

War Propaganda Unfolded: Comparative Effectiveness of Propaganda and Counterpropaganda in Russia's Invasion of Ukraine

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This article proposes an approach to assessing propaganda effectiveness inspired by the concepts of forward and backward propagation. The propaganda process has several stages: the formulation of a message by an actor vested in power, its transmission by a propagandist, its reception by a member of the target group, and the latter's reaction to the message. Through content analysis using a quadrilingual dictionary and binary logistic regression, war-related messages of the political leaders of Ukraine, Russia, the United States, the United Kingdom, and France were tracked through these stages in the first 15 months of Russia's large-scale invasion. Corpora of political, media, and mass discourses about the war inform this study (140.5 million words). It has been shown that the effectiveness of Russian propaganda has been growing since February 2022, while the effectiveness of the Ukrainian counterpropaganda has been declining. However, the relative ineffectiveness of Ukrainian propaganda is matched by the country population's growing national consciousness.

Keywords: content analysis, political discourse, media discourse, mass discourse, digital media

Russia's invasion of Ukraine has revived interest in studying propaganda, a concept that after the Cold War was perceived as anachronistic (Bastos & Farkas, 2019). The outcomes of the war are determined not only on the battlefield but also at the discursive level. To maintain the required level of mobilization, the belligerents' governments need to succeed in conveying their reasons for being at war.

Propaganda is understood here as the process of propagating messages formulated by actors vested in power to the target group through mass media and other communication channels (e.g., social media). Propaganda effectiveness is highlighted. Effectiveness differs from efficiency (Bouckaert & Halligan,

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2008, pp. 15–18). Efficiency pertains to the relationship between input and output (the ratio of resources spent on propaganda to its “deliverables”: publications, ads, etc.). The measurement of effectiveness calls for comparing output and effect/outcome (changes in the opinions held by members of the target group).

The proposed approach focuses on the dynamic aspects of propaganda. The propagation of messages from the sender to the receiver is a dynamic process. It “unfolds” through various media. Propaganda effectiveness also varies in function of how actors involved learn, as well as in other changing circumstances. The research problem consists of showing the advantages of modeling propaganda as a dynamic process using Russia’s invasion of Ukraine as a case in point. The research problem is operationalized with the help of two research questions:

RQ1: Is Ukrainian counterpropaganda less, more, or equally effective than Russian propaganda?

RQ2: How did the comparative effectiveness of propaganda and counterpropaganda change during the first 15 months of Russia’s large-scale invasion of Ukraine?

First, we provide some background information about Russia’s invasion. Then, an original model for measuring propaganda effectiveness is proposed to address RQ1 and RQ2. It is tested here by analyzing the corpora of political, media, and mass discourses about the invasion through combining content analysis and binary logistic regression. A discussion section interprets the divergent patterns in political and media discourses.

The Context: A Discursive Dimension of Russia’s Invasion

Russia first invaded Ukraine in 2014, reacting to the Revolution of Dignity. Russia annexed Crimea and created separatist groups in Donbas, a region in Eastern Ukraine. With Russia’s backing, the separatists established the Donetsk and Luhansk People’s Republics (“DLNR”), two unrecognized entities that Russia eventually annexed. Russia’s invasion transformed into an all-out war on February 24, 2022.

Russia’s invasion had several distinctive features of a colonial war. It coincided with a decline in Russia’s hegemonic status. A hegemon in decline is more likely to resort to overt military intervention or territorial annexation than a hegemon’s rise to domination (Go, 2007). The Russian power elite questioned the mere existence of Ukraine as an independent state. According to Russia’s President Putin (2023b),

We know that those lands were a part of Rzeczpospolita and that they later sought admission to the Tsardom of Russia... Only after the October [1917] revolution... the Soviet authorities created the Soviet Ukraine... Before that, no Ukraine was known in the history of humanity. (para. 34)

From Russia’s perspective, the invasion aims “to enlighten, civilize, bring order and democracy” (Said, 1977/2003, p. xvii) to Ukraine. Russia’s mission, so formulated, resonates with other empires claiming exceptionalism and benevolence.

Ukraine's perspective on Russia's invasion differs (Kordan, 2022). It derives from the logic of nation-state building. Although the history of Ukraine as an independent state may be relatively short, indeed, by confronting Russia, Ukraine asserts itself as a nation-state in the making (Oleinik, 2018). Ukraine's President Zelensky (2022) frames his country's resistance as a war of national liberation: "[we are] Ukraine, whose glory and freedom have not yet perished. Ukraine, to which we say—glory! Glory to Ukraine! Glory to the nation!" (para. 30).

The confrontation between the two discourses represents an informational dimension of Russia's invasion of Ukraine. Which frame, imperial or national liberation, will prevail depends on the government's ability to deliver its messages to national and international audiences. The successful delivery of messages conveying the government's position requires control over communication channels. All governments at war restrict press freedom (Knightley, 1975/2003; Lasswell, 1927/1938). Russia and Ukraine are no exception.

The mass media in Ukraine had greater freedom than in Russia before the 2014 invasion (Figure 1; Source: Reporters Without Borders, 2023²). The Russian government controls key mass media. The relationship between oligarch-controlled media and the state in Ukraine is less straightforward because Ukrainian oligarchs often use their media to criticize the government (Makhortykh & Bastian, 2020, p. 29).

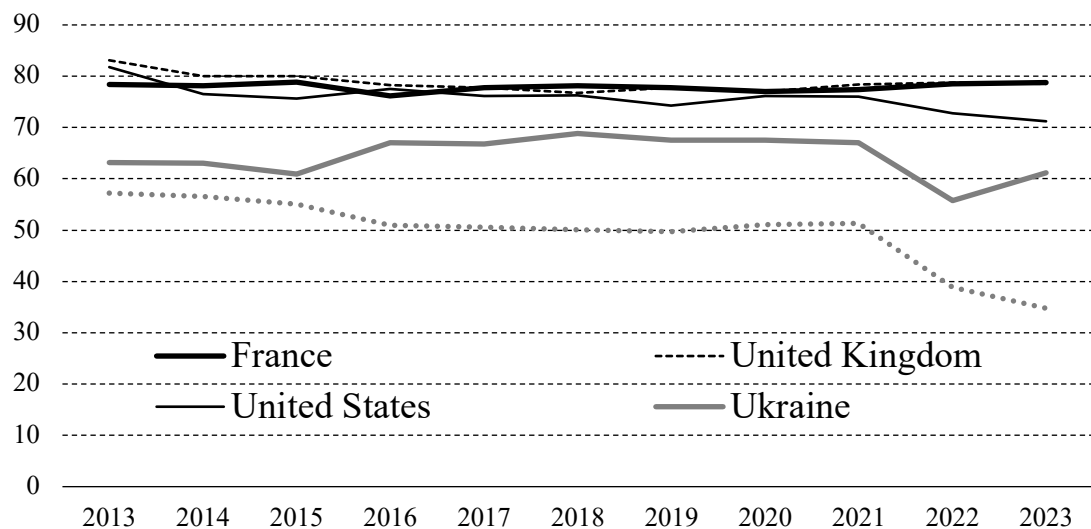


Figure 1. Press Freedom Index, the United Kingdom, the United States, France, Ukraine, and Russia, 2013–2023.

² The value of the index reflects political context, legal framework, economic context, sociocultural context, and safety. The higher the value, the greater freedom of the press.

Russia's invasion did not radically alter this situation. After the introduction of wartime restrictions in Ukraine in 2022, the country's score subsequently returned to its prewar level. Wartime measures in Russia and Ukraine included criminalizing the dissemination of some information and technical restrictions. Russia bans access to all Ukrainian websites and websites connected to the Russian opposition (Roskomnadzor, 2023). The list of Russian websites to which access is banned in Ukraine is less comprehensive, although it includes both Russian social networks, VKontakte and Odnoklassniki (Prezydent Ukraïny, 2017). Ukraine's most prominent TV channels started broadcasting an all-encompassing news service to cover the war: United News (Yedyni novyny).

Since March 4, 2022, it has been a criminal offence in Russia to disseminate any information about the invasion that differs from what is officially approved (Federal'nyi Zakon, 2022). Similarly, the denial of Russia's aggression and attempts to justify it have been criminalized in Ukraine since March 3, 2022 (Zakon Ukraïny, 2022).

However, acknowledging that Russia and Ukraine additionally restricted the freedom of mass media during the war should not lead to the aggressor being equated with the invaded country. The term "propaganda" appears appropriate in the former case, while "counterpropaganda" is appropriate in the latter case, since Ukraine uses counterpropaganda to defend itself against Russia's invasion.

The study covers the first 15 months of the large-scale invasion (February 24, 2022 to May 19, 2023). In addition to the analysis being conducted at the aggregate level, it was also run intermittently for three subperiods to see how propaganda and counterpropaganda unfolded.

During the first subperiod (days 1 to 53), Russia occupied large territories in Eastern and Southern Ukraine but was defeated in the battle of Kyiv, Ukraine's capital. The first period was a propaganda disaster since most messages formulated by Putin were "lost in transmission" (Oleinik, 2023b). During the second subperiod (days 54 to 196), Russia concentrated on advancing on Donbas, but with little success. During the third subperiod (days 197 to 450), Ukraine commenced counterattacking and liberating some territories in the regions of Kharkiv and Kherson that were occupied by Russia during the first subperiod. Ptaszek, Yuskiv, and Khomych (2023) adopted a similar periodization based on the identification of "pivotal events" (Watanabe, 2017).

Propaganda Effectiveness

Propaganda and power are interrelated. Propaganda is a power technique. Through propaganda, an actor imposes their ideas and opinions against the resistance of the other actor, thus exercising power, as per Weber's (1922/1968) definition (p. 38). Compared with force or threats, propaganda works through the management of words, ideas, and attitudes (Jowett & O'Donnell, 2015, pp. 39–41; Lasswell, 1927/1938, p. 9; Taylor, 1990/2003, p. 7). Propaganda targets minds as opposed to bodies.

The embeddedness of propaganda in power relationships explains the relevance of the Foucauldian approach (Said, 1983, 1977/2003, p. 293). Power is conveyed through discourses in an organized manner of intentionally transmitting information.

If the underlying power relationships do not change, the discourse embedded in them has high internal consistency. This was the case of "Orientalism" as the discourse about the Orient in the West. Said (1977/2003) emphasized "the internal consistency of Orientalism and its ideas about the Orient... despite or beyond any correspondence, or lack thereof, with a 'real' Orient" (p. 5). In his view, changes in the structures and processes described by Orientalism matter less than the remaining "power differential" between the East and the West.

Power relationships take the most manifest form in war. The Prussian military commander and theorist Clausewitz compared war with wrestling (Lukin, 2013). A wrestler's objective consists of submitting the opponent to their will by using physical force and psychological pressure. War propaganda refers to the latter taking the form of information-psychological operations, IPSO, understood as "pre-planned manipulations using communicative and psychological methods aimed at selected target audiences to influence their moods, attitudes, behaviour, perception, and interpretation of reality" (Lebid, Vashyst, & Nazarov, 2022, p. 158).

Russia's current military doctrine devotes significant attention to IPSOs. The Internet Research Agency, IRA, from St. Petersburg, interfered in U.S. elections (Alvarez, Choi, & Strover, 2020; Badawy, Addawood, Lerman, & Ferrara, 2019; Bastos & Farkas, 2019; Doroshenko & Lukito, 2021; Golovchenko, Buntain, Eady, Brown, & Tucker, 2020). Although not directly affiliated with the Russian military, the IRA nevertheless had the same owner as the private military company "Wagner," which played a leading role in Russia's invasion of Ukraine.

The context of warfare creates an opportunity to test Said's (1977/2003) assumption of discursive consistency. On one hand, the dynamics of "wrestling" may be unpredictable. On the other hand, adversaries may learn how to improve propaganda. Thus, warfare allows for a better understanding of continuity and change in discourse.

Propaganda is understood as a process of transmitting and ideally amplifying messages formulated by actors vested with power. Three actors are involved in the propaganda process: the principal, who sends a message; the propagandist, whose task consists of propagating the principal's message; and the propagandee, who is located at the receiver's end (Figure 2). Political leaders who formulate war-related messages are the principals here. In the United States, congressional opinion was also used with a similar purpose (Zaller & Chiu, 1996, p. 388). Journalists (TV hosts and commentators) and media managers perform the propagandist's functions. Ordinary citizens play the propagandee's role. They are expected to contribute to their government's war efforts either by fighting on the frontlines or by supporting the fighting economically and/or politically or, at the very least, accepting the status quo as inevitable (Shields, 2021). Propaganda is thus a process that unfolds over several stages.

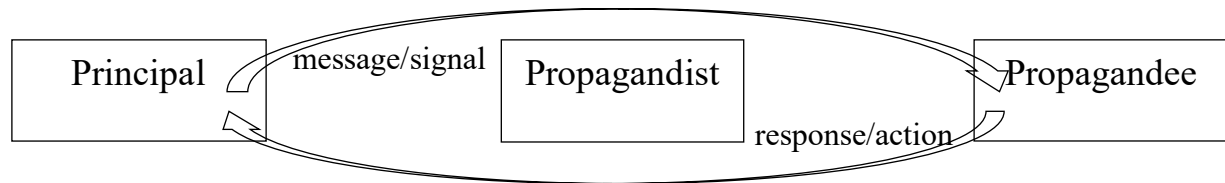


Figure 2. Propaganda: A conceptual schema.

The interpretation of propaganda as a process paves the way to tapping the potential of the concept of forward- and back propagation. This concept originated from the development of neural networks and artificial intelligence:

If A causes B, a forward association ... develops from A to B; and then, if there is an emotional charge on B, that energy flows backwards, to put a charge in A, proportional to the charge on B and to the strength of the forwards association from A to B (Werbos, 2012, p. 91).

In the context of artificial intelligence, a signal is propagated through the network, layer by layer (the stage of forward propagation), down to a receptor. The receptor produces an error signal if the original signal does not match real-world data. At the backward propagation stage, the error signal travels back through the network, triggering adjustments at each layer of the network. The adjustment process repeats until the signal matches real-world data (Haykin, 2009, p. 124).

In the context of propaganda, the principal's message passes through the hands of several propagandists (layers). When the propagandee receives the signal, it may or may not match their ideas or opinions. Information about any mismatch is transmitted back to the principal, who adjusts the signal. The process ends when the propagandee embodies the response desired by the principal.

The cascading model expresses a similar idea using the other metaphor: "the cascading flow of influence linking each level of the system: the administration, nonadministration elites, news organizations, the texts they produce, and the public" (Entman, 2003, p. 419). The metaphor of cascading flow does not account for feedback loops, however.

Propaganda is effective when the changes induced in the propagandee's ideas and opinions occur promptly after a few cycles of forward and backward propagation. According to Ellul (1973), "ineffective propaganda is no propaganda" (p. x). The information that has been learned from propaganda can become apparent in (a) recall or recognition and (b) subsequent behavior (Belbin, 1956, pp. 172–173). The former does not guarantee the latter.

In this research, the scope of propaganda effectiveness is restricted to (a) covering (b) only in part. The degree of political alignment (Zhang, Wang, & Hu, 2023) or framing alignment (Glazier & Boydston, 2012, p. 430) is used as a criterion of effectiveness and the expressed level of support for the actions desired by the principal. The more the information transmitted by the propagandist and the opinions expressed by the propagandee are aligned with the principal's messages, the more effective the propaganda is. Political alignment

means that the emphases in the discourse about the war made by the propagandist and the propagandee are similar to those placed by the principal. Framing alignment has a similar meaning: the attention devoted to one perspective on the war by the principal, the propagandist, and the propagandee is comparable.

Alignment implies that messages framed by political leaders are congruent with "schemas that dominate the political culture" (Entman, 2003, p. 422). Congruence theory has a similar assumption: "Governments perform well to the extent that their authority patterns are congruent with the authority patterns of other units of society" (Eckstein, 1998, p. 4). The effectiveness of propaganda depends on authority patterns within households and organizations. Conversely, propaganda reinforces existing authority patterns.

In light of the discussion above, RQ1 can be further refined as to whether the propagandee's receptiveness to the principal's message varies across countries at war. Similarly, RQ2 becomes an inquiry into the changes in the comparative effectiveness of propaganda over time in several countries.

Political, Media and Mass Discourses About the War

Using the proposed analytical schema (Figure 2) requires collecting data at the source of war-related messages during their transmission and reception by the target audience. Accordingly, the study covers political, media, and mass discourses about Russia's invasion in five countries: two belligerents, the United States, the United Kingdom, and France.³ Studies of war journalism suggest that foreign media are better placed than belligerents' national media in maintaining a relatively detached stance when covering military conflicts (Knightley, 2003).

The national corpora of political discourses contain speeches of political leaders and debates in national legislatures (Ukrainian Rada, Russian Duma, U.S. Congress, U.K. Parliament, and French Assemblée Nationale) in which the invasion was mentioned. Their transcripts were retrieved from official websites. The discourses of the five political leaders are deemed to be the principals' messages.

The national corpora of media discourses contain war-related news items published both by "mass" or "legacy" media, such as newspapers and television, and "new" or "digital" media (Soroka & Wlezien, 2022, p. 14). They were retrieved from official websites (newsfeeds) or from NexisUni and Factiva databanks. Relevant news items contain a combination of two search terms: "Ukraine" and "war" ("operation" in the Russian case). Media discourses are proxies for the propagandist's work. The indexing literature (Bennett, 1990; Zaller & Chiu, 1996) indicates that a similar assumption can be made regarding the relationship between Western leaders and media.

Five or more media outlets were selected in Ukraine, Russia, and the United States, including at least one oppositional media (Strana in Ukraine, Meduza in Russia, and Fox News in the United States). The other media covered in Russia are *Izvestia* and *Kommersant*, two mainstream newspapers, First TV channel, Gazeta, an online news portal, and VKontakte, the most popular social network. The Ukrainian media sample

³ The last three countries provide military and economic support to Ukraine.

comprises *Ukrainska Pravda* (UP) and *Liga*, two online news portals, RBC-Ukraina, a news agency, and ICTV, a TV channel participating in the *Yedyni novyny* telethon. The U.S. sample consists of the *New York Times* (NYT), *the Washington Post* (WP), *USA Today*, and CNN. Only one medium was selected in the United Kingdom (*The Times* with its sister edition, *The Sunday Times*) and France (*Le Monde*).

The contents of Telegram, a messenger, were also analyzed. Unlike Facebook data, VK, and Telegram data are available for research purposes. Posts in VKontakte and Telegram were retrieved using off-the-shelf applications.

Wartime censorship and restrictions on press freedom further increased Telegram's popularity in Ukraine and Russia after the start of the large-scale invasion. Because of its focus on privacy and the libertarian approach to content moderation, Telegram is particularly popular in countries restricting freedom of the press and expression (Urman, Ho & Katz, 2021).

A group of war bloggers who administer Telegram channels with hundreds of thousands of subscribers, *voenkory*, started to compete in influence with other media. Administrators of Telegram channels post information viewable by all subscribers (Ameli & Molaei, 2020; Urman et al, 2021). The 20 most popular Telegram channels covering the invasion were selected in Ukraine and Russia (10 in each country), along with one English-language channel. War bloggers play the propagandist's role as "influencers" (Woolley, 2022). The contents of VKontakte include the posts of both influencers and propagandees.

Mass discourses in Ukraine and Russia were analyzed with the help of two mass surveys. They were conducted on representative samples by the Kyiv International Institute of Sociology in May 2023 (N = 2013, computer-assisted telephone interviewing⁴) and the Levada Center in February 2023 (N = 1626, face-to-face interviewing⁵), respectively. Similarly formulated open-ended questions about the perceived reason for Russia's invasion and closed-ended questions about the respondent's position on territorial concessions as a condition for restoring peace,⁶ sources of information, and several others were asked in both countries. Responses to the open-ended question presumably represent the propagandee's ideas and attitudes. They were analyzed as textual data using the methods described in the next section.

Textual data have 33 sources (speeches of five political leaders, debates in five national legislatures, 18 media, three datasets containing Telegram channels, and two sets of answers to the open-ended questions), which is comparable with comprehensive comparative studies (Xu & Wang, 2022). The collected data are organized in daily units—all war-related speeches delivered by a political leader on a

⁴ The sample included neither inhabitants of the territories over which Ukraine had no control prior to February 24, 2022 (Crimea, DLNR) nor Ukrainian citizens who left the country after the start of the all-out war (Paniotto, 2023).

⁵ The authors are grateful to Prof. Lev Gudkov, head of the Levada Center, for his permission to conduct a secondary analysis of the Russian survey data.

⁶ Would you agree with accepting Russia's jurisdiction over Donbas as a condition for restoring peace? (in Ukraine) and Would you agree with recognizing Ukraine's jurisdiction over Donbas as a condition for restoring peace? (in Russia).

particular date, all articles containing the search word published on that day in a medium, etc. (8,540 units in total). A high degree of heterogeneity characterized the units of analysis. The corpora include texts in different formats of various lengths (64 to 960,000 words) in four languages: Ukrainian, Russian, English, and French. The total volume of textual data is 140,403,000 words.

Mixing Methods

Textual and survey data cannot be analyzed using a single method. Data triangulation called for methodological triangulation (Perlesz & Jo, 2003) in those circumstances. Textual data were content analyzed, whereas regression analysis was run on survey data. Complementarity was expected when combining content analysis and regression analysis, as opposed to corroboration, contradiction, and elaboration (Brannen, 2005). We analyzed data pertaining to various stages in the propaganda process (Figure 2): the formulation, transmission, and reception of war-related messages and their transformation into action (approval or disapproval of territorial concessions as a potential solution).

A mixed-methods design has precedents. Hart mixed a content analysis of letters to the editor and mass surveys conducted in the communities from which those letters originated (Hart, 2018). Nygren et al. (2018) used mixed content analysis with expert interviewing.

Content analysis was initially developed to study propaganda (Lasswell & Leites, 1949). It focuses either on the intentions of the sender of a message, the principal, and the propagandist, or on how the message is perceived by the receiver, the propagandee (Lasswell & Leites, 1949, p. 58). By complementing the content analysis of political and media discourses about the war with binary logistic regression, one covers both the sender's intentions and the receiver's reaction.

A dictionary-based approach combines human input (the selection of words and n-grams) with the subsequent automated processing of large corpora using specialized computer programs. Mixed-methods content analysis is widely used (Badawy & Ferrara, 2018; Muddiman, McGregor, & Stroud, 2019; Watanabe, 2017). Hogenraad and Garagozov (2014) built a dictionary of textual signals prefiguring war. They worked with translated speeches, however.

A set of 50-plus dictionaries, DICTION, was developed to track changes in U.S. political discourse (Hart, 2014, 2020). DICTION allows for comparing a political figure's verbal passage to a set of preprocessed norms calculated for a reference group to see what makes that passage special. The concept of keyness helps to discover what makes a text special. The keyness index was calculated in a statistical test by comparing the frequency of words in the target text with the expected frequency of words in the comparison corpus. A keyword is any word that occurs with an unusual frequency compared with a reference corpus (Gabrielatos, 2018; Ptaszek et al, 2023). Gabrielatos (2018) notes "the very recent, and rather sudden, shift in corpus linguistics toward the use of effect-size metrics for keyness" (p. 230). An effect-size measure of keyness was used in this study.

The analysis proceeded in several stages. First, a long list of potential keywords was compiled. A quadrilingual "dictionary of warfare" built for the purposes of this study contained 332 categories. Each

category includes several words or n-grams. The multilanguage dictionary allows for annotating all texts in the corpus, minimizing the risk of translation errors.

A category was added to the dictionary because either it commonly occurs in the corpora ("Russia," "Russian," "Ukraine," "Ukrainian," "Kyiv," etc.), or it is discussed in the extant literature. "Casualties" constitute a crucial factor explaining the level of support for a war in democracies (Gartner, 2004). References to "dignity" are common in the context of postcolonialism (El Bernoussi, 2015) and Ukraine's Revolution of Dignity, which triggered Russia's invasion (Oleinik, 2018). "Empire" was added to the dictionary because of the links between empires and warfare (Go, 2007), and Russia's stated goal to recreate its empire (Kordan, 2022). The term "genocide" is actively used on both sides of the frontline (Egbert, 2022). Russia's invasion has a "geopolitical" dimension (Barthel & Bürkner, 2020). Since personalization of the enemy is an essential factor in creating a war mentality (Shlapentokh, 1984), the names of political leaders constitute separate categories. The fact that war is a major driver of nation-state building explains the inclusion of "nation" and "nation-state" (Wimmer, 2014). The "State" is a prerequisite and an outcome of nation-state building in Ukraine, being an all-encompassing entity in Russia (Grek, 2023). "Oil & gas" are a factor in war making (Koltsova, 2000). The concept of "Rashism" became popular after the start of Russia's large-scale invasion (Kovalchuk & Litkovych, 2022). The enemy is often labeled as a "terrorist" and the war—as an act of "terrorism" (Altheide & Grimes, 2005). Several terms describe hostilities: "war," "military operation," and "violence" (Lukin, 2013). For instance, the term "military operation" helps to downplay the scope and intensity of hostilities.

Second, distances between various discourses about the war were visualized using the cosine of the angle between pairs of vectors of observed frequencies of 332 categories as a measure of similarity (Jurafsky & Martin, 2008, pp. 671–714). The closer the dots on the 2D map, the more similar the underlying discourses. This stage in the analysis allowed comparison of the content of all 33 sources of political, media, and mass discourses. To address RQ2, this comparison was performed for the entire period covered by the study and for three subperiods taken separately.

Third, the long list of words is transformed into a short list of keywords. Frequencies of words included in the dictionary are calculated for each of the 33 corpora taken separately and for three countries covered more comprehensively: Ukraine, Russia, and the United States. Word frequencies in a particular corpus are considered observed frequencies, F_o . The discourse of a country's political leader is regarded as the expected frequency, F_e . In other words, the principals' war-related speeches constitute reference corpora. The WordStat computer program was used to calculate raw word frequencies, while custom-developed algorithms were used for other calculations. All frequencies are weighted by TF-IDF (Savoy, 2016) and normalized to the length of the documents.

The difference ($F_o - F_e$) divided by the standard deviation is used as a criterion for assessing the relative prevalence of words in the speeches of a political leader or war coverage by a medium, which is the equivalent of Cohen's d , an effect-size index (Warner, 2013, pp. 104–105). Words with an effect-size index that exceeds the level of substantive significance of $|0.8|$ are deemed keywords. The sum of squared differences $\sum_{i=1}^{332} (F_{o_i} - F_{e_i})^2$ is used as an aggregate measure of how far media discourses deviate from political leaders' discourses. Unlike in the second stage of the analysis, differences between discourses can now be assessed quantitatively and attributed to keywords. Oleinik (2023a) and Savoy (2016) applied a similar approach.

Fourth, using survey data, binary logistic regression was run to predict the propagandee's position on territorial concessions as a solution to military conflict. The issue of territorial concessions allows for measuring the outcome of propaganda and counterpropaganda: Russia's leader insists that Donbas and Crimea are "Russian lands." They can be returned to Ukraine under no conditions. For Ukraine's leader, these territories are an integral part of his country. They cannot be "traded" for peace. The list of covariates (independent variables) includes the propagandee's sources of information, dummies for mentions of keywords in the propagandee's answers to the open-ended question, and socio-demographics.

Results

Political, media, and mass discourses form national clusters (Figure 3). Dots representing Russian sources lie close to each other (except for the oppositional Meduza). Dots representing Ukrainian sources also form a cluster. The cluster of American sources is located at the center of the 2D map, with the Fox dot being an outlier. Dots representing legislative discourse form their own loose clusters.

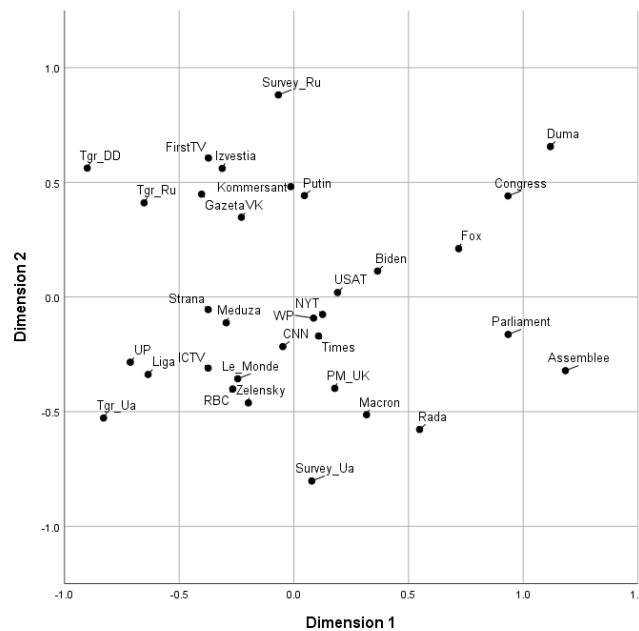


Figure 3. Distances between political, media, and mass discourses about Russia's invasion, the United Kingdom, the United States, France, Ukraine, and Russia.⁷

With a few exceptions, political and media discourses remain consistent over time, showing little variability, regardless of the situation on the battleground (Figure 4). The discourses of Macron, Assemblée Nationale, Putin, and Fox are the least consistent in terms of the sum of Euclidean distances between dots with indexes 1, 2, and 3. For instance, Putin's initial emphasis on NATO and law (Oleinik, 2023b)

⁷ PROXSCAL; Normalized Raw Stress = 0.033; Stress-I = 0.182.

subsequently completely disappeared. Fox moved toward a “law and order” frame. The liberal press, NYT, WP, *Le Monde*, and *The Times* produced the most consistent discourse.

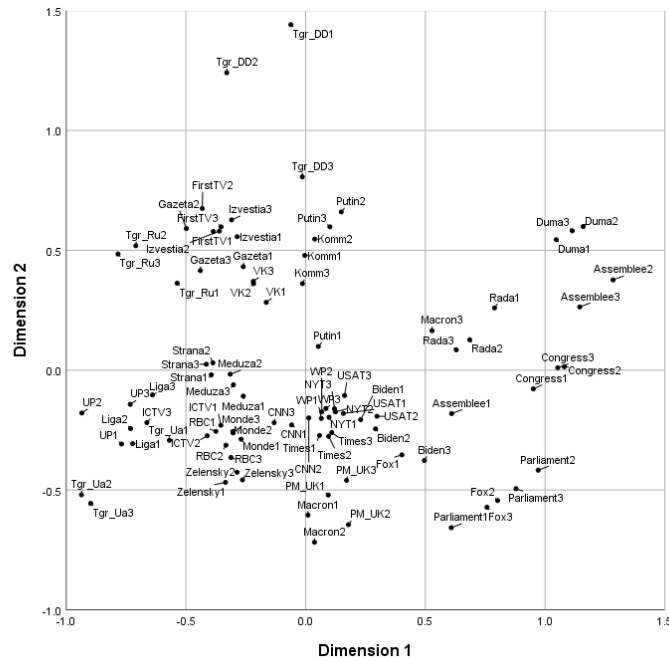


Figure 4. Distances between political and media discourses about Russia's invasion, the United Kingdom, the United States, France, Ukraine, and Russia by period.⁸

The following keywords make Putin's discourse about Russia's invasion special compared with the four other political leaders' discourses: DLNR (d = 4.28), military operation (d = 2.92), Donbas (d = 2.67), Russia (d = 1.84), fascism (d = 1.53), oil & gas (d = 1.38), territory (d = 1.25), market (d = 1.21), the West (d = 1.18), powers (d = 1.14), Soviet (d = 1.11), and peace (d = 0.82). His frequent use of these categories emphasizes the importance of the underlying concepts. In Putin's view, Russia wages an imperial war with the West and its allies, the Ukrainian “neo-Nazis,” to regain control over its allegedly traditional territories: “My special words are addressed to inhabitants of DLNR, regions of Zaporizhzhia and Kherson... The neo-Nazis' threats and terror did not alter your firm choice and desire to be with Russia, your Motherland” (Putin, 2023a, para. 47; emphasis added).

Zelensky places different emphases: occupation (d = 9.1), Ukraine (d = 6.51), war (d = 5.28), the state (d = 4.63), missiles (d = 3.23), terror (d = 3.15), Ukrainians (d = 2.9), Russia (d = 2.72), defense (d = 2.39), life (d = 2.34), victory (d = 2.17), Kharkiv (d = 1.77), Mariupol' (d = 1.69), enemy (d = 1.67), shelling (d = 1.43), peace (d = 1.37), freedom (d = 1.28), Armed Forces of Ukraine (Zbroini Syly Ukrainy, ZSU) (d = 1.08), hero (d = 1.1), liberate (d = 1.08), sanctions (d = 1.01), glory (d = 1), Kherson (d =

⁸ PROXSCAL; Normalized Raw Stress = 0.035; Stress-I = 0.186.

0.95), Bakhmut ($d = 0.89$), and aggression ($d = 0.87$). These keywords help Zelensky show the national liberation character of the war for his country: “The Russian occupiers destroy normal life without any symbols at all—this is how Russian aggression began. Our Crimean Peninsula was occupied by Russian soldiers without any insignia” (Zelensky, 2023, para. 10).

Biden highlights are the United States ($d = 15.51$), people ($d = 7.77$), Ukraine ($d = 2.93$), Putin ($d = 1.76$), law ($d = 1.22$), and NATO ($d = 1.03$). He places American interests first and directs attention to the impact of the war on ordinary people:

The American people have been strong and unwavering in their support... The United States has worked in lockstep with our allies and partners around the world to make sure the Ukrainian people are in the strongest possible position to defend their nation, their families, and against the brutal—the truly brutal aggression of Russia. (Biden, 2023, paras. 3–4)

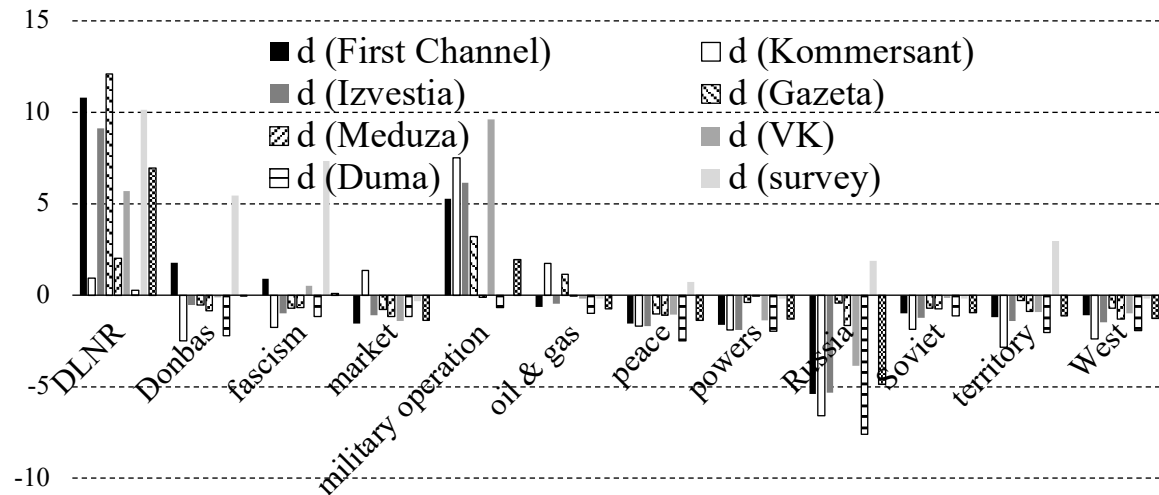


Figure 5. Deviation of the various sources of political, media, and mass discourses in Russia about Russia's invasion from President Putin's discourse, values of Cohen's d.

Putin's emphases on DLNR and “military operation,” as opposed to “war,” are amplified by Russian propagandists (Figure 5). Conversely, the Russian media lessened its emphasis on the “market” (except for *Kommersant*, a business newspaper), “peace,” “powers,” “Russia,” “Soviet,” “territory,” and “West” in their coverage. The relative radicalism of Russian mass discourse is reflected in frequent mentions of “fascism.”

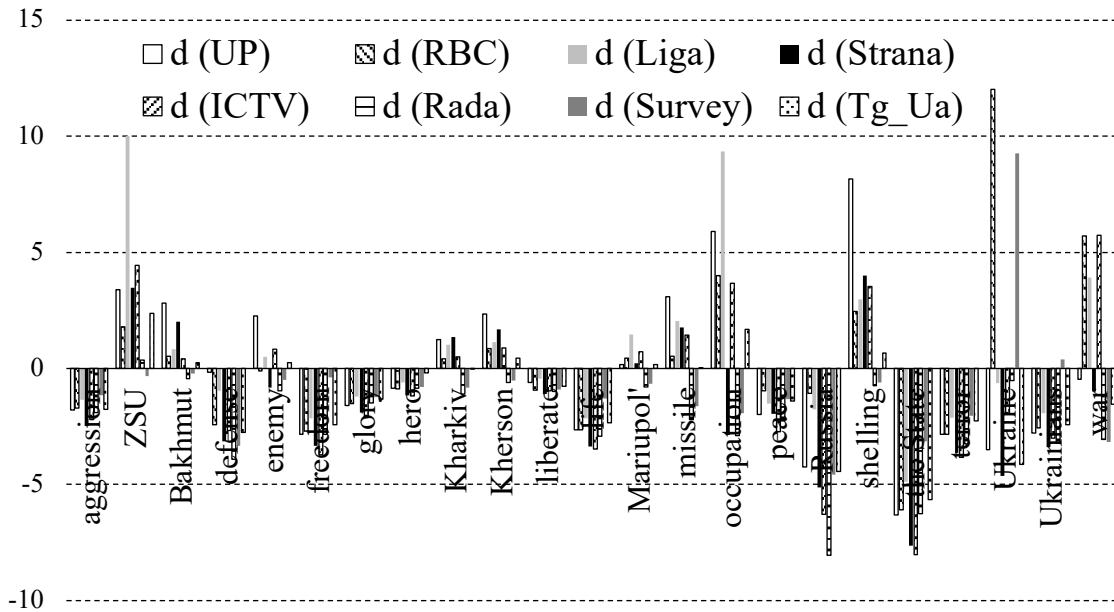


Figure 6. Deviation of the various sources of political, media, and mass discourses in Ukraine about Russia's invasion from President Zelensky's discourse, values of Cohen's d .

Zelensky's emphases on "occupation," a key category for framing the war as a national liberation war (except for Strana), "ZSU," "Bakhmut" (a place of intensive and prolonged fighting), "Kharkiv" (a regional capital bordering Russia), "Kherson" (a regional capital first occupied by the Russians and then liberated by ZSU), "missile," and "shelling" are amplified (Figure 6).

The sum of the squared differences indicates the overall deviation of media discourses from the principals' messages (i.e., the degree of their alignment). To make the comparisons across countries meaningful, the output of five Ukrainian, Russian, and American media was accounted for (Figure 7). The value of this indicator decreased in Russia as the invasion unfolded, indicating an increasing alignment between political and media discourses. The opposite pattern was observed in Ukraine, where the media gained more degrees of freedom during the second and third periods.

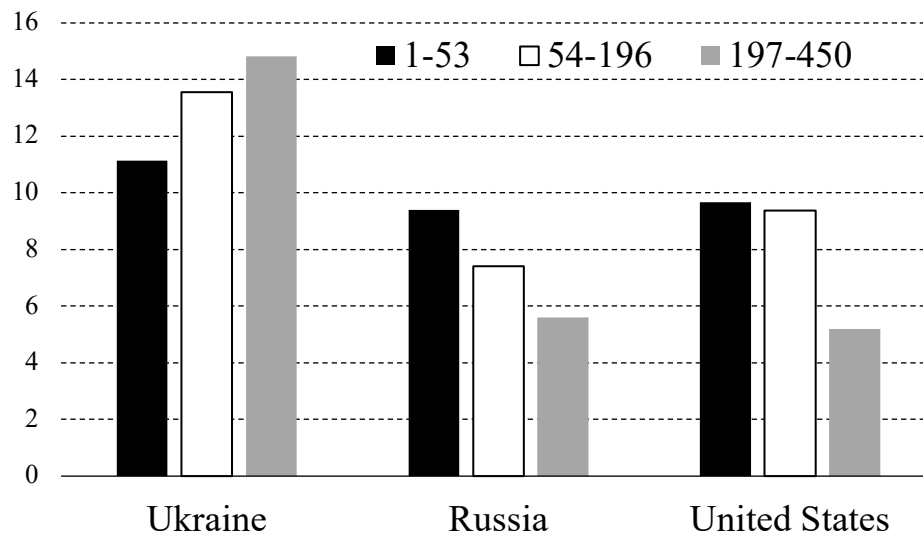


Figure 7. Degree of alignment of the mass media included in the sample by period.

More than two-thirds of the Ukrainians and Russians rejected territorial concessions as an acceptable solution for restoring peace (Table 1). TV remains the principal source of information in Russia, whereas Telegram channels now perform this role in Ukraine.⁹

Table 1. Summary Statistics for Key Variables in Binary Logistic Regression, % of Responses.

	Ukraine	Russia
In no circumstance recognizing Ukraine's jurisdiction over DLNR as a condition for restoring peace is acceptable	n.a.	71.3
In no circumstance accepting Russia's jurisdiction over DLNR as a condition for restoring peace is acceptable	77.8	n.a.
The principal source of information is		
Ukrainian Telegram channels	74.6	n.a.
Russian Telegram channels	4.1	19.3
Ukrainian TV	66.5	n.a.
Russian TV	2.2	63.3
Eyewitnessing	64.4	n.a.
Ukrainian online portals	63.1	n.a.
Russian online portals	3.3	30.2
Western social networks	63.3	n.a.
Russian social networks	1.1	37.9

⁹ The relevant multiple-choice questions were "What is your principal source of information" in Russia and "Which sources of information do you rely on most often" in Ukraine.

Friends and acquaintances	63	16.6
Ukrainian newspapers and radio	50	n.a.
Russian radio	n.a.	9.5
Russian newspapers	n.a.	5.7

Outcomes of the binary regression model (method: Enter) suggest that males tend to reject territorial concessions more strongly than females in both countries (Appendix). The odds of rejecting territorial concessions are higher for the inhabitants of Moscow. Nationally conscious respondents in Ukraine have a higher odds of rejection. The odds of rejecting territorial concessions are high in Russia and low in Ukraine for members of the audience of Russian Telegram channels. Ukrainians who use Russian social networks (which may be accessed using proxy servers) are more likely to accept territorial concessions. Being a member of the group of Putin's supporters (in Russia) and Stalin's supporters (in Ukraine) has the same effect. The respondents who mentioned NATO as responsible for Russia's invasion had higher odds of rejecting territorial concessions in Russia and lower odds—in Ukraine.

Discussion and Conclusions

The existence of national clusters of sources (Figure 3) confirms Lasswell's (1927/1938) observation that "the truth seekers find different truths and... the differences are territorially segregated according to national boundaries" (p. 53). The central location of the cluster of Western sources is consistent with the assumption that foreign media are better placed than belligerents' national media to cover military conflicts.

Key changes pertain to propaganda technology. The government's control over legacy media no longer suffices. Members of the target audience respond to increased control by switching to alternative sources of information. The rise in importance of Telegram is a case in point. Telegram channels have become a key source of information in Ukraine. They are a product of influencers (Woolley, 2022) who joined the ranks of key propagandists.

Telegram is particularly popular as a source of information among inhabitants of large cities. 29% of Muscovites indicated Telegram as their principal source of information. Muscovites are among the most active opponents of territorial concessions to Ukraine. Since Russia's capital was the least affected by the mobilization, Muscovites seem to approve propagandistic messages without committing themselves to engage with the war personally.

Putin appears to understand the importance of new media: He regularly meets with military bloggers (on June 17, 2022 and June 13, 2023). His attempts to recruit them to advance his cause paid off. Russian Telegram channels have subscribers in Ukraine, and members of their audiences tend to accept ideas and solutions that are beneficial to Putin. The strongest predictors for considering territorial concessions to Russia acceptable include mentioning NATO when explaining Russia's invasion, the memberships of Stalin's sympathizer groups, the audience of Russian social media, and Russian Telegram channels. Putin initially framed the invasion as a response to NATO's eastward expansion. Thus, respondents

in both Ukraine and Russia who mentioned NATO as responsible for the war received his message and thought accordingly.

The Ukrainian authorities do not control the influencers, who thus contribute to the government's propaganda efforts to a lesser extent than in Russia. Judging by the declining audience of the Yedyni novyny telethon and the lack of impact of viewing it on the propagandee's opinion about territorial concessions, the counterpropaganda efforts using legacy media do not tend to be effective either (viewers of Russian TV have higher odds of rejecting territorial concessions).

The rejection of ideas and solutions beneficial to Putin by most Ukrainians can be attributed to the growing national consciousness as opposed to counterpropaganda efforts. The strongest predictor of the odds of rejecting territorial concessions is membership in the group of those who consider themselves Ukrainians. This confirms the role of warfare as a driver in nation-state building but also prompts questioning whether counterpropaganda efforts are effective. The degree of alignment of the Ukrainian mass media has been decreasing since the first period of Russia's full-scale invasion (Figure 7). This is good news for the freedom of the press (Figure 1). It is bad news when discussing information warfare. Thus far, the relative ineffectiveness of Ukraine's counterpropaganda has been matched by the growing national consciousness of its population.

This study suggests that Ukrainian counterpropaganda efforts are less effective than Russian propaganda, which is relevant to RQ1. Furthermore, the comparative effectiveness of Russian propaganda has been growing since the start of Russia's full-scale invasion, whereas that of Ukrainian counterpropaganda—decreasing, which is relevant to RQ2. The Ukrainian case highlights the dilemma between greater freedom and more significant wartime mobilization. Journalism requires freedom. Propaganda necessitates restrictions. Unsurprisingly, "freedom" is one of the keywords that makes Zelensky's discourse special. Zelensky's consistency in promoting freedom is commendable, but it may not suffice to counter Russia's information warfare. A promising line of further inquiry refers to the interplay between journalism and nation-state building. Can the relative inefficiency of counterpropaganda also be attributed to its incompatibility with the nonauthoritarian authority patterns prevailing in Ukraine (Oleinik, 2018)?

The case of the United States approximates Western coverage of the war. It is somewhat puzzling. During the third period of Russia's invasion, the U.S. media in the sample showed better alignment than before. It remains to be seen whether this result is attributable solely to changes in Fox's coverage and the smallness of the sample or the constraints imposed by proprietary and other market and governmental centers of power in the long run are as effective in ensuring the uniformity of media coverage as the most explicit forms of control imposed in Russia. According to Herman and Chomsky (1988/2008), the existence of "news filters" embedded in market structures (concentrated ownership, advertising as the primary source of income, etc.) results in "manufacturing consent."

Changes in the effectiveness of war propaganda in the three countries should not overshadow the remarkable consistency of the war discourse. The dots representing various sources of information during the three subperiods lie close to each other as a rule (Figure 4). This pattern may be indicative of the stability of the underlying "power differential" in Said's terms. The power differential within societies refers

to authority patterns structuring relationships between power holders, the media, and society. The power differential between societies refers to inequality in international relations. Further studies are required to determine whether this picture will change by the end of the war.

The comparative dimension represents the strength of the proposed model and its potential limitations. The growing alignment of media and social discourses with messages conveyed by power holders in Russia may be attributable as much to restrictions on and punishment for expressing dissenting views as to the government's propaganda efforts. Journalists and ordinary people may respond to repression with double thinking, making statements that do not correspond to their beliefs (Levada, 1993, p. 162) and cynicism (Shields, 2021). In this sense, the proposed model may work better when at least some freedom of expression exists.

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Appendix. Results of Binary Logistic Regression to Predict the Position on Territorial Concessions as a Solution to the Military Conflict, Russia and Ukraine.¹⁰

	Russia				Ukraine			
	B	S.E.	Wald	Exp(B)	B	S.E.	Wald	Exp(B)
Gender: Male Mentioned	-0.781***	0.131	35.639	0.458	-0.477***	0.119	16.133	0.620
NATO	-0.875*	0.355	6.065	0.417	1.051**	0.333	9.957	2.861
Donbas	-0.944**	0.328	8.296	0.389				
DLNR	-0.379	0.354	1.144	0.685				
fascism	-0.680*	0.267	6.516	0.506				
powers	0.710	0.736	0.931	2.035	0.032	0.345	0.009	1.033
the West	-1.315	0.869	2.287	0.269				
Education: higher or incomplete higher	0.059	0.141	0.174	1.061	-0.069	0.121	0.325	0.933
Married or civil union	-0.123	0.125	0.973	0.884				
Internet user	-0.617**	0.196	9.961	0.540	-0.146	0.182	0.645	0.864
Inhabitant of								
Moscow	-0.495	0.283	3.059	0.610				
0.5 million+ cities	0.021	0.148	0.021	1.022				
a city					-0.161	0.128	1.598	0.851
Federal districts								
North-Western	-0.028	0.214	0.017	0.972				
Central	0.004	0.173	0.000	1.004				
Southern and Caucasian	-0.075	0.281	0.071	0.928				
Far Eastern Federal District	-0.075	0.281	0.071	0.928				
Macro-regions								
Western					-0.267	0.215	1.546	0.765
Central					0.087	0.189	0.211	1.090
Southern					0.147	0.184	0.638	1.159
Age	0.022***	0.005	22.968	1.022	0.006	0.005	2.043	1.006
Low income (first three income groups)	0.131	0.137	0.918	1.140	0.405**	0.158	6.536	1.499

¹⁰ *** – significant at the 0.001 level, ** – at the 0.01 level and * – at 0.5 level.

High income (sixth income group in Russia/fifth in Ukraine)	0.468	0.415	1.270	1.596	0.278	0.305	0.830	1.321
Ukrainian nationality					-0.635***	0.224	8.041	0.530
Ukrainian spoken at home					-0.251	0.138	3.310	0.778
Putin's supporter	-1.648***	0.157	110.886	0.192				
Stalin's supporter					0.875***	0.212	17.120	2.400
Sources of information								
Russian TV	-0.417**	0.143	8.560	0.659	0.471	0.370	1.621	1.602
Ukrainian TV					-0.023	0.129	0.032	0.977
Russian radio	0.167	0.224	0.561	1.182				
Russian papers	-0.005	0.284	0.000	0.995				
Ukrainian papers and radio					-0.349**	0.122	8.257	0.705
Friends and acquaintances	0.123	0.162	0.579	1.131	0.229	0.122	3.515	1.257
Russian news portals	-0.049	0.142	0.119	0.952	0.150	0.326	0.211	1.162
Ukrainian news portals					-0.473***	0.132	12.893	0.623
Russian social networks	0.121	0.138	0.761	1.128	0.955*	0.488	3.829	2.598
Western social networks					-0.035	0.130	0.073	0.965
Russian Telegram channels	-0.379*	0.168	5.078	0.685	0.799**	0.280	8.161	2.222
Ukrainian Telegram channels					-0.173	0.146	1.410	0.841
Eyewitnessing					-0.168	0.121	1.946	0.845
Constant	4.169**	1.574	7.014	64.627	-0.789	1.328	0.353	0.454
Cox & Snell R ²	0.157				0.079			
Nagelkerke R ²	0.224				0.122			