



Decoding gendered political communication on Facebook and Twitter/X before and during Russia's 2022 full-scale invasion of Ukraine

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Abstract

This study analyzes along gender lines Ukrainian political communication in both English and Ukrainian on Twitter/X and Facebook during comparable periods before (February to June 2021) and during (February to June 2022) Russia's 2022 full-scale invasion of Ukraine. An original database of Ukrainian politicians' socio-demographic attributes was created and analyzed using a novel mixed methods approach of structural topic modeling and social network analysis that transcends traditional content analysis. Overall, politicians' use of narrative and interaction on social media differed along gender lines. Women were more collaborative and interactive, seeking support from the West and promoting themselves and their country. Men more frequently used military and combative terms. While politicians continued to update their constituents directly on Facebook in Ukrainian, English-language tweeting on Twitter/X increased 58% after full-scale invasion began. All politicians used social media to disseminate narratives of Ukrainian bravery and the need for Western support, but their styles did not consistently align with current theories of gendered communication during conflicts.

Keywords Political communication · Computational social science · Ukraine · Conflict studies · Women and peace hypothesis

Introduction

All but a handful of wars were fought, communicated, won and lost, before social media was invented. With it, every word and action of leaders and civilians alike is recorded as it becomes history. Social media presents an opportunity to promote women's voices after historical exclusion from national memories and narratives and, in Ukraine, the historical elevation of nationalism above feminism (Alexievich 2017; Phillips 2014; Shevtsova 2024). Men and women leaders are generally assumed to approach conflict differently, with men assumed to be inclined toward combat, and women to compromise (Reardon 1993; Tessler et al. 1999).

Ukraine, Europe's second largest country by area, was part of the Union of Soviet Socialist Republics from 1922 until it regained independence in 1991. Since then, Ukrainian citizens have mobilized through multiple protest

movements, demanding European integration and free and fair elections whenever their leaders strayed from these ideals (Onuch 2022). On February 24, 2022, Russia launched a full-scale invasion of Ukraine¹ after years of fighting in eastern Ukraine and the illegal annexation of Crimea after Ukrainian democratic protests in 2013–2014, labeled the Euromaidan uprising (Walker 2023).

Since Euromaidan, women have been vital to Ukraine's wartime efforts (Mayerchuk and Plakhotnik 2015; Onuch and Martsenyuk 2014). Women comprise 22% of the Ukrainian Army and have used the participatory power of social media to collect donations and supplies for the army (Hendrix and Korolchuk 2022; Patrikarakos 2017). Ukrainian women politicians make up 20% of the Ukrainian Parliament and have traveled the world to solicit support from allies (Rogers and Sleigh 2022). Social media has enabled both women and men to confer Ukraine's legitimacy as a state and enable collective protest (Boichak and Jackson 2020; Gruzd and Tsyganova 2015; Onuch et al. 2021; Ronzhyn 2014). Understanding how women leaders use social media to communicate wartime narratives is paramount to understanding modern political communication during

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conflict and adding historically excluded voices to academic literature.

This study is the first of its kind to document and analyze how Russia's 2022 full-scale invasion impacts Ukrainian women and men politicians' use of narrative and interaction on Facebook and Twitter/X (renamed X in July 2023). We analyzed 56,433 Facebook and 22,789 Twitter/X posts of 210 women and men members of Ukrainian parliament and cabinet ministers who were active on social media before or during Russia's full-scale invasion using structural topic modeling and social network analysis.

Gender and social media in modern conflict

Twenty-first century warfare has been transformed by social media—how it is waged, communicated, covered, and consumed (Patrikarakos 2017). The digital architectures of social media platforms dictate how they are used by influential users, such as politicians, and the general public during peace and war (Bossetta 2018). Both Twitter/X and Facebook have open public pages and similar network structures with unidirectional follows, meaning the person followed does not have to confirm or reciprocate the action. Both timelines employ a mix of chronological and algorithmic ordering of posts, though post length limits vary between 240 characters on Twitter/X and 63,206 on Facebook. These digital architectures curate the experiences of vastly different user bases. Facebook has over 2 billion daily active users (Bell 2023) and has been found to be commonly used among American political candidates, likely due to the perception that their electorates are on Facebook and thus see their campaign messages (Bossetta 2018). While Twitter/X's 239 million daily active users are one eighth of Facebook's, Twitter/X is considered to be a place where political elites, journalists, academics, and other social actors congregate to share 240-character updates and advance their own agendas (Dixon 2022). Women politicians also tend to use Twitter/X more and transform their strategies to increase their chances of electoral success (Wagner et al. 2017). Social media is also increasingly relied upon during crisis events (Reuter et al. 2018).

Facebook was widely used among Ukrainians during the 2013–2014 Euromaidan uprising to receive updates from protest leaders and political figures and to organize collective actions (Onuch et al. 2021; Ronzhyn 2014). Protesters also used Twitter/X to reach foreign audiences and provide brief tactical updates, such as on police whereabouts (Ronzhyn 2014). Studying how Ukrainian politicians utilize Twitter/X before and during full-scale war is of interest, especially in relation to Ukraine's need for military and financial support from Western countries. Because Facebook and Twitter/X have distinct architectures and audiences, and

are used for specific purposes, it is assumed that they are used for different purposes during times of war. The first research question asks: How does Ukrainian politician usage of Facebook and Twitter/X differ according to time period, gender, and language (RQ1)?

Gendered discourse in politics during conflict

Gendered differences in political discourse on social media during conflicts are understudied partly because social media mobilization during war and protest is a relatively recent phenomenon (Howard et al. 2011; Onuch et al. 2021; Ronzhyn 2014). Though, feminist writers have long called for more focus on women's contributions to conflict and international politics, as well as more direct questioning of why women appear to be absent from these sections of global history (Alexievich 2017; Enloe 1990). Recent scholarship on Western responses to Russia's 2022 full-scale invasion of Ukraine noted a distinct lack of discussion around women as active participants in conflict outcomes, and called for more opportunities for women to be included in public discussions around peace and security (Wright 2023). Both conflict and communication are gendered phenomena that require disaggregation through a gendered lens to uncover historically overlooked patterns (Alexievich 2017; Cassidy 2017).

The Women and Peace Hypothesis (WPH) postulates that women and men approach international relations and conflict differently (Reardon 1993; Tessler et al. 1999). Women are assumed to hold pacifist views, be willing to accept compromise to solve interstate disputes, and do not believe war is as necessary or appropriate as often as men do. This pacifism stems from women's presumed roles as *life-givers* and mothers who are expected to strive to eliminate violence and find non-violent compromises (Runyan and Peterson 2014). Though, the maternalistic explanation of women's pacifism has long been contested (Aharoni 2017; Conover and Sapiro 1993), including in Ukraine (Plakhotnik and Mayerchuk 2010), potentially because women's lack of access to legitimate, masculinized power has historically required compromise to obtain at least partial objectives. Men are assumed to hold the combative view that war is necessary and appropriate in certain situations, and that violence can indeed solve interstate disputes. Men are seen as *life-takers*, willing to fight in the name of protecting women and children, as is perceived to be their fatherly responsibility. However, women are less likely to call for peace if they are in a country engaged in a highly salient conflict, because the conflict is the central preoccupation of both individuals and states for their survival (Aharoni 2017; Tessler et al. 1999). In societies outside of the United States and Western Europe, including in the Middle East, men's and women's attitudes toward pacifism and war appear similar (Abduljaber and Kalin, 2019; Tessler et al. 1999).



Ukraine is an ideal country on which to test the WPH, given that Ukrainian women have historically had to prioritize nationalist movements over feminist ones, or creatively merge them to continue their work and gain visibility for their actions and sacrifices (Channell-Justice 2020; Mayerchuk and Plakhotnik 2015; Phillips 2014). Throughout both the Euromaidan uprising and subsequent Russian invasion of eastern Ukraine, women have either been discouraged from participating or erased from their combat roles by being officially listed as medics (Martsenyuk et al. 2016; Phillips 2014). In response, some formed “Women’s Squads” to bring attention to their contributions to the Euromaidan protests (Phillips 2014). Ukrainian women have also historically been mythologized as *mothers of the nation* through the character of the Berehynia, whose contemporary assessment in feminist literature is as one who simultaneously gives women visibility as matriarchs of Ukraine, but who is also held to unattainable standards of a perfect citizen, worker, and mother who upholds national and family values (Plakhotnik and Mayerchuk 2010; Rubchak 2009). Studying differences in Ukrainian men and women politicians’ communication styles as the public outputs of their approaches to international relations can shed light on how the WPH plays out in Ukraine during a highly salient conflict, given that much research on the WPH has been conducted on populations who are not in conflict zones when they are surveyed (Hargrave and Langengen 2021; Runyan and Peterson 2014).

Gendered differences in conflict approaches can be observed through how Ukrainian politicians deploy narratives in their communication on social media during war. Coticchia and Catanzaro (2022) outline a framework for structuring communication as a composition of building blocks—frames and narratives—into strategic narratives, master narratives and ideologies. Within this framework, a narrative is defined as a description of an event or multiple events that includes an actor, setting and action, such as the outcome of a battle in a conflict (Porter Abbott 2002). A strategic narrative draws inferences from a series of narratives to influence a target audience, such as calling for financial support to rebuild damaged buildings. This framework is used to answer the second research question: To what extent do the narratives Ukrainian politicians discuss on social media fit expectations of gendered discourse (RQ2)? Given assumptions that women are more collaborative and seek compromise to solve disputes, it is assumed that women would use social media to promote narratives of international solidarity and support, while men would promote military strength and the importance of beating the enemy (Aharoni 2017; Hargrave and Langengen 2021; Tessler et al. 1999). However, due to the war’s salience and contestations

of women’s pacifism, women are not expected to promote narratives of compromise, pacifism, or peace at any cost.

Gendered interaction styles

Communication styles of women and men do not only differ through content, but also interaction style. Women are understood to be more interactive and collaborative in their communication than men, and this feminine style is considered to be subordinate to men’s lone-wolf styles in politics and business (Gilligan 1995). Engaging in alliance building and collaboration to build consensus around a preferred decision or objective can be considered more strategic on social media because platforms afford and encourage the use of interactive features, such as the ability to mention another user directly using the “@” symbol on Twitter/X (Bossetta 2018).

Women social media users have a stronger sense of group awareness and cohesion on social media and are more interactive than men (Wagner et al. 2017). Women political candidates in the United States have been found to have higher relational power on social media (in the form of number of replies and centrality within a network) when they run against men (McGregor and Mourão, 2016), and be more conversational and interactive than men who communicate more formally and straightforwardly (Meeks 2016). During the Euromaidan protests in 2014, Ukrainian women were found to use the networked affordances of social media, including the ability to directly engage with multiple people, more strategically than men (Phillips 2014). While existing work has studied the impact of incumbency on gendered political communication strategies during elections (Christine Banwart and McKinney 2005), there is a gap in the literature in understanding how the prominence of a politician (which being an incumbent affords) impacts their interactions on social media during war. To understand whether women engage in more strategic interaction on social media during times of war, and to what extent doing so correlates with political prominence, the third research question asks: How do interaction styles of more prominent and less prominent Ukrainian politicians on social media fit expectations of gendered discourse (RQ3)?

Methodology

In this study, structural topic modeling (STM) and social network analysis (SNA) were used to understand gendered political communication strategies of Ukrainian politicians on Facebook and Twitter/X before and during Russia’s 2022 full-scale invasion. A topic model takes social media posts as input documents, and studies the co-occurrence of



words within the corpus of documents to uncover patterns (Roberts et al. 2013, 2019). STMs are an extension of the Latent Dirichlet Allocation topic model. They incorporate metadata about the documents into the model and establish the effect sizes of metadata on topics (Blei 2003). STMs have previously been used to uncover key topics discussed by Twitter/X users after Russia shot down the civilian passenger flight MH17 on 17 July 2014, killing all 298 people on board (Mishler et al. 2015). SNA can uncover the patterns of interaction in large amounts of social media posts, and uncover communication strategies of message senders (Jankowicz et al. 2021; Kriel and Pavliuc 2019).

Data collection

The first step in building a database of Ukrainian politicians was to create a spreadsheet containing the names and political parties of the 459 Members of Ukrainian Parliament and cabinet ministers. This information was collected from the Wikipedia page for the Ukrainian *Verkhovna Rada* (Parliament) (Wikipedia 2022). The gender of politicians was not listed but was deduced from their first names. For example, the first name Kira was assumed to be a woman and the first name Andrij was assumed to be a man. Any names that were ambiguous to the Ukrainian-speaking researcher who is familiar with Ukrainian names were checked by searching the politician's name on Google and determining their gender from their image and further context. In the absence of an official, self-identified, Gender column this procedure was the only option. A manual evaluation that the gender identity politicians present in their profile photo matched the gender marking in the Gender column of the database was conducted as each politician's user ID was added to the database.

To collect Facebook posts from Ukrainian politicians, their names were searched and added to a CrowdTangle List, which allowed for groups of Facebook pages to be categorized and analyzed in-house, or for their information to be downloaded locally for further analysis (CrowdTangle Team 2022). Each politician's name was searched in both Latin and Cyrillic characters using the Add Page function and their user ID added to the database when the individual was found. Searching for their names in Cyrillic was valuable because 36% of Ukrainian politicians had their names listed in Cyrillic on Facebook, and because Cyrillic names can have multiple spellings when transliterated into Latin characters. For example, the first name Леся can be transliterated to Lesia, Lesya, or Lesiya. After this detailed and manual search process, 198 profiles were located and added to the list. CrowdTangle only allows verified profiles or pages with over 25,000 likes or followers to be added to lists, so some politicians' profiles or pages could not be added or analyzed in this study (Fraser

2020). After the list of 198 politicians was created, the Get History function in CrowdTangle was used to download each politician's entire history of social media postings in CSV format. This gathered a total of 191,288 Facebook posts from the 198 politicians. The final two datasets for this analysis (Pre-wartime: February 23–June 28, 2021, Wartime: February 23–June 28, 2022), after deleting blank posts, gathered 17,815 and 38,628 posts, respectively.

For Twitter/X collection, a similar process was followed where each politician's name in Latin and Cyrillic characters was searched in Twitter/X's list function (Pavliuc 2022). This process gathered 122 profiles, with no minimum follower amount. After finalizing this list, the list of these profiles was exported, and used to collect all tweets through the Tweepy Twitter/X-collection package in Python. Twitter/X only allows the most recent 3200 tweets to be scraped from users in its open API. Scraping the 122 profiles for their 3200 most recent tweets gathered 99,894 tweets. Only 13 profiles gathered around 3200 tweets, meaning that their oldest tweets were probably not captured using this collection method. Nonetheless, all 13 profiles had full datasets in the Pre-wartime (February 23–June 28, 2021) period, meaning that full samples were gathered for all profiles in the time-periods analyzed in this study. The final two datasets for this analysis (Pre-wartime: February 23–June 28, 2021, Wartime: February 23–June 28, 2022), after deleting blank posts, gathered 3022 and 19,767 posts, respectively. The politician database is available in Appendix 1.

Metadata for structural topic model and social network analysis

Metadata considered in this study are outlined below. Platform and time period were analyzed in RQ1 (language and gender were not included in the STM for RQ1), gender was analyzed in RQ2, and gender and prominence were analyzed in RQ3. Political party lean (pro-Ukrainian or pro-Russian) was considered as a variable in this study, with members of the Kremlin-linked political party "Opposition Platform—For Life" categorized as pro-Russian (Staff 2022). It was ultimately not included because only 16 politicians had Facebook or Twitter/X accounts that could be analyzed, and the findings did not yield noteworthy results.

Gender (woman or man)

Gender of Ukrainian politicians is the main variable compared against others in this study. Over the course of this research no current Ukrainian politicians were found to self-identify as non-binary.



Platform (Twitter/X or Facebook)

Twitter/X and Facebook were selected due to their differing audiences and availability for data collection. Telegram was also considered as a data source, but the search function on Telegram proved to be highly rigid and was therefore less reliable to find politicians' pages when their names were searched in Latin and Cyrillic characters.

Time-period (pre-wartime or wartime)

The Wartime period analyzed in this study ran from February 23, 2022 (the day before Russia launched their full-scale war on Ukraine) to June 28, 2022. This four month, 126-day period captures the entire first shock of the war, and the period where politicians would have transitioned toward and likely settled into new political communication strategies on their social media profiles. The Pre-wartime period, February 23–June 28, 2021, was selected to avoid any effects of seasonality. This time period in 2019 or 2020 was not selected because presidential elections were held on March 31 and April 21, 2019, and the Covid-19 pandemic that began in early 2020 may have altered politicians' use of narrative and interaction on social media. The gradual build-up of Russian troops on Ukraine's border began in March 2021, but did not become prominent in the news until months later. Since Russia's annexation of Crimea in 2014, Ukraine has been on the verge of full-scale war with Russia. The chosen Pre-wartime period captures as typical of a time period as possible before the full-scale invasion in 2022.

Politician prominence (prominent or less prominent)

Politicians were labeled as prominent in the database if they were cabinet ministers, political party leaders, or current and former presidents. These criteria labeled 52 politicians as prominent, of which 24 had Facebook accounts, and 19 had Twitter/X accounts that could be analyzed in this study. The remaining politicians were classified as less prominent. This variable was originally included in the STM, but the findings did not yield interesting insights, but it remained included in the SNA.

Data analysis: descriptive statistics

Analyzing how Ukrainian politician usage of Facebook and Twitter/X differed according to time period, gender, and language in RQ1 required a compilation of descriptive statistics. After the Facebook and Twitter/X data were collected, it was imported into a Python Jupyter notebook. Posts falling within the Pre-wartime and Wartime periods were categorized as such. The gender of each politician was merged with

each social media post to calculate how many posts were published to each platform by women or men, as well as the total number of politicians posting to each platform. The Google Translator package in Python was used to add a new column of language to each Facebook and Twitter/X post. A manual evaluation of a random sample found the translations to appear accurate by a fluent reader and speaker of Ukrainian and English. The English-translated social media posts were used throughout this study and fed into the STM. All descriptive statistics for RQ1 are in Table 1.

Data analysis: structural topic model

An STM was used to analyze differences in narrative use along the lines of social media platform and time period (RQ1), and separately, gender (RQ2). To prepare the data for the STM, the documents (Facebook and Twitter/X posts) were cleaned in a Jupyter notebook where all hyperlinks, symbols, and extra spaces were removed. The Facebook and Twitter/X data were processed separately until they were merged. The final dataset containing the cleaned posts, time period, gender, and platform was fed into the STM.

To run the STM, the "STM" package in R was used, and accessed through a Jupyter notebook. R code from STM tutorials and the official STM documentation were compiled according to the needs of this study (Bail 2019; Caberlin 2020; Monroe, n.d.; Roberts et al. 2019). The Document column was processed through the `textProcessor` function which creates a corpus, converts the text to lowercase, stems the words, and removes punctuation, insignificant words, and numbers from the documents. The corpus was then run through the `prepDocuments` function which removes highly frequent terms from the corpus and deletes documents with no words.

Once the documents were prepared six topic models were then run on the data, searching for 30, 40, 50, 60, 70, and 80 topics. Each model incorporated the prevalence of all metadata (gender, time period, and platform). After all models were run, they were visually compared for differences in two common metrics of topic quality: exclusivity (how unique words are to a given topic) and semantic coherence (how often words that are probable to co-occur appear in the same document) in Fig. 1 (Caberlin 2020).

The models containing 30, 40, and 50 topics contained several outlying topics with low exclusivity, meaning that 30–50 topics were not enough to capture the range of topics discussed in the data. The models containing 60 and 80 topics contained topics with low semantic coherence, meaning that words that were calculated as probable to co-occur in given documents did not. Due to these shortfalls, the model with 70 topics was chosen for onward analysis in this study.



Table 1 Postings of politicians on Facebook and on Twitter/X before and during wartime

	Facebook Postings (N = 56,443)			
	Pre-wartime (N = 17,815; 32%)		Wartime (N = 38,628; 68%)	
N posts	Women	5481 (31%)	Women	11,274 (29%)
	Men	12,334 (69%)	Men	27,354 (71%)
N politicians posting	Women	46 (27%)	Women	50 (28%)
	Men	126 (73%)	Men	131 (72%)
N posts per language	Ukrainian	13,951 (78%)	Ukrainian	27,841 (72%)
	Russian	1700 (10%)	Russian	4321 (11%)
	English	62 (0.4%)	English	991 (3%)
	Other	2102 (11.6%)	Other	5475 (14%)
	Twitter/X Postings (N = 22,789)			
	Pre-wartime (N = 3022; 13%)		Wartime (N = 19,767; 87%)	
N posts	Women	509 (17%)	Women	9832 (49%)
	Men	2513 (83%)	Men	9937 (51%)
N politicians posting	Women	10 (24%)	Women	25 (49%)
	Men	31 (76%)	Men	51 (51%)
N posts per language	Ukrainian	2000 (66%)	English	15,620 (79%)
	English	636 (21%)	Ukrainian	2750 (14%)
	Russian	242 (8%)	Russian	255 (1%)
	Other	144 (5%)	Other	1142 (6%)

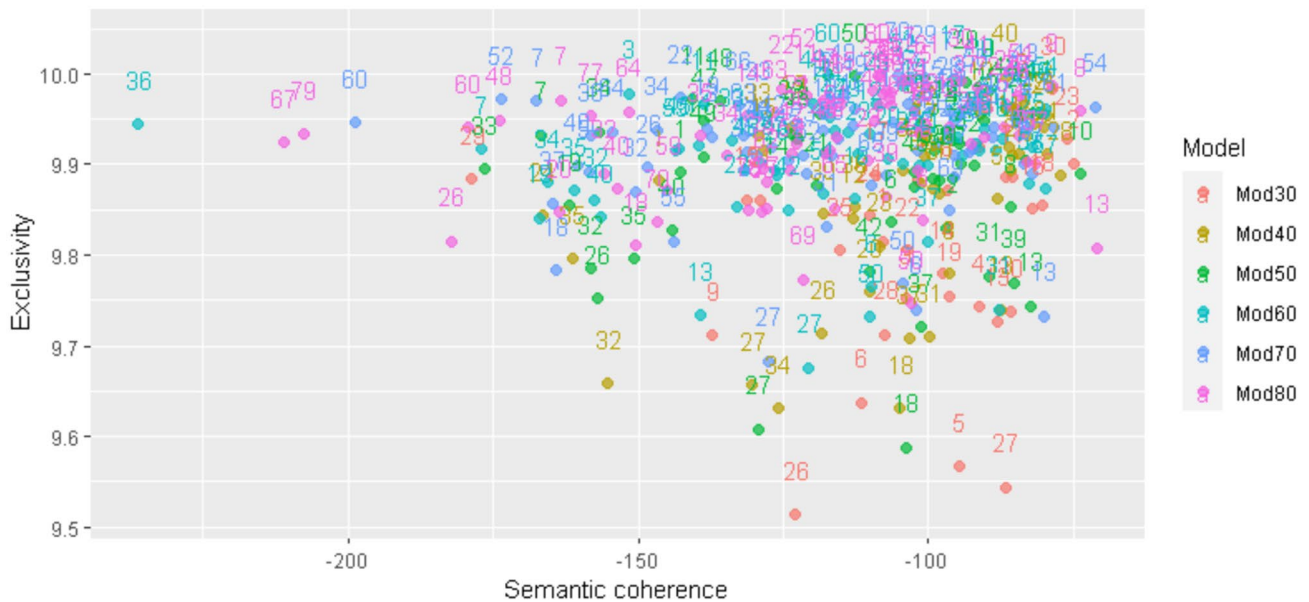


Fig. 1 Comparison of Exclusivity and Semantic Coherence in Models with 30, 40, 50, 60, 70, and 80 Topics

After selecting the 70-topic STM, the top words per topic and effects of metadata on each topic were exported for further analysis. To finalize the topics, a manual process of selecting two to five top words which capture the essence of each topic was conducted. Four topics were identified to contain only insignificant words and were not

included in the analysis. The 66 final topics were boiled down further in a new variable of 14 larger topic groupings, which are operationalized as narratives in this study and were used to answer RQ1 and RQ2. These narratives included ‘call for support’, ‘people affected by war’, and ‘Ukrainian culture’. Appendix 2 displays a granular



breakdown of all 70 topics, estimates, standard errors, T-values and P values.

The resulting narratives, and their likelihood of being used on Facebook or Twitter/X, and before or during war, were analyzed to answer RQ1. The patterns in narrative usage are discussed in the Results section for RQ1, based on Table 2.

To analyze the extent to which narratives Ukrainian politicians discuss on social media fit expectations of gendered discourse (RQ2), the narratives were summarized by whether they were more likely to be used by women, if the effects were significant and the T-value was negative, men, if the effects were significant and the T-value was positive, or by both genders, if there was no significant effect of gender on the narrative. The patterns in gendered narrative usage are discussed in the Results section for RQ2, based on Table 3.

Data analysis: social network analysis

Analyzing interaction styles of Ukrainian politicians along gender and prominence lines in RQ3 required accessing the original Twitter/X data and extracting all instances where a politician mentioned another Twitter/X user with the @ symbol. After each @-mention was extracted and added as a new row (as a Target node) to a dataset of interactions alongside the politician who sent the tweet (the Source node), the gender and prominence of each Source politician was added to each row. This final dataset was uploaded into

Gephi, a network analysis and visualization software (Bastian et al. 2009). In Gephi, the weighted network was produced and network statistics for each node were calculated. These included the number of times a politician mentioned another account or was mentioned (out- and in-degree) and their influence relative to their neighbors (Eigen centrality) (Grandjean 2015). The network statistics of Ukrainian politicians were then averaged by gender and prominence and displayed in Table 4. The top 20 mentioned Twitter/X accounts by men and women politicians are displayed in Table 5.

Findings and analysis

The first research question (RQ1) analyzed how Ukrainian politician usage of Facebook and Twitter/X differed according to time period, gender, and language. Statistics quantifying postings are in Table 1, and the results of the STM are in Table 2.

Postings on Facebook analyzed according to gender and language appeared to remain proportionately stable between the Pre-wartime and Wartime periods. While the number of posts doubled between the 2021 and 2022 periods, the proportion of Facebook posts by women and men politicians, of women and men politicians posting, and of the languages they posted in remained similar, with no more than a 6% change. Table 2 shows that government affairs and infrastructure narratives were more likely to be discussed on Facebook during Pre-wartime, which is not surprising since

Table 2 Distribution of narrative topics according to platform and time-period

Narrative	Distribution of Narrative Topics on Facebook, Twitter/X, or Both			Distribution of Narrative Topics Pre-Wartime, Wartime, or Both		
	Facebook (62%)	Both (5%)	Twitter/X (33%)	Pre-wartime (45%)	Both (18%)	Wartime (37%)
Government affairs and infrastructure	18	2	3	14	6	3
Military	4	0	0	0	1	3
Ukrainian culture	3	1	1	4	0	1
People affected by war	3	0	3	3	1	2
Sanctions	3	0	1	0	1	3
War – optimism	2	0	1	2	0	1
Youth	2	0	0	2	0	0
Social/TV Media	2	0	1	1	0	2
Russia aggressor	2	0	4	0	1	5
Global impact of war	1	0	2	2	1	0
Call for support	1	0	3	0	1	3
War	0	0	2	1	0	1
Accuse pro-Russian politicians	0	0	1	1	0	0
Total narratives	41	3	22	30	12	24

Distribution of narratives used between Twitter/X and Facebook, and during pre-wartime and wartime periods. ‘Both’ refers to narratives used on both platforms and during both time periods. A narrative was categorized as being used on both platforms and in both time periods if its P value was greater than 0.1



Table 3 Distribution of narratives used by women, men, or both

Narrative	Women (30%)	Both (21%)	Men (48%)
Government affairs and infrastructure	7	6	10
People affected by war	3	1	2
Call for support	2	1	1
War—optimism	2	0	1
Social/TV Media	2	0	1
Russia aggressor	1	0	5
Global impact of war	1	0	2
Youth	1	0	1
Ukrainian culture	1	4	0
Military	0	1	3
Sanctions	0	1	3
War	0	0	2
Accuse pro-Russian politicians	0	0	1
Total narratives	20	14	32
Total war-related narratives	10	4	20

'Both' refers to narratives used by both genders. A narrative was categorized as being used by both genders if its P value was greater than 0.1

Table 4 Average network statistics for politicians according to gender and prominence

Network statistic	Women ($N=25$)	Men ($N=48$)	More prominent ($N=13$)	Less prominent ($N=60$)
In-degree	3.32	3.23	8.46	2.13
Out-degree	192.56	70.60	124.15	109.82
Component Number	0.04	0.02	0.00	0.03
Eigenvector Centrality	0.08	0.07	0.21	0.04
Closeness Centrality	0.48	0.63	0.65	0.57
Betweenness Centrality	5753.88	1876.06	2676.95	3318.29
Modularity Class	9.48	9.73	6.38	10.35

Facebook is the platform where politicians communicated in Ukrainian, presumably with constituents, roughly equally during the Pre-wartime and Wartime periods.

The greatest difference in posting behavior was the increase in English-language tweeting on Twitter/X, as seen in Table 1. In the Pre-wartime period 21% of tweets were in English while in the Wartime period, 79% were in English. Ukrainian language tweeting also decreased from 66% during the Pre-wartime period to 14% during the Wartime period. Russian language posting also changed between the Pre-wartime and Wartime periods, increasing slightly from 10 to 11% on Facebook but declining from 8 to 1% on Twitter/X. Table 2 shows that Twitter/X was also a platform where politicians named Russia as the aggressor, called for support from the West, and discussed people affected by the war (the latter also appeared on Facebook).

Twitter/X was also the platform where posting behavior changed considerably between the Pre-wartime and Wartime periods. There was a six-fold increase in Twitter/X posting after the Wartime period began, with women politicians

increasing their proportion of tweets from 17% of all Pre-wartime tweets to 49% of all Wartime tweets. The number of women posting to Twitter/X also increased from 24% during the Pre-wartime period to 49% during Wartime. Narratives describing people affected by the war, optimism about the war, and the war in general (without overt optimism) were discussed both before and during the 2022 full-scale invasion, likely due to the on-going 2014 Russian annexation of Crimea and parts of Eastern Ukraine (Walker 2023). This persistence of some forms of political discontent and violent conflict since 2014 may explain the blurred lines between Pre-wartime and Wartime narratives.

The second research question analyzed the extent to which Ukrainian politicians' discussions on social media fit expectations of gendered discourse (RQ2). Table 3 and Appendix 2 shows the differences in narrative use among women and men, including between those pertaining to the war from a tactical or optimistic perspective, calls for support, and discussion of people effected by the war.



Table 5 Twitter/X users with highest in-degrees from Ukrainian women and men politicians

Twitter/X username	Total in-degree	In-degree from women politicians	In-degree from men politicians	Account type
@ZelenskyyUa	36	15	21	Ukrainian leader
@NATO	32	12	20	Western organization
@BorisJohnson	32	17	15	European leader
@POTUS	30	15	15	America leader
@vonderleyen	27	13	14	European leader
@DmytroKuleba	25	11	14	Ukrainian leader
@AndrzejDuda	24	9	15	European leader
@EU_Commission	24	9	15	European organization
@Europarl_EN	24	11	13	European organization
@EmmanuelMacron	23	13	10	European leader
@EP_President	23	12	11	European leader
@ua_parliament	23	13	10	Ukrainian organization
@UN	21	9	12	Global organization
@verkhovna_rada	21	9	12	Ukrainian organization
@eucopresident	20	10	10	European leader
@antonioгутерres	19	9	10	European leader
@OlafScholz	19	9	10	European leader
@trussliz	18	10	8	European leader
@BWallaceMP	18	10	8	European leader
@Bundeskanzler	17	9	8	European organization
Total mentions	476	225 (47%)	251 (53%)	

Table 3 shows that both women and men often discussed government affairs and infrastructure, with six narratives spanning use by both genders. Such narratives used by both genders included discussing Ukraine's Diya app (which allows citizens to access digitized government services), corruption reform, loans and mortgages, and the environment. Women most significantly discussed crime, prosecutions, and the Russian Orthodox Church, while men discussed trade unions, the economy, and natural resources.

Narratives most highly discussed by women were calls for support, optimism about winning the war, and mentions of social and television media. Women's calls for support included pleading to UK and EU leaders (by mentioning several Twitter/X usernames of leaders) and NATO to provide Ukraine with air defense systems, using the hashtag #CloseTheSky. This call was made early in the war by Ukrainian politicians and civilians alike after a maternity hospital was bombed in Mariupol, Eastern Ukraine, on 9 March 2022 (Demianyk 2022). Women also expressed optimistic views about the war by discussing the EU granting Ukraine candidate member status and discussing how communities will repair war-damaged buildings and contaminated land. Mentions of social and television media appeared to be encouraging their audiences to follow them on social media and watch their television interviews.

Narratives most highly discussed by men included calling Russia the aggressor, discussing the military, and

sanctions. In discussion about Russia as the aggressor, men mentioned "Kremlin lies" and "Nazi propaganda," used the terms "crook" and "rashist"—a term used to describe Russian fascism under Vladimir Putin's rule (Kamusella 2022; Motyl 2016), and bluntly called Russia the aggressor, and Putin evil. One topic encouraged bravery using the #Fight-LikeUkrainian hashtag alongside the latter 'Putin' and 'evil' terms. Military topics mainly included discussion of the Ukrainian Armed Forces, tanks, missiles, and aircraft, and the verbs "fight," "defend," and "courage." Men's discussion of sanctions included calling for a "block" on popular Western internet platforms such as Google, Microsoft, Meta, and Netflix—and sanctions on Russian oil and companies.

The third research question analyzed how interaction styles of prominent and less prominent Ukrainian politicians on social media fit expectations of gendered discourse (RQ3). Table 4 displays the average network statistics for politicians according to their gender and prominence. Despite fewer women politicians using Twitter/X during both Pre-wartime and Wartime periods and tweeting less than men during both time-periods, women politicians had a higher average out-degree than men, meaning that, on average, women used the @-mention function to interact with people on Twitter/X more than men did (out-degree). Unsurprisingly, prominent politicians had a higher average in-degree, meaning that they received more mentions on Twitter/X than non-prominent politicians. Prominent politicians had high node influence



relative to their neighbors (eigenvector centrality), and alongside men politicians, were highly central in the entire network (closeness centrality).

Other network statistics, which capture centrality of nodes in a network according to different metrics, show that women politicians tended to be located in dense network regions (component number, modularity class), and often acted as bridging nodes between those dense regions (betweenness centrality). The latter result is likely skewed toward women because of woman politician Inna Sovsun, an outlying node (out-degree = 2250), which was over four times higher than the second highest out-degree for a politician, Oleksiy Goncharenko (out-degree = 452).

Table 5 displays the 20 Twitter/X users who were mentioned most by women and men politicians. While three were Ukrainian politicians and the Twitter/X account for Ukrainian parliament, the other 17 were all European or American politicians and security or government bodies. Despite Ukrainian parliament comprising only 22% women, they still produced 47% of mentions to top Ukrainian and Western leaders and organizations.

Overall, the analysis of Twitter/X interactions along gender and prominence lines indicates that women made more use of Twitter/X's interactive affordances by mentioning more people, while prominent politicians were highly influential relative to their colleagues.

Discussion

This study contributes to scholarship on gendered discourse, political communication, and conflict studies by illuminating how war impacts gendered political communication on social media. Findings indicate that gender and social media platform influences Ukrainian politicians' communication styles and strategies, with women using Twitter/X to strategically convey the human elements of the war and engaging in more conversational interactions with influential leaders than men. These data indicate the importance of analyzing political communication about international relations through a gendered lens (Cassidy 2017).

Facebook may have already been a platform where Ukrainian politicians communicated with their constituents effectively, given that it has previously been highly effective among Ukrainian feminists and Euromaidan protesters (Phillips 2014; Ronzhyn 2014). Activity on Facebook, according to gender and language, remained proportionately stable between the Pre-wartime and Wartime periods (Table 1), and government affairs and infrastructure narratives were more likely to be discussed on Facebook than Twitter/X. Ukrainian politicians likely did not see Facebook as a platform where they could further their new wartime political needs of Western support and sanctions with new audiences.

Twitter/X was found to be a platform where Ukrainian men and women politicians recognized the potential to communicate their country's needs with the West through calls for support and sanctions. Between the Pre-wartime and Wartime periods, women politicians' proportion of Twitter/X use increased from 10 to 49%, and English-language tweeting increased from 21 to 79% (Table 1), showing that the war did drive more women politicians to actively communicate with their networks. During the Wartime period, Twitter/X became a key platform for Ukrainian politicians to engage with Western leaders, with women playing a greater bridging role through higher out-degree connections (Tables 4, 5). This finding matches previous research on gendered interaction strategies during election cycles, where women were found to be more conversational and interactive on social media than men (Meeks 2016). More broadly, it also showcases the importance of Twitter/X for conducting diplomatic communication with other elite political actors during conflict.

Women's collaborative expectations were upheld through their increased interactions with Western leaders and organizations on Twitter/X. Through this behavior, women politicians exemplified the feminine expectation of alliance building and relationship development to build a consensus of backing for Ukraine with the West through calls for support. This finding aligns with existing evidence that women have stronger senses of group awareness and cohesion and use social media more strategically to achieve their objectives (Gilligan 1995; Phillips 2014; Wagner et al. 2017). Despite Twitter/X's short character limit and its typical usage for promoting political agendas, Ukrainian politicians also tailored their narratives to appeal to Western leaders, showing that differing platform audiences, architectures, and crisis events can impact communication strategies (Bossetta 2018; Reuter et al. 2018).

Women Ukrainian politicians discussed war-related narratives more optimistically than men, shared more narratives about civilian trauma, and published more calls for support from the West (Table 3). While there was no direct evidence of pacifist views by women, or any calls for compromise, women referenced military and aggressive terms less often than their male counterparts who were more likely to discuss the military and sanctions. Men used hashtags such as #FightLikeUkrainian on Twitter/X, named types of tanks, missiles, and aircraft, and more often used verbs such as "fight" and "defend" than women. These findings align with the Women and Peace Hypothesis for men, but not for women, as they displayed no pacifist views in their narratives and were only less likely to discuss the military and aggression as vigorously as men did (Aharoni 2017; Tessler et al. 1999). This misalignment is not surprising for women, given that they tend to be as supportive of combat as men during salient conflicts (Aharoni 2017).



Ultimately, both men and women Ukrainian politicians aimed to influence Western leaders to support Ukraine militarily and with humanitarian aid through their use of narrative on Twitter/X (Coticchia and Catanzaro 2022).

Women politicians may also have flocked to social media to interact with Western leaders at the onset of the full-scale invasion because they saw it as a space where they could amplify their voices during conflict, given that most other arenas of conflict tend to be dominated by men (Alexievich 2017; Enloe 1990). Their actions show that they were trying to be active participants in public communications about the war, and that they saw social media as a space where they could discuss their own, and their constituents', lived experiences (Wright 2023). Ukrainian women's use of social media as an emancipatory tool to make their voices heard appears to be a growing trend that allows them to walk the line between prioritizing nationalism and feminism simultaneously, taking advantage of the fragmented nature of social media and its ability to target different audiences with different messages, or a combination of both (Phillips 2014; Shevtsova 2024).

Ukrainian women's historical merging of nationalism and feminism materialized through the narratives they used during the start of the full-scale invasion, namely their messages regarding the human impact of the war (Channell-Justice 2020; Mayerchuk and Plakhotnik 2015). It is possible they erred toward these more feminine, human-oriented, narratives because they felt they could not go so far into the male-dominated terrain of combative narratives. Instead, they may have sought to strike a balance between gender norms—by using more feminine and less combative narratives—and the prioritization of nationalism during a highly salient conflict.

Were Ukrainian women politicians taking on the role of *digital Berehynias*? Perhaps their aim was to project themselves as *mothers of the nation* by communicating empathetic narratives regarding civilian trauma within the militarized context of war. While the Berehynia archetype has been criticized for holding Ukrainian women to unattainable standards as perfect citizens, workers, and mothers (Rubchak 2009), Ukrainian women politicians appeared to have used social media to weave together narratives that position them as motherly, nationalist citizens who are working hard to support their nation as its elected representatives. Women politicians' motivations for crafting more feminine narratives that emphasized the brutality of war on civilians deserve further qualitative inquiry, as do the reactions to these narratives by their key target audiences of European and American politicians.

A limitation of this study is that some subsets of data (i.e., Pre-wartime posts on Twitter/X) were small and may not have been well reflected in the topic model. To overcome this weakness, a larger time period of Pre-wartime may be selected in future research on political communication during Russia's invasion of Ukraine.

Conclusion

This study demonstrates the value of disaggregating political communication by gender during wartime to reveal differing narrative and interaction strategies. Results indicate that Ukrainian women politicians leveraged the interactive affordances of social media to build and maintain connections with Western leaders and organizations through calls for support and discussion of the damage caused by Russia. Target audiences and communication strategies on Facebook and Twitter/X also appeared to be distinct, with Ukrainian politicians using Facebook to update constituents and Twitter/X for appeals to Western leaders.

The findings have broader implications for both scholarship and policy on wartime communication strategies. First, the differing tactics of men and women indicate that women's voices, even during traditionally male-dominated periods of conflict, should be documented and analyzed, as their approaches may offer useful ideas for crafting strategies to target different audiences. Human-oriented, empathetic narratives may be effective tools in future strategic communications campaigns for democracies facing conflict. Second, this research suggests that political communication strategies are profoundly disrupted during war, making it vital to continue studying emerging actors in digital wartime communication. Finally, while not the primary focus of this research, Ukrainian politicians are constantly adapting their communication strategies to counter Russian disinformation about Ukraine and the war. Their efforts represent a small but crucial part of the broader Ukrainian effort to counter Russian propaganda, which also includes Ukrainian civil society, citizens, and global supporters.

The increased engagement of Ukrainian politicians with Western leaders on Twitter/X warrants further investigation. To close the communication loop initiated by Ukrainian politicians, future studies should analyze the war-related narratives of the Western leaders and international figures Ukrainians most frequently mentioned, using Coticchia and Catanzaro's (2022) narrative framework. This line of inquiry would illuminate the strategies employed by the most elite actors engaged in political communication and digital diplomacy in support of Ukraine during Russia's 2022 full-scale invasion.

Notes

1. For brevity, the two time periods analyzed in this study are referred to as the Pre-wartime and Wartime periods. While Russia invaded Ukraine and annexed Ukrainian territory in 2014, the full-scale war is considered to have begun on February 24, 2022 and is used as the indicator of the beginning of the Wartime period.



Appendix 1

See Table 6.

Table 6 Database of Ukrainian politicians and cabinet ministers in Verkhovna Rada (Parliament) Commencing 29 August 2019 (Order=Facebook Username, $N=459$). *Source:* 's curation of politician names, information, and social media handles

Name (Latin)	Name (Cyrillic)	Prominence	Party	Gender	Facebook Username	X/Twitter Username
Andriy Puziychuk	Пузіичук Андрій Вікторович	No	Batkivshchyna	M	a.puziichuk	
Oleksandr Kubrakov	Кубраков Олександр Миколайович	No	Servant of the People	M	Alexander Kubrakov	AlexanderKubrak
Anastasia Krasnosilska	Радіна (Красносільська) Анастасія Олегівна	No	Servant of the People	F	Anastasia Radina	AnastasiaRadina
Anatoliy Kostyukh	Костюх Анатолій Вячеславович	No	Servant of the People	M	Anatolii Kostyukh	
Andrey Motovilovets	Мотовилевць Андрій Вікторович	No	Servant of the People	M	Andrey Motovilovets	
Andriy Osadchuk	Осадчук Андрій Петрович	No	Holos	M	Andrii Osadchuk	
Andriy Zhurapanyn	Журапанін Андрій Вікторович	No	Servant of the People	M	Andrii Zhurapanyn	
Andriy Klochko	Клочко Андрій Андрійович	No	Servant of the People	M	Andriy Klochko	
Andriy Ivanchuk	Іванчук Андрій Володимирович	No	Unaffiliated	M	andriy.ivanchuk.111	
Anna Kovalenko	Коваленко Анна Миколаївна	No	Servant of the People	F	Anna Kovalenko	AnnaKovalenko39
Anna Skorokhod	Скороход Анна Костянтинівна	No	Servant of the People	F	Anna Skorokhod	
Antonina Slavyiska	Слависька Антоніна Керімівна	No	Opposition Platform—For Life	F	Antonina Slavyiska	
Arsen Avakov	Аваков Арсен Борисович	Yes	People's Front	M	Arsen Avakov	AvakovArsen
Artem Chornomorov	Чорноморов Артем Олегович	No	Servant of the People	M	Artem Chornomorov	
Oleksandr Skichko	Войцехівський Віталій Олександрович	No	Servant of the People	M	askichko	AlexandrSkichko
Mukola Babenko	Бабенко Микола Вікторович	No	Bila Tserkva united	M	BabenkoMV	
Oleksandr Bakunov	Бакунів Олександр Сергійович	No	Servant of the People	M	bakunov.sluganarodu	
Pavlo Bakunets	Бакунець Павло Андрійович	No	Self Reliance	M	bakunetspavlo	
Taras Batenko	Батенко Тарас Іванович	No	Unaffiliated	M	batenko123	batenko_laras
Solomiya Bobrovska	Бобровська Софія Анатоліївна	No	Holos	F	BobrovskaMP	
Bohdan Kytsak	Кишак Богдан Вікторович	No	Servant of the People	M	Bohdan Kytsak	
Viktor Bondar	Бондар Віктор Васильович	No	Unaffiliated	M	bondarvictory	
Iryna Borzova	Борзова Ірина Наумівна	No	Servant of the People	F	borzova.iryna	
Liudmyla Buimister	Буймістер Людмила Анатоліївна	No	Servant of the People	F	Buimisterpublic	
David Arakhamia	Арахамія Давид Георгійович	No	Servant of the People	M	David Braun	arakhamia_david
Denys Maluska	Малюська Денис Леонтійович	Yes	Independent	M	Denis Maluska	
Eduard Proshchuk	Прошук Едуард Петрович	No	Servant of the People	M	deputat.proshchuk	EduardProshuk
Oksana Dmytriyeva	Дмитрієва Оксана Олександрівна	No	Servant of the People	F	Dmytrieva.Official	
Dmytro Kuleba	Кулеба Дмитро Іванович	Yes	Servant of the People	M	Dmytro Kuleba	DmytroKuleba
Dmytro Mykusha	Микіша Дмитро Сергійович	No	Servant of the People	M	Dmytro Mykusha	
Dmytro Natalukha	Наталуха Дмитро Андрійович	No	Servant of the People	M	Dmytro Natalukha	DmytroNatalukha
Dmytro Razumkov	Разумков Дмитро Олександрович	No	Servant of the People	M	dmytro.razumkov	DRazumkov
Dmytro Kostyuk	Костюк Дмитро Сергійович	No	Servant of the People	M	DmytroKostiuk SlugaNarodu	

Table 6 (continued)

Name (Latin)	Name (Cyrillic)	Prominence	Party	Gender	Facebook Username	X/Twitter Username
Denys Shmyhal	Шмигаль Денис Анатолійович	Yes		M	dshmyhal	Denys_Shmyhal
Maksym Dyrdin	Дирдин Максим Євгенович	No	Servant of the People	M	DyrdinMaksym	maksym_dyrdin
Hennadiy Kasai	Касай Геннадій Олександрович	No	Servant of the People	M	genadiy.kasai	
Heo Leros	Лерос Гео Багратович	No	Servant of the People	M	Geo Leros	
Oleksandr Horobets	Горобець Олександр Сергійович	No	Servant of the People	M	gorobetz.oleksandr	
Halyna Yanchenko	Янченко Галина Ігорівна	No	Servant of the People	F	Halyna Yanchenko	HalynaYanchenko
Halyna Vasylichenko	Васильченко Галина Іванівна	No	Holos	F	halyna.vasylichenko official page	
Ihor Kryvosheyeu	Кривошеєв Ігор Сергійович	No	Servant of the People	M	Ihor Kryvosheyeu	IKryvosheyeu
Ihor Umansky	Уманський Ігор Іванович	Yes	Independent	M	ihor.umanskyi	
Iryna Konstantkevych	Констанкевич Ірина Мирославівна	No	Unaffiliated	F	IrynaKonstantkevych	konstantkevych1
Ivan Yunakov	Юнаков Іван Сергійович	No	Servant of the People	M	Ivan Yunakov	
Ivanna Klympush-Tsintsadze	Климуш-Цинцадзе Іванна Орестівна	No	European Solidarity	F	Ivanna Klympush-Tsintsadze	IKlympush
Oleksandr Kachura	Качура Олександр Анатолійович	No	Servant of the People	M	kachuratut	OAKachura
Kira Ruduk	Рудик Кіра Олександрівна	Yes	Holos	F	Kira Rudik	kiraincongress
Olena Koranchuk	Коранчук Олена Євгенівна	No	Servant of the People	F	koranchuk	
Ihor Koryutin	Копитін Ігор Володимирович	No	Servant of the People	M	Koryutin.Ihor	
Mykola Kucher	Кучер Микола Іванович	No	Unaffiliated	M	KucherMykola	
Artem Kulenko	Кульченко Артем Валерійович	No	Servant of the People	M	kulenko.artem.sn	
Artem Kunaev	Кунаєв Артем Юрійович	No	Servant of the People	M	kunaev.a	
Larysa Bilozir	Білозір Лариса Миколаївна	No	Unaffiliated	F	larysabilozir	LarysaBilozir
Lesia Vasylenko	Василенко Леся Володимирівна	No	Holos	F	Lesia Vasylenko	lesiavasylenko
Lesia Zaboranna	Забуранна Леся Валентинівна	No	Servant of the People	F	lesiazaboranna	LZaboranna
Yelyzaveta Yasko	Ясько Єлизавета Олександрівна	No	Servant of the People	F	Lisa Yasko	Lisa Yasko
Musa Mahomedov	Магомедов Муса Сергєєвич	No	Opposition Bloc	M	magomedov.public	
Maria Mezentseva	Мезентцева Марія Сергіївна	No	Servant of the People	F	Maria Mezentseva	mezentseva_dep
Mikhailo Fedorov	Федоров Михайло Альбертович	Yes	Independent	M	Mikhailo Fedorov	FedorovMikhailo
Mikhailo Ananchenko	Ананченко Михайло Олегович	No	Servant of the People	M	Mikhailo Ananchenko	
Mikhailo Tsybaliuk	Цимбалюк Михайло Михайлович	No	Batkivshchyna	M	mikhailotsyballiuk	m_tsybaliuk
Mikhailo Volynets	Волниць Михайло Якович	No	Batkivshchyna	M	MikhailoVolynets	MikhailVolynets
Valentyn Nalyvaichenko	Наливайченко Валентин Олександрович	No	Batkivshchyna	M	nalyvaichenko valentyu	
Nataliya Korolevska	Королевська Наталія Юріївна	No	Opposition Platform—For Life	F	Nataliya.Korolevska	NKorolevska
Nataliya Prykhodko	Приходько Наталія Ігорівна	No	Opposition Platform—For Life	F	Nataliya.Prykhodko nardep	
Oleh Nemchinov	Немцінов Олег Миколайович	Yes	Ukrainian People's Party	M	nemchinov.oleh	ONemchinov
Yuriy Boyko	Бойко Юрій Анатолійович	Yes	Opposition Platform—For Life	M	official.yuriy boyko	
Oleh Urusky	Уруський Олег Семенович	Yes	Unaffiliated	M	oleguruskyi	
Oleh Kulnich	Кулінч Олег Іванович	No	Unaffiliated	M	OlehKulnich	



Table 6 (continued)

Name (Latin)	Name (Cyrillic)	Prominence	Party	Gender	Facebook Username	X/Twitter Username
Oleksandr Kormiyenko	Корнієнко Олександр Сергійович	No	Servant of the People	M	Oleksandr Kormiyenko	OlekKorn
Oleksandra Ustinova	Устїнова Олександра Юрїївна	No	Holos	F	Oleksandra Ustinova	SashaUstinovaUA
Oleksii Reznikov	Резніков Олексій Юрїїович	Yes	Independent	M	Oleksii Reznikov	oleksiireznikov
Oleksii Zhmeretskiy	Жмерєцький Олексій Сергійович	No	Servant of the People	M	oleksii.zhmeretskiy	zhmeretskiy
Oleksiy Chemyshov	Чернішов Олексій Михайлович	Yes	Independent	M	oleksiy.chemyshov	
Oleksiy Movchan	Мовчан Олексій Васильович	No	Servant of the People	M	oleksiy.movchan	
Olena Moshenets	Мошенець Олена Володимирівна	No	Servant of the People	F	Olena Moshenets	ElenaMoshenets
Olena Shuliak	Шуляк Олена Олексіївна	No	Servant of the People	F	Olena Shuliak	OlenaShuliak
Olena Moshenets	Мошенець Олена Володимирівна	No	Servant of the People	F	olena.moshenets vru	
Olga Koval	Коваль Ольга Володимирівна	No	Servant of the People	F	Olga Koval	
Olga Stefaniushna	Стефанішина Ольга Анатоліївна	No	Holos	F	Olga Stefaniushna	StefaniushnaO
Olga Stefaniushna	Стефанішина Ольга Анатоліївна	No	Holos	F	olga.kravets.797	
Andriy Parubiy	Парубій Андрій Володимирович	No	European Solidarity	M	Parubiy.supporters page	AndriyParubiy
Oleksandr Pasichnyi	Пасичний Олександр Станіславович	No	Servant of the People	M	PasichnyiOleksandr	
Pavlo Frolov	Фролов Павло Валерійович	No	Servant of the People	M	Pavlo Frolov	
Pavlo Sushko	Сушко Павло Миколайович	No	Servant of the People	M	Pavlo Sushko	pavlo_sushko
Petro Pavlovskyi	Павловський Петро Іванович	No	Servant of the People	M	PetroPavlovskyi	
Petro Poroshenko	Порошенко Петро Олексійович	Yes	European Solidarity	M	petroporoshenko	poroshenko
Mustafa Dzhermiley	Джемїлев Мустафа	No	European Solidarity	M	president dzhermiley	MDZhermiley
Roksolana Pidlasa	Підласа Роксолана Андріївна	No	Servant of the People	F	Roksolana Pidlasa	
Roman Lozynskyi	Лозинський Роман Михайлович	No	Holos	M	Roman Lozynskyi	RLozynskyi
Renat Kuzmin	Кузьмін Ренат Равелїїович	No	Opposition Platform—For Life	M	RRKuzmin	Renat_Kuzmin
Yaroslav Rushchyshyn	Рущишин Ярослав Іванович	No	Holos	M	rushchyshyn yaruslav	
Ruslan Strelets	Стрїлець Руслан Олександрович	Yes	Holos	M	ruslan.strelets	
Rustem Umerov	Умеров Рустем Енверович	No	Holos	M	rustemumerov.ua	rustem_umerov
Oksana Savchuk	Савчук Оксана Василівна	No	Svoboda	F	SavchukOKs	
Serhii Babak	Бабак Сергій Віталїїович	No	Servant of the People	M	Serhii Babak	
Artem Dubnov	Дубнов Артем Васильович	No	Servant of the People	M	sluganarodu dubnov	
Oleksandr Kovalchuk	Ковальчук Олександр Володимирович	No	Servant of the People	M	sluganarodu kovalchuk.152	
Oleksandr Litvinov	Лїтвінов Олександр Миколайович	No	Servant of the People	M	sluganarodu.litvinov	
Sofiya Fedyna	Федїна Софія Романівна	No	European Solidarity	F	Sofiya Fedyna	
Inna Sovsun	Совсун Інна Романівна	No	Holos	F	sovsun.inna	InnaSovsun
Ruslan Stefanchuk	Стефанчук Руслан Олексїїович	No	Servant of the People	M	stefanchuk official	r_stefanchuk

Table 6 (continued)

Name (Latin)	Name (Cyrillic)	Prominence	Party	Gender	Facebook Username	X/Twitter Username
Sviatoslav Yurash	Юраш Святослав Андрійович	No	Servant of the People	M	Sviatoslav Yurash	SviatoslavUA
Sviatoslav Vakarchuk	Вакарчук Святослав Іванович	No	Holos	M	sviatslav vakarchuk	s_vakarchuk
Yulia Svyrydenko	Свириденко Юлія Анатоліївна	Yes		F	Svyrydenko Yulia	YuliaSvyrydenko3
Serhiy Taruta	Тарута Сергій Олександрович	No	Batkivshchyna	M	taruta	
Anton Poliakov	Семенський Олег Валерійович	No	Servant of the People	M	telegram.poliakov anton	
Tetiana Plachkova	Плечкова Тетяна Михайлівна	No	Opposition Platform—For Life	F	tetiaplachkova	
Viktor Medvedchuk	Медведчук Віктор Володимирович	No	Opposition Platform—For Life	M	v.v.medvedchuk	Medvedchuk2024
Vadym Halachuk	Галайчук Вадим Сергійович	No	Servant of the People	M	vadym.galaychuk	VadymHalachuk
Vadym Ivchenko	Івченко Вадим Євгенович	No	Batkivshchyna	M	vadymIvchenko	Ivchenko_Vadim
Vadym Novynskyi	Новинський Вадим Владиславович	No	Opposition Bloc	M	VadymNovynskyi	
Vadym Rabinovych	Рабинович Вадим Зиновійович	No	Opposition Platform—For Life	M	vadymrabinovych	
Valeriy Sterniyshchuk	Стернійчук Валерій Олександрович	No	Servant of the People	M	valeriestern	
Vasyl Mokan	Мокан Василь Іванович	No	Servant of the People	M	Vasyl Mokan	
Vasyl Petyovka	Петювка Василь Васильович	No	Unaffiliated	M	vasylpetyovka	
Iryna Venediktova	Венедіктова Ірина Валентинівна	No	Servant of the People	F	VenediktovaIryna	VenediktovaIV
Vadym Hutsait	Гутцайт Вадим Маркович	Yes		M	vgyzait	
Viktor Baloha	Балоба Віктор Іванович	No	United Centre	M	ViktorBaloha	ViktorBaloha
Vitaliy Bezghin	Безгін Віталій Юрійович	No	Servant of the People	M	Vitaliy Bezgin	
Vladyslav Kryklii	Криклій Владислав Артурович	Yes	Servant of the People	M	Vladyslav Kryklii	
Volodymyr Ariev	Ар'єв Володимир Ігорович	No	European Solidarity	M	Volodymyr Ariev	VolodymyrAriev
Volodymyr Kreidenko	Крейденко Володимир Вікторович	No	Servant of the People	M	Volodymyr Kreidenko	
Volodymyr Tsabal	Цабаль Володимир Володимирович	No	Holos	M	Volodymyr Tsabal	
Volodymyr Viatrovych	В'ятрович Володимир Михайлович	No	European Solidarity	M	Volodymyr Viatrovych	viatrovych
Yaroslav Yurchyshyn	Юрчишин Ярослав Романович	No	Holos	M	Yaroslav Yurchyshyn	yarlyur
Yevheniya Kravchuk	Кравчук Євгенія Михайлівна	No	Servant of the People	F	Yevheniya Kravchuk	kravchukev
Yulia Tymoshenko	Тимошенко Юлія Володимирівна	Yes	Batkivshchyna	F	Yulia Tymoshenko	YuliaTymoshenko
Yuriy Kamelchuk	Камельчук Юрій Олександрович	No	Servant of the People	M	Yuriy Kamelchuk	YuriyKamelchuk
Zhan Beleniuk	Беленок Жан Венсанович	No	Servant of the People	M	Zhan Beleniuk	
Yana Zinkevych	Зінкевич Яна Вадимівна	No	European Solidarity	F	Zinkevych2019	
Valeriy Zub	Зуб Валерій Олександрович	No	Servant of the People	M	zub.valeriy	
Oleksandr Aliksiyshchuk	Аліксійчук Олександр Васильович	No	Servant of the People	M	Аліксійчук Олександр	
Anastasiya Liashenko	Ляшенко Анастасія Олександрівна	No	Servant of the People	F	Анастасія Ляшенко	



Table 6 (continued)

Name (Latin)	Name (Cyrillic)	Prominence	Party	Gender	Facebook Username	X/Twitter Username
Anna Purtova	Пуртова Анна Анатоліївна	No	Servant of the People	F	Анна Пуртова	Purtova_aa
Akhtem Chyigoz	Чийгоз Ахтем Зейтуллаєвич	No	European Solidarity	M	Ахтем Чийгоз	akhtem_chyigoz
Bohdan Yaremchenko	Яременко Богдан Васильович	No	Servant of the People	M	Богдан Яременко	1971BY
Viktoriia Stumar	Сюмар Вікторія Петрівна	No	European Solidarity	F	Вікторія Сюмар	
Vladlen Nekliudov	Неклюдов Владлен Михайлович	No	Servant of the People	M	Владлен Неклюдов	
Volodymyr Zelensky	Зеленський Володимир Олександрович	Yes	Independent	M	Володимир Зеленський	ZelenskyUa
Dmytro Hurin	Гурін Дмитро Олександрович	No	Servant of the People	M	Дмитро Гурін	
Dmytro Lubinets	Лубинець Дмитро Валерійович	No	For the People	M	Дмитро Лубинець	lubinets
Dmytro Solomchuk	Соломчук Дмитро Вікторович	No	Servant of the People	M	Дмитро Соломчук	
Dmytro Chorniy	Чорний Дмитро Сергійович	No	Servant of the People	M	Дмитро Чорний	
Yehor Cherniev	Чернев Єгор Володимирович	No	Servant of the People	M	Єгор Чернев	
Ivan Krulko	Крулько Іван Іванович	No	Bankivshchyna	M	Іван Крулько	IvanKrulko
Ihor Vasyliiv	Василів Ігор Володимирович	No	Servant of the People	M	Ігор Васильєв	
Ihor Huz	Гузь Ігор Володимирович	No	Unaffiliated	M	Ігор Гузь	Igor_Guz
Iryna Vereshchuk	Верещук Ірина Андріївна	Yes	Servant of the People	F	Ірина Верещук	IrynaVereshchuk
Roman Karpielov	Карпелов Роман Володимирович	No	Servant of the People	M	Карпелов Роман	
Maksym Pashkovskiy	Пашковський Максим Ігорович	No	Servant of the People	M	Максим Пашковський	
Maksym Tkachenko	Ткаченко Максим Миколайович	No	Servant of the People	M	Максим Ткаченко	
Nina Yuzhanina	Южаніна Ніна Петрівна	No	European Solidarity	F	Ніна Южаніна	
Oksana Hryunchuk	Гринчук Оксана Анатоліївна	No	Servant of the People	F	Оксана Гринчук	
Oleh Makarov	Макаров Олег Анатолійович	No	Holos	M	Олег Макаров	
Oleksandr Haidu	Гайду Олександр Васильович	No	Servant of the People	M	Олександр Гайду	
Oleksandr Zavitnevych	Завітневич Олександр Михайлович	No	Servant of the People	M	Олександр Завітневич	
Oleksandr Merezhko	Мережко Олександр Олександрович	No	Servant of the People	M	Олександр Мережко	3TrAmvL026aIRar
Oleksandr Saliyehuk	Салійчук Олександр Вячеславович	No	Servant of the People	M	Олександр Салійчук	
Oleksandr Tkachenko	Ткаченко Олександр Михайлович	Yes	Servant of the People	M	Олександр Ткаченко	oTkachenkoUa
Oleksiy Honcharenko	Гончаренко Олексій Олексійович	No	Unaffiliated	M	Олексій Гончаренко	GoncharenkoUa
Oleksiy Ustenko	Устенко Олексій Олегович	No	Servant of the People	M	Олексій Устенко	
Pavlo Yakymenko	Якименко Павло Віталійович	No	Servant of the People	M	Павел Якименко	pavlo_yakymenko
Roman Kostenko	Костенко Роман Васильович	No	Holos	M	Роман Костенко	
Roman Sokha	Соха Роман Васильович	No	Servant of the People	M	Роман Соха	
Rostyslav Tistuk	Тістук Ростислав Ярославович	No	Servant of the People	M	Ростислав Тістук	RostyslavTistuk
Serhiy Bumin	Бумін Сергій Валерійович	No	Servant of the People	M	Сергій Бумін	
Serhiy Vlasenko	Власенко Сергій Володимирович	No	Bankivshchyna	M	Сергій Власенко	

Table 6 (continued)

Name (Latin)	Name (Cyrillic)	Prominence	Party	Gender	Facebook Username	X/Twitter Username
Serhiy Rakhmanin	Рахманін Сергій Іванович	No	Holos	M	Сергій Рахманін	
Serhiy Shpera	Шпера Сергій Сергійович	No	Servant of the People	M	Сергій Шпера	
Stepan Kubiv	Кубів Степан Іванович	No	European Solidarity	M	Степан Кубів	
Yuliya Hryshyna	Гришина Юлія Миколаївна	No	Servant of the People	F	Юлія Гришина	
Yuriy Mysiashin	Мисягін Юрій Михайлович	No	Servant of the People	M	Юрій Мисягін	
Yaroslav Zhelezniak	Железняк Ярослав Іванович	No	Holos	M	Ярослав Железняк	
Arsen Pushkarenko	Пушкаренко Арсеній Михайлович	No	Servant of the People	M		A_Pushkarenko
Roman Abramovsky	Абрамовський Роман Романович	Yes	Independent	M		abramovsky_г
Oleksandr Dubinsky	Дубінський Олександр Анатолійович	No	Unaffiliated	M		alexdrubinskyi
Oleksandr Lukashev	Лукашев Олександр Анатолійович	No	Opposition Platform—For Life	M		Andrej53143272
Andrii Kholodov	Холодов Андрій Іванович	No	Servant of the People	M		AndriiKholodov
Anton Kisse	Кіссе Антон Іванович	Yes	Unaffiliated	M		AntonKisse
Anton Yatsenko	Нагорняк Сергій Володимирович	No	Unaffiliated	M		Anton Yatsenko_
Andriy Bogdanets	Богданець Андрій Володимирович	No	Servant of the People	M		BogdanetsA
Oleksandr Feldman	Фельдман Олександр Борисович	No	Unaffiliated	M		Feldman_Ukraine
Roman Hryshchuk	Гришук Роман Павлович	No	Servant of the People	M		grishchukroma
Hryhorii Nemyria	Неміря Григорій Михайлович	No	Batkivshchyna	M		HryhoriiNemyria
Iryna Friz	Фріз Ірина Василівна	No	European Solidarity	F		IrynaFriz
Iryna Hershchenko	Герашченко Ірина Володимирівна	No	European Solidarity	F		IrynaGerashche2
Volodymyr Kabachenko	Кабаченко Володимир Вікторович	No	Batkivshchyna	M		KabachenkoVol
Iliya Kuva	Ківа Ілля Володимирович	No	Opposition Platform—For Life	M		kivaiyla
Serhiy Labaziuk	Лабазюк Сергій Петрович	No	Unaffiliated	M		LabaziukSerhiy
Anzhelika Labunska	Лабунська Анжеліка Вікторівна	No	Batkivshchyna	F		Labunska_A
Viktor Liashko	Ляшко Віктор Кирилович	Yes		M		liashko_viktor
Mariana Bezuhla	Безухла Мар'яна Володимирівна	No	Servant of the People	F		marianabezuhla
Oleksandr Marikovskiy	Маріковський Олександр Валерійович	No	Servant of the People	M		Marikovskiy
Maryna Bardina	Бардіна Марина Олегівна	No	Servant of the People	F		MarynaBardina
Ihor Molotok	Молоток Ігор Федорович	No	Unaffiliated	M		MolotokIgor
Maria Ionova	Іонова Марія Миколаївна	No	European Solidarity	F		MPMaria_Ionova
Nestor Shufrych	Шуфріч Нестор Іванович	No	Opposition Platform—For Life	M		NShufrich
Olena Kondratuk	Кондратюк Олена Костянтинівна	No	Batkivshchyna	F		Ole_Kondratuk
Yuriy Pavlenko	Павленко Юрій Олександрович	No	Opposition Platform—For Life	M		Pavlenko_Yurij
Pavlo Melnyk	Мельник Павло Вікторович	No	Servant of the People	M		Pavlo_Melnik
Rostyslav Pavlenko	Павленко Ростислав Миколайович	No	European Solidarity	M		roslpav
Serhiy Demchenko	Демченко Сергій Олександрович	No	Servant of the People	M		SergijDemchenko
Serhiy Alekseyev	Алексєєв Сергій Олександрович	No	European Solidarity	M		SerhiyAlekseyev
Serhiy Lyovochkin	Львовчкін Сергій Володимирович	No	Opposition Platform—For Life	M		serhiylyovochkin
Stepan Ivakhiv	Івахів Степан Петрович	No	Unaffiliated	M		Stepan_Ivakhiv
Oleh Syniutka	Синютка Олег Михайлович	No	European Solidarity	M		syniutka



Table 6 (continued)

Name (Latin)	Name (Cyrillic)	Prominence	Party	Gender	Facebook Username	X/Twitter Username
Valeriy Lunchenko	Лунченко Валерій Валерійович	No	Unaffiliated	M		V_Lunchenko
Vadym Stolar	Столяр Вадим Михайлович	No	Opposition Platform—For Life	M		vadimstolar
Valeriy Dubil	Дубіль Валерій Олександрович	No	Batkivshchyna	M		Valerii_Dubil
Yuriy Vitrenko	Вітренко Юрій Юрійович	Yes		M		VitrenkoYuriy
Volodymyr Zakharchenko	Захарченко Володимир Васильович	No	Servant of the People	M		VolodymyrZakha3
Vadym Prystaiko	Пристайко Вадим Володимирович	Yes		M		VPrystaiko
Hanna Lichman	Лічман Ганна Василівна	No	Servant of the People	F		
Olena Kravtchukina	Криворучкіна Олена Володимирівна	No	Servant of the People	F		
Tetiana Hryshchenko	Грищенко Тетяна Миколаївна	No	Servant of the People	F		
Yulia Yatsuk	Яцук Юлія Григорівна	No	Servant of the People	F		
Maryna Nikitina	Нікітіна Марина Вікторівна	No	Servant of the People	F		
Olha Vasylevska-Smahliuk	Василевська-Смаглиук Ольга Михайлівна	No	Servant of the People	F		
Viktoriia Hryb	Гриб Вікторія Олександрівна	No	Opposition Bloc	F		
Nataliya Pipa	Піпа Наталія Романівна	No	Holos	F		
Tetiana Riabukha	Скрипка (Рябуха) Тетяна Василівна	No	Servant of the People	F		
Viktoriia Vahnier	Ваннер Вікторія Олександрівна	No	Servant of the People	F		
Olena Lys	Яценко Антон Володимирович	No	Servant of the People	F		
Hanna Bondar	Бондар Ганна Вячеславівна	No	Servant of the People	F		
Yuliya Didenko	Діденко Юлія Олександрівна	No	Servant of the People	F		
Naluna Mukhailiuk	Михайлюк Галина Олегівна	No	Servant of the People	F		
Naluna Tretyakova	Третьякова Галина Миколаївна	No	Servant of the People	F		
Olha Saladukha	Саладуха Ольга Валерівна	No	Servant of the People	F		
Alina Zahoruiko	Загоруйко Аліна Леонідівна	No	Servant of the People	F		
Daria Volodina	Володіна Дар'я Артемівна	No	Servant of the People	F		
Olha Savchenko	Савченко Ольга Станіславівна	No	Servant of the People	F		
Elia Rierina	Рєпіна Елла Анастолівна	No	Servant of the People	F		
Yuliya Ovchynnikova	Овчинникова Юлія Юрівна	No	Servant of the People	F		
Lada Bulakh	Булах Лада Валентинівна	No	Servant of the People	F		
Anna Kolisnyk	Колісник Анна Сергіївна	No	Servant of the People	F		
Marharyta Shol	Шол Маргарита Віталіївна	No	Servant of the People	F		
Iryna Allakhverdijeva	Аллахвердієва Ірина Валерівна	No	Servant of the People	F		
Olena Vintoniak	Вінтоняк Олена Василівна	No	Servant of the People	F		
Viktoriia Podhorna	Подгорна Вікторія Валентинівна	No	Servant of the People	F		
Olena Khomenko	Хоменко Олена Вікторівна	No	Servant of the People	F		
Tetiana Tsyba	Ціба Тетяна Вікторівна	No	Servant of the People	F		
Olha Rudenko	Руденко Ольга Сергіївна	No	Servant of the People	F		
Yuliya Lyovochkina	Львовичкіна Юлія Володимирівна	No	Opposition Platform—For Life	F		
Olha Bielkova	Бєлькова Ольга	No	Batkivshchyna	F		
Alyona Shkrun	Шкрум Альона Іванівна	No	Batkivshchyna	F		
Yuliya Klymenko	Клименко Юлія Леонідівна	No	Holos	F		

Table 6 (continued)

Name (Latin)	Name (Cyrillic)	Prominence	Party	Gender	Facebook Username	X/Twitter Username
Yuliya Larputina	Ларпутіна Юлія Анатоліївна	Yes		F		
Maryna Lazebna	Лазєбна Маріна Володимирівна	Yes	Independent	F		
Liubomyra Mandziy	Мандзій Любомира Степанівна	Yes	Independent	F		
Olha Buslavets	Буславець Ольга Анатоліївна	Yes	Independent	F		
Svitlana Fomenko	Фоменко Світлана Валеріївна	Yes	Independent	F		
Anatoliy Drabovskiy	Драбовський Анатолій Григорович	No	Servant of the People	M		
Petro Yurchyshyn	Юрчишин Петро Васильович	No	Unaffiliated	M		
Henadii Vatsak	Ватак Геннадій Анатолійович	No	Unaffiliated	M		
Oleh Meidyeh	Мейдич Олег Леонідович	No	Batkivshchyna	M		
Viacheslav Rublyov	Рубльов Вячеслав Володимирович	No	Servant of the People	M		
Ihor Palytsia	Паліція Ігор Петрович	No	Unaffiliated	M		
Dmytro Kysylevskiy	Кисилевський Дмитро Давидович	No	Servant of the People	M		
Maksym Buzhanskyi	Бужанський Максим Аркадійович	No	Servant of the People	M		
Kyrylo Nesterenko	Нестеренко Кирилл Олександрович	No	Servant of the People	M		
Viacheslav Mediamuk	Медяник Вячеслав Анатолійович	No	Servant of the People	M		
Yuriy Kotiavchenkov	Котявченков Юрій Валерійович	No	Servant of the People	M		
Denys Hetman	Герман Денис Вадимович	No	Servant of the People	M		
Dmytro Shpenov	Шпенюк Дмитро Юрійович	No	Unaffiliated	M		
Vladyslav Borodin	Бородін Владислав Валерійович	No	Servant of the People	M		
Serhiy Severyn	Северин Сергій Сергійович	No	Servant of the People	M		
Oleksandr Tkukhin	Трухін Олександр Миколайович	No	Servant of the People	M		
Fedir Khrystenko	Христенко Федір Володимирович	No	Opposition Platform—For Life	M		
Yuriy Solod	Солод Юрій Васильович	No	Opposition Platform—For Life	M		
Maksym Yefimov	Єфімов Максим Вікторович	No	Unaffiliated	M		
Valeriy Hnatenko	Гнатенко Валерій Сергійович	No	Opposition Platform—For Life	M		
Andriy Aksyonov	Аксьонов Андрій Анатолійович	No	Unaffiliated	M		
Oleksandr Kovalyov	Ковальов Олександр Іванович	No	Unaffiliated	M		
Yevhen Yakovenko	Яковенко Євген Геннадійович	No	Batkivshchyna	M		
Serhiy Mahera	Магєра Сергій Васильович	No	Opposition Bloc	M		
Volodymyr Moroz	Мороз Володимир Вікторович	No	Opposition Platform—For Life	M		
Ihor Herasymenko	Герасименко Ігор Леонідович	No	Servant of the People	M		
Volodymyr Areshonkov	Арешонков Володимир Юрійович	No	Unaffiliated	M		
Serhiy Kuzminykh	Кузьмич Сергій Володимирович	No	Servant of the People	M		
Robert Horvat	Горват Роберт Іванович	No	Unaffiliated	M		
Mikhailo Laba	Лабє Михайло Михайлович	No	Servant of the People	M		
Vladislav Poliak	Поліак Владислав Миколайович	No	Unaffiliated	M		
Yevgeniy Shevchenko	Шевченко Євгеній Володимирович	No	Servant of the People	M		
Oleksandr Ponomarev	Пономарєв Олександр Сергійович	No	Opposition Platform—For Life	M		
Serhiy Minko	Мінько Сергій Анатолійович	No	Unaffiliated	M		
Ihor Fris	Фріс Ігор Павлович	No	Servant of the People	M		



Table 6 (continued)

Name (Latin)	Name (Cyrillic)	Prominence	Party	Gender	Facebook Username	X/Twitter Username
Oleksandr Matusevych	Матусевич Олександр Борисович	No	Servant of the People	M		
Vasyl Virastyuk	Вірастюк Василь Ярославович	No	Vacant[4]	M		
Volodymyr Tymofiyevychuk	Тимофійчук Володимир Ярославович	No	Servant of the People	M		
Oleh Dunda	Дунда Олег Андрійович	No	Servant of the People	M		
Valeriy Koliukh	Колух Валерій Вікторович	No	Servant of the People	M		
Mukola Halushko	Галушко Микола Леонідович	No	Servant of the People	M		
Oleksandr Danutsa	Дануца Олександр Анатолійович	No	Servant of the People	M		
Ihor Murdiy	Мурдій Ігор Юрійович	No	Servant of the People	M		
Yuriy Kuzbyt	Кузбигт Юрій Михайлович	No	Servant of the People	M		
Oles Dovhyi	Довгий Олесь Станіславович	No	Unaffiliated	M		
Oleh Voronko	Воронько Олег Євгенійович	No	Servant of the People	M		
Oleksiy Kuznetsov	Кузнєцов Олександр Олександрович	No	Servant of the People	M		
Oleksandr Sukhov	Сухов Олександр Сергійович	No	Unaffiliated	M		
Serhiy Velmozhnyi	Вельможний Сергій Анатолійович	No	Unaffiliated	M		
Serhiy Shakhov	Шахов Сергій Володимирович	Yes	Unaffiliated	M		
Mukola Kniazhyskyi	Княжиський Микола Леонідович	No	European Solidarity	M		
Mukhaïlo Bondar	Бондар Михайло Леонітійович	No	European Solidarity	M		
Yaroslav Dubnevych	Дубневич Ярослав Васильович	No	Unaffiliated	M		
Orest Salamakha	Саламаха Орест Ігорович	No	Servant of the People	M		
Andriy Lopushanskyi	Лопушанський Андрій Ярославович	No	Unaffiliated	M		
Andriy Kit	Кіт Андрій Богданович	No	Unaffiliated	M		
Ihor Nehulevskyi	Негулецький Ігор Петрович	No	Servant of the People	M		
Artem Dmytruk	Дмитрук Артем Геннадійович	No	Servant of the People	M		
Oleh Koliev	Колєв Олег Вікторович	No	Servant of the People	M		
Oleksiy Leonov	Леонов Олександр Олександрович	No	Servant of the People	M		
Oleksandr Horniuk	Горенюк Олександр Олександрович	No	Servant of the People	M		
Stepan Cherniavskyi	Чернявський Степан Миколайович	No	Servant of the People	M		
Ihor Vasytkovskyi	Васильковський Ігор Ігорович	No	Servant of the People	M		
Serhiy Kobileshyn	Колєбосин Сергій Валерійович	No	Servant of the People	M		
Anatoliy Urbanskyi	Урбанський Анатолій Ігорович	No	Unaffiliated	M		
Dmytro Nalyotov	Нальотов Дмитро Олександрович	No	Servant of the People	M		
Andriy Bobliakh	Боблях Андрій Ростиславович	No	Servant of the People	M		
Yuriy Sharovalov	Шаровалов Юрій Анатолійович	No	Unaffiliated	M		
Kostiantyn Kasai	Касай Костянтин Іванович	No	Servant of the People	M		
Maksym Berezin	Березін Максим Юрійович	No	Servant of the People	M		
Roman Ivanisov	Іванісов Роман Валерійович	No	Servant of the People	M		
Viktor Mialyk	М'ялик Віктор Нічипорович	No	Unaffiliated	M		
Serhiy Lytvunenko	Литвиненко Сергій Анатолійович	No	Servant of the People	M		
Ihor Vasyliiev	Васильєв Ігор Сергійович	No	Servant of the People	M		
Andriy Derkach	Деркач Андрій Леонідович	No	Unaffiliated	M		

Table 6 (continued)

Name (Latin)	Name (Cyrillic)	Prominence	Party	Gender	Facebook Username	X/Twitter Username
Maksym Huzenko	Гузенко Максим Васильович	No	Servant of the People	M		
Mykola Zadorozhnyi	Задорожній Микола Миколайович	No	Servant of the People	M		
Ivan Chaikivskiy	Чайківський Іван Адамович	No	Unaffiliated	M		
Mykola Liushniak	Люшняк Микола Володимирович	No	Unaffiliated	M		
Volodymyr Nevko	Гевко Володимир Леонідович	No	Servant of the People	M		
Oleksandr Kuptyskiy	Кунціцький Олександр Олегович	No	Servant of the People	M		
Andriy Odarchenko	Одарченко Андрій Миколайович	No	Servant of the People	M		
Viktoriia Kinzburska	Кінзбурська Вікторія Олександрівна	No	Servant of the People	M		
Yuriy Zdebskiy	Здебський Юрій Вікторович	No	Servant of the People	M		
Yevhen Ruvchakov	Пивоваров Євген Павлович	No	Servant of the People	M		
Dmytro Shentsev	Шенцев Дмитро Олександрович	No	Opposition Bloc	M		
Dmytro Liubota	Любота Дмитро Валерійович	No	Servant of the People	M		
Oleksiy Kucher	Світлична Юлія Олександрівна	No	Servant of the People	M		
Oleksiy Krasov	Красов Олександр Ігорович	No	Servant of the People	M		
Pavlo Pavlish	Павліш Павло Васильович	No	Servant of the People	M		
Ihor Kolykhatiev	Козир Сергій Вячеславович	No	Unaffiliated	M		
Volodymyr Ivanov	Іванов Володимир Ілліч	No	Servant of the People	M		
Oleksiy Kovalyov	Ковальов Олександр Іванович	No	Servant of the People	M		
Mykola Stefanchuk	Стефанчук Микола Олександрович	No	Servant of the People	M		
Oleksandr Heteiha	Герета Олександр Володимирович	No	Unaffiliated	M		
Ihor Marchuk	Марчук Ігор Петрович	No	Servant of the People	M		
Liubov Shipak	Шпак Любов Олександрівна	No	Servant of the People	M		
Oleh Arseniuk	Арсенюк Олег Олександрович	No	Servant of the People	M		
Andriy StrikharSKIY	Стріхарський Андрій Петрович	No	Servant of the People	M		
Serhiy Nahorniak	Рудик Сергій Ярославович	No	Servant of the People	M		
Maksym ZaremSKIY	Лис Олена Георгіївна	No	Servant of the People	M		
Heorhiy Mazurashu	Заремський Максим Валентинович	No	Servant of the People	M		
Valeriy Bozhuk	Мазурашу Георгій Георгійович	No	Servant of the People	M		
Oleh Seminskiy	Божик Валерій Іванович	No	Servant of the People	M		
Maksym Zluyev	Зуєв Максим Сергійович	No	Servant of the People	M		
Anatoliy Hunko	Гунько Анастолій Григорович	No	Servant of the People	M		
Vorys Prykhoodko	Приходько Борис Вікторович	No	Unaffiliated	M		
Oleksandr Yurchenko	Юрченко Олександр Миколайович	No	Servant of the People	M		
Maksym Perebyinis	Перебийніс Максим Вікторович	No	Servant of the People	M		
Serhiy Shvets	Швель Сергій Федорович	No	Servant of the People	M		
Mykola Tyshchenko	Тищенко Микола Миколайович	No	Servant of the People	M		
Andriy Herus	Герус Андрій Михайлович	No	Servant of the People	M		
Mikhailo Radutskiy	Радущький Михайло Борисович	No	Servant of the People	M		
Denys Monastyrskiy	Монастирський Денис Анастолійович	Yes	Servant of the People	M		
Danylo Hetmantsev	Гетманцев Данило Олександрович	No	Servant of the People	M		



Table 6 (continued)

Name (Latin)	Name (Cyrillic)	Prominence	Party	Gender	Facebook Username	X/Twitter Username
Serhiy Kalchenko	Кальченко Сергій Віталійович	No	Servant of the People	M		
Sergii Ionushas	Іонушас Сергій Костянтинівич	No	Servant of the People	M		
Vadym Strunevych	Струневич Вадим Олегович	No	Servant of the People	M		
Volodymyr Voronov	Воронів Володимир Анастолійович	No	Servant of the People	M		
Yuriy Aristov	Арістов Юрій Юрійович	No	Servant of the People	M		
Yuriy Kisiel	Кісель Юрій Григорович	No	Servant of the People	M		
Artem Kovalyov	Ковальов Артем Володимирович	No	Servant of the People	M		
Roman Babii	Бабій Роман Вячеславович	No	Servant of the People	M		
Oleh Marusiak	Марусяк Олег Романович	No	Servant of the People	M		
Mukola Kurychenko	Куріченко Микола Олександрович	No	Servant of the People	M		
Pavlo Khalimon	Халімон Павло Віталійович	No	Servant of the People	M		
Oleh Bondarenko	Бондаренко Олег Володимирович	No	Servant of the People	M		
Mukhailo Kriachko	Криачко Михайло Валерійович	No	Servant of the People	M		
Liudmyla Marchenko	Марченко Людмила Іванівна	No	Servant of the People	M		
Volodymyr Kozak	Козак Володимир Васильович	No	Servant of the People	M		
Oleksandr Sova	Сова Олександр Георгійович	No	Servant of the People	M		
Volodymyr Vaitras	Вайтрас Володимир Антонович	No	Servant of the People	M		
Roman Mulyk	Мулик Роман Миронович	No	Servant of the People	M		
Oleh Tarasov	Тарасов Олег Сергійович	No	Servant of the People	M		
Yevhen Brahar	Брагар Євгеній Вадимович	No	Servant of the People	M		
Marian Zablotskyi	Заблотький Мар'ян Богданович	No	Servant of the People	M		
Oleksandr Kabanov	Кабанов Олександр Євгенійович	No	Servant of the People	M		
Fedir Venislavskyi	Веніславський Федір Володимирович	No	Servant of the People	M		
Yevhen Petruniak	Петруняк Євген Васильович	No	Servant of the People	M		
Oleksandr Fediyenko	Федієнко Олександр Павлович	No	Servant of the People	M		
Yelizaveta Bohutska	Богущька Єлизавета Петрівна	No	Servant of the People	M		
Artem Nahayevskyi	Нагаєвський Артем Сергійович	No	Servant of the People	M		
Mukuya Poturayev	Потураєв Микита Русланович	No	Servant of the People	M		
Dmytro Pryputen	Прийутень Дмитро Сергійович	No	Servant of the People	M		
Maksym Pavliuk	Павлюк Максим Васильович	No	Servant of the People	M		
Bohdan Torokhtiy	Торохтій Богдан Григорович	No	Servant of the People	M		
Andriy Kostin	Костін Андрій Євгенович	No	Servant of the People	M		
Ruslan Horbenko	Горбенко Руслан Олександрович	No	Servant of the People	M		
Nelli Yakovlieva	Яковлева Неллі Іллівна	No	Servant of the People	M		
Serhiy Hryvko	Гривко Сергій Дмитрович	No	Servant of the People	M		
Yuriy Zaslavskyi	Заславський Юрій Іванович	No	Servant of the People	M		
Andriy Zadorozhnyi	Задорожний Андрій Вікторович	No	Servant of the People	M		
Ostap Shyraiilo	Шийрайло Остап Ігорович	No	Servant of the People	M		
Ivan Shyukaenko	Шинкаренко Іван Анастолійович	No	Servant of the People	M		
Olha Sovhyria	Совгіря Ольга Володимирівна	No	Servant of the People	M		

Table 6 (continued)

Name (Latin)	Name (Cyrillic)	Prominence	Party	Gender	Facebook Username	X/Twitter Username
Taras Tarasenko	Тарасенко Тарас Петрович	No	Servant of the People	M		
Mukola Solskyi	Сольський Микола Тарасович	Yes	Servant of the People	M		
Mukhalilo Novikov	Новіков Михайло Миколайович	No	Servant of the People	M		
Anatoliy Ostapenko	Остапенко Анатолій Дмитрович	No	Servant of the People	M		
Ivan Kalaur	Калаур Іван Романович	No	Servant of the People	M		
Vasyi Nimchenko	Німченко Василь Іванович	No	Opposition Platform—For Life	M		
Serhiy Larin	Ларін Сергій Миколайович	No	Opposition Platform—For Life	M		
Serhiy Dunaiev	Дунаєв Сергій Володимирович	No	Opposition Platform—For Life	M		
Taras Kozak	Козак Тарас Романович	No	Opposition Platform—For Life	M		
Yuriy Ioffe	Юрфе Юлії Якович	No	Opposition Platform—For Life	M		
Mukhalilo Paryuev	Парієв Михайло Миколайович	No	Opposition Platform—For Life	M		
Ihor Abramovych	Абрамович Ігор Олександрович	No	Opposition Platform—For Life	M		
Dmytro Isatenko	Ісєнко Дмитро Валерійович	No	Opposition Platform—For Life	M		
Mukola Skoryuk	Скорик Микола Леонідович	No	Opposition Platform—For Life	M		
Hryhorii Surkis	Суркіс Григорій Михайлович	No	Opposition Platform—For Life	M		
Ihor Kisilyov	Кісільов Ігор Петрович	No	Opposition Platform—For Life	M		
Yuriy Zahorodnyi	Загородній Юрій Іванович	No	Opposition Platform—For Life	M		
Anatoliy Burmich	Бурміч Анатолій Петрович	No	Opposition Platform—For Life	M		
Oleksandr Koltunovych	Колтунович Олександр Сергійович	No	Opposition Platform—For Life	M		
Hryhorii Mamka	Мамка Григорій Миколайович	No	Opposition Platform—For Life	M		
Volodymyr Kalisev	Кальцев Володимир Федорович	No	Opposition Platform—For Life	M		
Viktor Chornyi	Чорний Віктор Іванович	No	Opposition Platform—For Life	M		
Vitaliy Bort	Борт Віталій Петрович	No	Opposition Platform—For Life	M		
Mukhalilo Makarenko	Макаренко Михайло Васильович	No	Opposition Platform—For Life	M		
Oleh Voloshyn	Волошин Олег Анатолійович	No	Opposition Platform—For Life	M		
Oleksandr Puzanov	Пузанов Олександр Геннадійович	No	Opposition Platform—For Life	M		
Suto Mamoian	Мамоян Суто Чолосович	No	Opposition Platform—For Life	M		
Oleksandr Kachnyi	Качний Олександр Сталіноленович	No	Opposition Platform—For Life	M		
Serhiy Soboliev	Соболєв Сергій Владиславович	No	Opposition Platform—For Life	M		
Ivan Kurylenko	Куріленко Іван Григорович	No	Batkivshchyna	M		
Andriy Kozhemiakin	Кожем'якін Андрій Анатолійович	No	Batkivshchyna	M		
Oleksandr Abdullin	Абдулін Олександр Рафкатович	No	Batkivshchyna	M		
Kostiantyn Bondariev	Бондарєв Костянтин Анатолійович	No	Batkivshchyna	M		
Vitaliy Danilov	Данілов Віталій Богданович	No	Batkivshchyna	M		
Oleksiy Kucherenko	Кучеренко Олексій Юрійович	No	Batkivshchyna	M		
Andriy Nikolayenko	Ніколенко Андрій Іванович	No	Batkivshchyna	M		
Mukhalilo Zbrodskiy	Забродський Михайло Віталійович	No	European Solidarity	M		
Artur Herasymov	Герасимов Артур Володимирович	No	European Solidarity	M		
Mukola Velychkovych	Величкович Микола Романович	No	European Solidarity	M		
Ruslan Knyazevych	Князєвич Руслан Петрович	No	European Solidarity	M		



Table 6 (continued)

Name (Latin)	Name (Cyrillic)	Prominence	Party	Gender	Facebook Username	X/Twitter Username
Maksym Savrasov	Саврасов Максим Віталійович	No	European Solidarity	M		
Oleksiy Litichenko	Любченко Олексій Миколайович	Yes		M		
Serhiy Bessarab	Бессараб Сергій Борисович	Yes	Independent	M		
Serhiy Marchenko	Марченко Сергій Михайлович	Yes		M		
Andriy Taran	Таран Андрій Васильович	Yes	Strength and Honor	M		
Iliia Yemets	Ємель Ілля Миколайович	Yes	Ukraine—Forward!	M		
Maksym Stepanov	Степанов Максим Володимирович	Yes		M		
Yuriy Poliukhovych	Полохович Юрій Юрійович	Yes		M		
Serhiy Shkarlet	Шкарлет Сергій Миколайович	Yes	Party of Regions	M		
Vitaliy Shubin	Шубін Віталій Миколайович	Yes	Independent	M		
Herman Halushchenko	Галущенко Герман Валерійович	Yes		M		
Pavlo Kukhta	Кухта Павло Андрійович	Yes	Holos	M		
Ihor Petraszko	Петрашко Ігор Ростиславович	Yes	Independent	M		
Roman Leshchenko	Лещенко Роман Миколайович	Yes		M		



Appendix 2

See Table 7.

Table 7 Topics used by women, men, and both genders on Facebook and X/Twitter (Order=T-value, N=70). *Source:* 's calculations based on data collected from 23 February to 28 June 2021 and 23 February to 28 June 2022

Gender of Topic	Topic	Top Words	Estimate	Std. Error	T-value	Pr(> t)	Sig
Women	Call for support (#, @)	No fly zone, help, UK leaders	- 0.0233	0.000584	- 39.847	<2e-16	***
Women	People affected by war	Children, women, die, mother	- 0.00748	0.000528	- 14.153	<2e-16	***
Women	NA	Know, look, like	- 0.00517	0.000379	- 13.65	<2e-16	***
Women	People affected by war	Mariupol, civilian, humanitarian, evacuate	- 0.00626	0.000552	- 11.341	<2e-16	***
Women	Government affairs and infrastructure	Crime, prosecutor, evidence	- 0.00638	0.000565	- 11.302	<2e-16	***
Women	Government affairs and infrastructure	Moscow, church, orthodox	- 0.0055	0.000515	- 10.696	<2e-16	***
Women	Call for support (#, @)	NATO, closethesky, EU leaders	- 0.00584	0.000563	- 10.378	<2e-16	***
Women	People affected by war	Stay home, shelter	- 0.00286	0.000305	- 9.372	<2e-16	***
Women	Youth	Children, school	- 0.00467	0.000507	- 9.209	<2e-16	***
Women	Social/TV Media	Espresso, talk, broadcast	- 0.00483	0.000537	- 8.997	<2e-16	***
Women	Global impact of war	Chernobyl, nuclear, threat, Enerhodar	- 0.00414	0.000484	- 8.547	<2e-16	***
Women	Government affairs and infrastructure	Parliament, council, Strasbourg	- 0.00302	0.000358	- 8.433	<2e-16	***
Women	Government affairs and infrastructure	Nurse, cancer, medic, save	- 0.00455	0.000548	- 8.307	<2e-16	***
Women	Government affairs and infrastructure (@)	UA Holos party politicians	- 0.002	0.000285	- 7.037	1.98E-12	***
Women	Social/TV Media	Telegram, Whatsapp, Instagram	- 0.00219	0.000398	- 5.502	3.76E-08	***
Women	Government affairs and infrastructure	Covid vaccine, health	- 0.00228	0.000443	- 5.139	2.78E-07	***
Women	Russia aggressor (#)	Stopputin, destroy, kill, buchamassacre	- 0.00272	0.000715	- 3.805	0.000142	***
Women	Government affairs and infrastructure	Tax, pensions, budget	- 0.0013	0.000492	- 2.65	0.00805	**
Women	War—optimism (@)	EU membership, union, status	- 0.00133	0.000659	- 2.024	0.042974	*
Women	Ukrainian culture	Easter, holiday, Happy, vyshyvanka	- 0.00158	0.000877	- 1.802	0.071471	
Women	War—optimism	Community, district, repair, territory	- 0.00094	0.000528	- 1.786	0.07416	
Both	Government affairs and infrastructure	Oligarch, asset, fund	- 0.000526	0.000385	- 1.366	0.171952	
Both	Government affairs and infrastructure	Corruption, reform	- 0.00043	0.000318	- 1.348	0.177544	
Both	Military	Martial law, military	- 0.0008	0.000628	- 1.278	0.20121	
Both	Government affairs and infrastructure	Transport, car, rail	- 0.00027	0.00035	- 0.764	0.4451	
Both	Ukrainian culture	Kobzar, literature, Shevchenko	- 0.00028	0.000373	- 0.746	0.456	
Both	Ukrainian culture	Culture, history, nation	- 0.00017	0.000425	- 0.405	0.685547	
Both	Government affairs and infrastructure	Forest, zoo, environment, nature	- 0.0000489	0.000379	- 0.129	0.8974	
Both	NA	Time, year, ago	0.0000214	0.000195	0.109	0.9129	
Both	Government affairs and infrastructure	Loans, mortgages, agreements	0.0000327	0.00027	0.121	0.903719	
Both	Call for support	Humanitarian aid, bulletproof, thank	0.000146	0.000722	0.203	0.83938	
Both	NA	Today, another, yesterday	0.0000189	0.0000355	0.531	0.595166	



Table 7 (continued)

Gender of Topic	Topic	Top Words	Estimate	Std. Error	T-value	Pr(> t)	Sig
Both	Sanctions	SWIFT, IBAN, bank	0.000151	0.000235	0.644	0.519559	
Both	Ukrainian culture	Ukraine, language, resist	0.0000964	0.000105	0.918	0.35883	
Both	People affected by war	Kyiv, curfew	0.000296	0.000292	1.016	0.30971	
Both	Ukrainian culture	Eurovision, kalush	0.000462	0.000452	1.022	0.306561	
Both	Government affairs and infrastructure	Diya app, service, convenience	0.000674	0.000535	1.26	0.207798	
Men	Government affairs and infrastructure (@)	Ukraine, ministry, EU/US/CA leaders	0.000778	0.000455	1.71	0.08722	
Men	Government affairs and infrastructure	Understand, country, fact, politician	0.000791	0.000409	1.933	0.05324	
Men	Russia aggressor (#)	Report, Kremlebot, journalist	0.000593	0.000294	2.015	0.0439	*
Men	Government affairs and infrastructure	Verkhovna Rada, law	0.001183	0.000571	2.073	0.03822	*
Men	People affected by war	Necessity, work, wartime	0.000379	0.000143	2.646	0.008144	**
Men	Sanctions (@)	Sanctions, boycott, Russian companies	0.001561	0.000574	2.721	0.00651	**
Men	Government affairs and infrastructure	Develop industry, economy	0.001175	0.000428	2.747	0.006009	**
Men	Russia aggressor (#)	World, war, Putin, evil, fightlikeukrainian	0.001092	0.000378	2.889	0.003869	**
Men	Sanctions	Sanction, Russian oil	0.001532	0.000494	3.099	0.001942	**
Men	War	Belarus, Minsk, Lukashenko, border	0.001584	0.000369	4.289	1.79E-05	***
Men	Government affairs and infrastructure	Servant, people, deputy	0.00147	0.000338	4.352	1.35E-05	***
Men	Youth	Youth, sport, Ukraine	0.002634	0.000589	4.472	7.78E-06	***
Men	NA	Urgent, sign, fuck, wait	0.000722	0.000155	4.671	3.00E-06	***
Men	Accuse pro- Russian politicians	Yanukovych, treason, Medvedchuk, Sharia	0.002246	0.000476	4.715	2.42E-06	***
Men	Global impact of war	Grain exports, Black Sea	0.002467	0.000475	5.195	2.05E-07	***
Men	People affected by war	Occupy, Crimea, Donbas, deport	0.002753	0.000506	5.446	5.17E-08	***
Men	Global impact of war	Gas, energy, price, supply	0.002335	0.000386	6.054	1.42E-09	***
Men	Military	Tank, aircraft, missile	0.004568	0.000699	6.532	6.54E-11	***
Men	Government affairs and infrastructure	Cabinet, state, ministry	0.002358	0.00036	6.558	5.47E-11	***
Men	Government affairs and infrastructure	UA city names (Kharkiv, Cherkasy, Donetsk)	0.003926	0.000504	7.785	7.04E-15	***
Men	War—optimism	Victory, soon, definite	0.002632	0.000294	8.939	<2e-16	***
Men	Social/TV media	Video, news, platform	0.001957	0.000215	9.097	<2e-16	***
Men	Sanctions (@)	Block Google, Microsoft, Meta, Netflix	0.003898	0.000397	9.827	<2e-16	***
Men	Russia aggressor	Russia, aggressor, invasion, Ukraine	0.004246	0.000402	10.55	<2e-16	***
Men	Government affairs and infrastructure	Southern cities, Odesa, Mykolaiv	0.00019	0.000175	10.875	<2e-16	***
Men	Russia aggressor	Burn, crook, rashist	0.00246	0.000222	11.046	<2e-16	***
Men	Call for support (#, @)	Support, Ukraine, Poland, international leaders	0.005593	0.000506	11.062	<2e-16	***
Men	Government affairs and infrastructure	Economy, natural resources	0.003965	0.000326	12.166	<2e-16	***
Men	Russia aggressor	Kremlin, lie, Nazi, propaganda	0.005204	0.000418	12.454	<2e-16	***
Men	War (@)	Ukraine, meet, discuss, security, US leaders	0.007414	0.000591	12.545	<2e-16	***
Men	Military	Courage, defend, fight	0.00852	0.000641	13.294	<2e-16	***



Table 7 (continued)

Gender of Topic	Topic	Top Words	Estimate	Std. Error	T-value	Pr(> t)	Sig
Men	Government affairs and infrastructure	Trade union, worker	0.005237	0.000339	15.469	<2e-16	***
Men	Military	Command, armed, forces	0.00962	0.000594	16.178	<2e-16	***

Declarations

Conflict of interest On behalf of all s, the corresponding states that there is no conflict of interest.

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