Getting Messages Across: War Propaganda in Russian Press and Social Media (July - September 2022)

The Final Monitoring Report

by

Maxim Alyukov, PhD in Social Science, Research Fellow, King's Russia Institute (King's College London, UK), and a researcher at the Public Sociology Laboratory (St. Petersburg, Russia).
Maria Kunilovskaya, PhD in Linguistics, Research Fellow, Research Group in Computational Linguistics (University of Wolverhampton, UK)
Andrei Semenov, PhD in Political Science, Senior Researcher, the Center for Comparative Historical and Political Studies (Perm, Russia)

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Key Findings

- A "networked authoritarianism" has been developed in Russia. The unprecedented crackdown on independent media alongside political astroturfing (imitation of online public support) and massive disinformation campaigns play a key role in promoting military actions in Ukraine. Social media users must navigate through an increasingly volatile, noisy, and restrictive environment infused with pro-war narratives and topics. These information environment's features render finding relevant information or online communities much harder for ordinary users. And while politically active netizens still have resources and resolve to fight against the pro-war agenda, the majority of Russians — even if in doubt – might be inclined to drop off from online communications.

- Prior to the invasion, the Kremlin developed a sophisticated digital propaganda ecosystem including wide networks of state-controlled accounts – bots and paid influencers – across Russia's main social media platforms. This eco-system for shaping online discussions reproduces the aggressive sentiment of the official media with regards to Ukraine;

- Nevertheless, the Kremlin's control over social media is far from total: the sensitive information for the regime (such as Ukraine's counteroffensive in September 2022) and anti-war statements still find their way into online discussions. YouTube and Telegram remain critical platforms in this regard. Among 1000 publications with higher engagement rates (likes, shares, and reposts), 834 were on YouTube. But Vkontakte and Odnoklassniki users also react to the developments related to war.

- Analysis of the most popular posts on social media reveals that it is impossible to totally silence the opinions alternative to the official point of view. The censorship reduces the number of anti-war publications due to the threat of administrative and criminal persecution, however, despite the dominant pro-war narratives, the voices of anti-war users are still visible and gain large public support. In the top 1000 most popular posts (measured as the sum of reactions — comments, reposts, likes, etc.), the total amount of reactions to anti-war messages is 1.5 higher than for pro-war (8.5 million vs. 5.7 million).

- The volume of the state-led propaganda was high in the first two weeks of the invasion and faded away by mid-summer only to re-emerge in August and to peak in September before the "partial mobilisation". Yet, the frequency of the key terms justifying the invasion, namely, 'denazification', 'demilitarisation', and the 'defense of Donbas people' declined significantly in traditional media since the start of the war. SEP

- The concepts of 'demilitarisation' and 'denazification', however, continue to live another life in the social media as they are actively spread by government-sponsored pro-war networks. Nevertheless, even on social media these terms do not widely resonate with the public. Despite several attempts to promote these concepts online, they are not picked up by users unless discussions are flooded with artificial pro-war content by the regime-controlled networks. Besides, while traditional media avoided calling the

special military operation a war, the Internal users openly used the latter to refer to the Russian invasion. From a linguistic point of view, the official propaganda and social media lived different lives;

- In Summer of 2022, the Kremlin made several strategic mistakes in information space. Citizens grew tired of the propaganda and news about the war. At the same time, military failures in Ukraine forced the Kremlin to start preparing for mobilisation. To offset propaganda deficiencies, regime-controlled networks started to spread pro-mobilisation narratives in social media to prepare the public for the announcement of 'partial mobilisation'. The key elements of this astroturfing campaign were the existential threat posed by NATO, calls for patriotic unity, and dehumanisation of the Ukrainians;

- The external existential threat posed by NATO constitutes the major pillar of the justification for the invasion and mobilisation. NATO is frequently mentioned in the context of messages about the war with peaks around key events, such as the NATO Summit in June, Ukraine's counteroffensive in early September, and 'partial mobilisation' announcement on 21 September. Likewise, the call for patriotic unity in response to external threats and internal challenges, such as citizens' resistance to the war effort, was widely spread by the regime-controlled networks during the Summer of 2022.

- Dehumanising language, which portrays Ukrainians as "nazi/nationalists", is widespread both in traditional, online, and social media. The image of "the enemy" built by the media frames the atrocities committed by the Russian military as acceptable.

From Liberation Technology to Networked Authoritarianism

Digital media play an essential role in contemporary political communication. Once praised as a [“liberation technology”](#)[1], digital media can be instrumental in challenging authoritarian regimes: the help to expose critical information about the regime's performance, facilitate political learning, increase the demand for democracy among the population, decrease coordination costs of protest, and mobilise the international community.

Responding to this threat, authoritarian governments have been investing significant resources in various systems of control and using the online sphere to build various forms of [“networked authoritarianism”](#)[2]. Greitens [identifies](#) three authoritarian approaches to the online sphere: 1) *Control.* The regime can limit access to information by simply blocking websites or even shutting down the internet completely. Alternatively, autocrats often develop more sophisticated approaches to dealing with the socio-political environment where digital media operate. Autocrats normalise control and force media owners to comply via politically-motivated laws or control internet infrastructure. 2) *Surveillance.* Digital media can be used to get valuable information about activists to persecute them and monitor citizens’ preferences. 3) *Activism.* Finally, the regime can take advantage of sophisticated systems of online communication and shape public opinion via mobilising genuine supporters, paid “trolls” or automated bots[3].

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[1] https://www.journalofdemocracy.org/articles/liberation-technology/
[2] https://www.journalofdemocracy.org/articles/liberation-technology-chinas-networked-authoritarianism/
[3] https://www.cambridge.org/core/journals/ps-political-science-and-politics/article/abs/authoritarianism-online-what-can-we-learn-from-internet-data-in-nondemocracies/0CEE13C2FC1ED63A231639714F6043B2

Russia's Networked Authoritarianism

Over the decades, Putin's regime's approach towards the online sphere has evolved into the combination of all three approaches. After the 2011-12 post-electoral protest, the regime witnessed the potential of digital media for mass mobilisation, recognised the Internet as a threat, took a hard line over its political regulation, and started to use it as a political instrument. First, the government passed dozens of laws constraining online freedom of speech. These laws gave communication watchdog *Roskomnadzor* power to block content at will without court stipulation if security services see it as "extremist" (e.g., FZ 398, FZ 179) or "fake news" (e.g., FZ 28), made news aggregators register with the government (FZ 208), established full control over internet infrastructure (FZ 374, FZ 90), and cancel licenses for established media with ease. Second, the government developed a sophisticated system of astroturf[4] digital political communication including thousands of state-controlled bloggers and communities online, paid trolls, and automated bots on social media.

Social media are an important part of Russia's authoritarian media ecology. According to 2021 data, Russia's most popular social media included Vkontake (44%), Youtube (37%), Instagram (34%), Odnoklassniki (30%) followed by Tik-Tok (16%), Facebook (10%), Moi Mir (Mail.ru) (5%), and Twitter (4%)[5]. Telegram, a messaging platform with some features resembling classic social networks like collective chats and public channels, was used by 21% of Russians. Two platforms – Facebook and Instagram – were banned in March 2022 but are accessible via VPN services. Apart from social media users, all these platforms are populated with semi-automated and automated accounts, such as bots (automated accounts

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[4] Astroturf communication refer to the media strategy that conceals the original sponsors of messages making it look like a genuine "grassroots" activity.
[5] https://www.levada.ru/2021/08/05/rossijskij-medialandshaft-2021/

that produce pre-defined content) and cyborgs (humans who rely on scripts to produce content)[6].

As a part of the "third generation control" over social media, Putin's regime has been actively using both trolls and bots to shape online discussions in the past ten years[7]. Trolls are deployed to influence political discussions online both in Russia and in other countries. Using paid human commentators, the infamous Kremlin-linked *Internet Research Agency (IRA)* have conducted multiple disinformation campaigns attempting to sow discord in the U.S.[8] Trolls are also actively used to shape domestic political discussions. Journalists' investigations suggest that paid commentators are actively used since the beginning of Russia's invasion of Ukraine to shape citizens' perceptions of the invasion and support for the war[9].

Unlike troll accounts operated by humans, bot accounts are much more numerous. For instance, scholars show that the number of bot accounts tweeting about politics in the Russian Twittersphere during key events, such as the annexation of Crimea in 2014, can be as high as 80%[10]. In addition, bots are operated by computer algorithms and easy to identify, hence, they are unlikely to influence users' opinions directly. Instead, they perform a variety of other functions. First, bots can create an appearance of popularity. For example, scholars find that between 13% and 63% Instagram followers of Russia's governors are bots[11]. Second, bots create information noise during key political events, such as protests, to make it more difficult for people to find relevant political information[12]. Finally,

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[6] https://www.ingentaconnect.com/content/cuny/cp/2018/00000050/00000003/art00010
[7] https://library.oapen.org/handle/20.500.12657/26076
[8]
https://www.tandfonline.com/doi/abs/10.1080/10584609.2020.1718257?casa_token=N6a_GY8eKwQAAA
AA%3AdHksNRed7x3MxPCrEsRBqf7UEzf_G0i_KWSOkci1VE0U6WgpK3jekYdlc2HMrybp8RDndgmMD
JCB&journalCode=upcp20
[9] https://www.fontanka.ru/2022/03/21/70522490/
[10] https://www.liebertpub.com/doi/abs/10.1089/big.2017.0038
[11] https://cpkr.ru/issledovaniya/budushchee/mnimaya-populyarnost/
[12] https://www.cambridge.org/core/journals/american-political-science-review/article/why-botter-how-progovernment-bots-fight-opposition-in-russia/D8A8A74976408CF7EC329827AFFFD3FC

bots post headlines and links to news stories to manipulate rankings of search engines and [make pro-regime stories more visible in search queries](#)[13].

Official Media and Social Networks: Comparative Analysis

To assess how far the pro-war narratives penetrated Russian social media we have collected 82,494 documents from official media and 1,706,343 documents from social media. The data cover July - September 2022 (for a detailed description of the methodology and the corpus see the last section).

Figure 1. The number of publications in traditional, online, and social media related to the war in Ukraine (normalised frequencies, weekly aggregates)
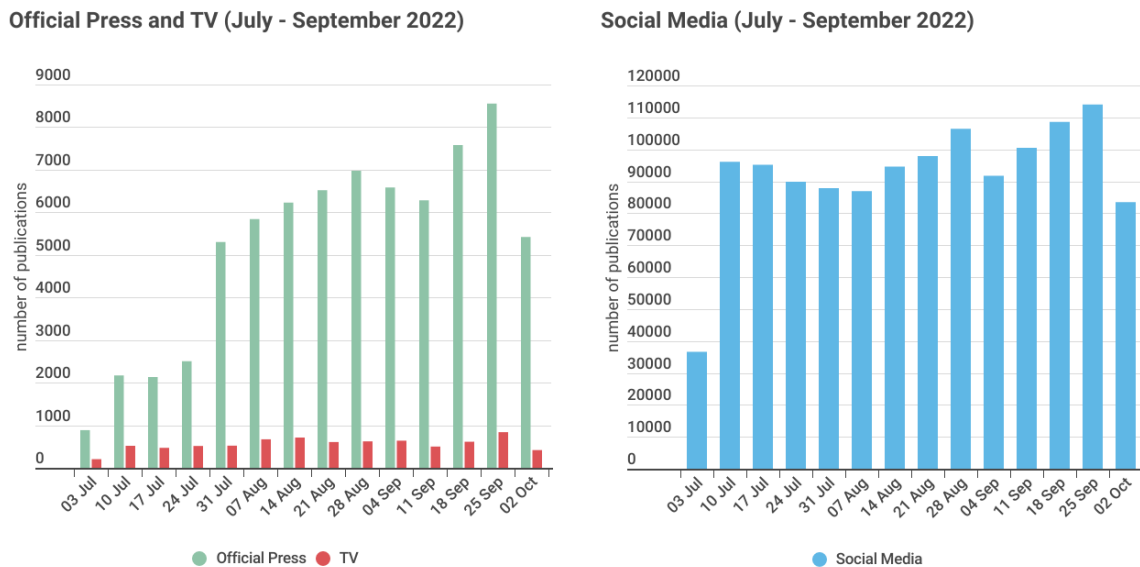
In the [previous report](#), we demonstrated that the amount of war-related content in the official press was gradually decreasing from a peak in early March towards mid-Summer[14]. In August-September, however, the number of

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[13] https://www.liebertpub.com/doi/abs/10.1089/big.2017.0038
[14] https://www.russian-election-monitor.org/Second-Front.html

publications went up again. In social media the number of publications remained stable throughout the period of observation (Figure 1). There was a peak in the fourth week of September associated with the start of "partial mobilisation".

The attention to the "special military operation" among social media users increased considerably: the normalised frequency of this term in official media and TV was relatively stable in July-September, but it almost doubled from 300 per 100,000 words in the second week of July to over 500 in late September (Figure 2). The combination "war with/on Ukraine" is almost absent in traditional media, while among social media users it occasionally pops up.

Figure 2. Key query terms "special/military operation" and "war with/on Ukraine" (normalised frequencies, weekly aggregates)

Official Press and TV (July - September 2022)

Social Media (July - September 2022)
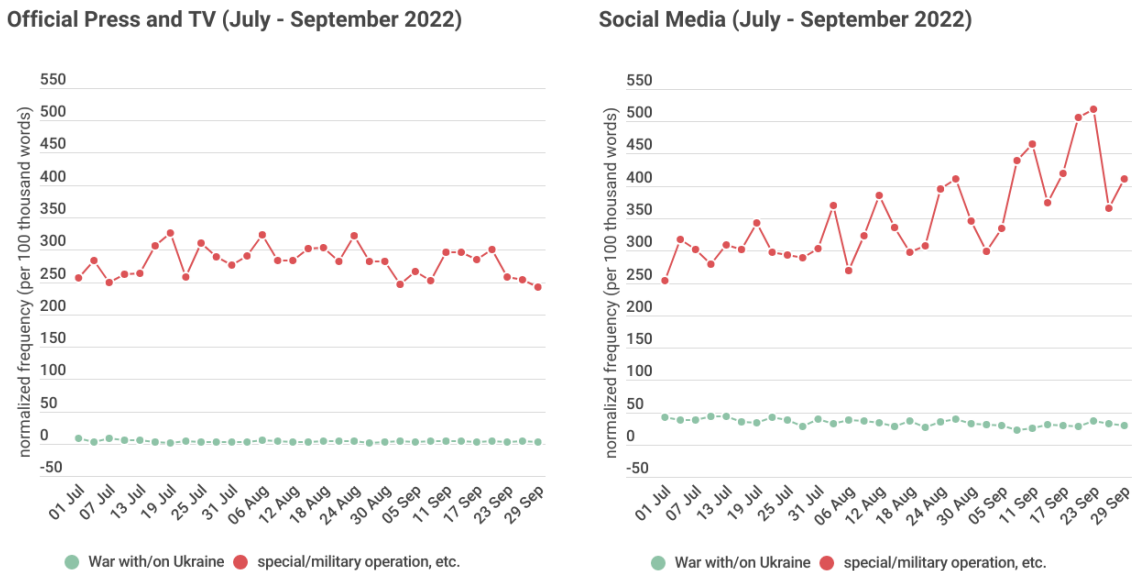
In traditional media (the left-hand panel in Figure 3), the frequency of the key terms related to the justification of the war followed the general downward trend we detected previously[15] in the TV-corpus (we combine TV and print media in the current analysis). For *denazification* and *demilitarisation*, a few spikes picked up

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[15] https://www.russian-election-monitor.org/Second-Front.html

resonant statements made by Russian officials (e.g. on July 14 by senator Klishas) or reflected Russian military forces' advancements (as in early August). However, by the end of September, the frequency of these terms halved as compared to the beginning of July (Figure 3). *Demilitarisation* seems to be more frequent in newspapers and on TV but the two words are often used together making an rhetoric cliche. The *protection of Donbas people* was picked up to justify the "partial mobilisation" confirming that the Kremlin's propaganda is uneasy with using *denazification* and *demilitarisation* as core concepts.

Figure 3. Keywords that are used to justify the war in Ukraine (normalised frequencies, weekly aggregates)
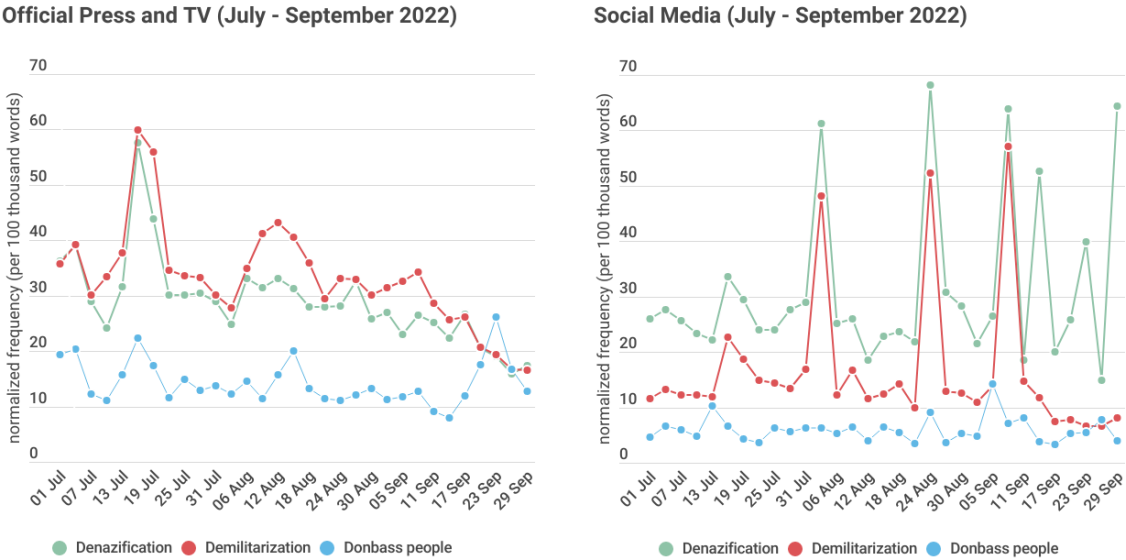
The right-hand panel in Figure 3 has the frequencies of *denazification, demilitarisation* and *protection of Donbas people* in social media corpus. The usage of the three keywords is quite different: first, *denazification* remains the key term in these campaigns and does not disappear even when other concepts faded away as it is linked to the delusionary claim that Ukraine is governed by Nazi regime. Second, the usage is very volatile with several peaks appearing around August 1-3, August 22-25, September 6-7, September 12-13, and September 29-

30. We identified these parks as massive amounts of almost identical messages: Figure 4 replicates the dynamics for the key justification terms, but this time we aslo removed the duplicated messages (dashed lines). For traditional media, it does not affect much of the dynamics, but for the social networks, a clear picture emerges: organized promotion dramatically increased the amount of specific messages.

Figure 4. Impact of repeated publications: Keywords justifying the war in Ukraine in social media (normalised frequencies, three-days aggregates)

Social Media (July - September 2022)
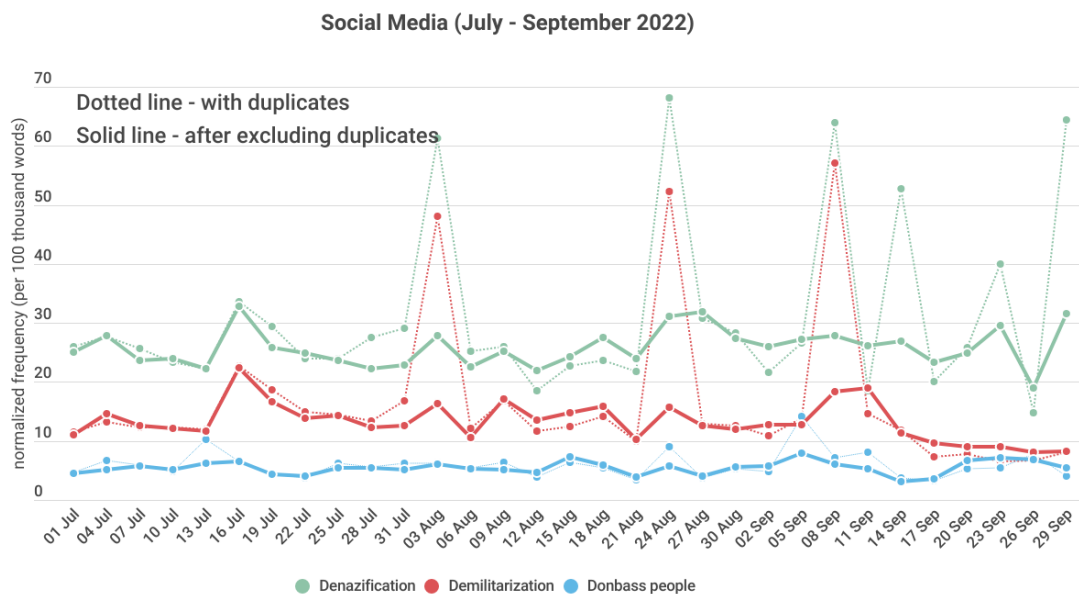
References to the NATO threat have continued to play an important role in pro-war narratives. On traditional media, following the peak in late June sparked by the NATO summit, the next surges of NATO-related content appeared on August 21 and just before September 21. On social media, large spikes were on August 12-14 and August 18-20 (Figure 5).

Figure 5. Usage of NATO acronym in official media/TV and in social media (normalised frequencies, weekly aggregates)

Official Press and TV (July - September 2022)
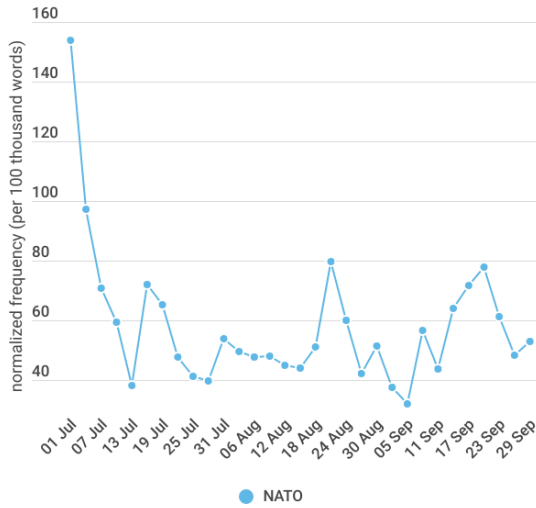
Social Media (July - September 2022)
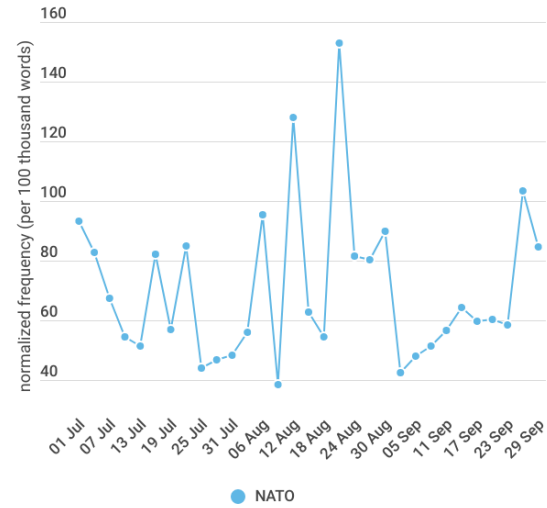
These were attempts by *Sut' Vremeni*, a pro-war conservative movement, to promote the video "What scares *banderovtsy*?" (*banderovtsy* is a derogatory term referring to the Ukrainians) and the post stating that the NATO subdued the Ukrainian state. 16% of all entries on social media related to the war (8,509 out of 53,062) were re-posts of these two publications. They contained typical rhetoric of the pro-war online communities: the dependence of Ukraine on the West/NATO, the Ukraine people have always been nationalists and anti-communists, and Russia fights the Alliance rather than the Ukrainians. A large number of identical posts suggests that these videos were strategically promoted by a network of bots and state-controlled accounts. Most likely, the goal of this astroturf campaign was to prepare fertile soil for narratives justifying the mobilisation announced on 21 September, such as the idea that the "special military operation" is the last stand of Russia against the "collective West".

Another important aspect of public communications about the war is promotion of dehumanising language: both traditional and social media use make

active use of terms like *(neo)nazies, nationalists, ukrofascists, ukrops*, etc. (see the full list in the [Appendix 1](#)[16]). The frequency of these terms exceeds other popular concepts (e.g. NATO). Social media users are even more hostile than newspaper and TV journalists; also, there are visible spikes around August 10 - 11 and September 8 - 9 (Figure 6).

Figure 6. Usage of dehumanising vocabulary (normalised frequencies, weekly aggregates)

Official Press and TV (July - September 2022)
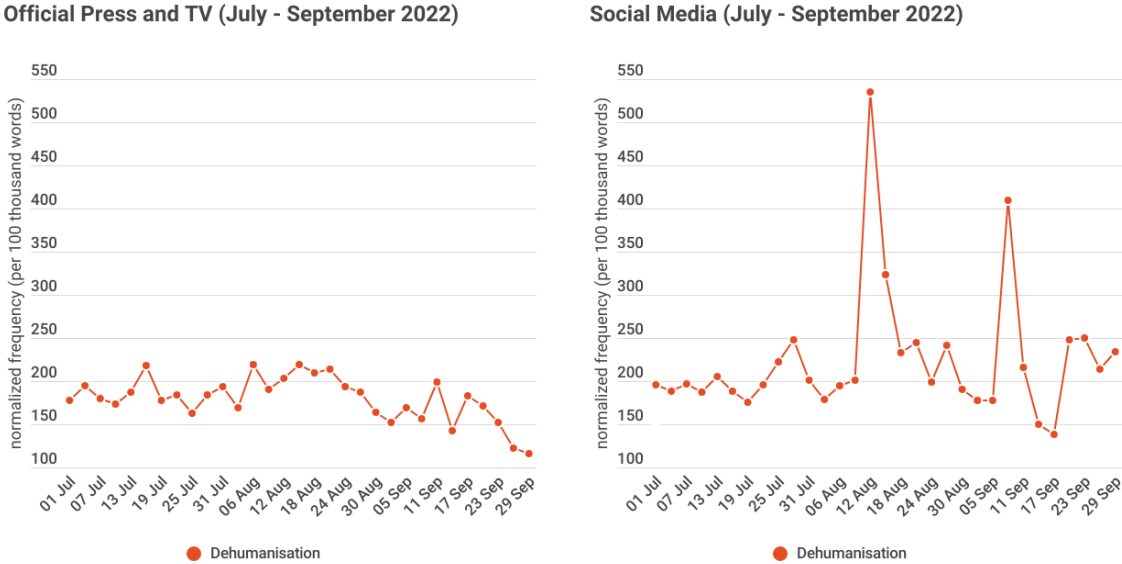
Social Media (July - September 2022)

Figure 7 compares the frequency of words included into the dehumanising vocabulary in the entire corpus and after excluding duplicates. It can be seen that the apparent outbursts of hatred and hostility towards the Ukrainians in the social media is likely to be engineered by the state.

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[16] https://drive.google.com/file/d/13cpZkqbZaHgZ_7MpSbKjgAlFx5KLj7CU/view

Figure 7. Impact of repeated publications: Usage of dehumanising vocabulary (normalised frequencies, three-days aggregates)

Social Media (July - September 2022)
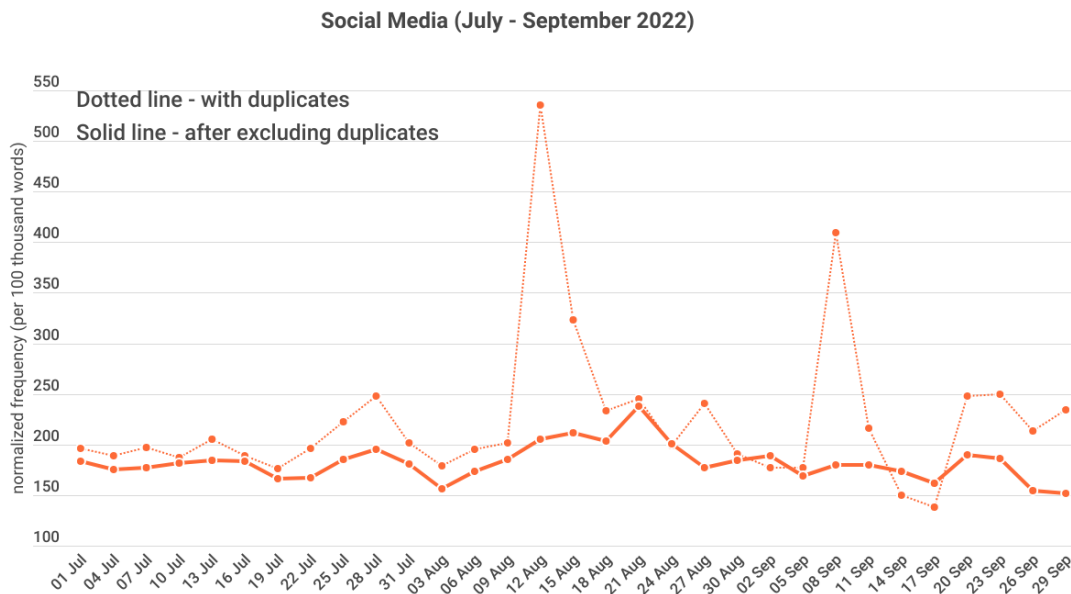
In addition to derogatory labels, the propaganda uses emotionally charged verbs and adverbs such as "остервенело расправлялись" ("frenzied carnage") or "одурманенное гнусной бандеровщиной население" ("stupefied by the hateworthy *benderovtsy* population"). Portraying Ukrainian people as ugly bloodthirsty puppets allows the Kremlin to justify denazification and to make it easier for the ordinary Russians to break multiple bonds with their relatives, friends, and interlocutors in Ukraine.

Anti-West and anti-Ukrainian narratives appear in recommendations for media (*temniki*) issued by the presidential administration to orchestrate media reporting on the war towards a desired end. *Meduza* journalists discovered[1] that in July the Kremlin issued at least two documents of this kind[17]. The recommendations justify the war with Ukraine as a fight of the Russian orthodoxy against atheists. According to the instructions, the only response to the war is to

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[17] https://meduza.io/feature/2022/08/01/v-kremle-podgotovili-novuyu-metodichku-o-tom-kak-propaganda-dolzhna-rasskazyvat-o-voyne-my-ee-prochitali

rally around the president and "defend traditional values". The "collective West" provoked this war with the aim to contain, weaken, dismember, and totally destroy Russia – the plan that has been under development for centuries. We used the keywords from the recommendations that were circulated in late July and discovered that the official media indeed picked up these narratives by the end of July and re-used them in September. The same vocabulary became popular in social media in early and mid-September following the spikes in traditional press and on TV. (Figure 8).

In the previous report, we argued that TV propaganda has been appropriating the vocabulary of critics and endowing the anti-war language – undesirable words – with new meanings[18]. While the war in Ukraine – the one fought with missiles and tanks – was avoided by the traditional media, propagandists frequently spoke about "other wars", the ones waged against Russia by the West. Judging by social media dynamics, these "spoiler concepts" penetrated digital communications as well: *sanctions war, gas war, and information war* were used in social media posts about Ukraine more often than in publications by traditional media (Figure 9). Similar to other key terms, there were spikes on August 21 and September 8. These messages include the phrases *economic war* and *information-psychological war* and promote the video "Do Ukranians themselves know why they are shooting at the Zaporizhzia NPP?" published by the pro-war conservative group *Sut' Vremeni*.
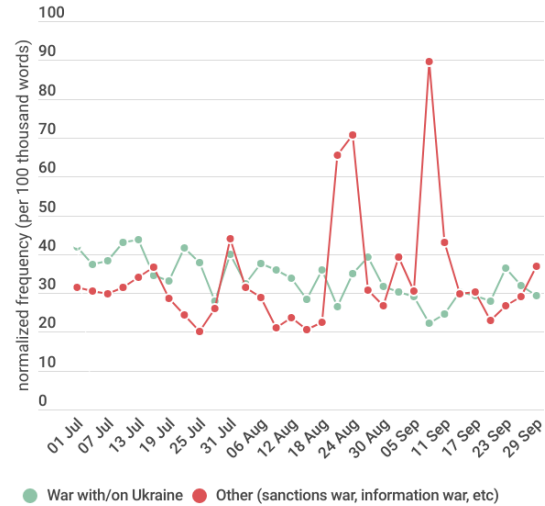
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[18] https://www.russian-election-monitor.org/Second-Front.html

Figure 9. Comparative frequencies for war in/with Ukraine and "spoiler" war phrases (normalised frequencies, weekly aggregates)

**Official Press and TV (July - September 2022)**
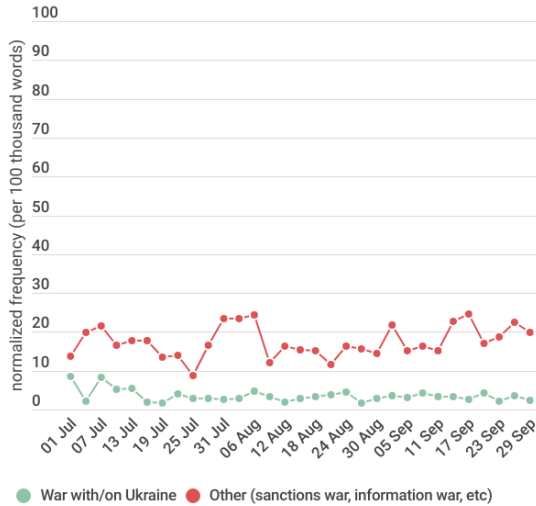
Social Media (July - September 2022)

For this report, we also explored time-specific topics such as situation around Zaporozhskaya Nuclear Power Plant (ZNPP) and visa bans for Russians fueling worries that Russian culture is being cancelled and Russia is turning into an outcast in the world politics. Figure 10 captures the changes in the usage of *nuclear threat*: official media intensified the discussions of this topic in early August as the situation around safety of ZNPP was becoming more dangerous. The second short-lived surge in the mentions of the phrase was seen immediately before "partial mobilisation" was announced (see left-hand panel in Figure 10). In social media, by contrast, *nuclear threat* did not gain much traction. Overall, social media users seem to ignore the nuclear threat as compared to the official media (see right-hand panel in Figure 10).

Figure 10. Usage of the phrase nuclear threat (normalised frequencies, weekly aggregates)

**Official Press and TV (July - September 2022)**
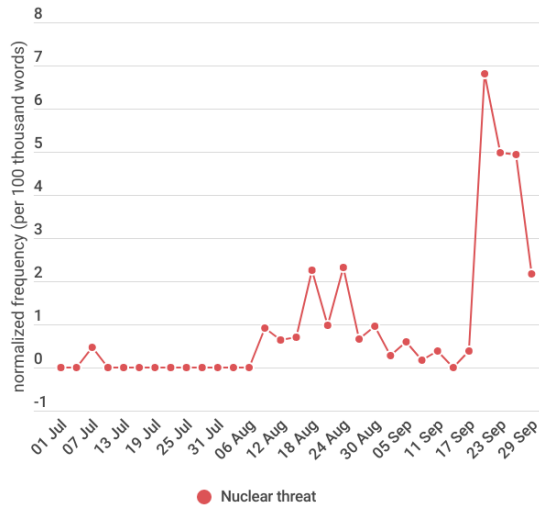
Social Media (July - September 2022)
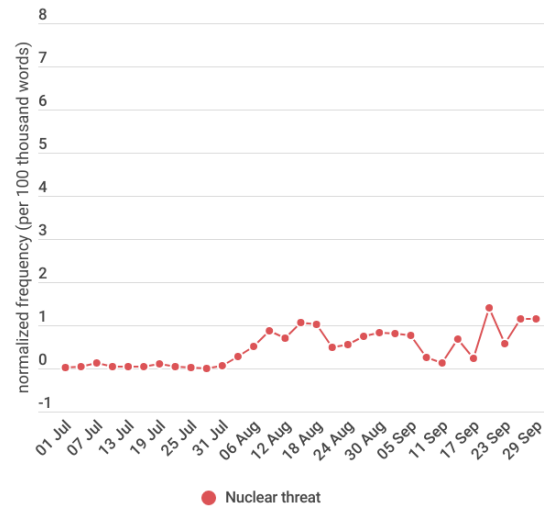
August has seen a massive propagandist attack on the "collective West" for continuous efforts to isolate Russia and exclude it from the global community. These narratives feature diverging values, juxtaposing "traditional" values in Russia and "perverse" Western norms that underpin gender and family relations, religion, and attitudes towards the authorities. An attempt to inject this narrative into social media generated a spike in the usage of the topical vocabulary in mid-August (Figure 11).

Figure 11. Keywords associated with Russia's isolation from the world narrative in the context of Ukrainian war (normalised frequencies, weekly aggregates)

Official Press and TV (July - September 2022)
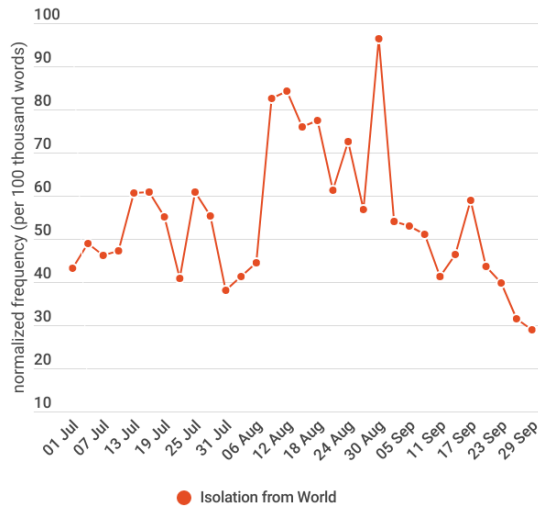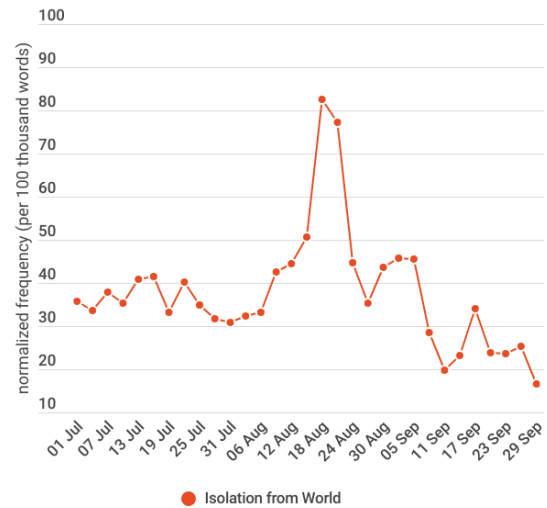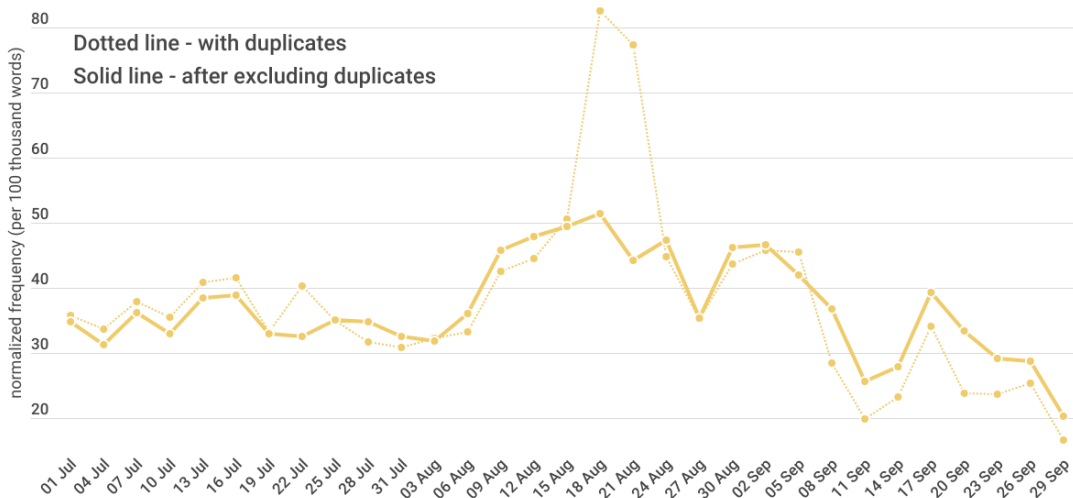
Social Media (July - September 2022)

Figure 12. Impact of repeated publications: Russia's isolation narrative (normalised frequencies, three-days aggregates)

Social Media (July - September 2022)

The artificial astroturf nature of the spike around August 15 is clear if we consider frequencies of the topical vocabulary after deleted duplicate posts from the social media corpus (Figure 12).

In sum, official media outlets and social networks have their own specifics and dynamics in how they approach main topics associated with the Russian-Ukrainian war. Official press and TV generate more or less stable flow of approved propagandistic content, while social media seem to be more volatile and manipulative. Social networks demonstrate explosive and, possibly, artificial interest to some topics, while ignoring other topics (e.g. nuclear threat).

This analysis focused on several key messages that are being pushed in the Russian media space in connection with the Ukrainian war. We demonstrated that the peaked usage in social media of (1) keywords explaining the aims of the war, (2) keywords marking the topic of Russia's isolation form the world, (3) keywords from recommendations for media produced and circulated by the presidential administration, and (4) dehumanising vocabulary result from repeated publications of a few messages. This can signal organised effort by the government to impose desired attitudes and opinions.

Cross-platform analysis

Given the number and popularity of Russian social media platforms, it is important to analyse Russia's media space holistically taking into account the differences in discussions across them. In this report, we focus on three most popular Russian social media - VKontakte (VK), Odnoklassniki (OK), and Telegram (TG). After Facebook and Instagram were banned, they became dominant platforms in Russia alongside WhatsApp and YouTube. According to April 2022 data, 62% of Russians use VK, 55% use TG, and 42% use OK[19].

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[19] https://wciom.ru/analytical-reviews/analiticheskii-obzor/rossiiskaja-auditorija-socialnykh-setei-i-messendzherov-izmenenija-na-fone-specoperacii

OK is often considered a space of Putin's electorate. Its audience is much older than the audience of other platforms. According to 2021 data, 7.4% of OK users are under 24, 16.9% are between 24 and 34, 25.2% are between 34-44, and the dominant 49.5% are older than 45[20]. Public groups on OK are often anti-Western and pro-Kremlin and constitute the regime's 'Virtual Russian World' not only in Russia, but in other countries with significant Russian-speaking populations[21]. VK has a much younger audience than OK: according to 2021 data, a dominant 31.3% of VK users are under 24, 29% are between 24 and 34, 21.8% are between 34-44, and only 18% are older than 45[22]. Finally, the audience of a relative newcomer TG is slightly older than the audience of VK. The 2021 data reveal that 29.6% of TG users are under 24, dominant 30.6% are between 24 and 34, 21.3% are between 34-44, and only 18.5% are older than 45[23]. Given these differences in demographics, we expected the platforms to diverge in their respective ideological spin and dominant narratives.

First, we examined the frequency profiles for the key terms used to justify the invasion of Ukraine (*denazification, demilitarisation*). Figures 13 – 15 plots the frequencies of these terms in all posts about the Russia-Ukraine war published on the three platforms in July-September collected for this project. TG remains a relatively free space devoid of official rhetoric, while VK users exhibit a mild tendency to re-produce official narrative about the war.

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[20] https://www.statista.com/statistics/1065018/russia-odnoklassniki-users-share-by-age/
[21] https://stratcomcoe.org/cuploads/pfiles/ncdsa-natostratcomcoe-study-3b-rus-socmedia-web-final-1.pdf
[22] https://br-analytics.ru/blog/social-media-russia-2021/
[23] https://br-analytics.ru/blog/social-media-russia-2021/

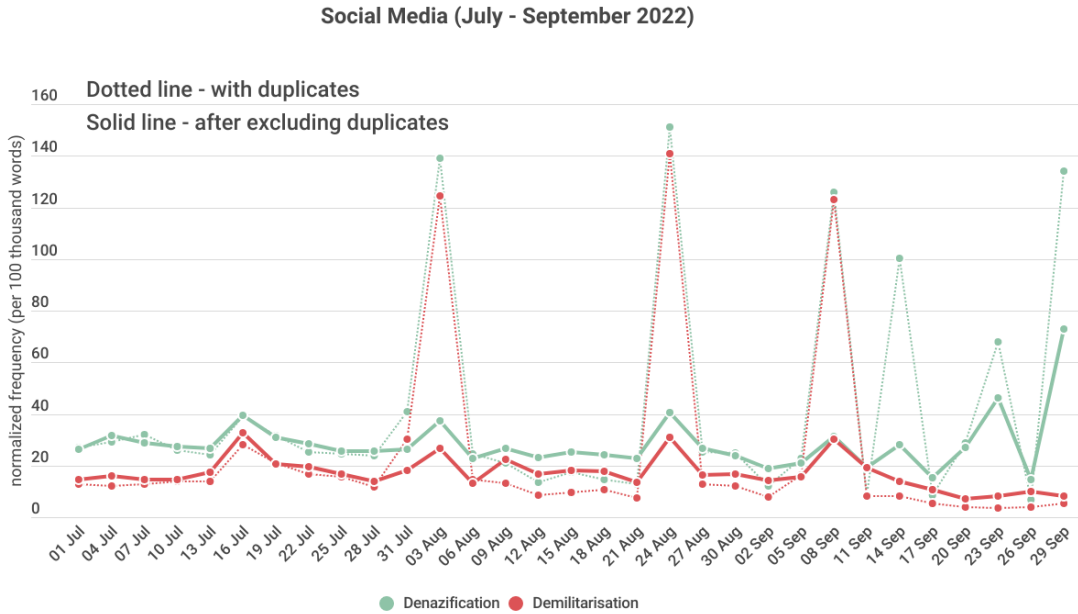# Figure 13. Justifications for the invasion on Odnoklassniki (normalised frequencies, three-days aggregates)

Social Media (July - September 2022)

Dotted line - with duplicates

Solid line - after excluding duplicates

● Denazification   ● Demilitarisation

Figure 14. Justifications for the invasion on Vkontakte (normalised frequencies, three-days aggregates)

Social Media (July - September 2022)

Dotted line - with duplicates

Solid line - after excluding duplicates

● Denazification   ● Demilitarisation
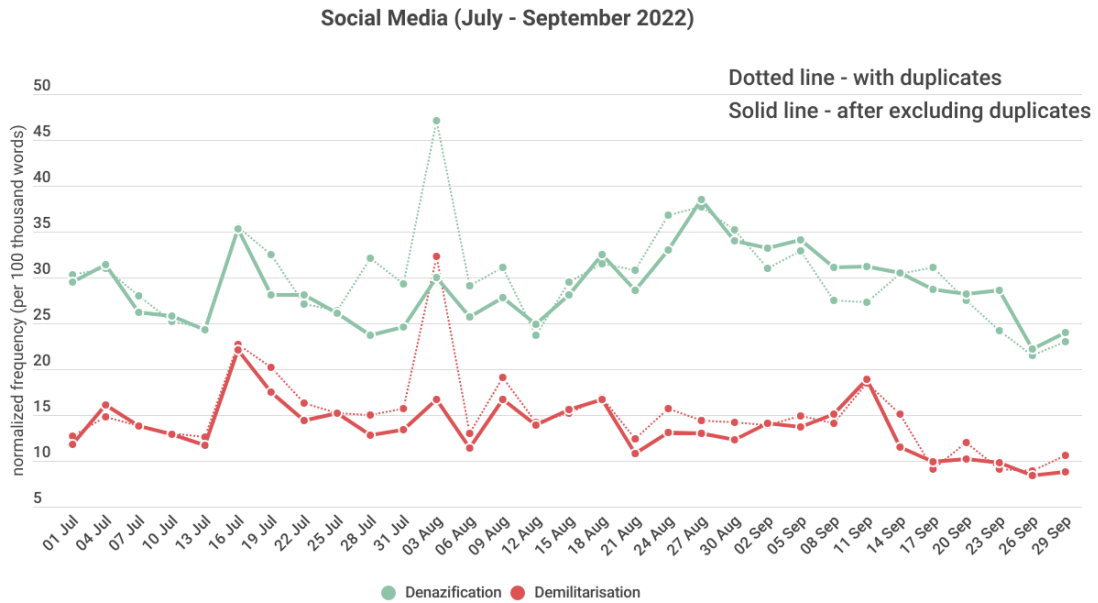
Figure 15. Justifications for the invasion on Telegram (normalised frequencies, three-days aggregates)

Social Media (July - September 2022)

Dotted line - with duplicates
Solid line - after excluding duplicates
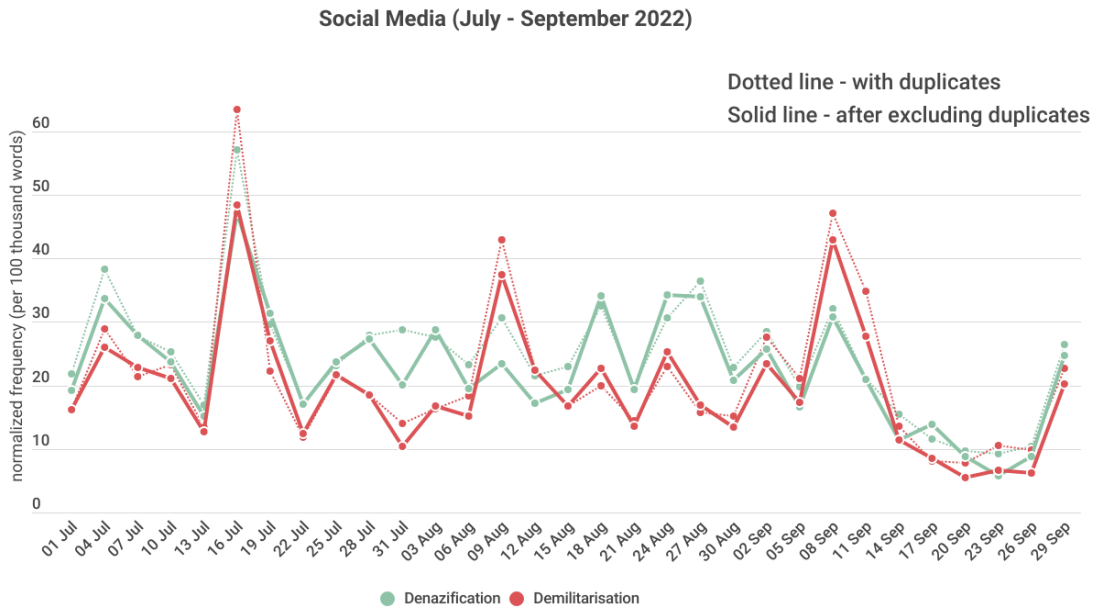
However, the frequencies of *denazification* and *demilitarisation* on TG and VK are both steady and low in comparison to abnormal spiky patterns registered in OK publications. Our data captures intermittent use of *denazification*, where the peaks correspond to five times higher frequencies in OK posts than in VK posts. Note that *demilitarisation*, actively used by state-controlled accounts in summer 2022, disappeared from these astroturf messages towards September. These abnormal spikes on OK compared to other social media platforms suggest that war-related content on OK could have been released as part of an organised media campaign.

In order to preliminary assess the amount of artificial content spread by regime-controlled accounts, we removed identical messages containing the keywords *denazificaiton* and *demilitarisation* and compared war-related discussions with and without identical messages. The function of regime-controlled trolls cannot be reduced to producing identical content. Paid users are often instructed to improvise and can produce original messages different from each

other. Hence, identical messages alone do not represent the scale of regime online astroturfing accurately. However, as identical messages are unlikely to be attributed to anything else rather than artificial content, removing identical messages can make us *underestimate* the scale of online astroturfing, not *overestimate* it. In other words, identical messages are a conservative estimate which does not detect all Kremlin-related astroturfing. Figure 13 – 15 demonstrates that removing identical messages slashes the number of messages advancing justifications for the invasion from OK. With duplicates removed, both OK and TG demonstrate similar frequencies. This difference lends more evidence to the argument that the regime disproportionately targets OK with pro-war online astroturfing.

Figure 16. Anti-war language across platforms (normalised frequencies, weekly aggregates)
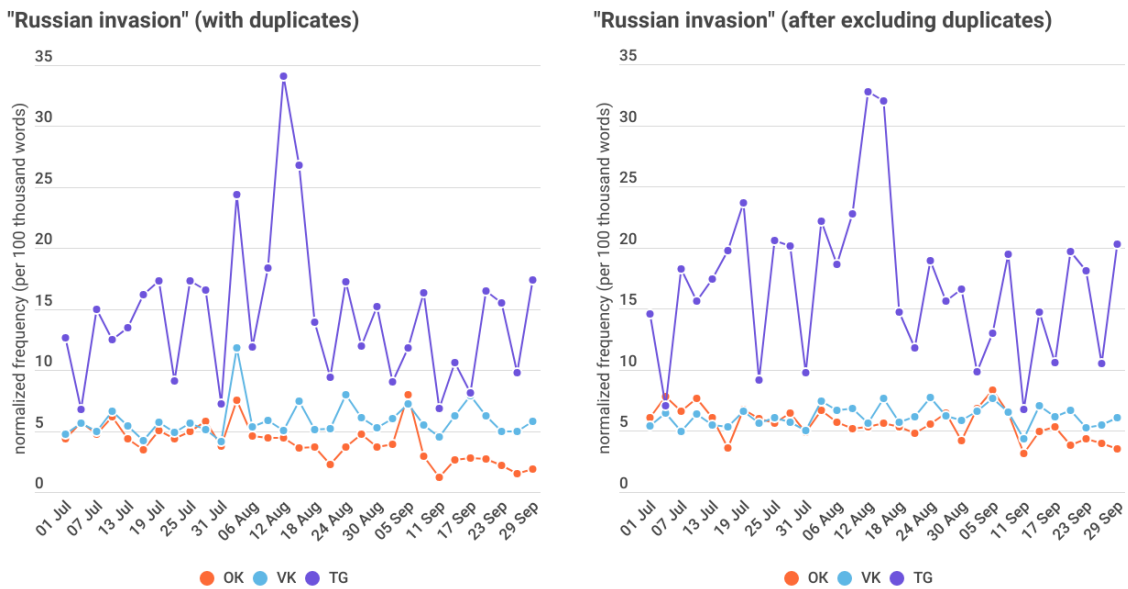

To further investigate differences in ideological spin and the scale of online astroturfing, we focus on the anti-war vocabulary. Figure 16 (on the left) shows the aggregated frequencies of keywords typical for Kremlin opponents who critique the invasion, such as 'Russian aggression', 'annexation', 'occupation of Ukrainian

territories', 'Russian invasion', 'occupation of Donbas', 'occupation of Crimea', 'Russian occupants', etc. The graphs reflect the fluctuations in the use of anti-war language across platforms in July to September, however, it clearly shows that TG is the most anti-war platform among the three. Despite there are many pro-Kremlin channels on TG, the independent media are widely present, too and generate a substantial amount of anti-war content. Anti-war vocabulary is the least present on OK.

Removing duplicates (the right panel on Figure 16) does not change the observed pattern significantly. If we assume that identical messages come largely from the regime pro-war online astroturfing, this absence of change makes sense: there are incentives for the regime to spread pro-war messages, not anti-war messages. With identical messages removed, TG remains the most anti-war platform. Patterns on VK and OK resemble each other's implying that they are similar in terms of ideological spin.

The dehumanising vocabulary is also the most visible on OK with distinct spikes in August and September. Figure 17 (on the left) shows that there is a significant amount of anti-Ukrainian derogatory terms on all three platforms. Markers of this language are more frequent on OK. Also, there are significant spikes in every month that exceed the volume of VK and TG by the factors from two (late July and late August) to four (early September) and six (early August). These fluctuations suggest that dehumanising language on OK comes mostly from astroturf communication – bots and paid influencers. The patterns in VK and TG are stable and do not suggest any artificial inflation. Nevertheless, it is worth reiterating that all social media platforms remain plagued with derogatory words with regards to Ukrainians.

Figure 17. Dehumanisation vocabulary across platforms (normalised frequencies, weekly aggregates)

Dehumanisation (with duplicates)

Dehumanisation (after excluding duplicates)
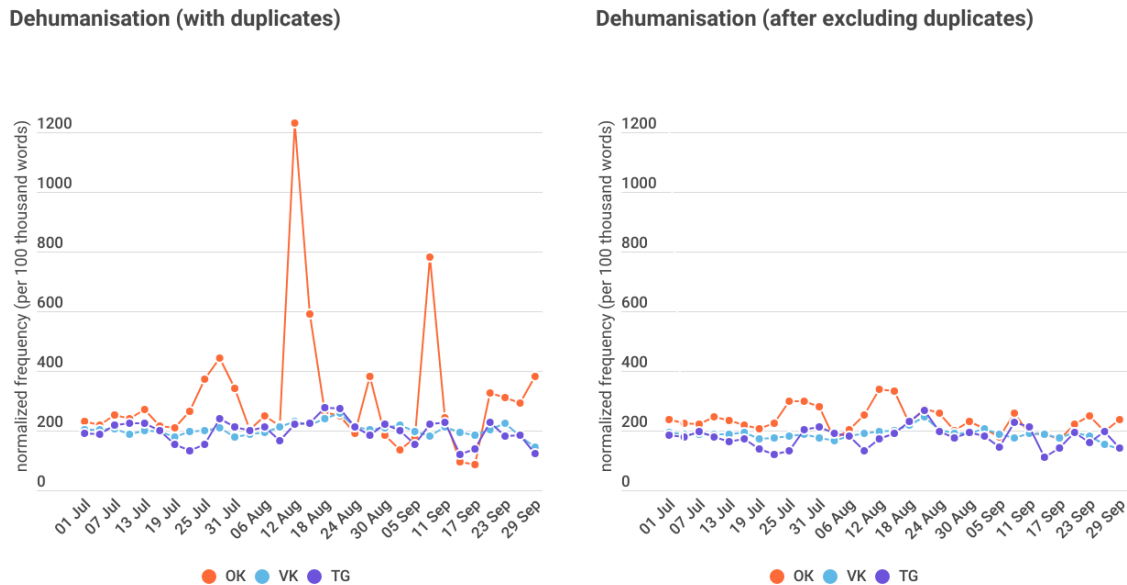
To double-check that the observed peaks are artificial, we applied the same procedure of deleting identical messages. Figure 17 (on the right) shows the aggregated frequencies based on the entire corpus and after removing duplicates. Without identical messages, OK remains the most pro-war platform followed by VK and TG. However, the amount of dehumanising language decreases manifold lending more evidence to the argument that the regime disproportionately targets OK users with pro-war online astroturfing.

Additionally, we analysed if specific topics – such as the Ukrainian advances on the battlefield – are mentioned on social media. Figure 18 (on the left) plots the aggregated frequencies of keywords that represent this topic (e.g. *advances of Ukrainian army, Ukraine's military success, retreat of Russian troops, successful counterattack of Ukrainian forces, Russian defeat*, etc). In relative terms, the items in this vocabulary were not as frequent as for the other topics. However, the higher frequencies of this vocabulary in late August - early September indicate that the

news about the failures of the Russian military percolated through the wall of censorship and neglect in the official media and got some traction on social media.

Figure 18. Keywords highlighting Ukraine's military success (normalised frequencies, three-days aggregates)
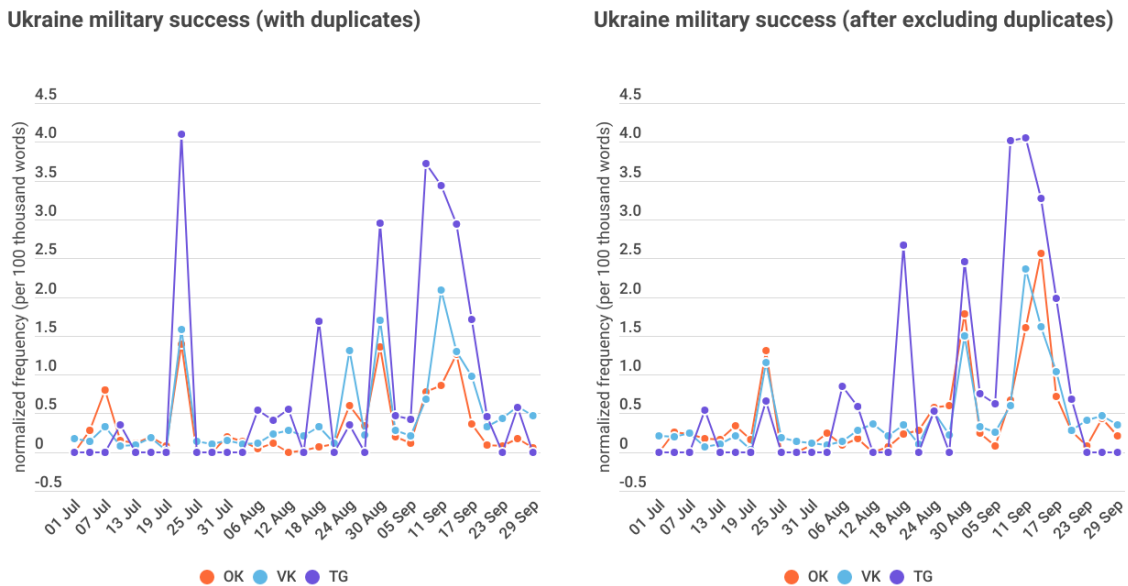
This graph provides further evidence to the argument that TG remains the most independent platform. As it can be seen from the graph, publications on TG have a consistently higher frequency of words associated with the topic of Ukrainian military gains. Removing repeated publications did not change the frequency distribution of the topical items.

Our hypothesis that OK is disproportionately targeted by the regime astroturfing can also be confirmed by looking at the phrases from the *temniki* that we introduced in the previous section. The orange line in Figure 16 (on the left) reflects the normalised aggregated frequencies of such words on OK. Spikes demonstrate a growing scale of occurrences for this vocabulary from early August onwards suggesting that OK was the main platform which picked up the vocabulary outlined by the Kremlin in instructions for journalists.

Figure 19. Phrases from government guidelines for state-controlled media (normalised frequencies, three-days aggregates)

With duplicates

After excluding duplicates
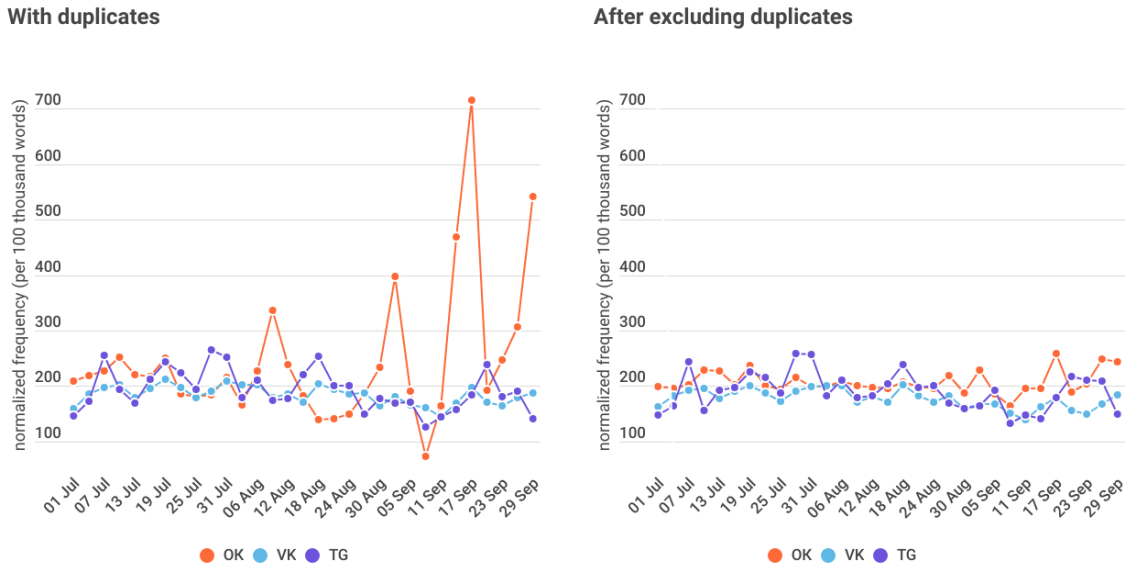
As it is clear from Figure 19 (on the right), two and three times increases in the amount of Kremlin-shaped language in September all originate in identical messages. Without this artificial communication, OK remains the most pro-war platform, though the number of use of terms provided by the Kremlin is high on other two platforms too.

Finally, we traced the reaction to the "partial mobilisation" announced on 21 September by Putin. This was an event that came as a shock to Russians. It cost Putin several points off his approval rating and put most people in the country under significant stress: the ratio of those who experienced "tensions and exasperation" doubled (from 17% in August to 32% in September), while the percentage of those who live in "fear and anguish" rose from 4% to 15%[24]. The index of citizens' social expectations reached its lowest level in 14 years[25]. After the mobilisation, equal proportions of Russians felt that they had and did not have

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[24] https://www.levada.ru/2022/10/21/obshhestvo-v-sostoyanii-stressa/
[25] https://www.levada.ru/2022/10/11/sberezheniya-rossiyan-v-kontse-sentyabrya/

confidence in the future. Levada-Center analysts point out that the last time the public opinion was in such a state was in 2000 before Vladimir Putin was elected as a president.

How did social media users react to the 'partial mobilisation'? First, there was a clear divide between pro- and anti-war netizens: the former praised the decision as long-awaited. The latter quickly turned the word 'mobilisation' into 'moGilisation' (putting in graves) and launched a campaign against the decision. Figure 20 reflects the frequencies of three terms used by the critics of mobilisation – 'mogilisation', 'stop war', and 'cannon fodder' – in late September 2022.

Figure 20. Anti-mobilisation discourse in the end of September 2022 (normalised frequencies, daily aggregates)
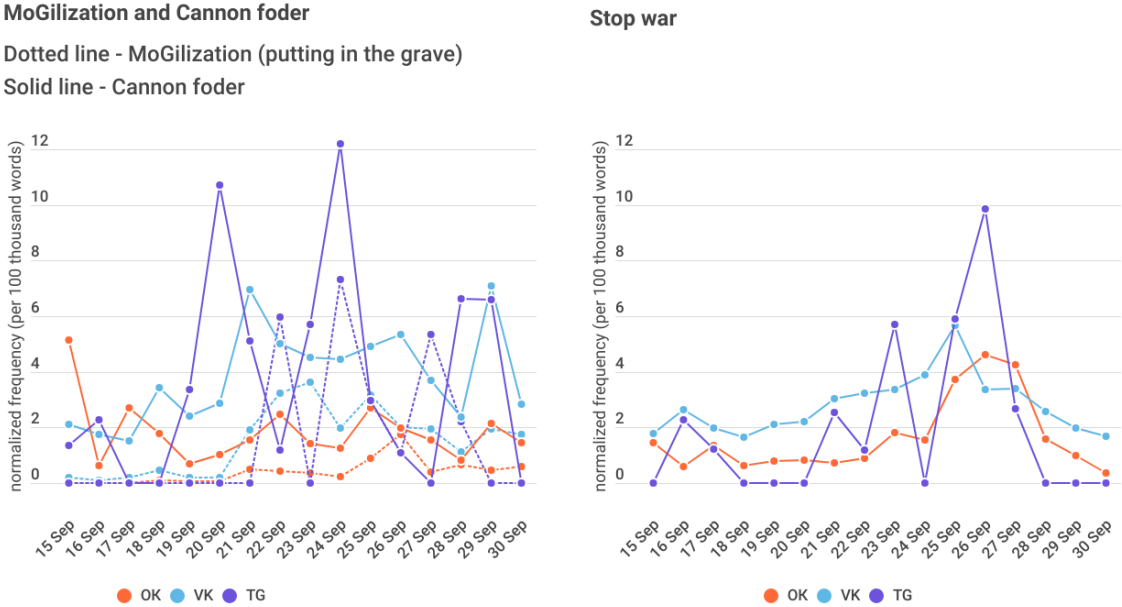
It demonstrates that the reaction to mobilisation was much more negative on TG and VK than OK: all solid lines which correspond to OK frequencies are found at the bottom of the graph which indicates low frequencies. TG was the primary platform for spreading the 'stop the war' call. TG and VK users also adopted the terms 'mogilisation' and 'cannon fodder' to emphasise the cruel

treatment of draftees by the army and the regime. Removing repeated publications did not change the frequency distribution of the topical items.

Figure 21. Two strategies to avoid being called up discussed on social media (normalised frequencies, daily aggregates)
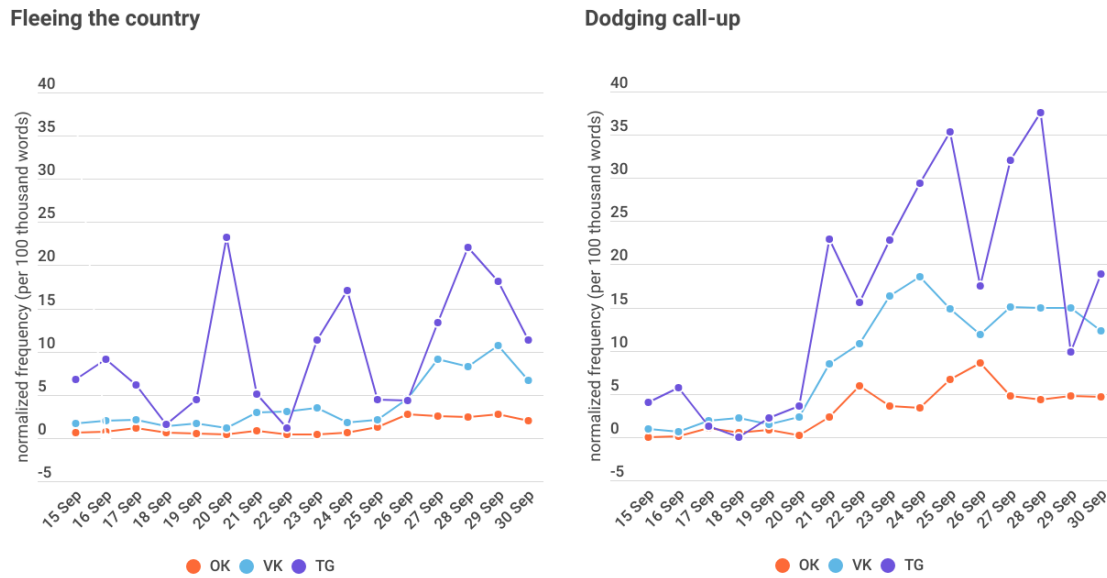
Unlike OK, both TG and VK framed evasion and fleeing the country as desirable responses to mobilisation. The aggregated frequencies of phrases associated with the two strategies to avoid the draft – 'fleeing the country' and 'dodging call-up' (*ukloneniye ot prizyva*) – plotted in Figure 21 emphasise the differences between the social media platforms. It can be seen that TG users talked about fleeing the country more frequently than VK/OK users. After September 21, this topic was superseded by 'dodging the draft' agenda. VK users followed this trend, although at a lower scale. The massive OK network showed very little interest in either fleeing the country or dodging the draft, at least in the public space. Given that 51% of Russians do not have any savings[26], and 72% do not have a valid foreign passport[27], it is not surprising that on all three platforms

[26] https://wciom.ru/analytical-reviews/analiticheskii-obzor/sberezhenija-rossijan-monitoring-20221017
[27] https://www.bbc.com/russian/news/2016/04/160426_levada_passports

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the frequencies of phrases associated with dodging the call by avoiding interactions with military commissions got more traction than emigration. Removing repeated publications did not change the frequency distribution of the topical items.

Top-1000 most popular posts analysis

Bots, trolls, and cyborgs in social media make an analysis of real users' attitudes to war difficult. Censorship and risks of legal prosecution for those Russians who are against the special military operation aggravate this situation. People could be reluctant to show their positions in the public sphere. At the same time, they are ready to support those who talk with likes, comments, and other reactions under posts with a position that there is close to their own. We also consider the role of bots and trolls in reactions and comments not very big.

To estimate the level of support for the pro- and antiwar messages and assess their visibility and influence in public discussion, we selected top-1000 posts with the largest engagement defined as a sum of comments, likes, and other reactions. Then we classified 215 authors (not single posts) into prowar, antiwar, or neutral categories. Finally,we counted the number of posts by these authors and their level of involvement.

80 of these authors were classified as antiwar. They wrote 479 posts from the 1000 most popular. 24 authors with 27 posts were classified as neutral. Another 111 authors with 494 posts were classified as prowar.

The absolute majority of the most popular posts – 834 – were published on YouTube, 92 on VK, and 56 on Instagram. Each of the other social media has less than 10 posts. We can conclude that YouTube became a popular alternative to TV, which remains the main source for spreading information and opinions. This video streaming platform it is much more influential than any other social media.

The list of authors with the highest number of most popular posts consists of:

- Аудио статьи (Audio Articles) – 63 posts (prowar)
- Телеканал Дождь (Dozhd TV channel) – 55 posts (antiwar)
- Тамир Шейх – 48 posts (prowar)
- Майкл Наки – 46 posts (antiwar)
- Aftershock.news – 41 posts (prowar)

In the top 50 most popular posts we found only two posts by prowar authors. The first 38 posts by the level of engagement and 48 posts in total (out of 50) were written by antiwar authors. As a result, the level of involvement for posts by antiwar authors is 1.5 times higher than for posts by prowar authors (8.5 mln reactions vs 5.7 mln reactions).

When we analyze the whole corpus of texts we see that censorship inhibits publications with antiwar positions – people are afraid of legal prosecution. It leads to the domination of pro-war messages in social media. But analysis of the most popular posts shows that it can't eliminate the anti-war public sentiments entirely: opinions of war opponents exists in online public discussions, they are visible and have great support among Russian users.

Methodology

The textual data underlying this study comes from an ongoing media monitoring project which relies on technical support of *Scan Interfax* and *Brand Analytics* media monitoring and analysis systems. A list of general context keywords was used to build a corpus of publications on the war in Ukraine. It included eight items: *war, special operation, military operation, SVO (special military operation), special operation, military operations, denazification, and demilitarization)*. Importantly, the collection of textual data was organised

separately from official media (including TV) and social media (such as *VKontakte, Odnoklassniki, Instagram, Facebook, YouTube, TikTok, Twitter*). A complete list of the used electronic media platforms is presented in Appendix 1[28]. There are 415 traditional media sources, 25 TV channels and programmes and 85 social media platforms on this list.

The publications from official media outlets, such as web-protals of newspapers and TV channels, cover February to September 2022, while posts from social networks are collected only from July to September 2022. Overall, the corpus includes 1.9 million documents (478 million words), only 9.7% of documents come from traditional media sources.

More information on the quantitative parameters of the corpus appear in Table 1.

In this report we focused on the analysis of social media content at the backdrop of official sources of information and opinion in July, August and September 2022. Table 1 presents the overall quantitative parameters of the corpus which underpins this study, with a breakdown by media type and month.

Table 1. Comparative sizes of subcorpora by month and media type, including repeated publications (after lemmatisation)

	Feb	March	April	May	June	July	August	Sept	TOTAL
Official press									
docs	12730	27290	19854	21353	15863	18246	28715	38337	182388
words	6165081	10720823	7788265	8257260	5827623	6694356	10693571	15528770	71675749
Social networks									
docs	–	–	–	–	–	602303	545679	558361	1706343
words	–	–	–	–	–	146876621	130446288	130012163	407335072

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[28] https://drive.google.com/file/d/1k_6wd-8D8zWU5xbJ9f7Tap_KaBTTlNBo/view

Additionally, the monthly distributions of publications across three social media platforms in our data are presented in Table 2.

Table 2. Quantitive parameters of the underlying social media data by network

month	type	documents	words
July	ok.ru	153,853	26,592,952
	telegram.org	18,214	2,657,879
	vk.com	334,408	87,106,779
August	ok.ru	169,466	33,749,857
	telegram.org	14,368	2,273,807
	vk.com	278,923	69,780,576
September	ok.ru	250,850	51,298,830
	telegram.org	14,985	2,400,109
	vk.com	309,851	76,173,038
Total		1,544,918	352,033,827

The data was processed as a time series with three-day intervals as our default setting, i.e. most graphs reflect the frequencies of search items in the documents published within successive 3-day periods. Whenever we wanted to explore a specific timespan in more detail or have a more zoomed out perspective, we analysed daily or monthly frequencies, respectively.

Our main focus was on comparing the usage of selected keywords and phrases across time periods, social media platforms, types of data source, etc.

The corpus was analysed with regard to the frequency of individual keywords and aggregated frequencies of pre-defined lists of words that mark a particular topic. In total we have explored 24 thematic aspects of the publications and evaluated the frequencies of over 300 words and phrases. The extraction of each item is based on a lemmatised version of the corpus, a standard practice in

textual analysis which allows to take into account all grammatical forms. All frequencies were normalised to the size of the subcorpus from each 3-day interval, with the normalisation base of 100 thousand words. This allows to compare frequencies across subcorpora of various size directly, including using them in graphs based on the same scale. The search items associated with each topic are listed in [Appendix](#) 2[29].

Taking into the account the repetitiveness of publications, we compared the frequencies of selected keywords before and after deleting duplicate posts. Duplicate posts were identified by matching the first 20 words in the raw text.

The ratio of repeated texts (excluding the first occurrence) amounts to 47.98 % in social media, with about 23.4% being exact unmodified copies of the original publication, often repeated many times. Figure 22 compares the total number of posts to the number of all repeated publications in social media subcorpus.

Figure 22. Distribution of repeated publications in social media subcorpus
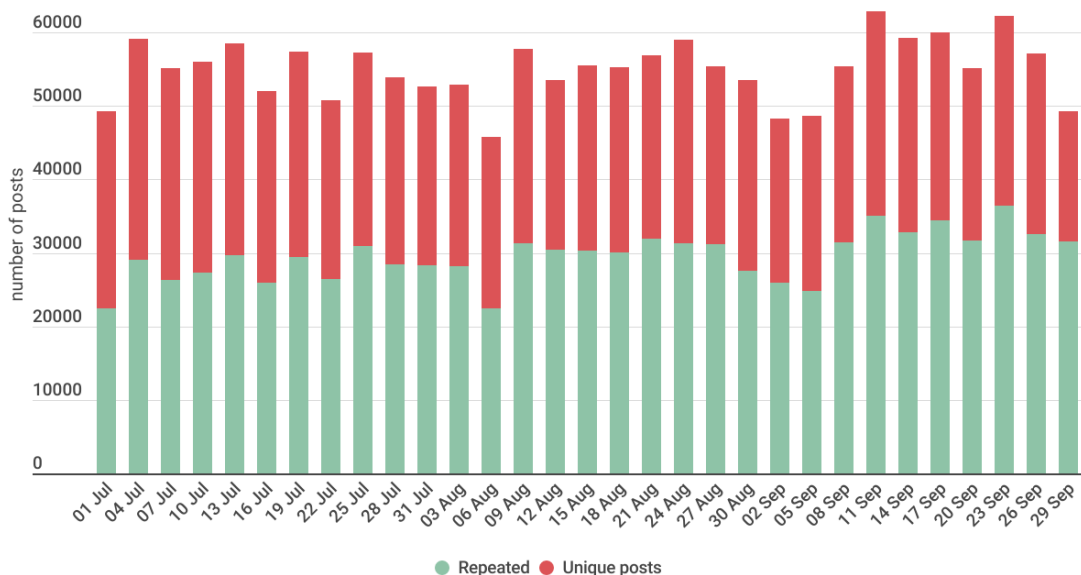
Another aspect of analysis was tracing users' publication activity and identifying user groups with various patterns. This analysis was based on social media subcorpus only. The total number of unique users in this subcorpus amounted to 263,665, they produced 1,544,918 posts in three months. Table 3 has the definitions of each group.

Table 3. The ratio of specialist authors and ordinary users in the corpus of texts on social media

type of user	publication activity	number of users	ratio to all users	ratio of generated publications
professional users	>= 260	710	0.27%	22.62%
general public	<= 13	245325	93.04%	32.78%
other	13 < N < 260	17630	6.69%	44.59%

In particular, we distinguish *professional users/channels* who publish more than 20 posts about Ukraine a week (over 260 in three months) vs. *general public* with one or fewer post about Ukraine a week across 13 weeks. Note that deleting duplicates reduces the number of very active users and increases the ratio of output by less regular users.

Figure 23 demonstrates that the activity patterns may vary across the groups, with the most active users capable of generating surplus texts in some periods and being less active in other.

Figure 23. Number of posts by the defined user groups (July - September 2022)
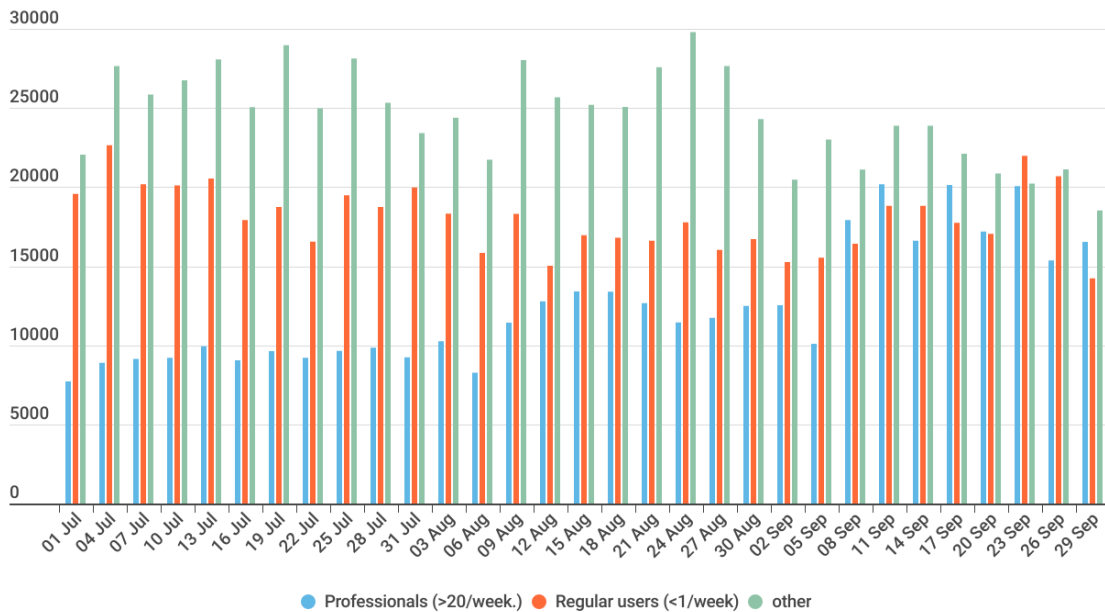
It can be seen that while the activity of individually less prolific authors (shown in orange) remained stable across the period of observations (arranged in this study in weekly tipe spans), there was a surge in activity of the more productive authors, particularly from the first group (see blue bars).

Figure 24 further demonstrates the lack of stability in the output of the most prolific groups of users in this case with regard to a topic marked by the derogatory names for the Ukrainians (e.g. *ukrop*) and many derivatives with *ukro-* and *nazi* (e.g. *ukronazist, ukrofascist, banderovetz, nazbat*), as well as strong evaluative terms used to describe Ukraine (e.g. *Kyiv regime, sneaky, guileful, hypocrite*) and present the Ukrainians as an evil dangerous threat.

Figure 24. Normalised frequencies of dehumanisation keywords in posts by professional users and by general public
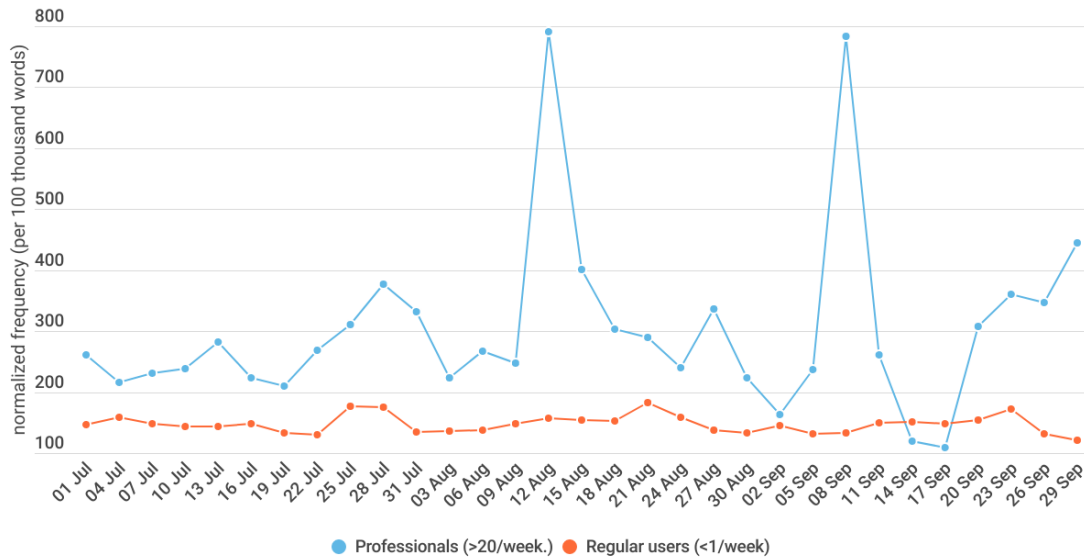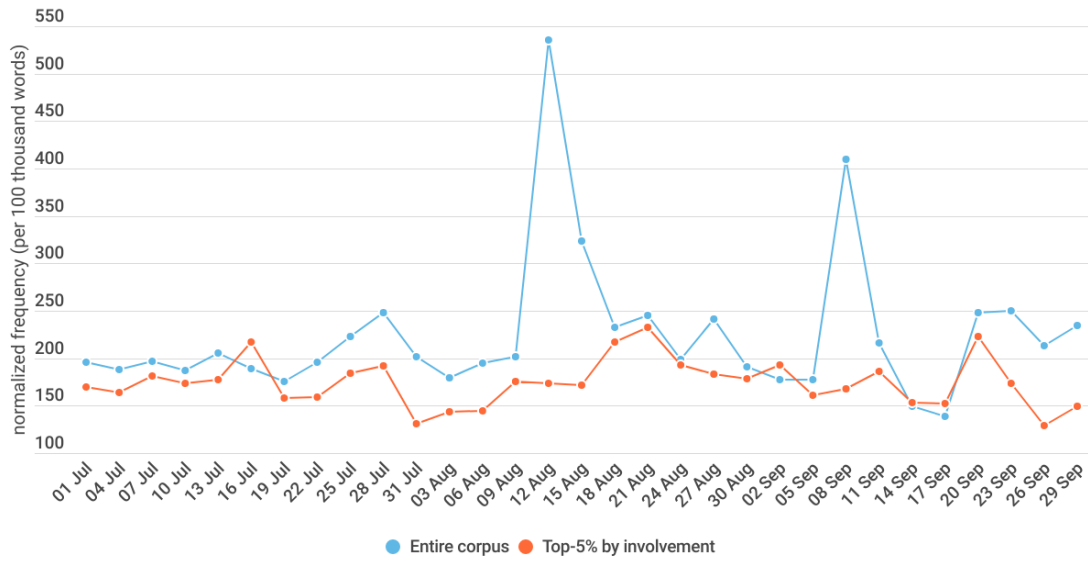
The solid line reflects the frequency in the publications by most active users while the dashed line summarises frequencies in posts by all other 99.8% of users.

Finally, the posts in social media were analysed from the point of view of public reactions they generated. We calculated the involvement index as a sum of likes, re-posts and comments associated with each post. We built a subcorpus of most publications, using 5% of all publications sorted by the involvement score. This subcorpus included 85,317 posts (out of 1,706,343 in the entire social media corpus across three months). The involvement scores in this subcorpus ranged from 110528 to 39, with a mean of 444.1.

Figure 25 demonstrates, for example, that dehumanising vocabulary is not so often used in the publications that generated most public reaction as in the entire corpus.

Figure 25. Frequency of dehumanisation keywords in posts with high involvement vs entire corpus (July-September 2022)

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