Promises and Press: The Intersection of Aid and Media Responses in Wartime

by

Anastasiya Ilkiv

A Thesis

Submitted to
The University of Michigan
Department of Political Science
in partial fulfillment of the requirements
for the degree of
Honors Bachelor of Arts

March 2025

Advised by Professor Yanna Krupnikov

Table of Contents

Acknowledgments

I would like to begin by thanking my advisor, Professor Yanna Krupnikov, whose guidance, support, and encouragement made this project possible. Professor Krupnikov supported me throughout the entire thesis-writing process, and her expertise on the subject matter and empathy as an instructor allowed me to flourish as a researcher. This thesis was a challenging endeavor, and Professor Krupnikov made it manageable, attainable, and enjoyable.

I would also like to thank both of the instructors for the University of Michigan Honors Political Science cohort - Professor Anne Pitcher and Professor Anne Manuel. Through feedback, advice, and instruction, their support was invaluable to my completion of this thesis.

Additionally, I would like to thank Trisha Pal, a computer science student and student instructor at the University of Michigan who became integral to this thesis. Without Ms. Pal's support, I would have likely never been able to learn and understand the components of writing a Python code, and the analysis of this thesis would have been very difficult to generate.

Finally, my education, passion, and ability to complete this thesis would have all been impossible without the support of my family - my parents Vitalij and Ilona Ilkiv, and my siblings Anna and Yaroslav Ilkiv. They have sat through plenty of conversations where I expressed frustration, joy, burnout, and accomplishment, and I am grateful that they have helped me reach for the stars. An additional thank you to Kyle Krause, whose moral support and faith in me have stood as a pillar of confidence throughout the process.

Abstract

To what extent does an international aid allocation correlate with a wartime country's government media sentiment? This thesis utilizes media output by both the Russian and Ukrainian governments since the start of the full-scale invasion in February 2022 and tracks the changes in the news sentiment in correlation to United States aid announcements to Ukraine during the first year of the war. This thesis examines the existing literature regarding the effects of media on citizens (generally and specifically during wartime), the impacts of government media, the significance of international aid during the war, and the implications of the Russia-Ukraine case. Then, the theory regarding how news sentiment will shift in regards to Russian government media and Ukrainian government media, and the hypotheses are stated: Russian government media will become more positive after the U.S. announces an aid allocation to Ukraine, and Ukrainian government media will switch from negative to positive sentiment after such an aid announcement.

Then, 261 Russian government articles and 1,264 Ukrainian government articles are put through the Lexicoder Sentiment Dictionary to produce a net sentiment score. After statistical analysis, the results yield that the Ukrainian government media does correlate, in terms of statistical significance, to more positively sentimental (although the overall sentiment score does remain negative) after the U.S. announces an aid allocation. However, a U.S. aid allocation does not have a statistically significant correlation with Russian government media. The implications and significance of these results are further expanded upon, and future research opportunities are provided at the conclusion of this thesis.

Introduction

Within the first year of the Russia-Ukraine war, the United States allocated approximately $28.750 billion of aid to Ukraine[1]. Out of the original $63.85 billion requested for the FY22 Congressional budget for international affairs and international commissions ("Congressional Budget" 2022, 1), a simple calculation would indicate that ~45.03% of the budget went to assist Ukraine in the war. There is an understanding that these funds contribute to Ukraine's military equipment, frontline operations, and humanitarian support, but beyond the direct impacts, did this foreign aid have any effect on the general sentiment about the war?

If you are representing the government of a wartime country, it would not be unreasonable to suspect that a global superpower's support, such as that of the U.S., would boost the morale of your cause. On the other hand, if the global superpower is supporting your opponent, you may have to shift your narrative to justify your intentions further or possibly discredit the superpower. This paper will seek to identify if there is a correlation between aid deliverance and government-delivered news sentiment to influence morale and narratives, specifically through the Russia-Ukraine war case.

The media is a crucial tool used by governments, especially during wartime, to control public opinion. Current literature has addressed a variety of issues - the impact of international aid during wartime, the usage of media in wartime, and how media impacts civilian life. However, research has not yet attempted to correlate international aid to government news sentiment. There is a clear understanding that international aid is crucial for wartime countries on

---

[1] This figure was calculated by using the U.S. Department of Defense's online timeline of the Russia-Ukraine war, which indicates all times that the U.S. announcement aid to Ukraine. Each announcement within the first year was aggregated and summed to find this figure from: https://www.defense.gov/Spotlights/Support-for-Ukraine/Timeline/

their front lines, and news sentiment under governmental control dictates significant perceptions amongst citizens, but there remains an open question about the correlation between international aid announcements and the response of sentiment of government news and media.

This research will attempt to analyze this correlation by quantifying both Russian and Ukrainian government news sentiment based on two of each country's government news publications and relating the sum of the articles' sentiments to announcements of U.S. aid. With the increasing use of informational warfare and news media to influence the international understanding of conflicts, the Russia-Ukraine war would is for this case study. Although there have been previous incidents of governments leveraging media to influence public opinion on war, such as the Vietnam War, it has not been to the extent possible as we see in modern-day wars. Now, with the wide use of social and news media, citizens domestically and abroad may be influenced by the sentiment available at the touch of a finger.

This thesis theorizes that the Russian government will continuously have a positive sentiment within its news outputs, influencing its citizens to have a positive outlook and generally support the war. Then, the hypothesis regarding Russian government media predicts that sentiment will become more positive when the U.S. allocates aid to Ukraine, theorizing that the government is trying to mitigate any negative effects international support of its enemy may have on the citizens. In regards to the Ukrainian government media, the theory suggests that the media will generally be negative in order to express stress and the need for aid in the war. The hypothesis states that, then, the sentiment will switch from negative to positive connotations to show appreciation for the aid deliverance and strength within its support. In its findings, this thesis will provide evidence that there is a correlation between international aid allocations and

news media biases for the recipient nation, although the enemy nation that does not receive an aid allocation will have insignificant responses to the aid allocation.

Thus, this thesis will investigate to what extent the announcement of international aid allocation affects government news responses - via the sentiment within news articles published particularly on government websites - in wartime countries. There will first be an outline of the timeline of the Russia-Ukraine war to provide a general understanding of the state of the war, followed by an analysis of the current pieces of literature on the broader topics such as news media in wartime and the significance of international aid in wartime generally. Finally, this thesis will explain the methodology, data, and results of the correlation between international aid allocation and government news sentiment.

Background

The Russia-Ukraine war officially began on February 24, 2022, but tensions and invasions have occurred long beforehand. Firstly analyzing Ukraine's relationship with the reign of the Soviet Union, Ukrainian territory and operations were so significant to the USSR's structure, that the country's departure soon indicated the fall of the union as a whole (Zasenko and Yerofeyev 2024, 1). Its strategic location and resources made it an integral part of the Soviet Union's function, such as "producing 78% of the entire empire's coal, 75% of its iron ore, 69% of its cast iron…" and more (Gorin 2022, 2). Additionally, the Crimean Peninsula's strategic access to both the Black Sea and the Sea of Azov provided the USSR with significant naval strength and trade route access ("Crimea's Strategic Value" 2014, 2). However, the USSR's demise had been accumulating for decades due to insurgency and economic weakening, resulting in an unsuccessful coup in August 1991 (Gorin 2022, 2). A few days after the coup, Ukraine and Belarus declared independence from the USSR, and Ukrainians officially voted in a referendum on December 1, 1991, to declare independence from the Soviet Union (Masters 2023, 2) shortly before the USSR fully dissipated.

Ukraine peacefully functioned as a fully independent country until in 2014, Russia annexed the Crimean peninsula from Ukraine - the first time since WWII that a "European state annexed the territory of another" (Masters 2023, 2). In order to justify the Crimean takeover, Russia and its supporters argued that Crimea was historically Russian, with Russian culture and traditions that the nation intended to protect (Allan et. al. 2021, 76). Russia then also began feeding separatist and militia groups on the Western side of Ukraine, specifically in Donbas, weaponry and supplies ("Conflict in…" 2022, 2). There was also an increase in Russian media

bias now in the Donbas region of Ukraine in 2014, with one citizen stating that there was only one channel on the television - Russian media depicting nuclear destruction behind a waving Ukrainian flag (Gall et. al. 2023, 2). This media propaganda was prevalent in both countries before the full outbreak of the war, and which intersection will be fully examined in the literature review.

Ukraine, during this time, continued to affirm that Crimea was Ukrainian territory. During the public referendum held to determine whether Crimea would be ceded to Russia, Ukraine argued that the voting process was jeopardized, citing military members posted at voting booths to intimidate civilians and ultimately, rejecting the referendum in favor of ceding Crimea to Russia (Stebelsky and Hajda 202,5 1). However, two days after the referendum, Russian President Putin signed a treaty officially incorporating Crimea into the Russian Federation and moving troops to occupy various cities, ports, and bases throughout Crimea (Stebelsky and Hajda 2025, 2).

The culmination of these tensions resulted in Russian troops invading Ukraine in 2022. The international community responded with tariffs on Russia, forms of aid to Ukraine, and general morale to support Ukraine in its fight for freedom. Furthermore, both countries continue to pump media releases with their perspectives on the war, fueling national and international biases. With both aid and media being two key components to the Russia-Ukraine war, this research paper will aim to study how Ukraine and Russia responded via their respective governments to these deliveries of aid, and whether or not government sentiment was influenced by international support or harm. The next section of this thesis will elaborate on previous

literature establishing correlations and causes between media bias, civilian impacts, international

aid, and information significance.

Literature Review

Introduction

The goal of this thesis is to consider if and how international aid, specifically from the United States in the case of the Russia-Ukraine war, has affected responses in government media in both countries. To address this, this literature review will explore the utilization and effectiveness of news media in a variety of contexts. First, I contextualize the research by discussing the case of Russia and Ukraine. Then, I turn to the general literature on international aid. Third, I consider the role of media in wartime and the importance of coverage of international aid. Fourthly, I consider the role of government media more broadly. Finally, I discuss how government media in particular affects citizens and wartime perceptions in various cases. In culmination, the ideas underscore the intersections between international aid and government media sentiment with civilian and military impact, and it will conclude with the importance of studying this topic.

Implications of the Russia-Ukraine Case

This research paper particularly studies the case of the Russia-Ukraine war due to the implications the war has for the usage of media as a weapon that occurs in the modern day. Modern-day warfare is incomparable to wars even 15 years ago due to the high frequency and availability of news media being published - oftentimes at the touch of a phone screen by a citizen - and in the case of the Russia-Ukraine war, warfare and its publicity have heavily relied on the media for success.

Firstly, the Russia-Ukraine case offers significant insight into the effects of authoritarian regimes on news media regulation and responses to international aid, especially since Russia is not only an authoritarian regime but also a global superpower for negotiations and economic relations. In fact, in more authoritarian regimes, the public is more likely to trust the news media than in the cases of democratic governments (Müller 2013, 127), indicating that public perception is more easily swayed in Russia. Müller offers a variety of explanations as to why citizens trust the media less in cases of democratic parties, such as because of market failures over-providing content to satisfy differing political opinions and general oversaturation of narratives, leaving citizens unsure of which narrative is 'accurate'(Müller 2013, 67-68). Additionally, in the case of Russia specifically, the country utilizes a consolidation of control over all the country's news media, allowing for easier manipulations of the public when necessary (Bryanov et. al. 2023, 117). This widespread control of public information, alongside the misuse of state resources and ensuring national compliance among any news agency, allows authoritarian regimes to apply a variety of strategies to ensure success in media manipulation.

When studying Russia in particular, the country's standing in 2000 in the Corruption Perception Index - an index specifically identifying governmental and media corruption across the globe - Russia scored a 2.1 on the 0-100 scale, with 0 being highly corrupt (Akhrarkhodjaeva 2017, 205). Russia, as an authoritarian regime, can alter the public's perception of reality, retelling a new narrative to ensure complacency with the regime's goals (Akhrarkhodjaeva 2017, 86). This narrative is done through careful media manipulation, and authoritarian regimes may set their national agendas concerning certain issues (Akhrarkhodjaeva 2017, 85), such as: priming citizens to favorably or disfavorably react to international actions, 'elect' the correct

candidate, and comply with government decisions Thus, Russia's corruption and control over media arguably means that studying how the government reacts and alters the narrative of events, such as the allocation of international aid to an enemy, could identify significantly valuable information for other comparable regimes.

Additionally, the case of the Russia-Ukraine war has significant implications because of the use of government and news media as a 'battlefield' in the war. Both countries are shaping "strategic narratives about the conflict" to further the country's international position regarding the war (Parizek 2023, 17). Additionally, this use of media for international perception is relatively successful. For example, when exposed to Ukrainian media articles relating to the fight for "democracy, human rights, and non-acceptance of acts of war", citizens of Denmark and Germany increased their support for Ukraine in the war (Bøggild et. al. 2024, 2). Therefore, the Russia-Ukraine war indicates that there is international interest and tangible effects from wartime media coverage, and if there are influences over this news sentiment, as predicted by this thesis, then there is value in understanding the correlation.

The international community has significant incentives to engage in the Russia-Ukraine war, especially with the Western values being exemplified within the war and the fight against an authoritarian regime at stake. Because of the implications of the war on both media and international ideologies due to the war's nature as a media-heavy modern-day war, this research paper is particularly relevant and valuable to current studies.

Role of International Aid in Wartime

The focus of this thesis is the way government media responds to international. For the purposes of this thesis, financial and military aid will be particularly useful due to its simple conversion to a dollar value, unlike humanitarian, logistical, or tactical support, which may be more difficult to quantify and steadily measure over a period of time. Although the latter forms of aid are valuable to wartime countries, there would likely be less media coverage and widespread knowledge of the aid, meaning news media and public sentiment would remain relatively unaffected. In regards to military and financial aid during the first year of the Russia-Ukraine war, Ukraine received $28.750 billion in these forms of aid from the United States[2], and this paper will research if this international aid had any effects on news media in both the recipient country and its wartime enemy. However, further evaluations may include military education, humanitarian support, or otherwise.

Before discussing the effects of international aid during a war, it is important to note the factors that influence international aid allocation. This variable is endogenous with other critical processes during a war, including alliance relationships, territorial control shifts, and the wartime country's own request for aid support (Khoury 2021, 29). Thus, a significant amount of international aid allocations may not be need-based, but in response to a variety of multi-faceted conditions of the war (Khoury 2021, 93). When considering how international aid allocations may influence government news sentiment, the various reasons for the initial aid deliverance may also be affecting governmental responses and sentiment indirectly.

---

[2] This figure was summed from each announcement of U.S. aid to Ukraine within the first year from: https://www.defense.gov/Spotlights/Support-for-Ukraine/Timeline/

Firstly, aid may be significantly impactful in affecting the overall sentiments of civilians during wartime, indicating that a simple reaction to international support may increase overall sentiments. Aid is an indicator of governmental commitment to the cause and an alliance, causing civilians to react positively to the otherwise detrimental war (Lyall et. al. 2020, 129). In their paper, Lyall et. al. (2020) analyze a different form of aid - focusing particularly on international financial assistance for unemployment in Afghanistan. Although this is different from the focus of this thesis as it does not speak to military or financial aid, the article does focus on the general civilian responses to foreign intervention during a crisis.

The article shows, via implicit bias testing, that if a country receives an international aid allocation, regardless of how positively or negatively the aid - which in this case is not for military action - actually affects the intended source, civilians will view it significantly more positively (Lyall et. al. 2020, 129). Additionally, these positive views are not long-term, and in effect, oftentimes are negated by more negative sentiments shortly afterward (Lyall et. al. 2020, 135). Thus, international aid for local communities must be carefully portrayed, being paralleled between humanitarian and military aid, to not overcompensate for conflict failures while also showcasing international alliances being made which may be a difficult balance for governments and news outlets.

International aid is also invaluable since it is oftentimes in demand and a necessity during crucial points in the war. This indicates that international aid has a severe impact as it is delivered to the points where it is 'most needed', allowing forces to tactically adapt from a point of weakness to strength almost instantaneously (Khoury 2021, 90). For example, at the start of the Russia-Ukraine war, there was an unprecedented media frenzy and international aid

deliverance to support Ukraine, quickly responding to the requests of the nation (Gersamia et. al. 2024, 40). Furthermore, aid allocation is oftentimes location-specific upon its deliverance, meaning that local politicians and communities can address up-front issues they are experiencing to best allocate the funds (Lyall et. al. 2020, 129). Thus, in previous conflicts, the effect of aid allocations would have a positive effect on news media sentiment within local communities, building the sense that politicians and the country have the strength to address conflict issues that are essential to the survival of a nation (Robinson et. al. 2016, 59).

International aid delivery also has significant effects on the wartime country's government and the international community's perception of the war. Firstly, the country delivering the international aid likely has some motivation to assist with the war, reasoning that political values, trade guarantees, or otherwise the strength of the alliance between the two nations signify a need for a country to deliver aid (Khoury 2021, 36). Additionally, the international community may help direct a wartime country via restrictions upon the aid deliverances, hoping to orient the recipient country in a direction that aligns with the donor nation's goals (Khoury 2021, 19). The delivery of international aid, hence, is significant from a global perspective as it speaks to the future of a wartime country, signifying the alliances and institutions that will be set up in order to receive, repay, or otherwise support the international aid the country receives.

Thus, the international allocation of aid during a conflict has significant implications for news media publications and overall government sentiment toward a war. By creating the portrayal of international alliances and long-term support, international aid convinces the population to keep morale high, even if only for the short-term or if the aid is not essential to

war-time resolutions overall. With the variable of international aid during wartime having been discussed, the next section will discuss the other crucial variable in this thesis - the role of media during wartime.

Role of Media in Wartime

The media's importance during war periods can be deciphered as both an influence over public perception and an example of governmental control during an international conflict such as the Russia-Ukraine war. Thus, this subsection of the literature review will analyze how media is utilized and its significance during wartime. For example, governments can employ news outlets to turn into, essentially, propaganda 'machines' to maintain popular opinion and sentiment over their populations as death rates and timelines grow (Robinson et. al. 2005, 955).

Take, for example, the Ukrainian narrative, and consider a case study of the Korean and Vietnam wars by Segura and Gartner (2021). A limitation of this literature is that it refers to media usage and bias several decades ago when information was not as accessible as it is today. However, if Segura and Gartner (2021) recognized these results during conflicts that were 'media heavy' at their extremes, this thesis may arguably extrapolate the information to the media-heavy war between Russia and Ukraine today.

For example, their research reveals that when an international conflict is occurring, negative news media is likely to have a direct correlation, almost mimicking, the casualties a country is incurring (Segura and Gartner 2021, 161). Thus, since the majority of the war is occurring on Ukrainian territory, news media in Ukraine are more likely to share the consequences of the war on local populations, writing a negative narrative for their populations.

Additionally, Segura and Gartner (2021) recognize that news media outlets try to make the gravity of the conflict easily understandable to readers, becoming more likely to show images of funerals, graves, and caskets (Segura and Gartner 2021, 170). Therefore, a conclusion may be drawn that the Ukrainian news media would rely heavily on negative news media to garner negative association with the Russian troops and invasion, rallying support against a common enemy.

Now, considering news sentiment overall during a war, there are several particular patterns that leaders will employ to increase morale across the country, such as, for example, speaking 'directly' to citizens via fireside chats or addresses (Coatney 2013, 70). In the research design and data collection sections of this thesis, there are several data points from fireside chats from both President Zelenskiy and Putin, recognizing the active application of this literature. This direct communication allows for leadership to gain affection from the lower and middle classes (Coatney 2013, 66), who are oftentimes on the receiving end of the brunt of the war. Thus, governmental and news responses are directed to maintain public opinion, ensuring that soldiers and workers do not feel forgotten about during the war and understand the gravity of what they are fighting for. This attempt at maintaining public opinion will be connected to international aid through the two main variables in the methodology section, researching whether this active intention from leadership may have correlation to other international efforts to support either side during a war, specifically the Russia-Ukraine war.

Negative, or even positive, news media coverage may also be particularly aligned with governmental influences, as during war times, both government and media sources try to enhance relations between the two to depict the 'proper' narrative (McCallum and Putnis 2008,

30). Governments of both the invader and defender nations increase news censorship within the country, but the censorship is oftentimes complicity done by news outlets, utilizing their compliance as a "bargaining chip" with the governments (McCallum and Putnis 2008, 24). Thus, governmental media controls during wartime may rely on negative news to rally support, but it is not unknown for news media to be positive as well to retain the everyday life of civilians during a war.

In contrast, other scholars suggest there may be another reason for increased media negativity during times of international crisis: the rally around the flag phenomenon. For example, Groeling and Baum (2008) argue that, even in times of war, news media outlets ultimately maintain control of the negative and positive biases they publish (Groeling and Baum 2008, 1068). Although this literature may be limited as it does study the case of the U.S., journalists internationally would arguably also be incentivized to publish articles that garner the most public attention and readers, meaning similar trends, based on citizen demand, may be extrapolated for the Russia-Ukraine case.

For example, Groeling and Baum (2008) find that criticism in news media does increase during high-salience rally events (Groeling and Baum 2008, 1075). However, when there is a risk to the media coverage - defined as an internal loss by Groeling and Baum (2008) - there is evidence of a decline in criticism of media coverage, although this evidence is relatively inconsistent and insignificant (Groeling and Baum 2008, 1075). Supporting literature indicates that the cynicism and negativity oftentimes found in news media is not at the fault of the government or outlets, but of the demands and attentiveness negative news has on readers (Soroka and McAdams 2015, 15). Thus, the rally around the flag phenomenon may indicate that

news media coverage is not determined by government influences but rather by what citizens desire unless it is to the detriment of the country.

When discussing dissent during the war and how news outlets are meant to respond to citizens' wavering support for the war and perceived lack of patriotism, there is little room for public misunderstanding of the severity of war, and thus, dissent arguably cannot be allowed. In conjunction with the rally around the flag phenomenon and Murray et. al. (2008)'s work, media coverage and sources may attempt to align their perspectives with the government based on strategic government, elite, and citizen interest, ultimately limiting the access civilians have to outside ideology (Murray et. al. 2008, 9, Groeling and Baum 2008, 1067).

When anti-governmental, anti-war, or otherwise, any news that may not be in favor of the country's ideology is published, government responses may be to filter the information with more positive news sentiment to dilute the effectiveness of such protesters (Robinson et. al. 2016, 132). Thus, in the case of the Russia-Ukraine case, if there is the possibility of anti-Ukrainian narratives being spread, then positive news media may be more valuable than a negative narrative. This is also the case for Russian news media, which may further employ positive news media to mitigate the strong Western international dissent on Russian actions and invasion.

Finally, the contribution of news media during wartime on an international stage is crucial to global understandings of an event, revealing more apparent international alliances and influences as 'hero' and 'villain' narratives are told. In general, local media, such as media in the U.S., is more likely to describe an international story if it has to do with conflict and casualties (Segura and Gartner 2021, 161), indicating that control over these narratives will play an

influence over international responses. This also makes the narrative of the story significantly stronger, engaging the community to believe that the event is more significant since international attention is being garnered (Segura and Gartner 2021, 161), allowing sentiment to play a significant role as well.

In conclusion, several media precedents have been set during wartime whereby media outlets collude with governmental narratives to employ widespread civilian support. Public morale must maintain a high level to ensure soldiers and families are not left completely dissuaded from the war. Media responses may include negative sentiments to paint a common enemy, but overall, governments and media will engage positive sentiments to dilute the effect of any narratives that do not depict the country's fight in the best circumstances.

Impacts of Media on Civilians

The fourth section of this literature review will focus on media impacts on civilians - the sway and significance that outlets and governments may require due to the criticality of news sentiment on public opinion. This research project argues that, with the severe effects on civilians during non-war times, the effects of news media during war times will continue to be prevalent and have significant effects, meaning that if a factor, such as international aid, could directly affect or correlate to the news media, then it is value to study that factor.

Beginning with the everyday consumption of media, when a community will be significantly affected, positively or negatively, by an event or decision, news media will allow these 'voices' to dominate the narrative, but even more so when the event is in conflict - physical, legal, or emotional (Pimentel da Silva et. al. 2021, 5). Thus, when there is a conflict

such as war, news media may shift to prioritize those who are most impacted by the war, creating a strongly negative narrative. Additionally, civilians tend to have a more significant reaction towards negative news, and recent journalism has turned to portray more negative and sensational perspectives (Soroka and McAdams 2015, 3). In this thesis, for example, it would be likely for the general bias of news articles to be negative due to the higher interactions citizens have with the negative news.

This widespread sharing of information has both positive and negative implications for society. In regards to positive news sentiment, there is a contagious effect of positive and altruistic behaviors, resulting in a domino effect of positive influences regardless of whether the altruistic action was directly performed on the individual simply by reading or feeling empowered by the action onto someone else (VanderWeele and Brooks, 2023 447). VanderWeele and Brooks (2023) particularly refer to aggregating evidence about the 'contagious' nature of positive effects, suggesting there is a linkage between a positive act and subsequent positive acts (VanderWeele and Brooks 2023, 447).

The opposite is true for negative news sentiments, which spread negative perceptions and behaviors across groups regardless of whether it was a direct or indirect indiscretion (VanderWeele and Brooks 2023, 447). Additionally, negative news sentiments are more likely to have long-lasting effects on citizens, impacting perceptions and biases more severely (Soroka and McAdams 2015, 14). Negative news sentiments are also more likely to be shared widely amongst community members, specifically on social media (Nazari et. al. 2022, 1), as citizens believe they have a stronger connection to the information, and hence, a duty to amplify the information. Thus, it is arguable that simply the perception of overtly positive or negative news

may cause a chain reaction amongst community members, relating and sharing the information, and inciting further productive or adverse behavior. Ukrainian and Russian media may try to utilize this chain reaction by exaggerating positive and negative sentiments, rallying the citizens via artificially created perceptions.

Finally, the severe effects of fraudulent news media on the everyday lives of civilians have been recorded, especially in rallying or dissuading the support of the population. In relation to the discussion of agenda-setting earlier in this literature review, governments and media outlets may direct the attention of citizens toward topics or opinions that most fit the narrative of the elites (Pimental da Silva et. al. 2021, 1). Additionally, these institutions may utilize fake news - incorrect news purposefully being published to sway public opinion - which is powerful in altering the public's opinions on true events that are occurring, allowing an opponent or disagreer to change the narrative overall (Nazari et. al. 2022, 3). Regardless of the extreme nature of fake news, or even 'accurate' news, civilians are more likely to trust the sources as long as the outlet has a consistent narrative and perspective they utilize (Bryanov et. al. 2023, 1), which is arguably extremely easy for both governments and news outlets of wartime countries.

In a case study that particularly referenced Russian, Ukrainian, and Kazakhstani news and fraudulent information detection, researchers found that the strongest factor influencing citizens' perceived credibility is the narrative of the article (Bryanov et. al. 2023, 134). Bryanov et. al. (2023) particularly contrasted the perceptions of a dominant news narrative from a foreign nation to a plethora of various narratives across various nations, and the researchers found that this dominant narrative significantly ($p<0.01$) affected the credibility rating of the outlet amongst readers and not the media's adherence to the facts of a situation (Bryanov et. al. 2023, 127).

Additionally, when there is conflict or tension between countries, civilians are significantly more susceptible to negative misinformation about the opposing nation and are less susceptible to positive misinformation about the opposition (Bryanov et. al. 2023, 134). These fraudulent news results directly relate to this thesis because, in many cases, severely biased news media may utilize misinformation to impact civilian perceptions, and these civilians are in fact more likely to believe the biased news and misinformation if it is in favor of their previous beliefs. Thus, even when the overall population is reading positively or negatively sentimental news, they must also be hyper-cautious of fraudulent news, which creates too heavy of a burn on an average citizen to decipher what information they are ingesting.

In conclusion, the impact of news media on civilian life may be directly related to the positive and negative sentiments related to the articles, especially as consumption and access to news and social media sites increase. Many civilians consume and rely on news media on a regular basis, and during severe times, such as war, the effects and consumption may become heightened.

Impacts of Government Media

The final section of this literature review will discuss the implications of government media in particular. This research paper utilizes the news section published specifically by the Ukrainian and Russian governments for the analysis of the impact of international aid, and thus, this section will analyze previous literature regarding the general impacts of government media. This is valuable because, if government media did not have a significant impact on civilians and other factors, then the research correlating aid and government media would be rather irrelevant.

However, with the various implications of government media having tangible effects, by factoring in the influence of international aid, there can be a discussion of the indirect effects of aid on larger groups and across borders.

Firstly, the government media may curate information to increase the perception of trust and credibility between citizens and their government. When governments utilize, for example, social media to share general information, then public opinion is generally more positive and increases the perceptions of trust between civilians and the government (Porumbescu 2016, 1310). However, notably, when governments utilize online resources such as a government website to share detailed information regarding an event, civilians' perceptions of trust decrease (Porumbescu 2016, 1310).

This difference in perception of trust may be due to the access to more detailed information allowing for a more in-depth evaluation of the content (Porumbescu 2016, 1309). When citizens actively take time to research government websites about detailed events, they can evaluate the actions and responses their government took in the event. Therefore, in this research that specifically focuses on government websites, the information may opt to be rather vague, and thus, more neutrally sentimented in order to avoid degrading perceptions of trust.

An additional note is that awareness and media literacy do impact civilian response to government media. For example, greater knowledge within an area, such as being established within academia, or general awareness of the media industry as a whole negatively impacts a citizen's perceptions of trust within government media (Wang et. al. 2022, 1). This would indicate that the more educated the population, the less trusting they are of the government, especially when the exposure and education are related to media bias and sentiment.

A specific consequence of government media, regardless of the platform, is the ability to regulate information dissemination and the general public discourse regarding any information. Media, specifically within the government, may strategically withhold or release information. This is particularly true when there are problematic events or messages, that the government may decide to acutely regulate in order to maintain general civilian mood and perception (Liu 2019, 328). Thus, when there is a significantly distressing event occurring, such as a war, then the government may even more closely regulate public emotion. When additional factors, such as the impacts of an authoritarian regime, are considered, then it may be reasonable to assume that even further regulation of information may occur.

In relation to the dissemination of information, the government may further, more acutely, regulate civilian perceptions based on civilian identity. Government media, for example, can target certain population groups, such as based on ethnicity, and varying social spheres, such as based on economic status, accurately maintain significant population support (Liu 2019, 329). This is regulated using an article's "timing, intensity, and tone" (Liu 2019, 328). Even individuals with high media literacy and education may not be able to regulate their perceptions and emotions when government media wisely utilizes these resources, oftentimes also falling subject to misperceptions when exposed to particularly strong intensity or diversity of government information (Liu 2019, 328). This is valuable because there are clear indicators and tools that government media will utilize to develop its narratives. Thus, even though education can help surface identification, it cannot fully protect citizens from media bias and information control. However, being able to identify certain consistencies among the government media may cause citizens to be more aware of these strategies.

Finally, within this section of the literature, there will be a discussion of government media's ability to engage and effectively communicate with its citizens. Although perception, trust, and emotions may be regulated and shifted based on certain factors, the government's information platform is regularly utilized by citizens and news outlets. However, the government's accessibility to citizens does depend on the type of platform they are utilizing, with certain writings, such as on an e-blog, being more commonly referred to than a specific bureau's website (Wang et. al. 2022, 12513).

Additionally, the use of a general government website is significantly less effective in communication effectiveness than government accessibility on social media platforms (Porumbescu 2016, 1325). Thus, this may be a limitation within this research project since social media platforms are not being studied. However, the general acknowledgment of a general government website being readily accessible and utilized by citizens does increase the reliability of the sources.

In conclusion, government media has multifaceted impacts on civilians and various effectiveness in regard to its content. Government media can curate trust and emotions to generally impact public perception and sympathy. Thus, with the importance of international aid, news media during wartime, news sentiment amongst civilians, and government media having been established within this literature review, the following research design section will outline an experiment to correlate news media, bias, and international aid to determine whether there is a tangible relationship between the variables.

Theory and Hypothesis

  This research will analyze the correlation between international aid and sentiment in government news media in Russia and Ukraine. Building on the previous research discussed in the literature review, I will now present my theory and hypotheses, and then, in the next section of the thesis, describe the methodology used for the research.

  As previously described, the Russia-Ukraine war is the case study for this project. Consider, for example, that when the war first began, Google searches for the term "Ukraine" internationally increased by 100 points, while between 2016-2021, the term fluctuated between 5-8 points at any point (Ostapenko et. al. 2023, 11). Thus, it is clear that the war was recognized internationally as a significant event.

  The theory for the following hypotheses is based on the notion that government media is correlated to international aid allocations during a time of conflict, particularly the governments of the countries involved in the conflict. Based on the previously discussed literature, this thesis theorizes that the Russian government's media will generally remain positive based on research that suggests civilians generally trust authoritarian regimes' media more strongly than democratic regimes, meaning Russia will try to persuade citizens of the positive impacts of the war and the strength of the nation. Then, in order to mitigate any negative repercussions Russia may face due to its enemy - Ukraine - receiving aid during the war, this thesis argues the news sentiment will become more positively sentimented to overcompensate for any perceived failures or lack of international support.

  Then, the theory of this thesis suggests the Ukrainian government's media will have a general negative sentiment to garner public attention and support. This theory is supported by

research that indicates civilians respond more strongly to articles relating to tragedy and negative events. Then, the thesis theorizes that the Ukrainian government will strategically respond to the aid by trying to show appreciation for the aid and the strength it garnered from the support, hypothesizing a switch from negative sentimented news to positive sentimented news.

Building on the theory and previous research, I expect that there will be a difference between Russian government media responses and Ukrainian government media responses. These hypotheses follow from the literature and a brief qualitative review of Ukrainian and Russian media outlets and government reporting that initially inspired this research project[3]. Based on the premises underlying this work, Russian government media of the war will be primarily positively sentimented in regards to government actions, frontline movement, and otherwise, country-wide success, in order to reflect continuously maintain morale for its citizens. Since Russia is arguably an authoritarian regime, it must manipulate the key ideas and narratives for its citizens to maintain this power. This leads to my first hypothesis:

Hypothesis 1: After an announcement of international aid from the United States to Ukraine is made, Russian government news about the war will become more positively sentimented.

This would be due to trying to overcompensate for the international and military strength that Ukraine would exhibit at that time.

My expectation about the Ukrainian government media sentiment is that it will likely be negative prior to the allocation of aid, portraying the civilian losses, infrastructural catastrophes, and otherwise, wartime difficulties. As discussed in the literature review, negatively sentimented

---

[3] The inspiration behind this thesis included personal readings of different narratives between Russian and Ukrainian news outlets, and thus it inspired the question of whether there was a different sentiment between the two

news media garners significantly more attention from civilians than more positively sentimented media, and thus, the Ukrainian government may try to utilize this negative sentiment to its advantage. This leads to my next hypothesis:

Hypothesis 2: After the allocation of aid is announced, the Ukrainian government news sentiment will be more positively sentimented.

 The goal here would be to showcase that the aid is not going to waste and is having 'effects' on the country's wartime position. Although this would, hypothetically, remove media attention from the war in Ukraine since positive news media is not as attention-grabbing, it may be to the benefit of the Ukrainian frontline and government as they try to make advancements and would not want criticism of their military decisions and movements during an already high-stress period. The expectations have been presented in Table 1 for clearer interpretation.

Table 1: Table of Hypotheses

	Prior to Aid Announcement	**Post Aid Announcement**
Russian Government Media	Positive Sentiment	More Positive Sentiment
Ukrainian Government Media	Negative Sentiment	Positive Sentiment

There is the potential that there is no correlation - that government media sentiment in Ukraine and Russia is independent of U.S. aid announcements. This alternative would indicate

that the governmental responses in this particular war do not necessarily relate to the

international stance and its gains or losses. Instead, it could be that a country is more heavily

prioritizing internal maintenance of civilian support, and whether it be through maintaining a

positive narrative to show the country's military strength or a negative narrative to realize the

reason to keep fighting in the war, the media and government's outputs are unrelated to aid or

international influence.

Empirical Approach

In this empirical approach, I will outline the process of selection and compilation of the articles for this analysis. Additionally, this section will elaborate on the variables and the predicted correlations between the independent and dependent variables. The intention of the empirical approach is to carefully and systematically assess how the sentiment of the two government's articles will shift and correlate to other factors over time, captured through the utilization of the Lexicoder Sentiment Dictionary and statistical analysis.

Article Selection

My data come from two news websites - one from Russia (titled "The Russian Government") and one from Ukraine (titled "The Official Website of the President of Ukraine"). For each of the countries, the website is a government website that publishes government-approved news. Thus, the Russian news site is the news section of the official Russian Government's website, and the Ukrainian news site is the official website of the Ukrainian President, which has a news section with government-approved postings[4]. These websites were chosen because, firstly, the research question targets governmental responses which are most clearly depicted from the highest form of the government's online presence. Additionally, the government news will likely reach a vast majority of the population, regardless of any personal views or accessibility, and thus have a significant national and international readership.

---

[4] The Russian Government's news section may be found here: http://government.ru/en/news/.
The Ukrainian President's news sections may be found here: https://www.president.gov.ua/en/news/all

An early concern of this methodology was the issue of translation, and whether the sentiment of a news article would be maintained if translated between languages. Both the Russian government's website and the Ukrainian President's website have automatically translated all resources and articles into English. Thus, if there are negative impacts due to translation errors or loss of connotations, it is likely equally impacted across all the news articles, and although it may increase or lower the sentiment analysis, it would do so consistently.

The units in this research design are articles from the above websites since the start of the war in Ukraine - February 24, 2022 - until one year has passed - February 24, 2023. These articles are contextualized in relation to each international aid announcement by the U.S. The U.S. Department of Defense has aggregated and timelined each announcement of aid delivery to Ukraine[5], and this methodology follows this timeline for each announcement, totaling 37 occurrences. During this first year of the war, there was a significant amount of aid deliverances from the U.S., allowing for an overall encompassing study with a significant amount of data points.

All articles utilized in the data are collected from 3 days prior to an announcement of aid, the day of the announcement, and 3 days afterward to try to identify the change over time because of international aid. It would be unreasonable to extend this date range any further since there would likely be less correlation to the sentiment of the news media significantly prior to or after the aid delivery since, as described in the literature review, news media moves at a rapid pace to grasp audience attention. Additionally, the articles were not limited in any regard, meaning any international, domestic, economic, war-related, non-war-related, and otherwise

---

[5] The Department of Defense's support for Ukraine timeline may be found here:
https://www.defense.gov/Spotlights/Support-for-Ukraine/Timeline/

articles were included within the analysis. This decision was made because of the interest in studying the general government media sentiment, regardless of the topic of the news. Further research may opt to focus solely on government media related to the war, domestic news, or others to find more specific correlations. Finally, the collection of the articles was completed by hand using each nation's described website and putting the text into an Excel spreadsheet.

The selected cases come from the news websites described above in Russia and Ukraine and include any and all articles from those sources since the start of the war on February 24, 2022, per the allocation dates, also described above. This is significant because previous articles will not be incorporated into the data, as true media warfare and allocation of aid began when the invasion began. Although the U.S. supported Ukraine by trying to delay the invasion via discussions or providing imagery of Russian military positions to Ukraine, this support is not equivalent to an international announcement of aid since it is not widely publicized, and thus, is not open to significant public perception and analysis. Thus, this research proposal focuses solely on outward responses.

The article selection process, as described above, did yield a strong disparity of total articles between the Russian government's news site and the Ukrainian government's news site, totaling 261 articles and 1,264 articles respectively. This is a strong disparity that limited my results, but due to the time and labor limitations of this thesis, the originally set parameters of the article selection process were kept intact.

Operationalization and Measurement

<u>Dependent Variable: Sentiment</u>

After identifying and collecting the articles, the sentiment within the articles is calculated by using the Lexicoder Sentiment Dictionary (LSD). The Lexicoder Sentiment Dictionary was created by Young and Soroka in 2012 in order to analyze various text sentiments, including more discrete connotations in political text (Young and Soroka 2012, 1). The dictionary was created by expanding on other standard sentiment dictionaries and tested in Young and Soroka's *Political Communication* 2012, and then it became publicly available to all researchers. In order to test and validate the Dictionary, Young and Soroka compared the dictionary to human-coded sentiment analysis, ensuring that there was consistency between the dictionary and what individuals understood as the sentiment, specifically within political news coverage (Young and Soroka 2012, 221). Additionally, researchers continue to elaborate upon the usages and implementations of the Lexicoder Sentiment Dictionary with applications using machine learning techniques for further sentiment analysis (Albaugh 2014, 16).

The dictionary contains 2,858 "negative" sentiment words and 1,709 "positive" sentiment words, and it has been used in prior research work (Patronella 2021, Atteveldt et. al. 2021, O'Donnell et. al. 2021). For example, when running a sentiment analysis on an arguably neutral sentence "The book is on the table", the Lexicoder Sentiment Dictionary provided the following results: six neutral, zero positive, and zero negative words. However, when I input a slightly negatively sentimented sentence such as "I feel exhausted after such a long day", it identifies the one negative word in the sentence - exhausted. Additionally, if the sentence is even more

extremely negatively sentimented, such as "That argument destroyed me—I feel hopeless and completely alone", it indicates that there are 3 negatively connotated words, and thus, the sentence has a more negative sentiment, as would be expected from a qualitative read of the sentences. The code, written in Python, to generate the quantity of positive, negative, and neutral text per each article utilizing the Lexicoder Sentiment Dictionary has been included in Appendix A.

Additionally, the thesis will include a 'check' afterward to see if a hand-coding of an article generates a similar sentiment as the dictionary would define it to be. If, after reading an article, there is a disagreement with the sentiment assigned by the Lexicoder Sentiment Dictionary, that will be a limitation that must be considered within the results. I will choose, at random, an article from each of the 36 date ranges included in this study from both the Russian and Ukrainian government's media and by hand read through and determine the net sentiment score of the article.

The dependent variable in this thesis is the sentiment within Russian and Ukrainian news media articles within the first year of the war. The sentiment will be measured by identifying the date of each aid allocation from the U.S. to Ukraine and taking all articles from three days prior, the date of the announcement, and three days afterward.

There is a concern with converting a potentially ambiguous idea - news media sentiment - into a quantitative figure via the Lexicoder Sentiment Dictionary. However, this is not inherently detrimental to the research design since, as further described earlier, the Lexicoder Sentiment Dictionary is a widely recognized and accepted tool for media sentiment perception, and it will instead make the comparison of media sentiment more reliable for the results of this

thesis. Although it is possible for the Lexicoder Sentiment Dictionary to inaccurately report the sentiment, since there is a consistent measurement amongst all the articles inputted into the data set, this risk is mitigated.

<u>Independent Variable</u>

The independent variable in this research design is the announcement of aid from the United States to Ukraine, as memorialized by the U.S. Department of Defense's website. When coding and preparing the data, I term the announcement of aid "Treatment." Treatment was coded as a 0 if an article was published prior to a U.S. allocation of aid and a 1 if it was after. Additionally, an article published on the day of the announcement of aid was encoded as a 0 on Treatment. This decision was made because, firstly, there is at least a seven-hour time difference between the U.S. and Ukraine, and more when traveling east or to Russia. This would indicate that if the U.S. announced an aid delivery in the middle of the day, the Ukrainian and Russian governments would likely not be able to respond to it immediately within that same day. Additionally, this takes into consideration that the government may try to strategically plan its response, which may take additional time, or otherwise, there may be a delay in the announcement affecting the news.

This thesis then will include control variables for the time from the start of the war and the quantity of aid in the allocation (in USD). The first control - the time from the start of the war - is measured in days from the first day of the invasion, February 24, 2022. This variable is meant to control for any variation of sentiment that the government news may have due to the evolving nature of the conflict, especially since initial shock and reactions may become mitigated

as the war becomes 'regular' for civilians and foreigners. Additionally, the control from the start

of the war may account for international economic and diplomatic factors. As the domestic and

international communities respond to the financial crisis and other cross-border disputes, the

government media within Russia and Ukraine may need to respond as well, meaning the news

media will adjust to these events over time.

The second control variable - the quantity of aid allocation in USD - is meant to account

for more severe responses due to higher or lower allocations. The Russian and Ukrainian

government's media may respond more or less strongly if an aid allocation is inconsistently high

or low. Thus, by controlling for this quantity variation, the potential fluctuations are accounted

for and made more consistent on the USD baseline.

Methodology

To consider my hypotheses, I will use the ordinary least squares (OLS) regression to

determine if there is a correlation between the "treatment" - articles prior to and post an aid

announcement from the U.S. - and the dependent variable - the sentiment within the articles,

measured specifically through the net sentiment score of the text. I will also rely on multiple

linear regression which will include the previously described dependent and independent

variables alongside my controls - the time passed from the start of the war in days and the

quantity of aid announced to Ukraine from the U.S. in USD.

The largest limitation of this methodology is that it does not provide a justification for the

determination of a causal relationship between the two variables - only a correlation. The

methodology does strongly control and limit confounding variables to ensure a correlation, as will be further distinguished via statistical analysis of significance. Thus, after proceeding with the outlined methodology, this thesis will conclude the strength of the correlation relationship between the independent and dependent variables. The next portion of this thesis will thus display the results of using this methodology, synthesize the information and statistical analysis, and relate it to the hypotheses described above.

Results

Descriptive Analysis

In order to elaborate on the distribution of positive, negative, and neutral sentiments of the articles, the following four graphs have been included below depicting quarterly chart distributions of article sentiment from the Russian government website:
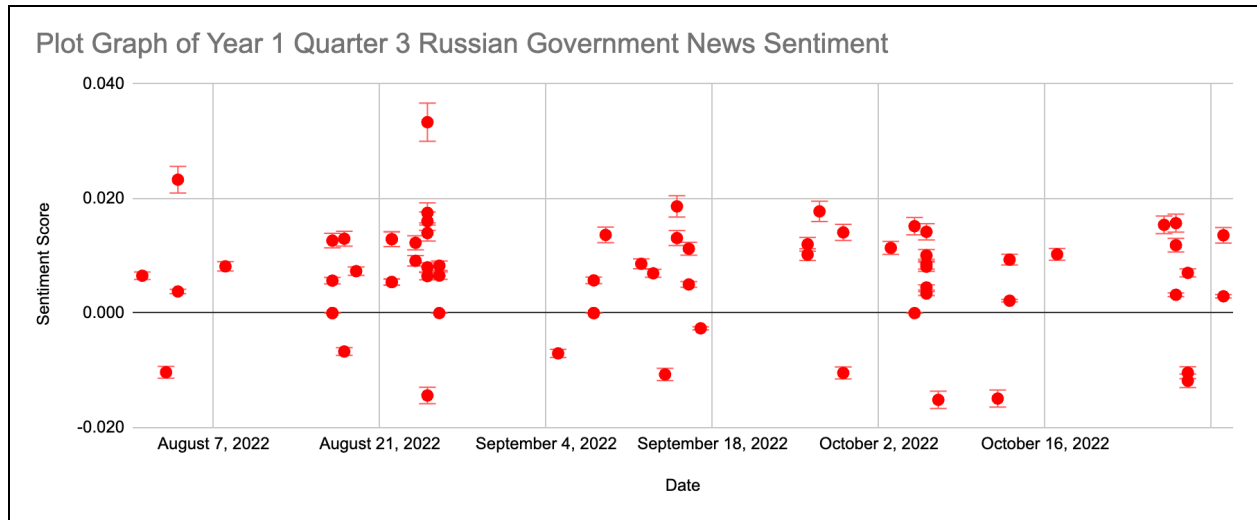
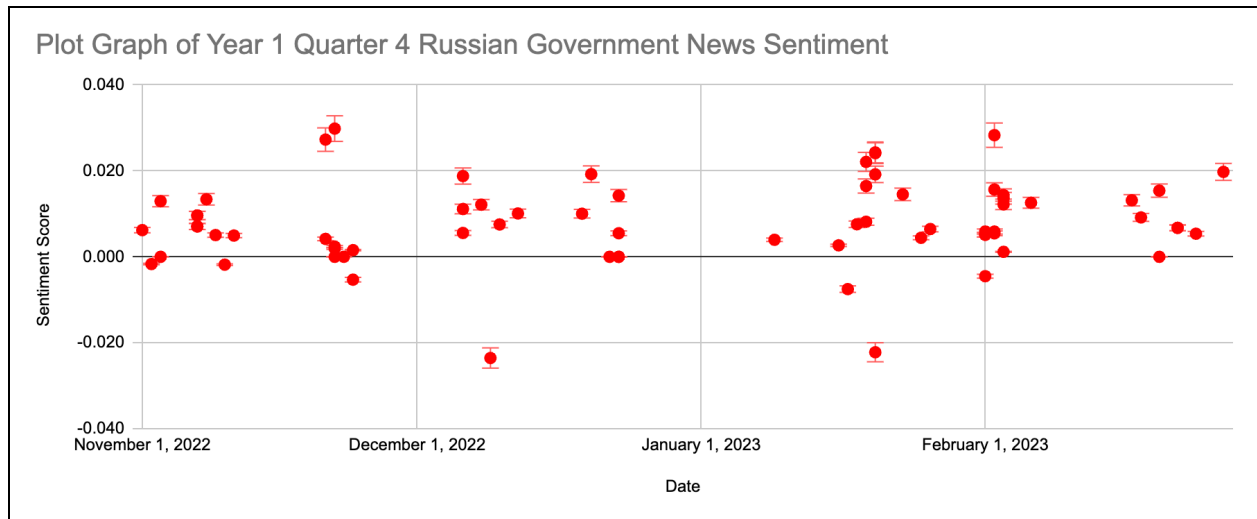**Graph 1: Year 1 Quarter 1 Russian Government News Sentiment**
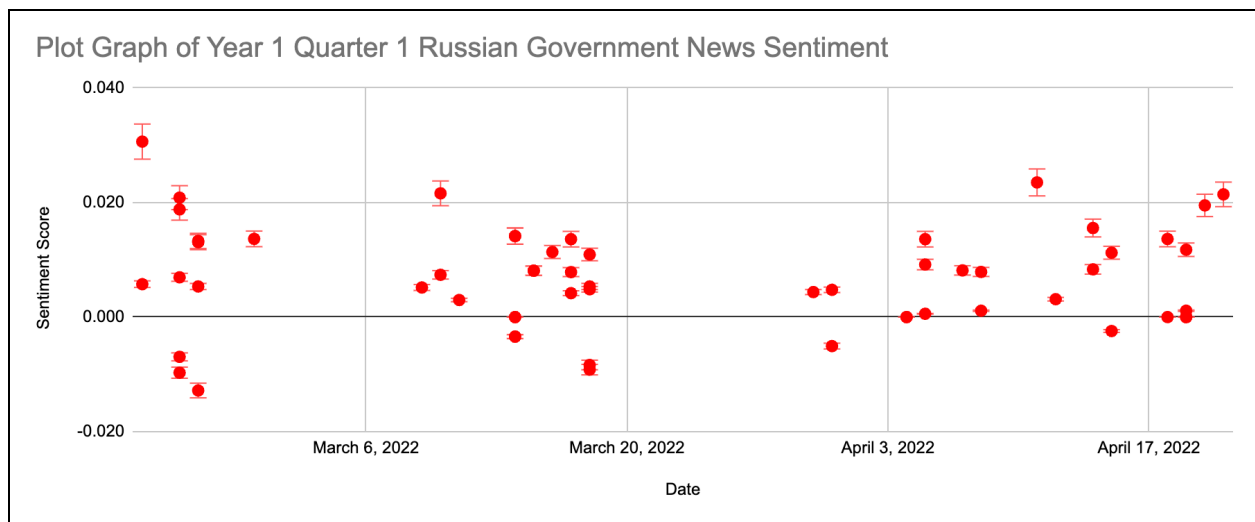
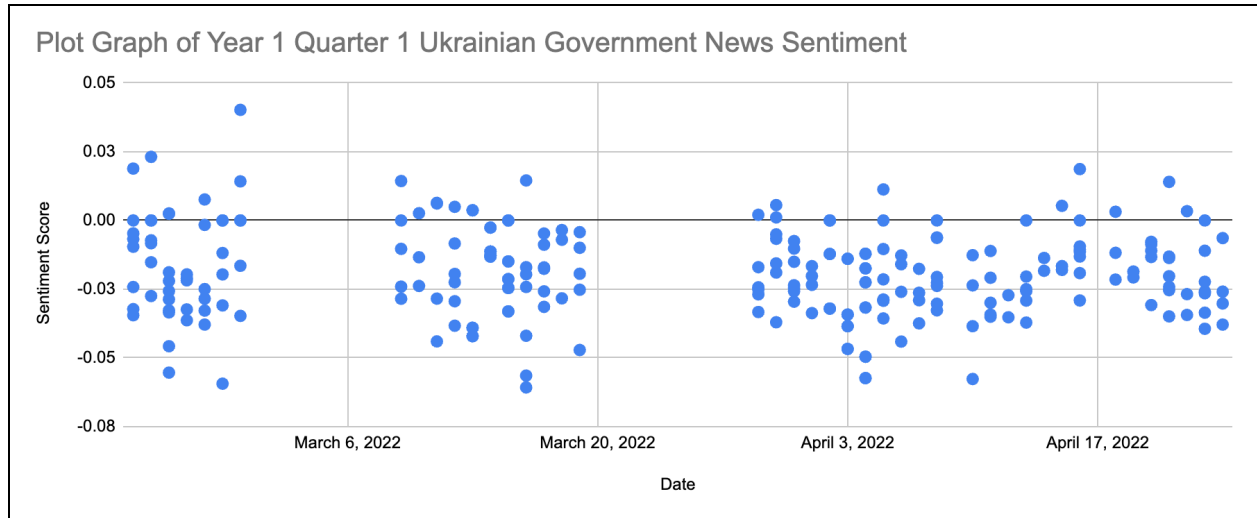**Graph 2: Year 1 Quarter 2 Russian Government News Sentiment**
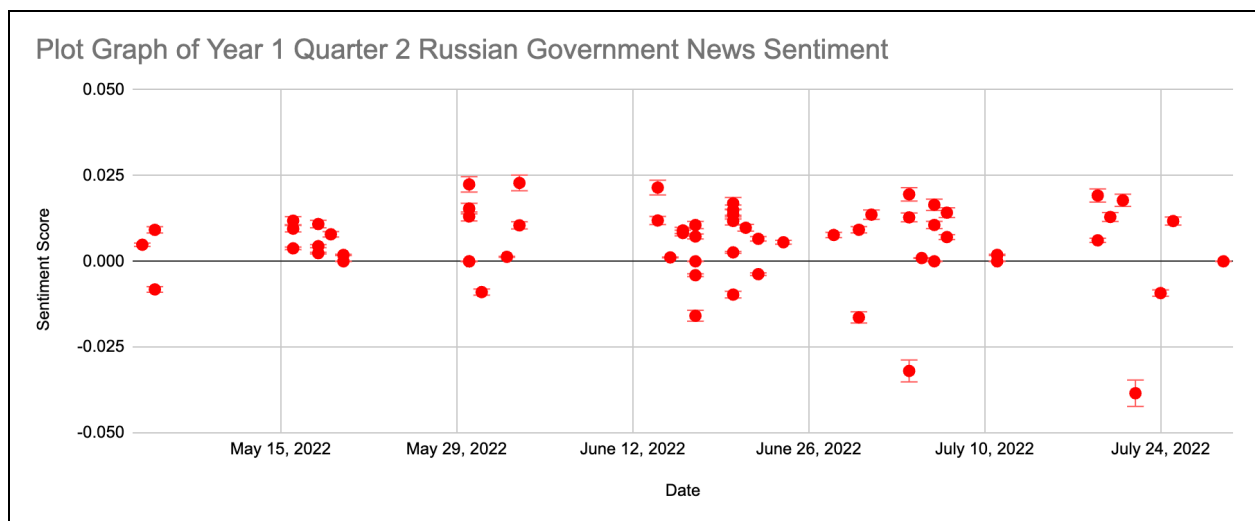
Graph 3: Year 1 Quarter 3 Russian Government News Sentiment

Graph 4: Year 1 Quarter 4 Russian Government News Sentiment

Additionally, four additional graphs below show the distribution of article sentiment, by quarter, of the Ukrainian President's website:

Graph 5: Year 1 Quarter 1 Ukrainian Government News Sentiment

Plot Graph of Year 1 Quarter 1 Ukrainian Government News Sentiment

Graph 6: Year 1 Quarter 2 Ukrainian Government News Sentiment

Plot Graph of Year 1 Quarter 2 Ukrainian Government News Sentiment
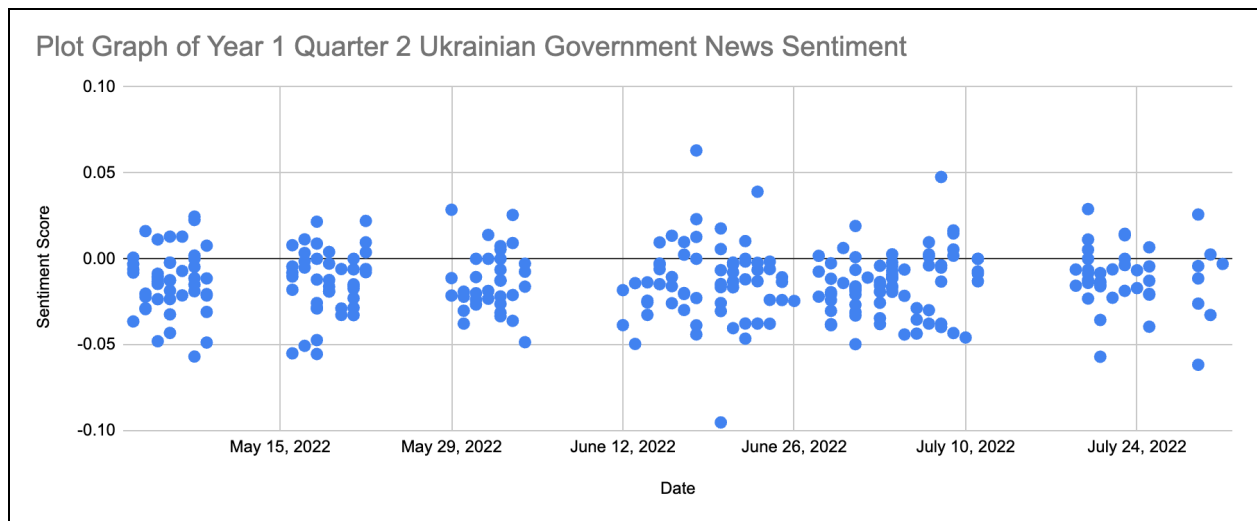
Graph 7: Year 1 Quarter 3 Ukrainian Government News Sentiment
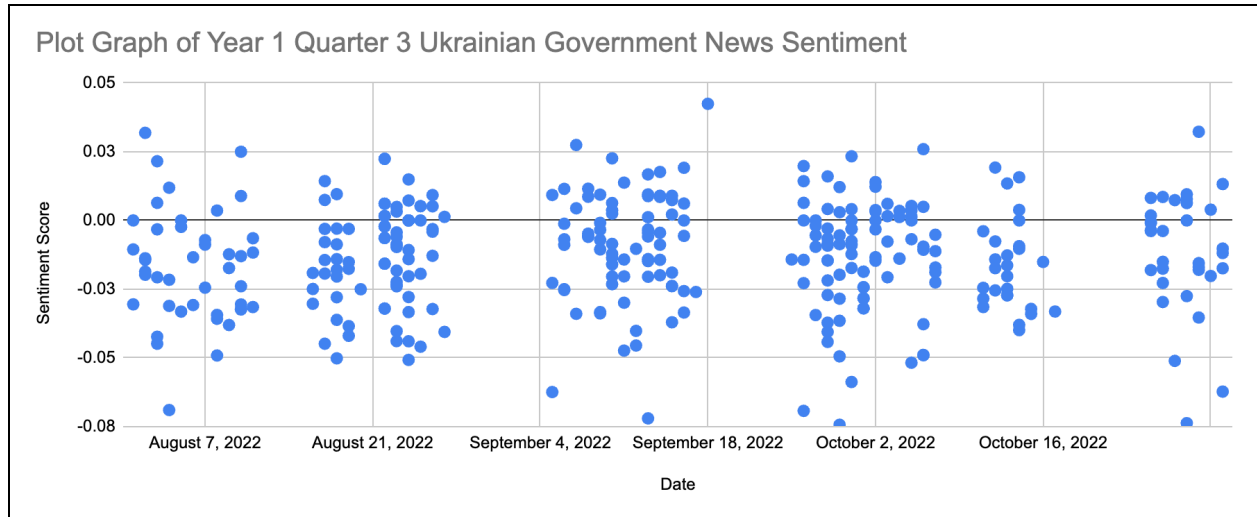
Graph 8: Year 1 Quarter 4 Ukrainian Government News Sentiment
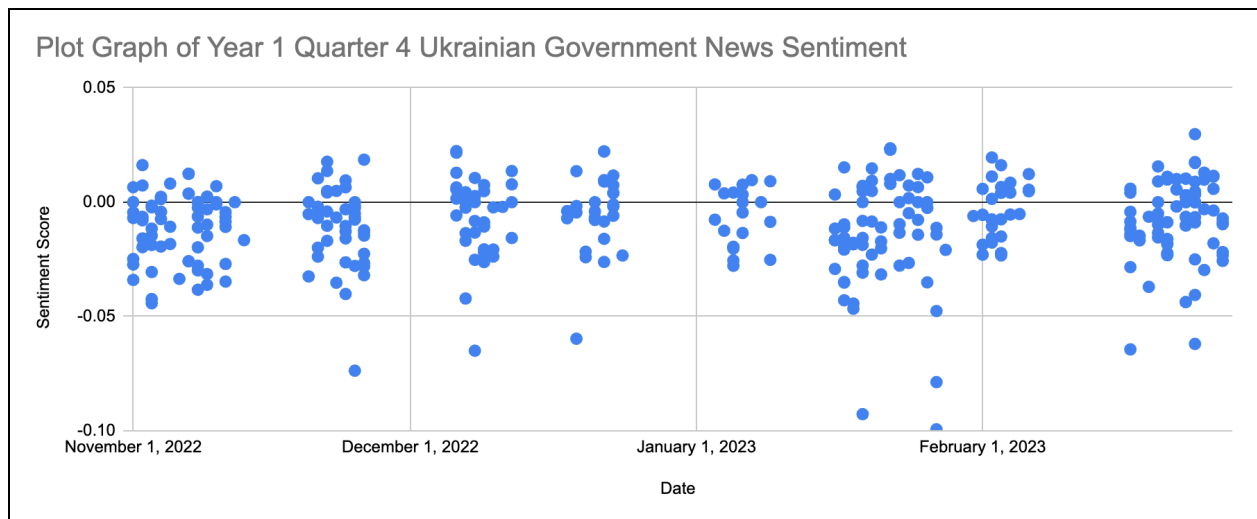
In regards to the Russian media charts, the most notable inferences regarding the data are

that they are generally positively sentimented. However, one general observation I made

regarding the charts is that, when the media is negatively sentimented, it is more severely

sentimented, whereas, although the media is more consistently positively sentimented, it is at a lower degree of positive sentiment.

In regards to the Ukrainian media charts, visual observation of the charts indicate that there seems to generally be consistency among the government sentiments that relate a negative connotation to most articles, sometimes varying a slightly positively sentimented article within the otherwise more dominant negative connotations. Additionally, I would argue that there are more instances of negatively sentimented extremes than there are of positively sentimented extremes. There are several instances where the negative sentiment surpasses 0.05, but only once did the positive sentiment surpass 0.05 percentage points. Even so, when it did, it was at approximately 0.06 or 0.07, meanwhile negative sentiment, at its highest, reached 0.10. This is quite a drastic and strong direction of the sentiment.

Hypotheses

Once all the articles were gathered and run through the Lexicoder Sentiment Dictionary to determine the overall sentiment, I calculated the net sentiment score. In total, there were 261 articles from the Russian government's website that met the criteria described in the methodology section, and 1,264 articles from the Ukrainian President's website that met the criteria.

This is a large disparity in the total articles from each website, which may impact the significance of the results. The methodology for gathering articles from both websites was the same, which indicates that the disparity may be explained by a difference of emphasis on

government media between the Russian and Ukrainian governments. The Ukrainian

government's media, particularly that of the President of Ukraine, may wish to emphasize a more

'direct' relationship between the president and Ukrainian citizens, thus producing more

communication and updates regarding the war to build trust and maintain support. The Russian

government may not be as focused on its media production due to general control, as an

authoritarian regime, of the public news sources. Thus, there are fewer outlets and international

media that produce a different narrative than that which the Russian government supports, so the

government does not feel as strong of a need to output updates and media information.

After gathering the articles from both websites, I converted each sentiment into a score

using the following formula:

Average Sentiment Score= (Positive Word Count - Negative Word Count) / Total Word Count

This provided me with the average sentiment score of each of the articles. Then, in order

to better understand the data, I found the average sentiment score of all articles for both the

Russian government website and the Ukrainian President's website based on whether it was prior

to a U.S. announcement of aid or afterward. Although neither of the websites is a traditional

media source, both websites do serve as official government communication channels for

domestic and foreign updates, making them useful comparisons for the purposes of this thesis.

The results of the average sentiment score of the articles are:

Table 2: Average Sentiment Values in Decimal Form

	Average Article Sentiment Prior to Aid Announcement	Average Article Sentiment Post Aid Announcement
Russian Government Media	0.00691	0.00590
Ukrainian Government Media	-0.01327	-0.01242

My initial expectation was that the Russian government media would have positive sentiment prior to an aid allocation. Table 2 seems to suggest that is the case, as the average Russian government article sentiment is slightly above zero, which would indicate that, although generally fairly neutral, it does generally seem to have a positive sentiment. Also, these sentiment values are in decimal form to better discuss the differences among the data, meaning that the Russian government's media before a U.S. aid announcement to Ukraine had a positive sentiment, on average, of 0.00691.

However, Table 2 suggests that limited evidence for the first hypothesis that Russian government media sentiment becomes more positive after the U.S. announces an aid deliverance to Ukraine. The average article sentiment after an aid announcement on the Russian government's website was 0.00590, which is slightly lower than the initial 0.00691 positive article sentiment. Although this is a small decrease, this still indicates that, on average, the positive sentiment became less strong in Russian government articles and does not align with my hypothesis.

In relation to the Ukrainian government media, I expected that, prior to an aid announcement, the articles would generally have a negative sentiment. With the -0.01327 value, this would seem to be correct. On average, the Ukrainian President's website posted negatively sentimented articles, which was, on average, 0.00636 points more strongly sentimented in terms of net value than the Russian government website.

Finally, I hypothesized that the Ukrainian government articles would convey a positive sentiment, based on the sentiment of all words within a published text, after a U.S. allocation of aid. Interestingly, the Ukrainian government's articles did not become, on average, positively sentimented. However, they were less negative, on average, after a U.S. announcement of aid by approximately 0.00085 points. This indicates that my original fourth hypothesis was incorrect as it did not fully become positively sentimented, although the shift slightly occurred.

As a next step, I ran the OLS and multiple linear regression. The results for the Russian government's website are in Table 3 below:

Table 3: Russian Government's Website Statistical Values, OLS

	Model without Controls			Model with Controls		
	Coefficient (standard error)	Standard Error	P-value	Coefficient (standard error)	Standard Error	P-value
Treatment	-0.0006994	0.0011274	0.536	-0.001042	0.0011257	0.355
Time from Start				3.32e-07	5.64e-06	0.953
Aid Quantity				1.61e-12	6.75e-13	0.018
Constant	0.0151205	0.0006802	0.000	0.0137062	0.000	0.000
N	261			261		

In relation to the Russian government's website response to the treatment group - an aid announcement from the U.S. - there was no statistically significant shift in the positive sentiment - or otherwise, overall sentiment - of the news articles. In the model without controls, the treatment variable had a high p-value of 0.536, indicating that it is not statistically significant.

Additionally, when controlling for the control variables of the days from the start of the war and the quantity of aid to Ukraine from the U.S. in USD, the treatment variable was still insignificant due to a high p-value of 0.355.

Notably, however, similar to the comparison of the average sentiment of articles prior to and after the announcement of U.S. aid to Ukraine, the Russian government's website decreased the positively sentimented text on average. Without any controls, the coefficient of the treatment variable was -0.0006994 and with the controls, the coefficient of the treatment variable was -0.001042. Although, again, this was statistically insignificant, there was still a generally less positive, on average, sentiment in the article text.

When describing the Russian government's website data, there are a few notable characteristics as well. Out of the total of 261 articles that met the criteria for this research from the first year of the war, the word "Ukraine" was only mentioned in 5 articles. Any synonyms that could have been referenced, as well, were not prevalent either, such as "enemy" only appearing in 1 article and "Little Russia" not appearing in any articles. However, references to "war" were made in 104 articles, "military" in 25 articles, and "force" in 42 articles. Although these terms may not have all been in reference to the Russia-Ukraine war, I do think it is notable the starkness between the lack of discussion regarding Ukraine and the involvement of some form of conflict.

Then, the same methodology was used for the Ukrainian President's website's articles in order to determine the statistical significance of the data. The results have been input into a similar table below (Table 4):

Table 4: Ukrainian President's Website Statistical Values, OLS

	Model without Controls			Model with Controls		
	Coefficient (standard error)	Standard Error	P-value	Coefficient (standard error)	Standard Error	P-value
Treatment	0.00110348	0.000527	0.050	0.0011036	0.0005227	0.035
Time from Start				0.0000128	2.64e-06	0.000
Aid Quantity				-4.53e-13	3.48e-13	0.193
Constant	0.0164752	0.0003308	0.000	0.0145418	0.0005459	0.000
N	1,264			1,264		

The Ukrainian President's website yielded some statistically significant results. Even considering the model without controls, the treatment variable had a statistically significant

p-value of exactly 0.050, indicating that after an announcement of aid by the U.S. was made, the Ukrainian government responded with a 0.00110348 point increase in positive text in articles.

Additionally, when controls for the number of days from the start of the war and the quantity of aid announced by the U.S. in USD, the treatment variable becomes even more statistically significant. The p-value decreased to 0.035, and the coefficient remained somewhat similar, increasing by 0.0011036 positive points after the treatment.

Although I did not have a priori predictions, there is an interesting result in regard to the two control variables added within the study. For example, when controlling for the number of days since the start of the war, this happened to have a statistically significant effect on the net positive text within the government news media with a p-value of $p<0.000$ and a positive effect on the articles of 0.00128 points.

The second control variable utilized in this study did not have a statistically significant effect in regard to the Ukrainian President's website's article sentiment. The quantity of aid in the delivery, in USD, had a p-value of 0.193. This indicates that it is not significant and would have had a minuscule effect on the data regardless. The value of the coefficient is practically zero, and its significance would be likely unnoticeable, much less to a reader analyzing the sentiment of the articles. Although this is not the intent of the hypothesis, it is interesting to note the significance and strength of these control variables.

Additionally, similarly to the discussion of the quality of the Russian government's website, there is some analysis of the content in the Ukraine President's website's articles. Out of the 1,264 articles used in total for the analysis, 1,137 - or 89.95% - of the articles contained the term "Russia". Also, the term "aid" was mentioned in 761 articles, "help" in 647 articles, and

"support" in 887 articles. Again, the context of these terms may vary, especially whether or not they are in relation to the Russia-Ukraine war, but it does provide insight into the common themes within many of these articles.

Discussion

The correlation between the independent variable - the treatment of whether an article was published prior to an announcement of aid from the U.S. - and the dependent variable - article sentiment, specifically in regard to positively sentimented text - is significant in the case of the Ukrainian President's website, reinforcing my hypothesis in this case.

When moving from prior to after a U.S. aid announcement, media output by the Ukrainian government does not become fully positively connotated. However, it did become more positively connotated, as represented by the positive coefficient on the statistically significant treatment variable. In fact, there seems to be a relatively large increase in positive sentiment within the media - increasing by approximately 0.11 points when it is in the post-treatment group - after an aid allocation.

When considering the change this would cause in the relative sentiment, if we take the prior average sentiment of Ukrainian government media before an announcement of aid allocation from the U.S., this would be an approximately 0.08-point increase in news sentiment due to international aid. This is a significant shift because news sentiment articles in Ukrainian media are relatively low, being only slightly positively or negatively connotated. Thus, even a

small shift in sentiment could cause significant results in the article connotations and thus vary the public responses and opinions on the topic heavily.

This is relatively aligned with my hypothesis, but my hypothesis assumed it would shift even more significantly to cross the 'barrier' of neutrality. However, it remained generally negative, just to a lesser extent. I would argue that the government news sentiment became less negative in order to continue maintaining attention and care for Ukraine in the war.

As mentioned in the literature review and theory section of the thesis, readers, domestically and abroad, give their attention to media that expresses negative sentiment due to concern and otherwise, care for the subject. Thus, when the Ukrainian government includes media coverage that showcases the negative effects of the war and describes the need for assistance, there is more likely to be a strong reaction amongst readers to support Ukraine in the war. Even when Ukraine receives an aid delivery from the U.S., they may not wish for readers to become disinterested in the war or the government may want to maintain attention on the country and the war for future aid deliveries. This may explain why the news sentiment maintained a generally negative connotation both prior to and after the U.S. announced an aid delivery to Ukraine.

I argue that the Ukrainian government's news became less negative in order to show Ukrainian strength during the war and that the aid delivery was positively affecting the Ukrainian frontline. By delivering aid, the U.S. would likely expect to see tangible improvements on the Ukrainian side of the war, and if the government media did not express these improvements, then the U.S. may not be as certain about future aid deliveries. Thus, the Ukrainian government may have published additional articles that expressed advancements in territories, returning home

prisoners of war, and other successes in the war to show that the financial and military support was having positive effects.

I also claim that the less negative news is meant to have positive effects on the Ukrainian citizens reading the articles. With Ukraine's heavy dependence on U.S. aid, the government may want to showcase the positive effects of it on Ukrainian citizens to show that the war is still supported by the West. It may boost morale to have less negatively sentimented text as civilians continue to live through the war. Although there may be devastations occurring constantly, there could be hope for citizens that a large sum of money or military equipment was given to Ukraine to support its fight, especially by a country as powerful and influential as the United States. This would allow the Ukrainian government to set agendas with narratives of success to ensure citizens do not give up in the fight, especially as morale is a crucial factor in wartime success.

Another interesting aspect of the Ukrainian government's media is the significance of the control variable - the days from the start of the war. Although the variable had a relatively small coefficient value - 0.0000128 points - it had a very high significance in regard to the dependent variable - the net sentiment of positive text. When considering the reasons for this occurring, it may be another tactic that the Ukrainian government is utilizing to boost morale during an increasingly prolonged war.

As more days from the start of the war pass, more citizens may become tired and demoralized from their homes being a battleground, and this may cause them to want to stop fighting the war. Thus, the Ukrainian government may not want to continue pushing as extremely negative narratives on its citizens in order to keep morale high. Thus, when morale is pointedly low, government news may shift to be slightly more positive. This is slight since the government

would not be able to maintain an extremely more positive sentiment within its articles since it does have other priorities it must maintain within the war, but it is significant enough to have a tangible effect on citizens. War fatigue could be a reality amongst citizens, and if the research were expanded to include further years in the war, an interesting note could be to expand on this control variable alongside the government news sentiment in Ukraine.

Additionally, this may also be the case for international attention and care as well. Other nations may tire of supporting a war that does not seem to be improving over time, and this may affect the international support and aid Ukraine receives. Thus, as time passes, in order to provide a generally optimistic viewpoint that Ukraine is succeeding in its everyday fight in the war, and since government news is taken into consideration internationally, the Ukrainian government may push improvements internationally as a means of maintaining support and future aid. If Ukraine is winning the war, then nations will be more likely to assist in its success, rather than if Ukraine is in a long-term and continuous poor state in the war.

In regards to the Russian government's media's relationship with international aid, there was no statistically significant evidence regarding a correlation. When the model was run without any controls, the p-value for the treatment variable was 0.536, indicating the relationship between the dependent and independent variables was not statistically significant. Additionally, when the model was run with control variables - the quantity of aid in USD and the days since the start of the war - the treatment variable was, again, not significant in relationship to the positive text with a p-value of 0.355.

This creates an interesting result for this paper. The government's media that received the aid was significantly impacted by the aid allocation, but the 'enemy' government in the war's

media was not statistically affected by the aid allocation. Future research, in this case, may expand to include aid allocations for Russia's allying countries - such as China and North Korea - to see if the relationship maintains in the vice versa scenario.

I would argue that the opposing nation's government - the Russian government in this case - does not have a significant response to Ukraine receiving aid from the U.S. due to, likely, other major factors that are impacting Russia. The Russian citizens are likely not highly involved in U.S. international affairs, unless highly publicized by the Russian government and media outlets, since, as an authoritarian regime, the Russian government would be filtering and agenda-setting with United States actions.

Thus, the Russian government and media may either not highly publicize the U.S. aid allocations, or they may mitigate the severity or quantity of aid so that the citizens do not react strongly to the aid announcement. Thus, if the government is limiting the access to the aid announcement through the media channels, it would be unnecessary to create more positively or negatively sentimented media since the action that would cause the response is not occurring regardless.

If this is not the case and the Russian government and media do easily express information regarding United States aid to Ukraine, another factor that may be influencing the statistically insignificant correlation between international aid announcements to Ukraine and positive text in Russian government media may be, generally, a lack of regard for U.S. international affairs by Russian citizens. The U.S. education system generally overly emphasizes the severity and importance of American involvement in the everyday lives of citizens abroad,

and this thesis may have used this approach to falsely assume that U.S. aid may cause a reaction in citizens in Russia.

In reality, Russian citizens may be aware of United States aid allocations to Ukraine, but they may consider it irrelevant or insignificant to the cause they are fighting for. It could be possible that Russian citizens believe that the U.S. is on the 'wrong side' of the war. Russians may believe that the U.S. is supporting Nazism in Ukraine and the oppression of Russian citizens on the Eastern fronts of Ukraine, which would put the U.S. as an enemy and oppressor. Thus, when the U.S. does allocate aid, it is not valuable to citizens because the two nations do not share common goals or interests.

For example, it is rare for citizens in the United States to hear, much less have a significant reaction, to financial or military aid announcements unless it directly affects the national security of the U.S. Although, of course, an aid allocation to Ukraine would affect the national security of Russia, this may be irrelevant to the citizens who believe strongly in their cause for the war.

Another factor to consider in the analysis of the insignificance of the U.S. aid allocation in Russian media is that it could be possible that Russia simply does not utilize or require as much international aid as Ukraine in this war. Hence, since Russia is not reliant on international opinion or negotiation to receive military or financial funds, the country does not have to curate its sentiment or content to solicit certain reactions, such as future aid allocations. Instead, Russia is more primarily focused on developing and maintaining citizens' support and morale, which could generally be maintained through positive government sentiment, as exhibited by the on average positively sentimented text.

Finally, the reason that the Russian government may not be significantly responding or reacting to the U.S.'s allocation of aid is due to their prior agenda-setting in reference to propaganda and information control. The Russian government, as an authoritarian regime, may have already implemented a media strategy that carefully considers and responds to national sentiment. Thus, with the strength of outside information control that the government has over its citizens, it would be irrelevant to deviate from this media strategy. Additionally, there may be strong enough propaganda that, even if citizens reacted to U.S. aid to Ukraine, it would be quickly divested into other areas of interest that the government prioritizes to maintain citizen morale.

These reasons could differentiate why the Russian government's media has statistically insignificant sentiment, not considering the allocation of aid to be a necessary influencer or correlator to overt reactions by the government. Ukraine may rely more heavily on international aid, and thus, the government more strongly reacts to these allocations. Meanwhile, the Russian government may favor more internal factors to regulate citizen support and reactions, which would mean the United States aid would be irrelevant to citizens' evaluations of the state of the war.

The results of this thesis, thus, have built upon the previous literature - which highlights the strength of negative media to maintain public attention and sympathy and the decisions authoritarian regimes consider when implementing news media strategies - and expanded the analysis to include the effects of both an international ally and enemy during a time of war. Although insignificant in regards to an enemy's international aid allocation, government news media is statistically significant when it is an ally delivering the aid allocation.

Further research may expand to discuss how Russia would react to its allies, and additionally, if there is a more negative sentiment when international tariffs and sanctions are placed on a country. For example, although Ukraine received a significant amount of financial and military aid throughout the war, nations also supported Ukraine by boycotting Russian gas and other goods, alongside closing businesses within the country - such as McDonalds no longer having any locations in Russia.

Thus, since this is not a form of support for the enemy in the war, but instead, a direct economic attack on the country, would the government respond more significantly to the decisions? It could be the case that since this would more directly affect the Russian citizens, economically, then it may be more diligent for the Russian government and media to address it outright through news sentiments. However, this research paper is limited in its time and resources, and it could not elaborate on these further hypotheses.

In order to ensure there was a general consistency between the LSD dictionary and general sentiment amongst the selected news articles, I completed a hand check of the articles and sentiment. This included picking one article at random from each of the 36 aid allocation date ranges for both the Russian and Ukrainian government news websites, identifying the amount of positive and negative text I found while reading, and comparing my results with that provided by the Lexicoder Sentiment Dictionary code.

To choose a random article, I took the total amount of articles between the date ranges, as input into the Excel spreadsheet, and utilized a random number generator to provide a number. This number would then correspond to the article I chose to sentiment analyze. Then, I would individually read each article and count the number of positive and negative sentiment words I

found. This would then be converted into a net sentiment score - the same process as how the original sentiment scores were calculated.

The results of non-coded sentiment analysis yielded positive results. Out of the 72 total articles, I agreed with the sentiment score on 65 of the articles, indicating that 90.28% of the articles had an accurate net sentiment score. For the remaining 7 articles of which there was a disagreement in sentiment, this was oftentimes due to a failure of the Lexicoder Sentiment Dictionary when using negation articles, such as 'not' or 'no'. Thus, if a sentence says that "No happy people were found.", the Lexicoder Sentiment Dictionary would state that there was one positive sentiment word - "happy" - and thus the sentence had a positive sentiment. However, the negative article "no" would indicate the opposite sentiment, meaning that these articles would improperly generate the net sentiment score.

This is a limitation of the thesis as it may have impacted the general results and correlation, as an approximate 10% on sentiment scores is significant enough to impact the statistical significance. A solution and expansion of future research could include overarchingly utilizing a different sentiment dictionary that accounts for negative articles or cross-examining the results of the Lexicoder Sentiment Dictionary across a variety of dictionaries and hand-coding sentiments.

Conclusion

This thesis examined the effects of announcements of international aid on government news media sentiments, presenting statistically significant results that indicate there is a correlation between the variables. This paper has introduced and provided background information regarding the Russia-Ukraine case, contextualized and analyzed current literature on media and international aid, and discussed the methodological approach used to research the correlation between international aid and government news sentiment. This thesis investigated the extent the announcement of international aid allocations, specifically by the United States, affects government news responses - via news sentiment - in wartime countries. This conclusion will summarize the main findings, discussions, and implications of the relationship between international aid and government news responses.

This research was conducted to understand the relationship between the two variables. Although there has been significant research done on international aid's effects on wartime countries and civilians, alongside media responses and effects on civilians, the relationship between international aid and government media has not been analyzed. This thesis aimed to utilize the previous understandings of international aid and media and provide a correlation between the two, more closely understanding how governments and citizens respond during wartime.

The key findings of this research indicate that when the U.S. announced a financial or military aid allocation to Ukraine, the Ukrainian government media shifted their news sentiment to be less negative. However, the Russian government's media did not significantly respond to U.S. aid allocation to Ukraine. My first expectation of the original state of Russian media being

positive was supported by the average sentiment of Russian government media being generally positive, but there was no statistically significant support for my hypothesis that indicated a more positive shift in the government media.

My expectation regarding the original state of Ukrainian government media was also supported - being, on average, negatively sentimented prior to an aid allocation. My hypothesis, which stated that the government media sentiment would become positive was not supported by the evidence. However, the Ukrainian government's sentiment did become statistically significantly less negative after a U.S. aid allocation

The statistical significance of the relationship between international military or financial support from an ally and the government's media response during wartime indicates that governments may utilize media as a tool during war. This thesis has established that the Russia-Ukraine war is an informational and media war, and it is of note that ally aid could thus be correlated to the use of media in certain directions. The Ukrainian government, in this case, may be utilizing reader attention and sympathy to garner international support during the war, hoping to culminate these reactions into tangible support during the war, such as international aid.

Additionally, the Ukrainian government may be utilizing media sentiment to maintain public morale throughout the war, making the sentiment slightly more positive when the U.S. announces aid in order to establish strength and improvements during the war. War fatigue can be experienced by citizens domestically and allies abroad, so positive news, especially in direct correlation with aid, maybe a form of combatting the fatigue. Thus, a more positive sentiment would allow for some positivity in otherwise negative and devastating circumstances for citizens.

The Russian government's media did not have a statistically significant response to U.S. aid allocation to aid. The main argument within this thesis as to why there was no relationship in this case is, firstly, that the Russian government as an authoritarian regime has already set its agenda in regard to media control. Thus, through information control and general mitigation of the severity of aid deliverance to the opposing nation in the war was irrelevant as it would not have been significant news for civilians to ingest anyway.

Another argument as to why the Russian government's media did not significantly correlate with the U.S. aid allocation is that it was simply not directly in relation to the Russian position in the war, and thus, the Russian government determined there were more significant factors to respond to in regard to their media. For example, responses to China or North Korea - allies of Russia - delivering aid to the nation may have caused a statistically significant response since it was in more direct relation to the country and its citizens. Thus, since the U.S. is an ally of Ukraine, it would generally be irrelevant to Russian media.

It may also be possible that the Russian government, in parallel to the discussion of only responding to actions directly affecting the country, would react through its media sentiment to negative economic implications other countries place on Russia. For example, there may be a negative relationship with the media when the U.S. and other nations place tariffs on Russian goods or when the nations boycott Russian gas. Further research may elaborate on the relationship between a negative international consequence on government media responses in both Russia and Ukraine, but this thesis was limited in its capabilities and specifically focused on positive deliverances.

This conclusion will now also discuss the limitations of the research. In regards to the data and the data collection, there was a limitation in regards to the resources and amount of content that could have been collected for the research project. For example, there were 261 articles collected from the Russian government's website and 1,264 articles collected from the Ukrainian President's website. This is an over 1,000-article difference between Russian and Ukrainian government media, which may have limited the statistical analysis. If possible, then the research may opt to expand on either the criteria for article selection to allow for greater quantities of articles and expansion of the information.

Additionally, an expansion on the timeline of the research may yield further results in regard to correlation, or show an accentuation or diminishing correlation between the variables. Although the model with the control variables did account for the number of days from the start of the war, it could be possible that one year was simply too small of a timeline to fully develop the relationship between the variables. Now continuing onto the fourth year of the war between Russia and Ukraine, there may be more or less emphasis on the necessity of international aid to maintain the battles.

Future research that could significantly elaborate on these relationships and hypotheses would expand beyond government media responses and include general news outlets and social media. This would require a data scraper, which was inaccessible to me during this research, but if possible to aggregate the information through other media platforms, the implications of this research would be significantly expanded. It could discuss whether, in the case of Ukraine, the relationship between government media and aid actually tangibly affects citizens or news outlets. In the case of Russia, it would elaborate as to whether or not the Russian government should be

considering enemy aid deliveries in their media strategies since citizens and outlets are seriously considering and being affected by the international relationship between the U.S. and Ukraine.

The conclusion of this thesis will touch on the implications and recommendations moving forward with this information. The war between Russia and Ukraine continues to devastate civilians, and other media-heavy wars, such as the Israel-Palestine conflict, will also be prevalent in the future. Media literacy and acknowledgment of sentiment are valuable when consuming any form of information and media. Although sentiment rarely ever be truly fully neutral, especially when consuming news, citizens may wish to be aware of particularly emotionally strong news meant to instigate a reaction. When this happens during wartime and other major conflicts to garner sympathy, it could redirect civilian attention for positive or negative purposes.

Another implication, in this case, is that international aid is a crucial means of delivering financial or military assistance to a country, but it is also an influential signal to both the fighting country, the aid-delivering country, and other allies of the state of the conflict. It may give civilians hope that their fight is for a larger purpose, or it may show other nations that their efforts are not in vain. Current U.S. politicians continue to debate aid deliveries to Ukraine in this war, and this thesis shows that there are larger implications for the Ukrainian civilians other than ammunition, tanks, and financial deliveries to the front lines.

Bibliography

Akhrarkhodjaeva, Nozima. "The Instrumentalisation of Mass Media in Electoral Authoritarian Regimes: Evidence from Russia's Presidential Election Campaigns of 2000 and 2008." 1st ed., vol. 164, Stuttgart: Ibidem Press, 2017.

Albaugh, Quinn, et al. "Comparing and combining machine learning and dictionary-based approaches to topic coding." *Annual Comparative Agendas Project (CAP) Conference, Konstanz, Germany*. 2014.

Allan, Duncan, et al. Myths and Misconceptions in the Debate on Russia. *Chatham House*, 2021. https://chathamhouse.org/2021/05/myths-and-misconceptions-debate-russia/myth-12-crimea-was-always-russian.

Atteveldt, Wouter & van der Velden, Mariken & Boukes, Mark. (2021). The Validity of Sentiment Analysis: Comparing Manual Annotation, Crowd-Coding, Dictionary Approaches, and Machine Learning Algorithms. *Communication Methods and Measures*. 15. 1-20. 10.1080/19312458.2020.1869198.

Bøggild, Troels ; Göbel, Sascha ; Lutscher, Philipp ; Nyrup, Jacob. "Standing with Ukraine? How Citizens Trade-off Self-Interest and Principles in Supporting War-Torn International Partners." Research & Politics, vol. 11, no. 2, 2024, https://doi.org/10.1177/20531680241252399.

Bryanov, K., Kliegl, R., Koltsova, O., Miltsov, A., Pashakhin, S., Porshnev, A., … Vziatysheva, V. What Drives Perceptions of Foreign News Coverage Credibility? A Cross-National Experiment Including Kazakhstan, Russia, and Ukraine. *Political Communication*, 40(2), 2023, 115–146. https://doi.org/10.1080/10584609.2023.2172492

Coatney, Caryn. "John Curtin's Forgotten Media Legacy: The Impact of a Wartime Prime

Minister on News Management Techniques, 1941–45." *Labour History (Canberra),* vol.

105, no. 105, Australian Society for the Study of Labour History, 2013, pp. 63–78,

doi:10.5263/labourhistory.105.0063.

"Conflict in Ukraine's Donbas: A Visual Explainer." International Crisis Group, 2022

www.crisisgroup.org/content/conflict-ukraines-donbas-visual-explainer.

"Congressional Budget Justification Department of State, Foreign Operations, and Related

Programs." United States of America Department of State,

www.state.gov/wp-content/uploads/2022/06/FY-2023-Congressional-Budget-Justification

_Final_508comp.pdf.

"Crimea's Strategic Value to Russia." Center for Strategic and International Studies, 18 Mar.

2014, www.csis.org/blogs/post-soviet-post/crimeas-strategic-value-russia.

Gall, C., Chubko, O., & Shapoval, D. 'Our Own Guys Are Shelling Us': How

Russian Propaganda Plagues Ukraine. *The New York Times*, 2023.

https://www.nytimes.com/2023/04/19/world/europe/ukraine-russia-donbas-propaganda.ht

ml

Gersamia, Mariam ; Gigauri, Ekatherine ; Mamasakhlisi, Salome ; Bodokia, Mikheil ; Nakoevi,

Mariam. "Russia's War in Ukraine and Media Solidarity (Case of Georgia)." Athens

Journal of Mass Media and Communications (Online), vol. 10, no. 1, 2024, pp. 39–54,

https://doi.org/10.30958/ajmmc.10-1-3.

Gorin, Nazar. "Soviet Economic Integration or Industrial Colonialism?" Heinrich Boll Stiftung, 1

Sept. 2022, ua.boell.org/en/2022/09/01/soviet-economic-integration-or-industrial-

colonialism.

Groeling, Tim ; Baum, Matthew A. "Crossing the Water's Edge: Elite Rhetoric, Media Coverage, and the Rally-Round-the-Flag Phenomenon." The Journal of Politics, vol. 70, no. 4, New York, USA: Cambridge University Press, 2008, pp. 1065–85, doi:10.1017/S0022381608081061.

Khoury, Rana B. "Aid, Activism, and the Syrian War." *ProQuest Dissertations & Theses*, 2021.

Liu, Ji. "Government, Media, and Citizens: Understanding Engagement with PISA in China (2009-2015)." Oxford Review of Education, vol. 45, no. 3, 2019, pp. 315–32, https://doi.org/10.1080/03054985.2018.1518832.

Lyall, Jason ; Zhou, Yang-Yang ; Imai, Kosuke. "Can Economic Assistance Shape Combatant Support in Wartime? Experimental Evidence from Afghanistan." *The American Political Science Review*, vol. 114, no. 1, Washington: Cambridge University Press, 2020, pp. 126–143, doi:10.1017/S0003055419000698.

Masters, Jonathan. "Ukraine: Conflict at the Crossroads of Europe and Russia." *Council on Foreign Relations*, Council on Foreign Relations, 14 Feb. 2023, www.cfr.org/backgrounder/ukraine-conflict-crossroads-europe-and-russia.

McCallum, Kerry ; Putnis, Peter. "MEDIA MANAGEMENT IN WARTIME: The Impact of Censorship on Press-Government Relations in World War I Australia." *Media History,* vol. 14, no. 1, Taylor & Francis Group, 2008, pp. 17–34, doi:10.1080/13688800701880390.

Müller, Jan. "Mechanisms of trust: News media in democratic and authoritarian regimes." Campus Verlag, 2013.

Murray, Craig ; Parry, Katy ; Robinson, Piers ; Goddard, Peter. "Reporting Dissent in Wartime: British Press, the Anti-War Movement and the 2003 Iraq War." *European Journal of Communication (London),* vol. 23, no. 1, London, England: Sage Publications, 2008, pp. 7–27, doi:10.1177/0267323107085836.

Nazari, Zeinab ; Oruji, Mozhgan ; Jamali, Hamid R. "News Consumption and Behavior of Young Adults and the Issue of Fake News." *Journal of Information Science Theory and Practice,* vol. 10, no. 2, Daejeon: Korea Institute of Science and Technology Information, 2022, pp. 1–16, doi:10.1633/JISTaP.2022.10.2.1.

O'Donnell, Lorraine, et al. La Charte. *La loi 101 et les Québécois d'expression anglaise / The Charter. Bill 101 and English-Speaking Quebec*. Presses de l'Université Laval, 2021. *Project MUSE*, https://muse.jhu.edu/book/85509.

Ostapenko, Liudmyla ; Vorontsova, Anna ; Voronenko, Iryna ; Makarenko, Inna ; Kozmenko, Serhiy. "Coverage of the Russian Armed Aggression against Ukraine in Scientific Works: Bibliometric Analysis." *Journal of International Studies (Kyiv),* vol. 16, no. 3, Szczein: Centre of Sociological Research, 2023, pp. 9–33, doi:10.14254/2071-8330.2023/16-3/1.

Parizek, Michal. "Worldwide Media Visibility of NATO, the European Union, and the United Nations in Connection to the Russia-Ukraine War." Czech Journal of International Relations (On-Line), vol. 58, no. 1, 2023, pp. 15–44, https://doi.org/10.32422/mv-cjir.60.

Patronella, Amy M. "Covering Climate Change: A Sentiment Analysis of Major Newspaper Articles from 2010 - 2020 ." *Inquiries Journal* 13.09 (2021). http://www.inquiriesjournal.com/a?id=1910.

Pimentel da Silva, Gardenio Diogo ; Sherren, Kate ; Parkins, John R. "Using News Coverage and

Community-Based Impact Assessments to Understand and Track Social Effects Using the Perspectives of Affected People and Decisionmakers." *Journal of Environmental Management,* vol. 298, Elsevier Ltd, 2021, pp. 113467–113467, doi:10.1016/j.jenvman.2021.113467.

Porumbescu, Gregory A. "Comparing the Effects of E-Government and Social Media Use on Trust in Government: Evidence from Seoul, South Korea." *Public Management Review*, vol. 18, no. 9, 2016, pp. 1308–34, https://doi.org/10.1080/14719037.2015.1100751.

Robinson, Piers ; Goddard, Peter ; Parry, Katy ; Murray, Craig ; Taylor, Philip M. "Pockets of Resistance: British News Media, War and Theory in the 2003 Invasion of Iraq." 1st ed., Manchester: Manchester University Press, 2016, doi:10.2307/j.ctv18b5mqj.

Robinson, Piers ; Brown, Robin ; Goddard, Peter ; Parry, Katy. "War and Media." *Media, Culture & Society,* vol. 27, no. 6, Thousand Oaks, CA: SAGE Publications, 2005, pp. 951–59, doi:10.1177/0163443705057685.

Segura, Gary M ; Gartner, Scott Sigmund. "Getting Wartime Information from Over-There to Over-Here: News Media and Social Networks." United Kingdom: Cambridge University Press, 2021.

Stebelsky, Ihor; Lubomyr, Hajda A. "The Crisis in Crimea and Eastern Ukraine." *Britannica*, 2025. https://www.britannica.com/place/Ukraine/The-crisis-in-Crimea-and-eastern-Ukraine

Soroka, S., & McAdams, S. News, Politics, and Negativity. Political Communication, 2015, 32(1), 1–22. https://doi.org/10.1080/10584609.2014.881942

VanderWeele, Tyler J. ; Brooks, Arthur C. "A Public Health Approach to Negative News Media:

The 3-to-1 Solution." *American Journal of Health Promotion,* vol. 37, no. 4, Los

 Angeles, CA: SAGE Publications, 2023, pp. 447–49, doi:10.1177/0890117120914227.

Wang, Nan ; Lv, Xinlong ; Sun, Shanwu ; Wang, Qingjun. "Research on the Effect of

 Government Media and Users' Emotional Experience Based on LSTM Deep Neural

 Network." Neural Computing & Applications, vol. 34, no. 15, 2022, pp. 12505–16,

 https://doi.org/10.1007/s00521-021-06567-6.

Young, Lori ; Soroka, Stuart. "Affective News: The Automated Coding of Sentiment in Political

 Texts." Political Communication, vol. 29, no. 2, 2012,

 https://doi.org/10.1080/10584609.2012.671234.

Zasenko, Oleksa, and Ivan Yerofeyev. "Independent Ukraine." *Encyclopædia Britannica*,

 Encyclopædia Britannica, inc., 6 Dec. 2024,

 www.britannica.com/place/Ukraine/Independent-Ukraine.

Appendix A

The Python code used to read the articles and generate the quantity of positive, negative, and neutral text via the Lexicoder Sentiment Dictionary is presented below:

```python
import nltk
from collections import Counter

# Download the NLTK tokenizer (run once)
nltk.download('punkt_tab')

def load_lc3_dictionary(file_path):
    lexicon = {"positive": set(), "negative": set(), "neutral": set()}

    with open(file_path, 'r') as f:
        for line in f:
            # Split the line to get sentiment and word
            parts = line.strip().split('#')
            if len(parts) > 1:
                sentiment = parts[0].split('+')[1]  # Get sentiment type
            else:
                word = line.strip().lower()
                lexicon[sentiment].add(word.lower())

    return lexicon

def classify_tokens(tokens, lexicon):
    sentiment_counts = Counter({"positive": 0, "negative": 0, "neutral": 0})

    for token in tokens:
        token_lower = token.lower()
        # Check for exact matches
        if token_lower in lexicon["positive"]:
```

```python
                sentiment_counts["positive"] += 1
            elif token_lower in lexicon["negative"]:
                sentiment_counts["negative"] += 1
            else:
                # Check for suffix matches (if word ends with any of the
negative words)
                if any(token_lower.startswith(neg_word[:-1]) for neg_word
in lexicon["negative"] if neg_word.endswith('*')):
                    sentiment_counts["negative"] += 1
                else:
                    sentiment_counts["neutral"] += 1

        return sentiment_counts


    def analyze_sentiment(text, lc3_file_path):
        # Load the LC3 dictionary
        lexicon = load_lc3_dictionary(lc3_file_path)

        # Tokenize the input text
        tokens = nltk.word_tokenize(text)

        # Classify tokens based on lexicon
        result = classify_tokens(tokens, lexicon)

        return result


    # Example usage

    text = "That argument destroyed me—I feel hopeless and completely
alone"
    lc3_file_path = "LSD2015.lc3"  # Update with the path to your .lc3
file
    sentiment_counts = analyze_sentiment(text, lc3_file_path)

    # Display the results
    print("Sentiment counts:", sentiment_counts)
```

```python
import pandas as pd

df = pd.read_csv("russgovdata.csv")

print(df.iloc[192])

for i in range(0, len(df)):

    title = df.iloc[i, 2]
    text = df.iloc[i, 3]
    print(df.iloc[i, 1])
    print("Title: ", analyze_sentiment(str(title), lc3_file_path))
    print("Text: ", analyze_sentiment(str(text), lc3_file_path))
```