Russian Propaganda: Analysis of Channel One News

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Motivation

The Russian society is divided on the issue of whether to support the war with Ukraine, with even members of the same family holding opposing views. Those who support the war often rely on television as their primary source of information, with its broadcasts playing a significant role in shaping public opinion. This project was undertaken to gain a deeper understanding of the propaganda methods used to sway public opinion effectively.

To conduct this project, we reviewed sources on common propaganda techniques, such as

- Tamara Eidelman, "We have a primal fear (on how to read the news in the post-truth era)", 2018[1];
- Tamara Eidelman, "How propaganda works", 2019[2];
- Ekaterina Shulman, "Why do we believe in propaganda?", 2022[3].

Using these sources, we developed several hypotheses to investigate whether these techniques are utilized by Russian propaganda:

- Frequent use of catchy slogans that are short, simple, and easy to remember;
- Frequent news stories about the heroes of the "special military operation"[4];
- Instilling the idea that Putin is the one and only leader who cannot be replaced;
- Frequent use of words in relation to Ukrainians that elicit strong negative reactions and fear.

In addition, our objective is to gain a better understanding of the effectiveness of propaganda. To achieve this, we compare the monthly time series data of news coverage duration on the topic of Ukraine to the time series data of Russians' attitudes toward Ukraine.

Data Sources

Primary data set

We chose to use news coverage from the First Channel as our primary dataset for analysis. The First Channel is Russia's primary television channel and is considered the main source of

[1] https://novayagazeta.ru/articles/2018/10/19/78252-tamara-eydelman-v-nas-zalozhen-pervobytnyy-strah
[2] https://www.litres.ru/tamara-eydelman/kak-rabotaet-propaganda/
[3] https://www.youtube.com/watch?v=X3dLkGclWbg
[4] The war is referred to as a special military operation in Russian media coverage of the conflict. This term will be used in the report.

news for many people. We believe that news content on the First Channel has the most significant impact on shaping public opinion.

To obtain our initial dataset, we conducted web scraping of the Channel One website[5], which includes transcripts of their news broadcasts. More details can be found in the script "1.1. Gathering_Primary set.py". In the web scraping process, we gathered 24 CSV files, with each file containing 15,000 rows of data. The dataset's total size is 1.1 GB, covering the period from Sep. 2006 to Jan. 2023.

This dataset comprises news stories, with each row representing a single story. The data set contains the following fields[6]:

- date – exact date and time the news story was aired;
- tags_top – tags that appear at the top of the page where the news story was published;
- title – the title of the news story;
- url – the web address where the news story can be found;
- body – the transcript of the news story itself;
- tags_bottom – tags that appear at the bottom of the page;
- video_duration_seconds – the duration of the accompanying video.

Secondary data set

The secondary datasets is obtained[7] from the website of the Levada Center (https://www.levada.ru/en/), an independent organization that conducts surveys in Russia. This dataset provides time series data concerning the attitudes of Russians towards Ukraine.

The dataset contains the following fields for the period between Dec. 1998 and Nov. 2022: "date" (in year-month format), "positive" (indicating the number of respondents with a positive attitude towards Ukraine), "negative" (indicating the number of respondents with a negative attitude towards Ukraine), and "difficult to answer" (indicating the number of respondents who found it difficult to answer the survey question regarding their attitudes towards Ukraine).

Data Manipulation

Primary data set

File	Function	Step description
2.0. DataManipulation_ Functions.ipynb	load_scraped_data	Concatenation: The 24 csv files containing the data were concatenated into one dataframe
	add_columns	Addition of Columns to facilitate further analysis: 1) Date-time columns (to facilitate grouping) 2) A column "whole newscast" was added to indicate whether a given row in the data represents an individual news story or the entire podcast. This will allow for better filtering of the data during analysis.
	delete_duplicates	Removing of duplicates: It was observed that different files had overlapping rows

[5] https://www.1tv.ru/news
[6] Inside the zip file, there is an example file named "0-15_output_scraping_cleaned.csv"
[7] Script used: "1.2. Gathering_Secondary set.ipynb", File: "Ukraine.csv"

		Exclusion of incomplete data: Removal of first and last day, because the loading for those days was not full
	load_clean_scraped_data	Updating inaccurate video duration values
2.3. DataManipulation_Tokenization.ipynb	tokenization_pipe tokenization_pipe_title	Lemmatization of the 'body' and 'title' columns to facilitate text analysis of the news content. Creation of tokens and lemmas, excluding punctuation and stop words. This process is computationally intensive and takes 8 hours to complete. As a result, a decision was made to save the results of this step to a file "df_tokenized.csv" that could be easily loaded and used in subsequent analysis.

Missing values and outliers are analyzed in the file "2.2. DataManipulation_Data quality.ipynb"

Secondary data set

Secondary data set required only transformation of the date column. The date column was initially loaded as a float data field and required transformation into datetime format. (refer to the file "1.2. Gathering_Secondary set.ipynb").

Merging the primary and secondary data set

The primary and secondary datasets have different time intervals: the primary dataset contains daily values, while the secondary has monthly values. To join them, the primary dataset was grouped by month summing the values in the column "video_duration". The datasets were joined by "year_month" column (using inner join).

Analysis

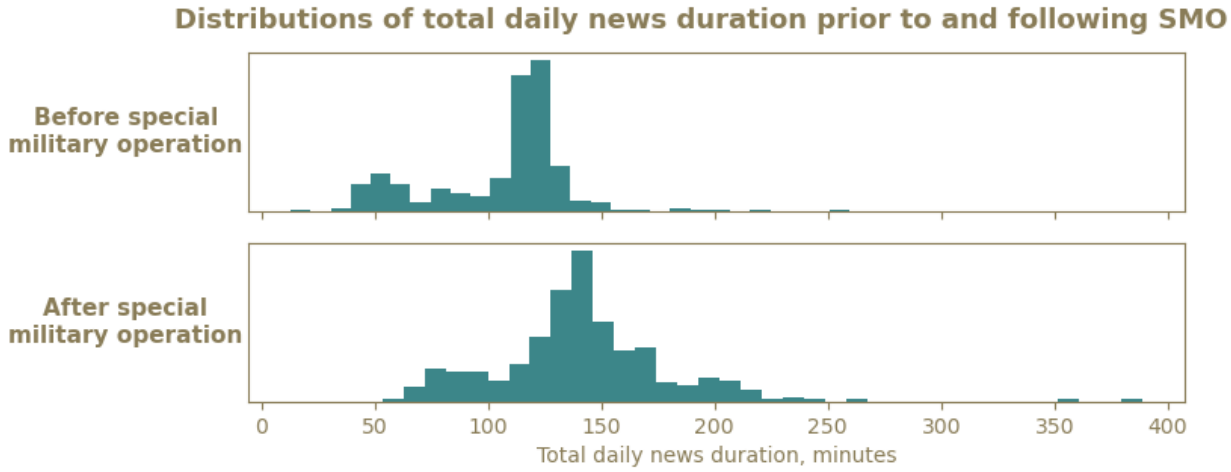
Q1. Patterns of news releases in general

To begin our analysis, we conducted a general examination of news release patterns. As part of this investigation, we found out the following interesting patterns connected with the "special military operation" (the SMO):

1. News duration increased dramatically right after the commencement of the SMO.

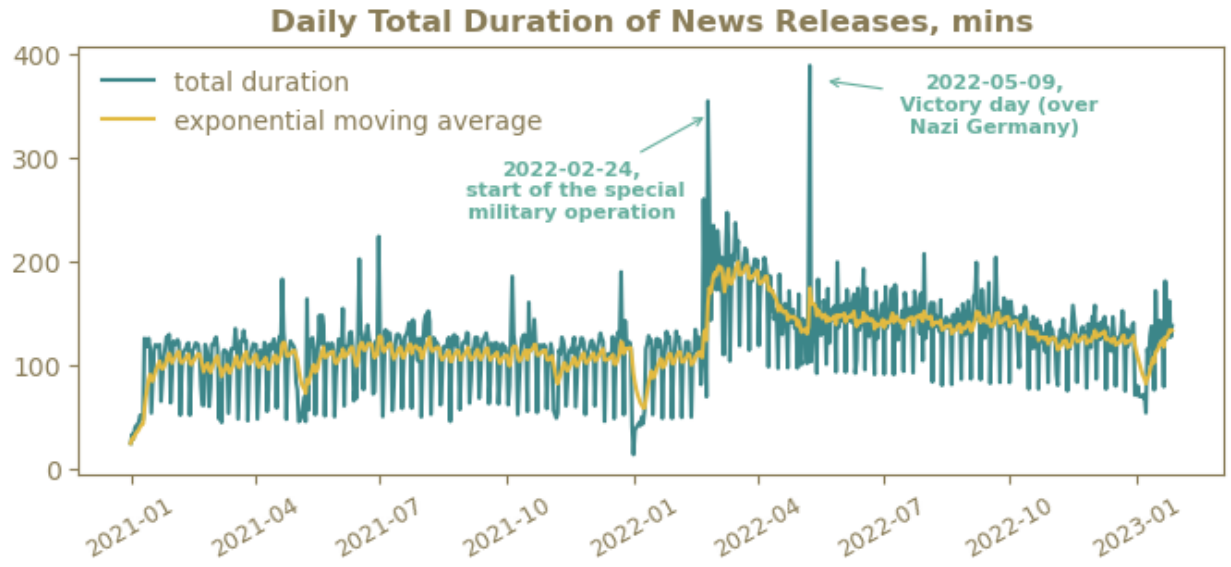
The analysis[8] revealed that the median daily news duration is higher by 25 minutes following the initiation of the SMO compared to a one year prior to it.

[8] Refer to "3.2. Analysis_Q1_Q2.ipynb", section "Patterns of news releases in general"



Based on analysis of data[9],the reason is that the First channel implemented the following changes after the start of the special military operation: 1) added one newscast, 2) extended the 9pm newscast, which is accessible to working citizens, and 3) shortened the 6pm newscast, which is not accessible to working citizens (as the workday in Russia typically ends at 6pm).

The same pattern of news intensity growth may be traced using a chart displaying the daily duration of news releases during Jan. 2021 – Jan. 2023.



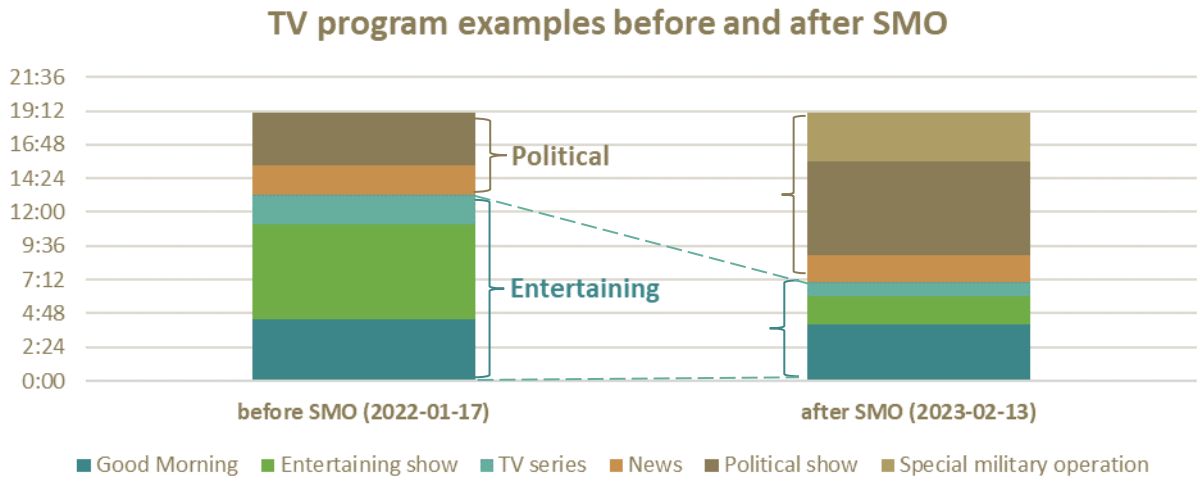
This chart clearly shows that news intensity increased dramatically after firth day of the SMO. Although it has been slightly decreasing, it is still at elevated levels.

2. Daily total duration of political programs has increased after the SMO

After discovering the increase in daily news duration, we became curious about how the overall structure of TV programs had changed. Although we had not planned to perform this type of analysis and lacked the appropriate data, we analyzed 19 hours of broadcasting (from 5 am to 12 am) on one day before and after the SMO for comparison[10]. This limited analysis

[9] See "3.2. Analysis_Q1_Q2.ipynb", section "Patterns of news releases in general"
[10] Refer to "TV program.xlsx"

revealed a significant increase in the duration of political programs, which came at the expense of entertaining programs.

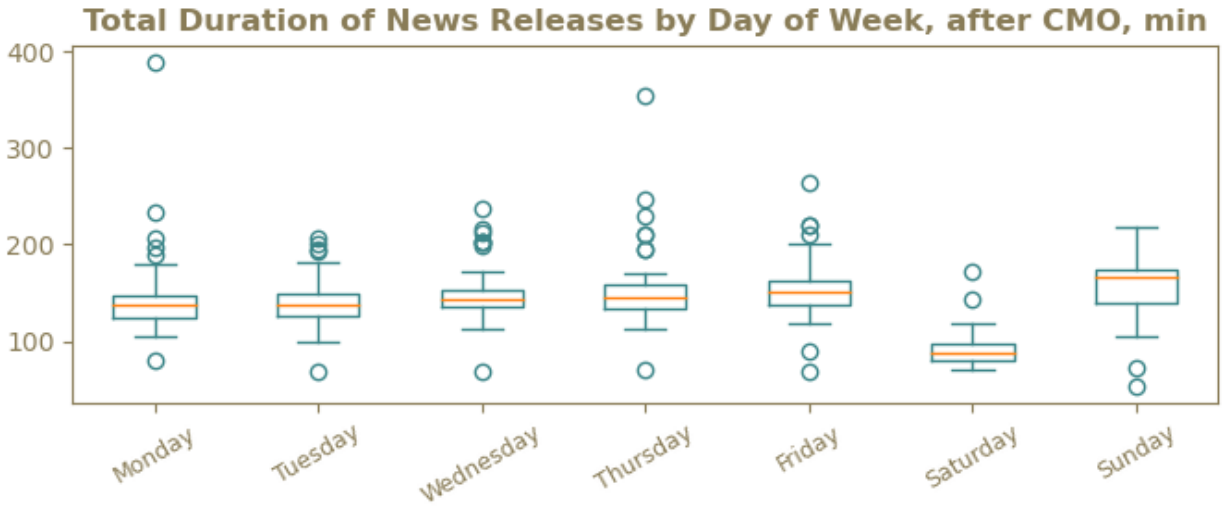


The increase in the overall length of news and political programs suggests that propaganda may be employing a technique of repetition. This repetition aims to instill certain ideas in the minds of the audience by constantly reinforcing them.

3. Although news intensity has increased, it follows the same work-holiday approach.

The data shows that news duration is generally lower during holidays even after the launch of the SMO. For instance, the chart above "Daily total duration of news releases" shows a decrease in news duration at the beginning of May 2022 and of January 2023 as well. These time periods are two longest public holidays in Russia. In our view, this pattern might be connected with propaganda's goal to sustain "normality" in order to avoid "overheating" of people's minds with the SMO and disturbing news in general.

The same pattern is visible weekly. The daily duration of news varies based on a day of the week. The chart below shows the Russian TV audience is experiencing increasing volume of news from Monday to Thursday with a drop for "rest" on Saturdays when people are engaged with family routines and entertainment. But, afterwards, there are overwhelming long runs of news on Sundays.



4. Russian news is substantially changing its coverage targets in order to focus audience attention on particular events that might be important for the government

We generated word clouds to identify the most frequently used words for each year throughout the entire data collection period, from Sep. 2006 to Jan. 2023. It is intriguing to observe how the sequence of word clouds reflects the major events in the country[11].

Russia hosted the Olympic Games in Sochi in 2014. All else being equal, one would have expected that words "Olympic", "Sochi", and "national team" were dominating this year, but the 2014-word cloud indicates that the most commonly used word was "Ukraine", and Olympic terms are not easily visible on the chart. Apparently, the cause is that Russia annexed Crimea that year, and all efforts were devoted to the coverage of annexation outcomes as compared to results of the Olympic Games.

Another interesting illustration of the pattern is the word clouds for 2020 vs 2022. The word "coronavirus" was the most frequently used in 2020. There was almost nothing said about Ukraine, Crimea, and Donbas in 2020 as compared to 2022, although Russian propaganda in 2022 made endless number of statements that "people of Donbas have been suffering for 8 years". The 2022-word cloud displays words related to the special military operation, indicating that this topic dominated the news that year.

5. Russian news about Ukraine follows the evolution of the relationship between two countries and Russian Government's view on it

If we examine news stories that feature Ukraine, we can follow the evolution of the relationship between Russia and Ukraine. For instance, a significant conflict arose in 2009 regarding gas transit from Russia to Europe via Ukraine. In 2018, the Ukrainian church made preparations to become independent from the Russian church (which occurred on December 15th, 2018), and this event was again evident in the word cloud.

[11] Unfortunately, due to space constraints, it is not feasible to present the entire sequence in this document. Please refer to the file "3.1. Analysis_Q1.ipynb" to view the complete sequence.

Q2. Frequency of news stories about heroes of special military operation

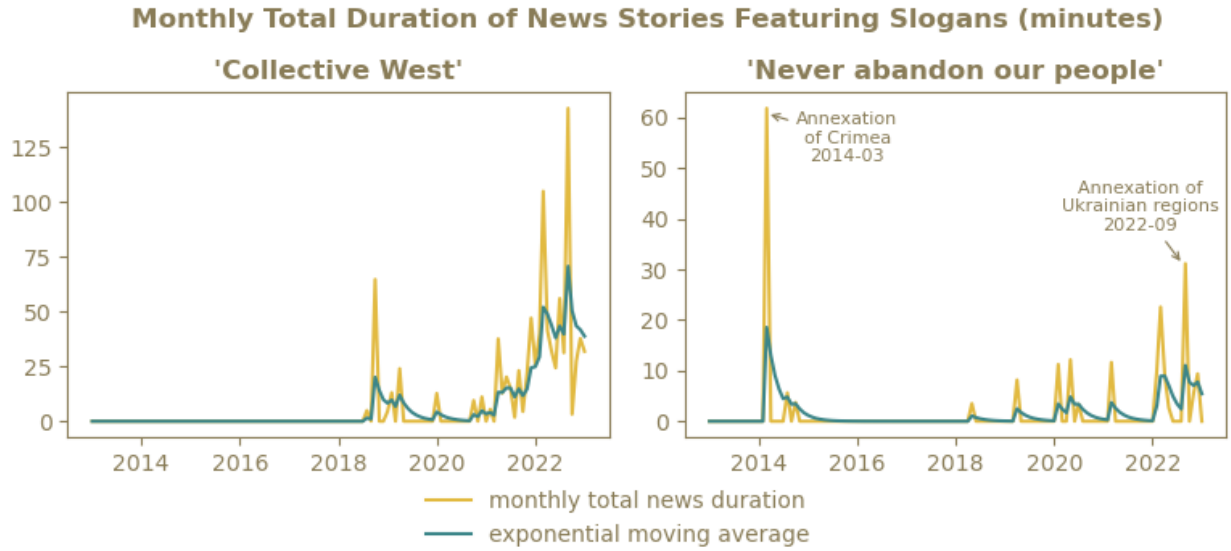
Our investigation aimed to determine if the First Channel's news program employs the tactic of using hero stories, which is often used in propaganda to promote a positive perception of war. Our analysis revealed the following patterns (“3.2. Analysis_Q1_Q2.ipynb”):

- Daily news stories about the heroes of the operation were aired by the First Channel on a regular basis, with only a few exceptions during the course of the operation.
- On average, the First Channel broadcasts around four stories about the heroes of the operation per day. Approximately 50% of the time, the number of stories broadcasted falls within the range of 2 to 6 per day.
- The First Channel dedicates an average of six minutes of airtime to coverage of the heroes of the special military operation. Approximately 50% of the time, the number of stories broadcasted falls within the range of 2 to 6 per day.

Taken together, these findings suggest that the First Channel employs the technique of using stories about heroic figures to promote a more positive perception of the ongoing military operation.

Q3. Frequency of catchy slogans

We conducted an analysis on the frequency of usage of catchy slogans such as “Collective West” and “Never abandon our people” (“3.3. Analysis_Q3.ipynb”). The results are presented in the image below:



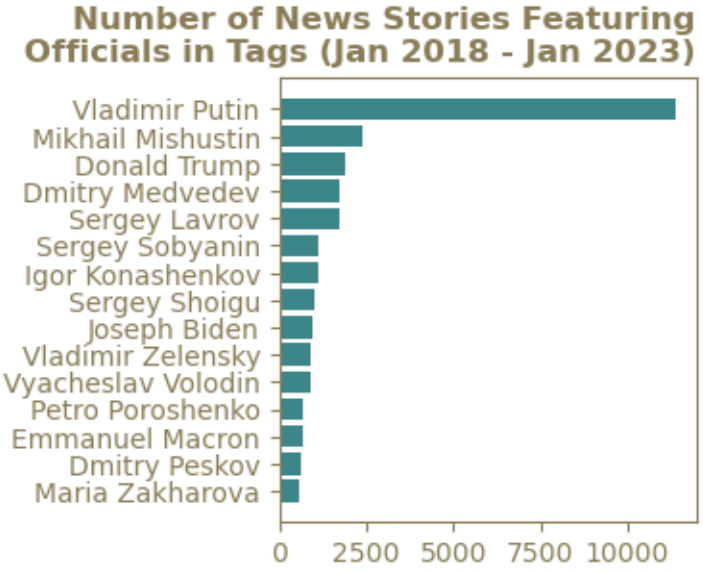
Our analysis reveals that the term "Collective West" was first coined in 2018 and was initially used to assign blame to Western countries for their involvement in the Syrian conflict. Since then, the usage of this term has steadily increased and it is now being used in the context of a narrative suggesting that Western countries are working together to undermine Russia.

The slogan "Never abandon our people" was most frequently used during the annexation of Crimea and other Ukrainian territories. This usage may have been part of the Russian propaganda strategy to justify these annexations, by creating the impression that Russia was taking care of Russian-speaking people who were living in those territories and bringing them back "home" to Russia.

Q4. Comparison between the frequency of news stories aired about V. Putin and that of other individuals

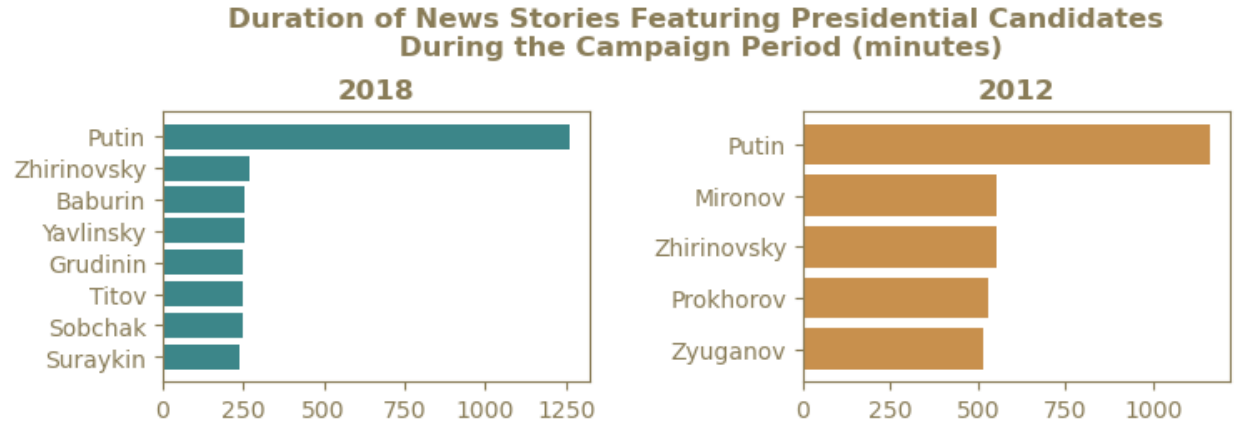
Our next hypothesis to investigate is whether Channel One attempts to promote the notion that Putin is an irreplaceable leader. To test this hypothesis, we will compare the frequency of Putin's mentions in the news to the frequency of other officials' mentions[12].

As depicted in the image, there is a significant disparity in the number of news stories featuring Putin compared to any other official. This may contribute to the perception that Putin is the only competent leader.



[12] Refer to a file "3.4. Analysis_Q4.ipynb"

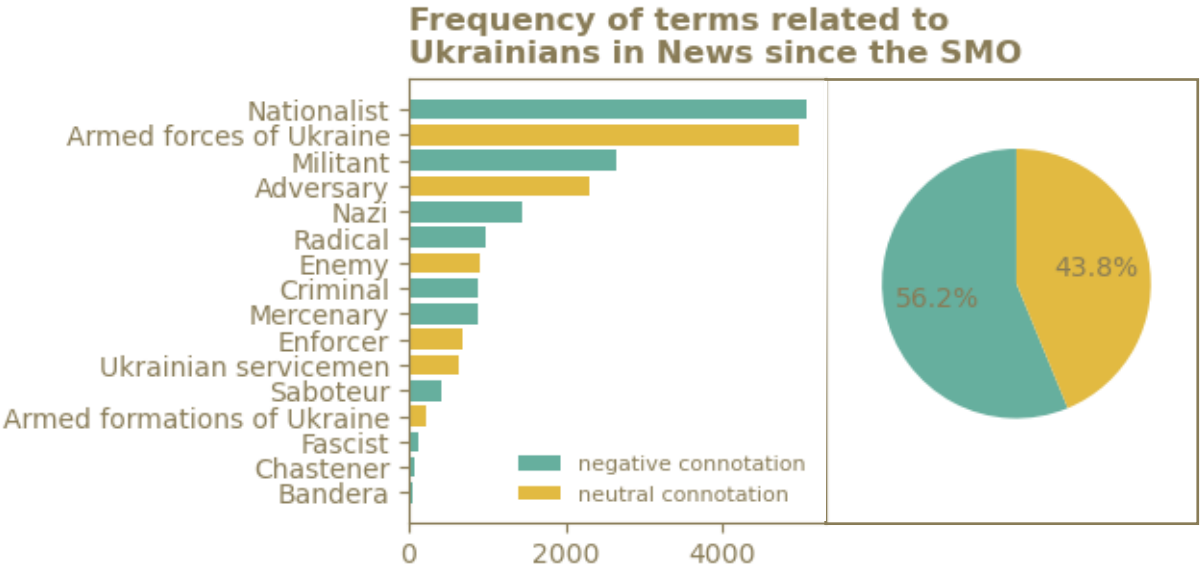
Furthermore, we examined the amount of time dedicated to covering Putin in comparison to other presidential candidates during two last campaigns, and once again, we observed a substantial imbalance in favor of Putin.



This propaganda tactic results in the audience being unable to recognize other capable leaders, leading them to believe that Putin is the sole viable option for leadership.

Q5. Words that are used in relation to Ukrainians

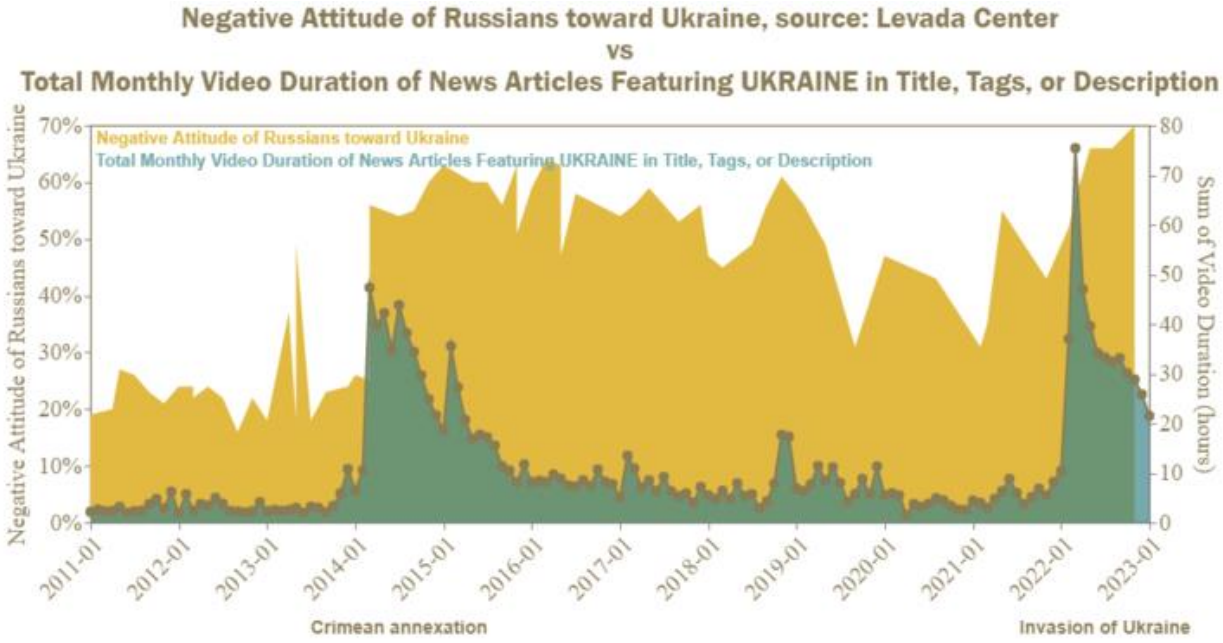
We conducted an analysis of words used in news coverage about Ukrainian servicemen ("3.5. Analysis_Q5.ipynb"). To accomplish this, we compiled a list of terms that could be used in reference to servicemen and examined news articles that covered special military operations to identify relevant vocabulary. Based on this, we developed a lengthy list of potential terms related to Ukrainians and measured their frequency in news titles and descriptions. The result of our work is presented below:



Our analysis shows that Russian propaganda often employs language to describe Ukrainians that elicits intense negative emotions and fear. Specifically, words such as nationalist, Nazi, and radical are frequently used.

Q6. Comparison of a duration of news coverage on Ukraine with Russians attitudes towards Ukraine

In order to explore the relationship between news coverage of Ukraine and Russians' attitudes toward Ukraine, a comparison was made between the monthly total duration of news stories featuring Ukraine and the percentage of Russians who have a negative attitude toward Ukraine[13]. To visualize the trends in these two variables over time, a time series plot was created:



The time series plot revealed interesting patterns. It showed that major spikes in negative attitudes corresponded to major spikes in news volume, such as the peaks related to the Crimea annexation in 2014 and the Russian-Ukrainian war in 2022. However, even smaller spikes in the news coverage were also found to be linked to corresponding spikes in negative attitudes. For instance, the church conflict between Russia and Ukraine in 2019 was associated with smaller spikes in both news coverage and negative attitudes.

These insights suggest that the news media may have a significant impact on shaping public opinion.

[13] "3.6. Analysis_Q6.ipynb"