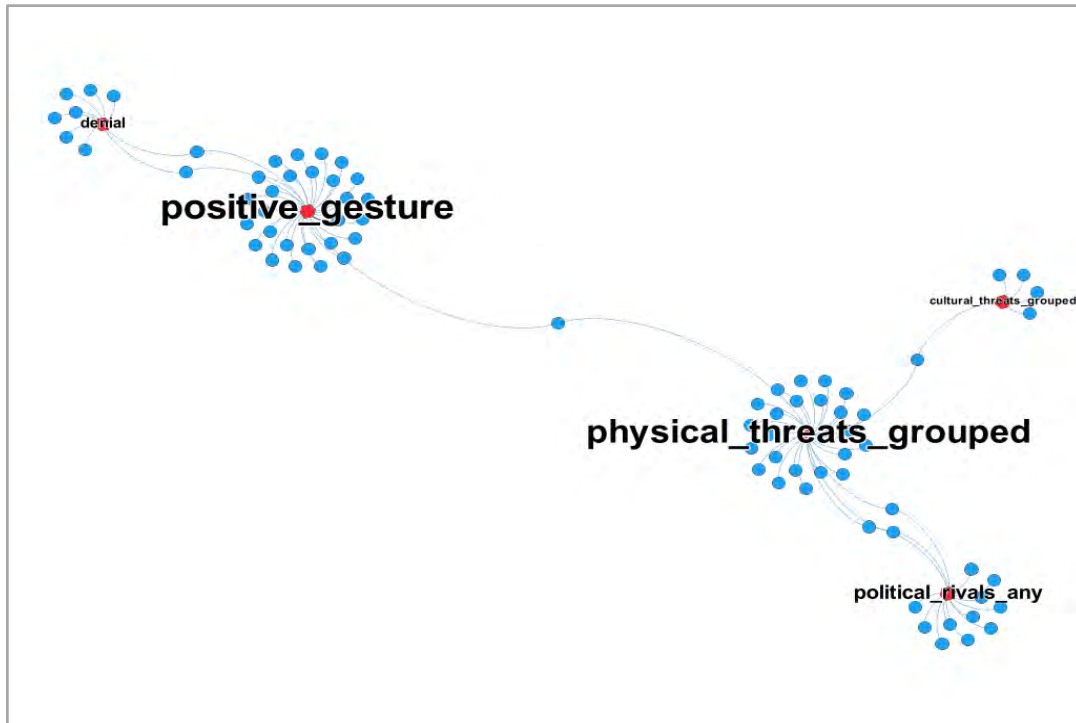
Figure 2: Theme frequency before, during and after the battle: Rivals’ (other than Ukraine) threat to Russia and/or global security



### Kherson: A Look at the Users

Our analysis shows that most of pro-Kremlin narratives in relation to Kherson (either before or after) were initiated by individuals (77.4%) and to a noticeably lesser extent by organizations such as the media (18.3%).<sup>43</sup> Most of the users who posted messages related to Kherson have focused on a single theme, and over 97 percent of the tweets were produced by accounts that occurred in our Kherson sample only once. Thus, we do not detect meaningful presence of prolific users, those who would post across multiple themes in this context, or post multiple times. This is captured in Figure 3, which illustrates the tweet network,<sup>44</sup> with blue nodes representing individual users, the red nodes indicating a specific theme, and edges connecting user nodes to the themes they tweeted. For example, the two nodes between the “denial” and “positive gestures” themes represent users who posted pro-Kremlin messages that referenced those themes.

Figure 3: Battle of Kherson: Network of tweets with different themes



<sup>43</sup> We were not able to verify the identify for five accounts because they were either deleted or suspended after our data coding was completed. Furthermore, our analysis of the users excludes Twitter accounts for Russian government, specifically accounts for Russia’s foreign ministry, Russia’s embassy in the United States, and Russia’s embassy in the United Kingdom. Our analysis of tweets and themes for this subset of the data is presented in a research brief: Berdusis, A. et al. (2024). “Russian Government’s Narratives on Twitter in the Context of Events in the Ukraine War.” *Global Responses to Asymmetric Threats*. College Park, MD: START (June).

<sup>44</sup> The network visualizations were rendered using the Gephi software and the ForceAtlas2 algorithm. The text of the nodes is sized by degree and only shown for category nodes. For the category nodes, degree is equal to the number of accounts that have created tweets containing that category. Physical threats grouped and cultural threats grouped categories in Figure 3 indicate a theme of physical threats and/or response to physical threats and a theme of cultural threats and/or response to cultural threat.

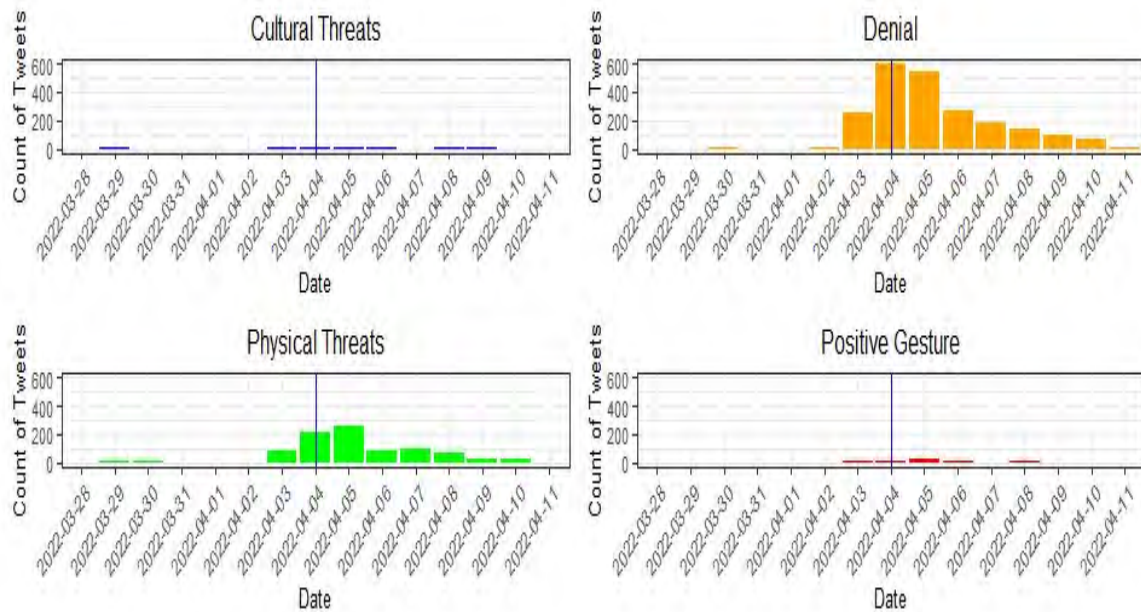
## Bucha Massacre

We find support for our expectation that to reduce domestic and international fallout related to committing a civilian massacre, the government and its supporters would ramp up the narratives of “denial.” The event has a statistically significant impact on increasing the volume of such a theme. “Denial” is the most dominant theme that emerged when the massacre was first reported by the global media and seven days after (Figure 4); it constitutes 53.5 percent of all pro-Russian themes on and post event. The largest increase in references to “denial” in our sample occurs on the day that the event was reported by the global media (over 600 mentions of this narrative) and the day after (over 500 mentions). On the third day there is a decrease to over 200 mentions, which then decreases more over the course of the next days. On average, we noted the presence of the “denial” theme in 244 messages per day beginning with the event and seven days after. The theme of “denial” was also present one day before the emergence of the media’s reports about the massacre (248 mentions), though it rarely occurred in any of the other six days before the reports came out. The 248 mentions that we noted before the massacre was publicized were likely triggered by local reports and conversations about the massacre taking place before the news of the event was picked up and disseminated by the global media. Once the global media reports the event, there is a significant increase in the “denial” narrative. The pattern related to this most dominant pro-Russian theme in tweets in the context of Bucha suggests an immediate but also short-term response to the fallout coming from Russia’s actions.

The focus on “physical threats” is also present in the context of Bucha, and there is an increase in the frequency of this narrative on the day that global media reports on the massacre and after. This increase is statistically significant at 0.05 level, in accordance with our expectations. “Physical threats” is also the second most dominant theme referenced in relation to this event; it constitutes 21.2 percent of all pro-Russian themes on and post event. On average, there were 96 mentions of Ukraine posing a physical threat to Russia and/or how Russia should respond to this threat at the time when the event is first reported by the global media and seven days after. Like in the case of “denial,” there is a spike in the frequency of this theme on the day of the event and the day after, then a decline, suggesting an immediate but short-term pro-Kremlin response. There is no statistically significant impact that the Bucha event had on increasing in the frequency of narratives about Ukraine posing a cultural threat to Russia and/or how Russia should respond to this threat.

We also found that the emergence of global reports about the massacre played a role in increasing the frequency of the “positive gestures” theme. The relationship is statistically significant at 0.1 level, which shows that pro-Kremlin supporters also began to emphasize Russia’s provision of benefits to Ukraine, likely to divert attention from the mounting evidence of the massacre’s occurrence. On average, there were 1.4 mentions of “positive gestures” before the event and 6.3 after. The small number of such themes occurring on and post event, especially in comparison to other themes, nevertheless suggests that invoking Russia’s positive actions towards Ukraine played a peripheral role in formulating pro-Kremlin narratives.

Figure 4: Theme frequency before, during and after the massacre: Cultural threats/response to cultural threats; Physical threats/response to physical threats; Denial; Positive gestures

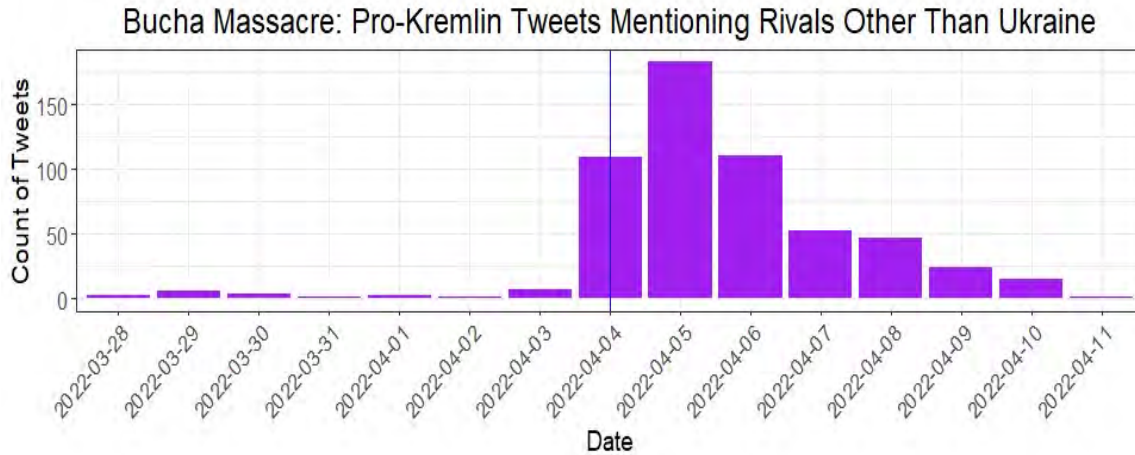


Lastly, in line with our expectation, there is an increase in the narratives that link Russia’s rivals (other than Ukraine) to global instability/threat to Russia post Bucha. This Bucha-driven increase is statistically significant at 0.001 level and suggests an attempt to distract international audiences from the global media’s focus on this crime. As mentioned earlier, India, which has emerged as a neutral party and critical to sustaining Russia’s war effort, condemned the massacre, creating an immediate uncertainty about the meaning of these condemnations for Russia’s relations with its ally. Thus, we noted that this theme was mentioned, on average, 68 times per day over the course of eight days (the event day and seven days after), while the theme’s average occurrence over the course of seven days before the event is only 3.9 times per day. The largest number of mentions occurred on the day after global reporting of the massacre emerged, the day of the reporting, and then two days after (Figure 5). The top four rivals mentioned in the tweets were the United States, United Kingdom, NATO, and EU.<sup>45</sup>

<sup>45</sup> We note this pattern for all events.



Figure 5: Theme frequency before, during and after the massacre: Rivals' (other than Ukraine) threat to Russia and/or global stability.



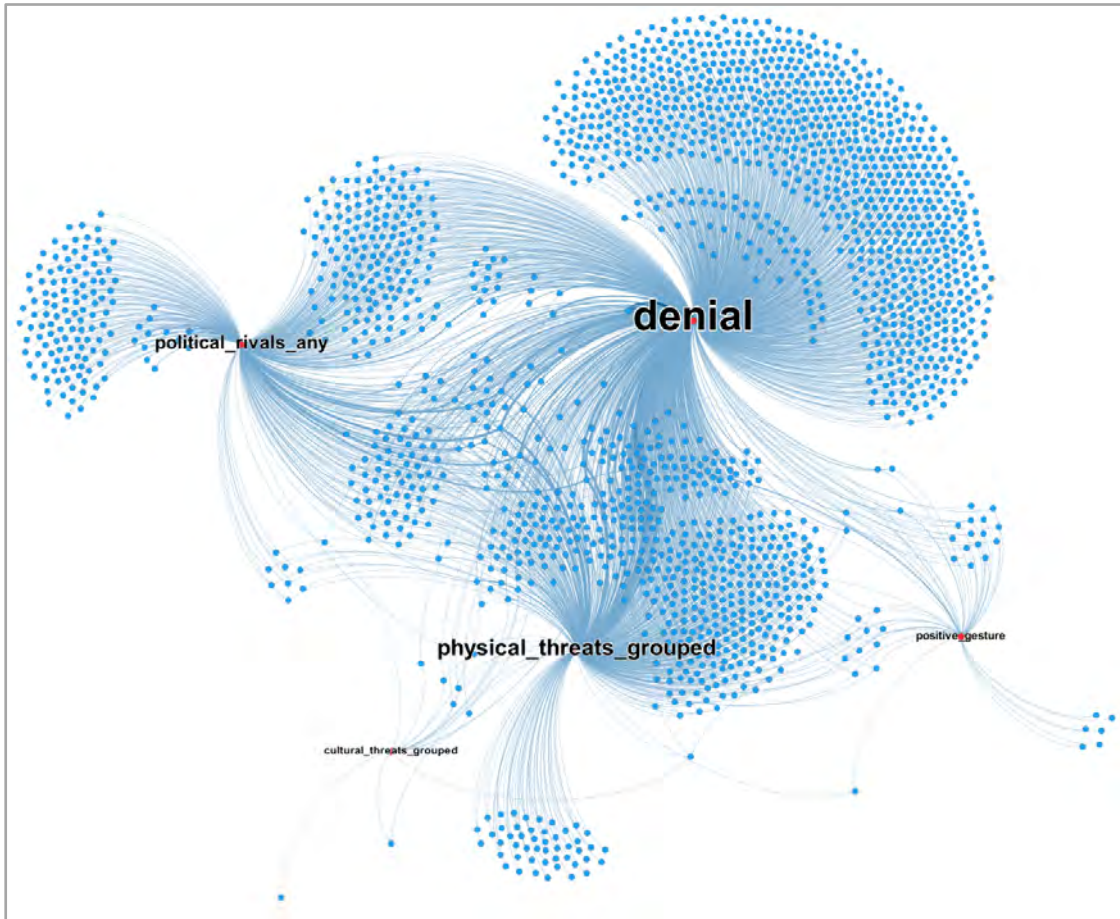
Overall, the massacre shows a more intense and multidimensional proliferation of pro-Kremlin narratives that could help Russia reduce possible domestic and international costs associated with its significant human rights abuses. The denial approach speaks to the idea that disassociation with civilian killings is vital for avoiding the alienation of those who feel empathy for the targeting of innocents, while the use of narratives related to physical threats posed by Ukraine to Russia and threats posed by rivals (other than Ukraine) to global security/Russia nevertheless suggest attempts at justification in the name of survival and diversion of attention away from Russia’s actions to Western threats.

**Bucha: A Look at the Users**

Our analysis shows that most of pro-Kremlin narratives in relation to Bucha (either before or after) were initiated by individuals (96.7%) and, to a much-limited extent, by organizations such as the media (3.1%).<sup>46</sup> Unlike Kherson, this event is associated with users who would post across multiple themes, even if majority of them posted just one message (84.7 percent). Figure 6 shows the network of tweets with a noticeable high popularity of the “denial” theme and its co-occurrence with other themes. Given that most accounts tweet only once, we find that messaging is dispersed, yet the strength of messaging is amplified in comparison to Kherson due to frequent use of more than one theme in a single message.

<sup>46</sup> We were not able to verify the identify for 156 accounts because they were either deleted or suspended after our data coding was completed. Furthermore, our analysis of the users excludes Twitter accounts for Russian government, specifically accounts for Russia’s foreign ministry, Russia’s embassy in the United States, and Russia’s embassy in the United Kingdom. Our analysis of tweets and themes for this subset of the data is presented in a research brief: Berdusis, A. et al. (2024). “Russian Government’s Narratives on Twitter in the Context of Events in the Ukraine War.” *Global Responses to Asymmetric Threats*. College Park, MD: START (June).

Figure 6: Bucha massacre: Network of tweets with different themes



### NATO Membership Offer

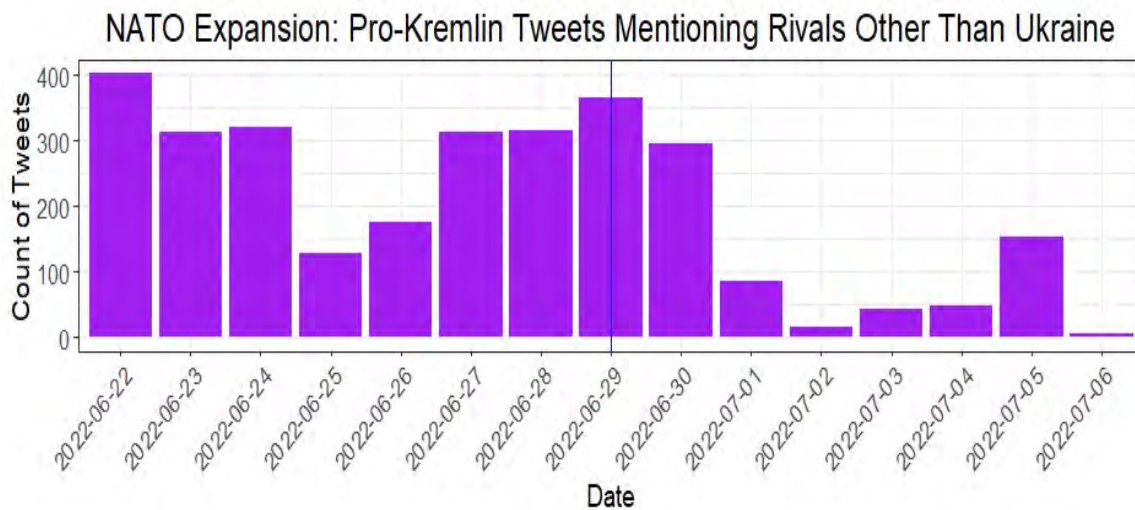
Our results show that NATO's announcement of extending invitation to Sweden and Finland to join the alliance had a statistically significant impact on change in the intensity of a theme related to a global threat posed by Russia's rivals other than Ukraine but in the opposite direction to what we expected. Out of all pro-Russian themes we analyzed for this event on the day of the announcement and seven days after it, the "rivals' threat" theme was the most dominant but there was a decrease in the narrative for the post-event period overall.

Posts with focus on Russia's rivals posing threat to global security and/or a threat to Russia are quite popular. Before the event, we noted, on average, 282 mentions of such a theme, while for the period starting with the announcement and seven days after, the average was 127 per day (Figure 7). The higher volume of mentions prior to the announcement is likely due to the uncertainty that came with NATO's membership offer to Finland and Sweden, which Turkey<sup>47</sup> initially opposed. This uncertainty might have created a window of opportunity for Kremlin supporters to intensify the "rivals' threat" narrative to sow

<sup>47</sup> Liptak, K. et al. (2022).

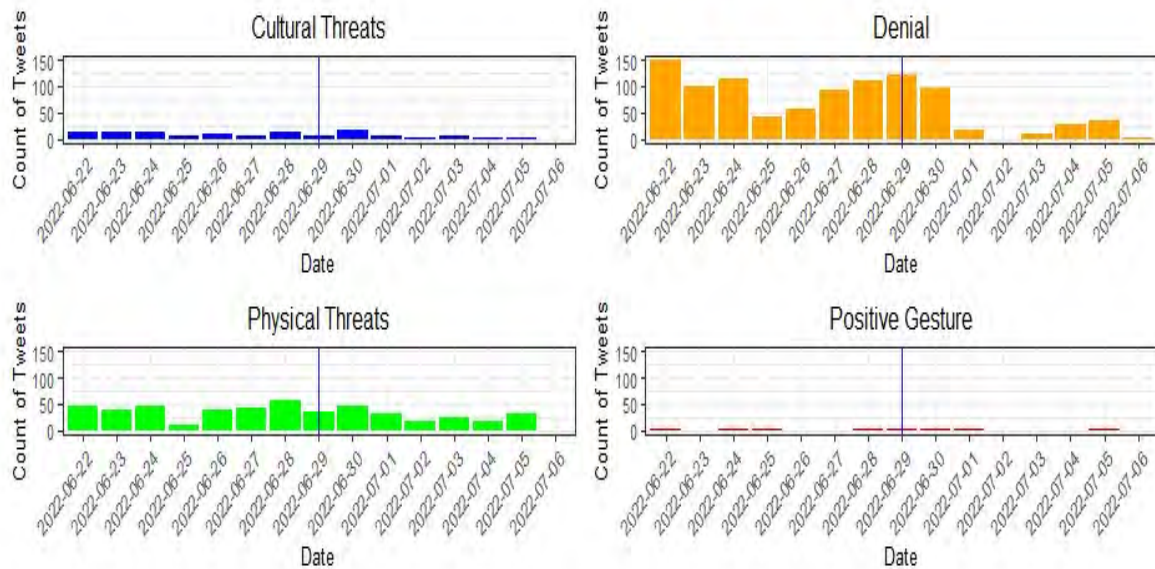
division among NATO members, present NATO as a global threat to other states, and delay the alliance’s expansion. A day after Turkey dropped its opposition, NATO officially announced its invitation to Finland and Sweden, yet the announcement did not generate a substantially higher volume of pro-Kremlin messages possibly because the window of opportunity to capitalize on uncertainty regarding Turkey had closed. Overall, the high volume of “rivals’ threat” narrative surrounding NATO enlargement announcement suggests a concern for an anticipated fallout coming from an international development. Yet the results from the statistical analysis also show that once enlargement was a fait accompli, including “rivals’ threat” narrative in tweets became less important as did the inclusion of other pro-Kremlin themes.

Figure 7: Theme frequency before, during and after NATO membership offer announcement: Rivals’ (other than Ukraine) threat to global stability.



Lastly, our results indicate that the event had a statistically significant impact on change in the intensity of other themes as well. There was only lack of statistical significance for the “positive gestures” theme. The event is associated with a decrease in themes of “physical threats,” “cultural threats,” and “denial,” suggesting that a period before NATO’s official announcement of membership offer to Finland and Sweden rather than after was of greater interest to pro-Kremlin accounts. Like in the case of our discussion of the “rivals’ threat” theme, it is likely that the uncertainty regarding NATO’s expansion associated with Turkey’s opposition might have been seen by Kremlin supporters as a fertile ground to exploit but less so when Turkey dropped its objection, and the announcement of offer followed. Figure 8 shows the change before and after the event in the frequency of these narratives. Notable here is the observation that the volume of such themes was smaller compared to the “rivals’ threat” theme, the one theme in our analysis that explicitly displays antagonism against the West. This suggests that NATO enlargement created more concerns about possible international costs than domestic ones.

Figure 8: Theme frequency before, during and after NATO membership offer announcement: Cultural threats/response to cultural threats; Physical threats/response to physical threats; Denial; Positive gestures.

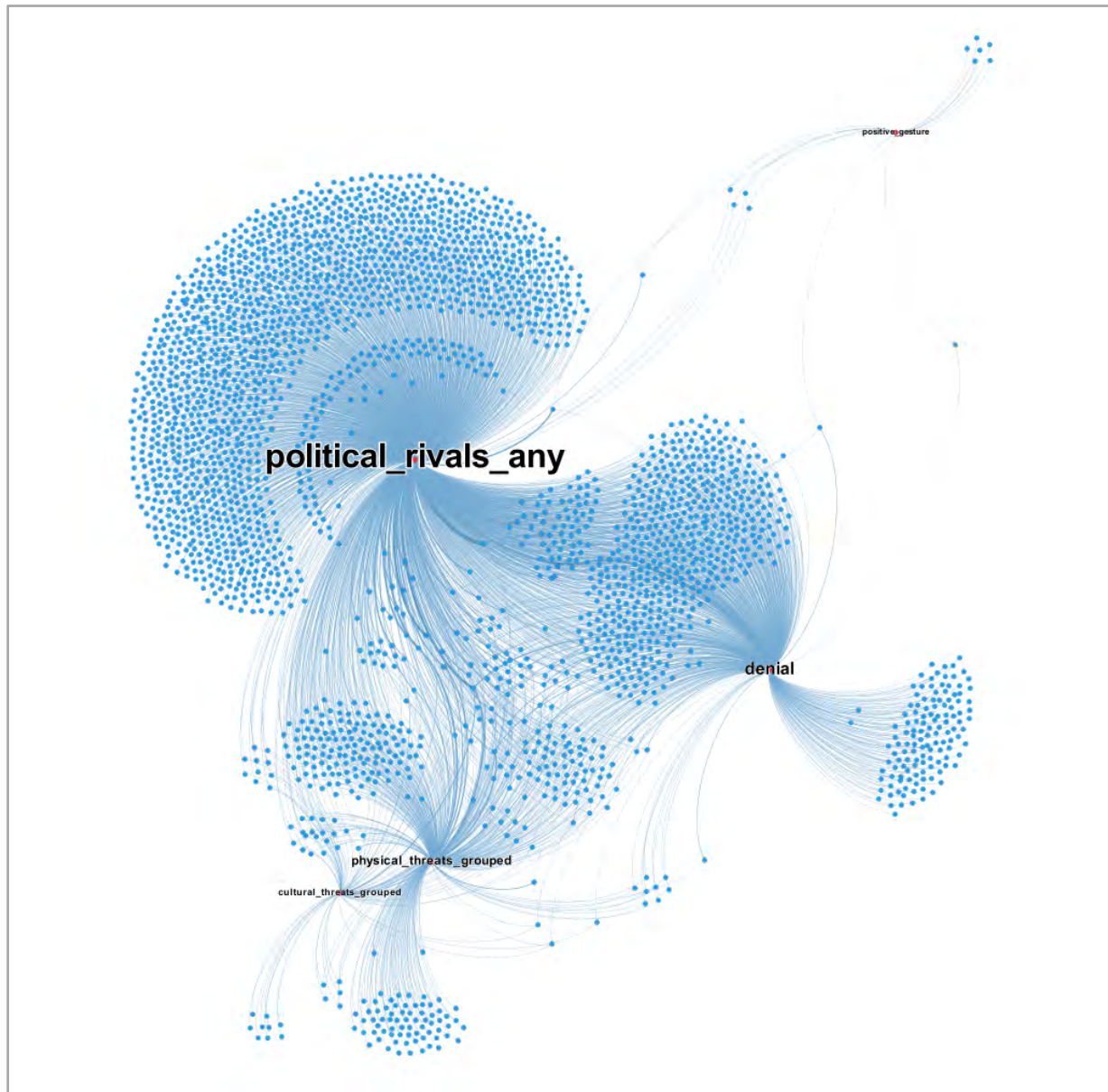


### NATO Membership Offer: A Look at the Users

Our analysis shows that most pro-Kremlin narratives in relation to NATO formally announcing membership offer to Finland and Sweden (either before or after) follow a similar pattern to Kherson and Bucha in that individuals are the most prolific authors of messages and not organizations. Like Bucha this event is associated with users who posted across multiple themes, even if most posted one message (87.7%). Figure 9 shows the network of tweets with a sizable cluster of accounts situated between “denial” and “political rivals’ threats,” which indicates that many accounts that tweet pro-Kremlin messaging targeting Russia’s geopolitical rivals also tweet messaging denying Russian offenses in the war in Ukraine.<sup>48</sup> Similar but smaller and more dispersed clusters also exist between the “rivals” category and other categories, which suggests that the targeting of Russia’s rivals anchors discussions of other pro-Kremlin themes in the NATO sample. Just like in the context of Bucha, most accounts tweet only once but the strength of messaging is amplified in comparison to Kherson due to frequent use of more than one theme in a single message.

<sup>48</sup> Our analysis of the users excludes Twitter accounts for Russian government, specifically accounts for Russia’s foreign ministry, Russia’s embassy in the United States, and Russia’s embassy in the United Kingdom. Our analysis of tweets and themes for this subset of the data is presented in a research brief: Berdusis, A. et al. (2024). “Russian Government’s Narratives on Twitter in the Context of Events in the Ukraine War.” *Global Responses to Asymmetric Threats*. College Park, MD: START (June).

Figure 9: NATO membership offer: Network of tweets with different themes



Lastly, it is worth noting that we detected no meaningful presence of users who posted across Kherson and Bucha (5 accounts) and Kherson and NATO (3 accounts), but we find the existence of 131 accounts containing messages for both Bucha and NATO. While the tweets written by the latter represents a small percentage of all tweets in the context of Bucha and NATO (8%), it nevertheless demonstrates that these two developments received the strongest reaction from Kremlin supporters due to the high level of expected costs associated with the revelations of a civilian massacre and a potential for geopolitical realignment.

## Key Insights and Policy Implications

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Filling the gap in research on the evolution of pro-Russian rhetoric on Twitter across different types of events, this study advances an argument that variation in themes likely reflects the government's need to avoid domestic and international costs in advancing the state's foreign policy agenda. Some themes are more useful than others depending on expected audience costs generated by an event. Our analysis highlights three main findings and implications for Western response to such information proliferating on Twitter (now X).

First, we found that the nature of pro-Kremlin narratives is not uniform across different events. Two events, the Bucha massacre of civilians and the announcement of NATO membership offer to Sweden and Finland, had a statistically significant impact on affecting the frequency of all but one theme that we analyzed ("cultural threat posed by Ukraine to Russia" in the case of Bucha and "positive gestures offered by Russia to Ukraine" in the case of NATO membership announcement). The onset of the battle of Kherson had a significant impact on increasing the frequency of postings with a theme of "physical threats that Ukraine posed to Russia's survival," with no impact on the frequency of other theme types. This suggests that there was a concern about limiting domestic costs by invoking fear-based, in-group/out-group emotions. However, the small number of pro-Kremlin themes linked to the onset of the battle regardless of theme type also suggests that the state and its supporters did not see a particularly high value in using Twitter posts to reduce potential domestic costs linked to the early days of the war.

Our findings suggest that pro-Kremlin narratives were extremely sensitive to international and domestic costs linked to Bucha and NATO membership offer. In the case of Bucha, there was a substantial increase in a diverse palette of themes emerging with the news of a civilian massacre, which demonstrates a concern for reducing fallout from potential domestic and international costs and the utility of different themes in accomplishing this. The use of denial, positive gestures, diversion (focusing on Russia's Western rivals as threats to global security), and justification in the name of survival (physical threats posed by Ukraine to Russia) are themes that resonate with different types of audiences: those who might feel empathy towards the victims, those who are neutral or uncertain in their views of the regime, and those core supporters who want to see their pro-regime views validated.

In the case of NATO membership announcement, we observe the largest campaign promoting a theme of threat to Russia and/or global security posed by rivals (other than Ukraine), with the United States, United Kingdom, NATO, and EU referenced the most. This suggests a significant concern about international geopolitical shifts. Because the frequency of the theme was much greater before the actual announcement was made than after, we conclude that Turkey's initial reluctance to agree to the enlargement likely created a window of uncertainty about NATO's expansion, and thus an opportunity for Kremlin supporters to exploit it by ramping up anti-West rhetoric. However, when NATO made the announcement and the window closed, the utility of this narrative declined, which the data demonstrates.

Second, this report suggests that contrary to the expectation that authoritarian governments are blind to any costs emanating from massive human rights abuses, Russia is still vulnerable to possible domestic costs and to incurring damage in ally relations, particularly with states, such as India, that do not fall neatly into the authoritarian sphere of influence. Thus, as our study shows, there is likely to be a

determined effort on the part of pro-Kremlin supporters to react strongly to global reports of civilian massacres attributed to Russia in the future. Knowing this creates an opportunity for Western governments/supporters to pro-actively set the desired tone as soon as intelligence about a crime becomes available.

Third, our research demonstrates a more reactive and short-term aspect to pro-Kremlin narratives in response to developments rather than a sustained campaign. In the context of the massacre, the frequency for the two dominant themes, “denial” and “physical threats,” in messages is high in the initial two days and then begins to subside. On the first day after the global media published their reports of the massacre, we noted a denial of Russia’s involvement in the massacre 639 times in our 15 percent sample of tweets while on the seventh day, the number decreased to less than 10. In the context of NATO membership offer, we see high frequencies of a theme portraying Russia’s rivals as threats to global security before the actual event but nevertheless connected to it, and then immediately after Turkey’s objection to NATO expansion was cleared and the offer was formally announced (the occurrence of the event). The presence of such a theme in messages then substantially declines on the second day after the announcement and stays low for the rest of our observations. Only in the battle event do we see pro-Kremlin rhetoric holding steady after the initial few days for the dominant theme of “physical threats” and even increasing on the sixth and seventh day after the battle’s onset, but this is likely because the battle was still ongoing at the termination of our observation date.

The implication here is that in the absence of developing a more pro-active approach to information dissemination that would limit potential impact of the immediate deluge of pro-Kremlin rhetoric, the alternative might be to simply assume the so-called porcupine mode, the mediators’ tactic of hunkering down,<sup>49</sup> and simply wait until the intensity dissipates on its own. Engaging in extensive counter-response when pro-Kremlin rhetoric is most severe could sustain that intensity.

Finally, a civilian massacre and a significant geopolitical event were more likely to have ‘dedicated’ users whose postings included more than one pro-Kremlin theme in a single message, which serves to amplify the message. This suggests that these two types of events were of particular concern to pro-Russian users and therefore likely signal the government’s/supporters’ sensitivity to costs associated with a fallout from such developments. These events also have a much higher number of accounts than Kherson that tweeted pro-Kremlin messages related to both events. Our recommendation is that such accounts are studied more extensively to identify these users’ tactics, followers, and any direct connections to Russian government.

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<sup>49</sup> Crocker, Hampson, and Aall (2004).

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## Appendix A: Tweet Keywords for Each Event

<b>Table A1. Boolean Keyword Searches for Each Event on Twitter<sup>†</sup></b>
<b>Battle of Kherson Twitter API Query</b>
(ukraine kherson OR ukrainian kherson OR ukrainians kherson OR russia kherson OR russian kherson OR russians kherson OR battle kherson OR siege kherson OR nato kherson) lang:en -is:retweet
<b>Bucha Massacre Twitter API Query</b>
(ukraine bucha OR ukrainian bucha OR ukrainians bucha OR russia bucha OR russian bucha OR russians bucha OR bucha massacre OR bucha deaths OR bucha civilians OR bucha civilian OR bucha killings OR bucha killed) lang:en -is:retweet
<b>Finland and Sweden NATO Invitation Twitter API Query</b>
(ukraine finland OR ukrainian finland OR ukrainians finland OR ukraine sweden OR ukrainian sweden OR ukrainians sweden OR russia finland OR russian finland OR russians finland OR russia sweden OR russian sweden OR russians sweden OR finland nato OR sweden nato OR ukraine nato OR ukrainian nato OR ukrainians nato OR russia nato OR russian nato OR russians nato) lang:en -is:retweet
<sup>†</sup> All tweets were extracted with the twarc2 Python package using custom written Python scripts. Each query was run with date constraints covering the period one week prior to, the period during, and the period one week after each event.

## Appendix B: ARIMA Models

**Table 1. Event Effects on Denial**

	<b>ARIMA</b>
Bucha Massacre	195.05** (75.65)
Battle of Kherson	0.07 (0.72)
NATO Expansion	-57.91** (21.15)

Robust standard errors in parentheses

Two-tailed tests of significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 2. Event Effects on Positive Gestures**

	<b>ARIMA</b>
Bucha Massacre	4.82* (2.59)
Battle of Kherson	2.37 (1.97)
NATO Expansion	-0.32 (0.68)

Robust standard errors in parentheses

Two-tailed tests of significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 3. Event Effects on Physical Threats**

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	<b>ARIMA</b>
Bucha Massacre	78.28** (31.91)
Battle of Kherson	6.39*** (1.96)
NATO Expansion	-13.46* (7.53)

Robust standard errors in parentheses

Two-tailed tests of significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 4. Event Effects on Cultural Threats**

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	<b>ARIMA</b>
Bucha Massacre	0.73 (0.71)
Battle of Kherson	0.71 (0.85)
NATO Expansion	-5.41**

(2.38)

Robust standard errors in parentheses

Two-tailed tests of significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 5. Event Effects on Political Rivals**

	<b>ARIMA</b>
Bucha Massacre	62.98*** (17.32)
Battle of Kherson	2.01 (1.51)
NATO Expansion	-150.81** (60.67)

Robust standard errors in parentheses

Two-tailed tests of significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1



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