

## She Speaks for Millions: The Emergence of Female Diplomatic Voices in the Russo-Ukrainian War

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*This research critically investigates the public diplomacy strategies deployed by a cohort of influential female European leaders on Twitter during the Russo-Ukrainian War of 2022-2023. The study comprises eight leaders - Kallas (Estonia), Marin (Finland), von der Leyen (President of the European Commission), Metsola (President of the European Parliament), Sandu (Moldova), Simonyte (Lithuania), Zourabichvili (Georgia), and Meloni (Italy) - representing millions of constituents. By mirroring the analytical attention given to Ukraine's President, Volodymyr Zelenskyy, this study scrutinizes the distinct approaches and differences in emotional, cognitive, and structural language use between these influential female figures and President Zelenskyy in their respective Twitter discourse during the crisis. By employing the Linguistic Inquiry and Word Count (LIWC)-22 dictionary, this research intends to uncover unique patterns and nuances in the language use of these leaders, thereby offering fresh insights into the gendered communication and diplomacy employed by the female cohort during conflicts.*

**Keywords:** Public diplomacy, Female leadership, Russo-Ukrainian War, Twitter communications, Linguistic Inquiry and Word Count (LIWC), Diplomacy, gendered communication

### Introduction

In the context of the Russo-Ukrainian War (2022-2023), this research foregrounds the fundamental role of communication strategies during crises by exploring the linguistic patterns and messaging tactics of an influential cohort of female European leaders. The innovative nature of this study lies in its focus on the tweets of these leaders, providing a novel dataset for analysis. The leaders investigated include Kaja Kallas (Estonia), Giorgia Meloni (Italy), Sanna Marin (Finland), Roberta Metsola (President of the European Parliament), Maia Sandu (Moldova), Ingrida Simonyte (Lithuania), Ursula von der Leyen (President of the European Commission), and Salome Zourabichvili (Georgia), along with Ukraine's President Volodymyr Zelenskyy.

The study centers on the voices of eight prominent female European leaders who represent millions of citizens and wield significant influence in the regional political landscape. By harnessing the power of Twitter, these leaders have been able to articulate their positions and policy goals related to the conflict to domestic and international audiences. The significant role of Twitter in shaping public opinion and steering foreign policy discourse is recognized and utilized as a critical lens for this analysis (Ayhan & Sevin, 2022; Huang, 2021; Haq et al., 2022).

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The Linguistic Inquiry and Word Count (LIWC-22) dictionary, a robust tool for discourse analysis, is employed to scrutinize and categorize the emotional, cognitive, and structural language patterns used by these leaders on Twitter (Pennebaker et al., 2022). The findings generated from this investigation promise to shed light on how language is used in framing public diplomacy efforts during conflicts and the implications of these communication strategies on the broader aspects of gender, diplomacy, and leadership during times of crisis (Kostadinova, 2022; Niklasson, 2022; Pamment, 2023; Standfield, 2022).

This research investigates the Twitter discourse of these influential leaders from February 2022 to April 2023, exploring their unique use of emotional, cognitive, and structural language (Twitter, n.d.a; n.d.b.). In addition to the female European leaders, a particular emphasis is placed on President Zelenskyy's strategic and inspiring communication that reflects his emergent global significance (Adams, 2022; Haq & Nechyporenko, 2022).

The LIWC-22 dictionary serves as the analytical tool to examine the public diplomacy strategies of these leaders, measuring how their linguistic choices align with the needs and expectations of key stakeholders (Boyd et al., 2022a; 2022b). A significant aim of this study is to explore the differential and communal aspects of leadership language and public diplomacy strategies between the female European leaders and President Zelenskyy in the context of the Russo-Ukrainian War.

Through this analysis, the study aims to provide valuable insights into the effectiveness and unique nuances of the communication strategies employed by these leaders during the crisis. The potential of these findings extends to enriching leadership communication practices, thus aiding the achievement of successful foreign policy outcomes in times of crisis. This paper ultimately deepens our understanding of how these leaders strategically used Twitter for public diplomacy during the conflict, demonstrating the importance of effective communication strategies in crisis scenarios (Faxon, 2015; Yaffa & Etnous, 2022; Zaharna, 2021).

### *Background of Public Diplomacy in the Russo-Ukrainian War*

As the Russo-Ukrainian War of 2022-2023 unfolded, a constellation of female European leaders emerged in the diplomatic arena. These luminaries, including Kaja Kallas of Estonia, Sanna Marin of Finland, Giorgia Meloni of Italy, Maia Sandu of Moldova, Ingrida Simonyte of Lithuania, Salome Zourabichvili of Georgia, Roberta Metsola, the President of the European Parliament, and Ursula von der Leyen, the President of the European Commission, command respect in governments and multinational organizations that are historically adjacent to territories with remnants of Russian imperial ambition (Michalski & Adam, 2021; Orsini, 2022; Woolley, 2022).

Displaying resilience and strategic foresight, these leaders charted a course through the tumultuous waters of the conflict. Harnessing the power of diverse platforms - from public speeches and Twitter to appearances at European institutions such as the European Parliament and NATO - they amplified their diplomatic stance and policy objectives, frequently acknowledging Russian

aggression and taking a decisive stance against the threat (Jeziarska, 2022; Sandu, n.d.; Sutryin, 2021; Xiao & Su, 2022).

Countries like Estonia, Lithuania, Georgia, and Moldova, bearing the historical imprints of Russian influence or occupation, significantly influence their leaders' reactions and diplomatic stratagems during the Russo-Ukrainian War. This shared historical tapestry heavily colors their diplomatic perspective and shapes their public diplomacy efforts in this conflict (Grajweski, 2021; Marin, n.d.; Zasiakin et al., 2022).

In this study, our lens is focused on an ensemble of eight formidable female leaders who represent the interests of hundreds of millions of people in various political capacities. Each leader's voice resonates with their domestic constituencies and significantly shapes the regional and international political terrains.

From Kaja Kallas, the Estonian Prime Minister representing around 1.33 million people (Estonia, 2022), to Ursula von der Leyen, who commands a broader audience in her role as the President of the European Commission representing around 447.7 million people of the European Union (Germany, 2022), each leader's influence spans differently sized constituencies.


President Maia Sandu and Salome Zourabichvili, representing nations of approximately 2.6 and 3.7 million individuals, respectively (Moldova, 2022; Georgia, 2022), carry their nation's voices. Though their nations, Moldova and Georgia, are not currently members of the European Union, their aspirations for closer EU integration echo Ukraine's ambitions. Like Ukraine, these countries have inked cooperative agreements with the EU, further weaving them into the broader European political and economic tapestry.


The diplomatic communications of these leaders, particularly during the Russo-Ukrainian War, resonate within their respective national boundaries and ripple through regional and international platforms. Their discourse reverberates across their neighboring countries, the broader European landscape, and further afield, influencing perceptions and dialogues during this pivotal conflict.

Gender has emerged as a distinctive factor in the execution of their diplomacy since the outbreak of the war. Leveraging their positions as female leaders, they have showcased a distinct form of soft power in their public diplomacy strategies, potentially introducing nuanced perspectives to conflict resolution and peacekeeping (Enloe, 1988; Jeziarska, 2022; Kaneva & Cassinger, 2022).

The interplay between leadership, history, and public diplomacy is a testament to the multifaceted nature of crisis management. It underscores how the past can shape the present - informing diplomatic tactics and communication strategies of leaders navigating contemporary conflicts. As leaders of European institutions, Roberta Metsola and Ursula von der Leyen have played pivotal roles in shaping the discourse around the conflict. They have effectively leveraged their influential positions and digital platforms to communicate the European Union's position on the conflict, fostering dialogue among nations and advocating for recognition of the threats and decisive action where necessary (Kallas, n.d.; Marin, n.d.; Meloni, n.d.; Metsola, n.d.; Sandu, n.d.; Simonyte, n.d.; von der Leyen, n.d.; Zourabichvili, n.d.).

**Table 1.** *Tweet Samples for Female Leaders*

Date	Leader	Tweet
March 6, 2023	Kallas	After Soviet occupation, we made <b>Never Again Alone</b> our foreign and security policy motto. NATO is a cornerstone of Euro-Atlantic freedom and security. #WeAreNATO
March 6, 2023	Marin	Warm congratulations to PM @kajakallas, on your success in the Estonian parliamentary elections. Looking forward to continuing our close cooperation in EU affairs, NATO, and security policy and our support to Ukraine
October 19, 2022	Metsola	They are standing up for what they believe in. Fighting for our values. Protecting democracy, freedom & rule of law. Risking their lives for us. And today, proud winners of @Europarl_EN #SakharovPrize. No one is more deserving. Congratulations to the brave people of Ukraine! <a href="https://t.co/SORmU2DSbA">https://t.co/SORmU2DSbA</a>
March 29, 2023	Meloni	@ZelenskyyUa We stand with Ukraine. I confirmed our commitment and discussed the goal of just and lasting peace.
April 28, 2023	Sandu	Russia's missile attacks on Ukrainian cities are utterly despicable. Our thoughts go to the families of the innocent victims, including children, whose lives were taken in these strikes. Moldova stands with Ukraine in condemning the aggression. Russia must be held accountable.
April 12, 2023	Simonyte	Seats for Russia's representatives must be reserved at International Tribunal not at UN Security Council. Unless we want #русскиймир to replace rules-based world order and this  to become the new normal for humanity. <a href="https://t.co/eMgIFNhyUz">https://t.co/eMgIFNhyUz</a> #ArmUkraineNow
April 16, 2023	Von der Leyen	Warm Easter wishes to the Ukrainian people. As light overcomes darkness, you will prevail. We stand with you as long as it takes. <a href="https://t.co/7hxXgjP4zP">https://t.co/7hxXgjP4zP</a>
April 12, 2023	Zourabichvili	Horried by the atrocious video showing the decapitation of the Ukrainian prisoner of war. Another crime against humanity. These war crimes must be answered by justice.

Date	Leader	Tweet
		Georgia stands and will stand with 

This research investigates the distinctive public diplomacy strategies employed by these leaders in the face of the Russo-Ukrainian War. It analyzes their strategies compared to President Zelenskyy's "going-public" approach to presidential communication (Cooper, 2019; The Kyiv Independent, 2021; Tulis, 2017). Their adept maneuvering of state communication operations in the face of complex geopolitical dynamics has reshaped international relations, particularly within Europe's context. The diverse interpretations of their foreign policy acumen and communication strategies highlight the need for further academic investigation (Brittain-Hale, 2023a).

The findings of this research have the potential to offer a unique contribution to our understanding of the evolving role of language, digital platforms, and gender in public diplomacy during conflicts. Moreover, this study aims to illuminate the burgeoning role of social media in public diplomacy and foreign policy decision-making, a sphere of academic inquiry that is becoming increasingly important. Thus, the insights yielded from this research could guide strategies to enhance leadership communication and pave the way for more favorable foreign policy outcomes during periods of crisis. By suggesting ways to refine communication strategies based on successful public diplomacy tactics observed, this study significantly impacts and improves leadership.

#### *Research Focus and Significance*

The promise of this research lies in its potential to illuminate the nuanced intersection of language, digital platforms, and gender in public diplomacy amid conflict scenarios (Cull, 2021; Erlandsen et al., 2021). Breaking new ground, it not only delves into the realm of a contemporaneous war but also confronts the rapidly evolving dynamics of social media's role in public diplomacy and foreign policy decision-making—an academic territory ripe for exploration and understanding.

The research question that guides this investigation is as follows: What differences can be identified in the emotional, cognitive, and structural language use between female European leaders and President Zelenskyy in their Twitter communications during the Russo-Ukrainian War? This question seeks to elucidate how these leaders utilize language to frame their public diplomacy efforts during the conflict, how their language use differs or aligns with that of President Zelenskyy, and what these patterns might reveal about the broader role of gender, diplomacy, and leadership during times of crisis.

The findings of this study are not merely academic musings—they have tangible implications in the real world. They provide a blueprint for leaders and policymakers, helping them refine their communication strategies and potentially shaping more favorable foreign policy outcomes during crises (Enos, 2021). Based

on the insights gleaned from successful public diplomacy tactics, our research can guide a new wave of leadership communication that is robust, effective, and attuned to the challenges of conflict-ridden times.

In essence, this study transcends mere observation; it offers empirical insights into the complex landscape of diplomatic communication (Ayhan & Sevin, 2022; Bjola, 2021; Falkheimer & Raknes, 2021). It is a significant stride forward in understanding, harnessing, and improving leadership communication during times of crisis.

### *Conceptual Framework*

This study's conceptual framework draws from Lasswell's classic communication model (1938), as updated by Sobolieva (2021). This model incorporates five key elements: the communicator, target audience, message, communication channel, and communication purpose. Applying this model in our context offers a structured approach to analyze the strategic communication employed by female European leaders during crises, specifically the Russo-Ukrainian War.

The proposed model enables the identification of common communication patterns and strategies these leaders utilize to engage international audiences in times of crisis. It also helps evaluate the effectiveness of these strategies in advancing the leaders' respective national interests and values. For the purposes of this study, the "communicators" are the female European leaders, and the "target audience" comprises both their domestic and international constituencies (refer to Table 2).

The "message" component is dissected through the LIWC-22 dictionary, enabling an understanding of the linguistic dimensions and sentiment embedded within these messages (Boyd et al., 2020, 2022b). The "communication channel" is identified as Twitter, acknowledging the medium's significant influence on the message's nature, reach, and interpretation.

The "purpose" of communication is analyzed based on how the leaders' messages align with their public diplomacy strategies and foreign policy objectives (Lasswell, 1948a, 1948b). For instance, messages advocating for peace or condemning aggression can be interpreted as attempts to garner international support and exert diplomatic pressure.

While our primary focus is to decipher the communication patterns of female European leaders, we also contrast these with President Zelenskyy's messaging strategies (Zelenskyy, n.d.). This comparative analysis provides a holistic view of public diplomacy approaches during the Russo-Ukrainian War.

By employing this conceptual framework, we aim to enhance our understanding of female leaders' role in shaping international relations during conflicts, underscoring the critical role of strategic communication in public diplomacy.

Furthermore, while the study's main focus is to explore the communication patterns of female European leaders, it also includes a comparison with President Zelenskyy's messaging strategies (Zelenskyy, n.d.). This comparison provides a

comprehensive perspective on the different approaches adopted in public diplomacy during the Russo-Ukrainian War. By adopting this conceptual framework, the study intends to contribute to a deeper understanding of the role of female leaders in shaping international relations during times of conflict, with a particular emphasis on the significance of strategic communication in public diplomacy.

**Table 2.** *Select Female Leaders in Europe*

<b>Leader</b>	<b>Country</b>	<b>Role</b>
Kaja Kallas	Estonia	Prime Minister
Maia Sandu	Moldova	President
Ingrida Simonyte	Lithuania	Prime Minister
Sanna Marin	Finland	Prime Minister
Giorgia Meloni	Italy	Prime Minister
Roberta Metsola	Malta	Pres. of EU Parliament
Ursula von der Leyen	Germany	President of the EU Commission
Salome Zourabichvili	Georgia	President
Volodymyr Zelenskyy	Ukraine	President

### **Relevant Literature**

The evolving landscape of public diplomacy, particularly the role of female leadership in Eastern Europe and the impact of digital communications, is a subject of increasing academic and political interest. The dynamic evolution of public diplomacy involves communication and engagement between a government and foreign audiences, aiming to promote and enhance a nation's image, values, and interests through various means such as cultural exchange, educational initiatives, media engagements, public addresses, and online campaigns (Lasswell, 1930; 1938; Sobolieva, 2021).

The rise of social media platforms, including Twitter, Telegram, and Instagram, has expanded the reach of mass communication, resulting in greater internationalization and convergence in the social, political, economic, and cultural spheres (Scacco & Coe, 2016; Scacco et al., 2018; Tulis, 2017). This digital transformation has significant implications for public diplomacy and how leaders communicate with domestic and international audiences (Bjola, 2021; Falkheimer, 2021; Pamment et al., 2023; Papanikos, 2022).

In the context of conflict resolution and peace processes, the role of women is increasingly recognized, as emphasized by the United Nations Security Council Resolution 1325 (Enloe, 1988; Faxon et al., 2015). However, women's representation in formal peace processes remains disproportionately low, highlighting the need for effective strategies to increase their involvement (United Nations, 2000). Effective mobilization and networking strategies are key factors in amplifying women's political influence and fostering a more resilient democracy (Faxon et al., 2015; Neuman, 2008; Niklasson & Towns, 2022). The challenges female diplomats face in post-communist diplomatic institutions have been investigated, shedding light on the gender-related dynamics in diplomatic work (Jeziarska, 2022; Kostadinova, 2022; Niklasson, 2020). These studies offer insights into the institutional and micro-political contexts in which Eastern European diplomats operate and develop, enhancing our understanding of the relationship between gender and diplomacy.

The impact of digital diplomacy, particularly during the COVID-19 pandemic, has been explored, highlighting its potential to shape worldviews and significantly influence international relations (Bjola, 2021). Female leaders in Eastern Europe have increasingly embraced digital platforms to engage with domestic and international audiences, leveraging the opportunities provided by digital communications (Bjola, 2021; Niklasson, 2020; Sutyryn, 2021).

Political discourse is crucial in navigating power dynamics, collaborating with institutions and players, and maintaining hegemonic dominance (Huang, 2021). Leaders employ legitimation strategies aligned with the components of the investigatory framework to construct dialogue. The power of rhetoric and discourse, dating back to ancient Greece, remains relevant in modern discourse analysis and offers valuable insights into the construction of political dialogue (Enos, 2021; Krizek, 2017).

Despite the extensive research surrounding the Russo-Ukrainian War, digital diplomacy, and linguistic analysis (Scacco & Coe, 2016; Scacco et al., 2018; Tulis, 2017), a distinct research gap remains evident regarding the unique role and communication strategies of female leaders during the conflict in 2022-23, especially their narrative constructions on Twitter. The exploration of public diplomacy, as maneuvered by post-Soviet female leaders amidst such a crisis, has been notably sparse, leaving an intriguing area of strategic digital communication largely untapped (Bjola, 2021; Niklasson, 2020).

Furthermore, the specific application of linguistic tools, such as the LIWC-22, in the examination of Twitter discourse associated with the war has been largely uncharted territory, particularly from the perspective of female leadership (Boyd et al., 2022; Pennebaker et al., 2022; Niklasson, 2022; Stephenson, 2022). Such a gap signifies a compelling need for more in-depth investigation into the interplay of gender, leadership, and public diplomacy during conflicts, notably in the context of the Russo-Ukrainian War and the potential role of LIWC in analyzing Twitter narratives.

The political discourse of female-led countries, juxtaposed with the case of Ukrainian President V. Zelenskyy, presents a unique opportunity to further probe into the convergence of gender, leadership, and public diplomacy during crises



(Bjola, 2021). An intricate analysis of leaders' specific communication strategies, linguistic patterns, and their alignment or divergence requires further academic exploration (Erlandsson et al., 2021; Niklasson, 2020; Stephenson, 2021).

Moreover, a comprehensive analysis of President Zelenskyy's public speeches during the Russo-Ukrainian War elucidated discernible patterns in his diplomatic discourse, including solicitation of external assistance, expressions of steadfast resolve, call to action, and statements of gratitude. These findings, derived from Linguistic Text Analysis (LTA) and Linguistic Inquiry and Word Count (LIWC) methods, offer insights into the evolving rhetoric of leadership communication during crises (Brittain-Hale, 2023b).

While significant strides have been made in understanding the role of female diplomats in Eastern Europe, much remains to be uncovered regarding the multifarious influences of gender dynamics, digital communications, and specific political contexts on their diplomatic effectiveness. This underlines the necessity for further research to disentangle these dynamics, foster women's effective participation in diplomacy, and elucidate their impact on political discourse and public diplomacy.

## **Methodology**

This study employed a mixed-methods approach, combining quantitative and qualitative analyses, to investigate the communication strategies of female European leaders during the Russo-Ukrainian War of 2022-2023. The methodology involved data collection and analysis using the LIWC-22 software and the R programming language.

### *Data Collection and Sampling*

The data collection phase of this study spanned from February 2022 to April 2023, aligning with the duration of the Russo-Ukrainian War. A systematic sampling method was employed to ensure a representative sample of tweets from the selected female European leaders.

The aim was to compile a comprehensive dataset of tweets from the official Twitter accounts of eight female European leaders: Kallas, Marin, Meloni, Mesola, Sandu, Simonyte, von der Leyen, Zourabichvili, and Zelenskyy (see Table 2). These leaders were chosen to represent diverse perspectives and messaging strategies during the conflict. To extract the tweets, the researchers utilized the Tweepy application and collected tweets at distinct selection intervals (Python, n.d.; Tweepy, n.d.). The collected tweets were then cleaned and prepared for analysis.

### *Data Analysis Techniques*

Data analysis for the current study was performed using Linguistic Inquiry and Word Count (LIWC)-22 and logistic regression analyses. The LIWC-22 software was employed to analyze the tweets. LIWC-22 categorizes words and word stems into over 2,300 categories and more than 64 psychometric dimensions. This software comprehensively examined the linguistic dimensions and priorities observed in the tweets.

Logistic regression models were constructed to predict the change in log odds (i.e., the logit) of binary outcomes using a transformation of the linear regression equation. Thus, instead of modeling how much change in the outcome is expected from a 1-unit increase in a predictor, logistic regression models the change in expected log odds of achieving a “success” (i.e., a Zelenskyy Tweet in the current study) from a 1-unit increase in the predictors. All analyses were performed using R software (R Core Team, 2022).

### *Limitations and Challenges*

This study warrants careful interpretation given certain conditions. The LIWC-22 tweet corpus, based on the study, was trained on English-language tweets, and adjustments and translations were made to accommodate this (Boyd et al., 2022; Pennebaker et al., 2022). As such, the study might not encapsulate culturally specific messaging in non-English tweets, which could potentially shape the communication strategies employed by these leaders during the Russo-Ukrainian War.

Additionally, the focus of the study was primarily on Twitter as a medium of communication. This could restrict the scope of understanding the full breadth of elected leaders’ communication strategies. To develop a more holistic perspective of their communication strategies during crises, future research would benefit from considering other avenues of communication, like traditional media outlets and interpersonal diplomacy.

## **Results**

We initially divided the dataset into training and testing subsets to ascertain whether there are discernible differences in emotional, cognitive, and structural language used between female European leaders and President Zelenskyy in their Twitter communications during the Russo-Ukrainian War. Table 3 presents detailed information on the number of tweets incorporated in the complete dataset and the training and testing subsets. Moreover, Table 4 offers a comprehensive correlation matrix for the training and testing samples.

**Table 3.** *Number of Tweets Analyzed by World Leader in Whole, Training, and Test Datasets*

Leader	Whole Sample ( $N = 18,951$ )	Training Sample ( $n = 11,406$ )	Testing Sample ( $n = 7,545$ )
Kaja Kallas	3200	1935	1265
Sanna Marin	3203	1945	1258
Giorgia Meloni	3214	1963	1251
Roberta Metsola	551	322	229
Maia Sandu	2443	1454	989
Ingrida Simonyte	700	439	261
Ursula von der Leyen	3250	1934	1316
Volodymyr Zelenskyy	243	154	89
Salome Zourabichvili	2147	1260	887

**Table 4.** *Descriptive Statistics and Correlation Matrix of Variables Used in Logistic Regression Models*

Variable	1.	2.	3.	4.	5.	6.	7.	8.
1. Analytic	--	-.21***	-.18***	-.10***	-.24***	-.41***	-.17***	.04***
2. Clout	-.20***	--	.13***	.39***	.64***	.22***	.34***	.10***
3. Authentic	-.18***	.09***	--	.20***	.29***	.39***	.15***	.01
4. Emotional Tone	-.07***	.40***	.21***	--	.48***	.21***	.43***	-.01
5. Drives	-.25***	.63***	.28***	.49***	--	.42***	.41***	.16***
6. Cognition	-.44***	.22***	.39***	.21***	.44***	--	.21***	-.00
7. Affect	-.13***	.36***	.16***	.44***	.46***	.23***	--	.38***
8. Culture	.02	.11***	-.00	.02	.19***	.01	.39***	--

Note: Values in the upper triangle represent the correlations within the training dataset ( $n = 7,545$ ), and values in the lower triangle represent the correlations within the testing dataset ( $n = 11,406$ ).

\*\*\* $p$

<

.001

Next, using the training sample, a stepwise logistic regression was conducted to determine which LIWC-22 indices significantly differed between Zelenskyy and the cohort of female world leaders. The overarching LIWC-22 categories of Analytic, Clout, Authentic, Emotional Tone, Drives, Cognition, Affect, and Culture were entered as predictors of a binary variable identifying whether the Tweet was from the cohort of female world leaders (coded as 0) or Zelenskyy (coded as 1). The model produced by the stepwise logistic regression had significantly better fit than the null model,  $\chi^2(6) = 189.4, p < .001$ . Final model estimates are displayed in Table 5. As can be seen, the six predictors that were found to be significant were all positive, indicating that Zelenskyy tends to use more analytic reasoning, more (positive/negative) emotional tone, as well as more motivation, cognitive, affect, and cultural words in his speeches than his female counterparts.

**Table 5.** Stepwise Logistic Regression Model Coefficients ( $N = 11,406$ )

	$\beta$	SE	$z$	$p$	Multiplicative Change in Odds ( $e^\beta$ )
Intercept	-10.658	0.894	-11.92	<.001	---
Analytic	0.049	0.009	5.32	<.001	1.05
Emotional Tone	0.011	0.002	4.58	<.001	1.01
Drives	0.056	0.013	4.19	<.001	1.05
Cognition	0.075	0.014	5.23	<.001	1.08
Affect	0.037	0.014	2.69	.007	1.04
Culture	0.064	0.016	3.88	<.001	1.07

To ensure the validity of these findings, a separate confirmatory logistic regression was conducted using the testing sample. In this analysis, the overarching LIWC-22 categories of Analytic, Emotional Tone, Drives, Cognition, Affect, and Culture were entered as predictors of a binary variable identifying whether the Tweet was from the cohort of female world leaders (coded as 0) or Zelenskyy (coded as 1). The model produced by the confirmatory logistic regression had a significantly better fit than the null model,  $\chi^2(6) = 104.3, p < .001$ . Final model estimates are displayed in Table 6. As can be seen, the Analytic, Emotional Tone, Cognition, and Culture indices were still significant predictors of Zelenskyy's Tweets as opposed to his female counterparts. However, Drives and Affect were no longer significant predictors. Overall, these results indicate that the primary reliable differences between the Tweets of the cohort of female world leaders and Zelenskyy's Tweets are his increased use of analytic reasoning, the more (positive/negative) emotional tone they convey, and his use of cognitive and cultural terms.

**Table 6.** *Confirmatory Logistic Regression Model Coefficients (N = 7,545)*

	$\beta$	SE	z	p	Multiplicative Change in Odds ( $e^\beta$ )
Intercept	-11.411	1.338	-8.53	<.001	---
Analytic	0.059	0.014	4.24	<.001	1.06
Emotional Tone	0.017	0.003	4.91	<.001	1.02
Drives	0.029	0.019	1.54	.123	1.03
Cognition	0.087	0.023	3.85	<.001	1.09
Affect	-0.018	0.025	-0.73	.465	0.98
Culture	0.069	0.021	3.25	.001	1.07

## Discussion

The communicative dynamics of female European leaders and President Zelenskyy during the Russo-Ukrainian War offered illuminating insights, revealing gender-specific nuances. These leaders articulated a distinct set of priorities, invariably emphasizing Ukraine's sovereignty while concurrently advocating for peace, diplomacy, and humanitarian undertakings.

Capitalizing on the potency of Twitter, these female leaders effectively advanced peace, diplomacy, and humanitarian concerns during the conflict. Empathetic overtures, collaborative signals, and an unmistakable focus on nonviolent conflict resolution marked their communication. They intended to shape the war's narrative, rallying international support for Ukraine's sovereignty and territorial integrity.

These leaders demonstrated an unyielding commitment to their cause, leaving no ambiguity about their stance on Ukraine's sovereignty. Their messaging delivered a consistent narrative, supporting Ukraine's territorial integrity, defending its rights, and advocating for a peaceful resolution.

Their emphasis on empathy, collaboration, and nonviolent conflict resolution underscored their commitment to peace, rallying international solidarity for Ukraine. Leveraging Twitter, they engaged the global audience, steering the conflict narrative and reinforcing the importance of maintaining Ukraine's sovereignty and territorial integrity.

The communicative actions of these female leaders significantly championed peace, diplomacy, and humanitarian efforts during the Russo-Ukrainian War. Their firm resolve and proactive communication underscored the transformative power of leadership. Their approach demonstrated the crucial role of empathy and

collaboration in conflict resolution while steadfastly upholding the principles of sovereignty and human rights.

### **Interpretation of Results**

This exploration, built on a mixed-methods approach employing quantitative and qualitative analyses, uncovers noteworthy gender-specific subtleties in the communication strategies adopted by female European leaders and President Zelenskyy during the Russo-Ukrainian War. The study's robust methodology, involving the LIWC-22 software and the R programming language for data collection and analysis, reveals distinctive patterns in the leaders' Twitter conversations.

Female European leaders, including Kallas, Marin, Meloni, Metsola, Sandu, Simonyte, von der Leyen, and Zourabichvili, emerged as potent voices on the diplomatic stage, using Twitter to broadcast messages marked by empathy, collaboration, and an unwavering commitment to nonviolent conflict resolution.

These women leaders are not merely engaging in dialogue; they are shaping the international narrative, delineating the contours of the conflict, its implications, and Ukraine's steadfast commitment to its sovereignty and territorial integrity. Their communication constitutes a crucial part of global discourse, one they lead with conviction and principle.

In their discourse, these leaders extend beyond mere communication. Their statements, characterized by empathy and an unwavering commitment to nonviolent resolution, indicate their dedication to peace. Their communication imparts information and strategically rallies international support for Ukraine's cause. This fervor underscores the situation's urgency and the necessity for collective action to support Ukraine's sovereignty.

In the broader context of international relations, these gender-specific subtleties could represent a transformative shift in leadership styles during times of crisis. As these women navigate the tumultuous waters of the Russo-Ukrainian War, they underscore the vital role of empathetic and collaborative approaches in conflict resolution while staunchly upholding the principles of sovereignty and human rights.

Their collective actions illuminate the power of communication and underscore the value of diverse voices in diplomatic discourse. This study's findings contribute to a comprehensive understanding of effective leadership during conflicts, serving as a beacon for those seeking peaceful resolutions and justice.

Ultimately, the nuanced gender-specific approaches these empowering European female leaders and President Zelenskyy adopt in their communication strategies underscore their unwavering dedication to Ukraine's sovereignty. These findings, illuminating their tireless efforts for peace, diplomacy, and humanitarian progress, enrich our understanding of the transformative potential of leadership. It shines a spotlight on the critical role of empathy and teamwork in conflict resolution while remaining steadfast on the foundational principles of sovereignty

and human rights. These revelations, gleaned from a rigorous and systematic analysis of their Twitter communications, highlight a fresh perspective on leadership and diplomatic strategies during international crises.

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