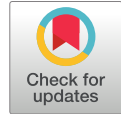# Siyasal: Journal of Political Sciences

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Text-as-Data in International Relations: Current Debates over Text Analysis in International Relations Studies

Melike Ayşe Kocacık Şenol [1] 🆔 ✉

[1] Sabancı University, Foundational Development Directorate, İstanbul, Türkiye

Abstract　　This review explores recent advancements in the study of international relations by focusing on text as a data source. Once a primary resource, texts have regained prominence with the rise of computational tools, offering new analysis opportunities. This review highlights the importance of communication, newspapers, speeches, and even social media in understanding human behavior and interactions among states. These textual sources not only provide insights into leaders' reputation, resolve, and psychological traits but also contribute to detecting policy agendas and studying diplomatic outcomes. Improvements in methods such as big data analysis and machine learning have transformed how scholars build and analyze observational data in international relations. By revisiting key developments and applications, this review provides an overview of how texts are being used across various fields, including gathering event data, understanding foreign-policy agendas, particularly in international organizations, and detecting leader signals through platforms like Twitter. This assessment also addresses the growing significance of integrating these novel methods into future research and highlights the potential of text-based studies to shape the future of the discipline, offering scholars improved tools for analyzing complex global interactions and uncovering patterns in international relations.

Keywords　　Text-as-data · International relations · Event data · NLP · Computational social science

✉　Corresponding author: Melike Ayşe Kocacık Şenol makocacik@sabanciuniv.edu

Text-as-Data in International Relations: Current Debates over Text Analysis in International Relations Studies

A wide range of textual sources has been used by scholars to examine the role and influence of international actors in the Bosnian and Kosovar Wars—two of the most significant conflicts in Europe since the end of the Cold War. In particular, the role of the United States in the Bosnian and Kosovar Wars was critical for understanding how external actors influenced intrastate conflicts. For example, Allen and Vincent (2011) demonstrated that airstrikes during the Kosovo War were effective in pressuring Milošević to concede. While newspapers and reports helped identify the occurrence of airstrikes, newswire services were used to collect Milošević's public statements. These statements were analyzed to measure whether Milošević was defiant or conciliatory, providing insights into whether he was influenced by international pressure.

While the study by Allen and Vincent (2011) focused on Serbia's reactions during the Kosovo War with U.S.'s tangible actions, Kocacık Şenol (2025) examined how statements by U.S. presidents during the Kosovo War conveyed more resolved signals than the Bosnian War. In this context, U.S. leader statements are used to demonstrate how public rhetoric can shift based on reputation-building needs. These studies explored the role of external actors in the Bosnian and Kosovo Wars and used textual sources with various techniques to extract relevant information.

Among the vast literature on the external effects in the Bosnian and Kosovo War, leadership traits were also analyzed for key figures such as Tony Blair, Bill Clinton (Spahiu, 2011), and Slobodan Milošević (Schafer and Walker, 2006). The examination of their psychological profiles, which is measured through their statements, provides a deeper understanding of how individual-level traits shape conflict dynamics. Thus, explaining Serbian aggression—and the broader processes surrounding the Bosnia and Kosovo wars —requires attention to both system-level and mid-level theoretical perspectives as well as different texts as data sources and methods.

Based on these illustrative cases from the Bosnian and Kosovar Wars, it is evident that texts are critical in explaining international interactions. This paper contributes to this body of research by examining how textual sources—such as speeches, official statements, and diplomatic communications—serve as valuable forms of empirical data on international relations. This underscores the importance of connecting theoretical debates with observational approaches. Empirical validation is essential for assessing the plausibility of competing theories and for systematically identifying the patterns and consequences of state behavior. The growing emphasis on empirical validation has led to an increase in data-driven studies that rely on observational data, which can take various forms depending on the research question. This paper focuses in particular on how textual sources have been employed in IR research, with special attention to recent methodological innovations that enable the extraction and analysis of diverse information from texts. Textual data have become increasingly central in recent years, thanks to both their availability and the advancement of computational techniques for analyzing them.

How has observational data, particularly in which texts are used, been used in international relations? King (1989) highlighted the importance of linking theory to empirical validation. As King indicates, "most theories in the social sciences attempt to explain underlying continuous processes," yet we "observe only finite numbers of discrete events" (King, 1989, 123). For this reason, identifying and collecting data on events is one of the central approaches to international relations field. Events like wars, battles, military alliances,

diplomatic exchanges, threats, and economic sanctions offer valuable insights into how states interact over time. Counting these events—and analyzing the conditions under which they occur—helps us build a more detailed picture of international dynamics (King 1989; King and Lowe, 2003; Schrodt, 1995) and therefore enables us to focus on system-level theories.

However, simply identifying events only tells us what happened and not why. To identify the causal mechanisms behind these outcomes, researchers need to look closer—at individual leaders and domestic and decision-making processes, which relate to foreign policy making and decisions. This perspective has led some scholars to focus on the "black box" of state behavior to better understand how international interactions unfold (Hudson, 1995; Kaarbo, 2015). The incorporation of domestic and decision-making factors widens the scope of system-level IR theories and provides an additional level of understanding of international politics. While mid-level theories offer complementary and in-depth evaluations of international interactions, the use of texts, communications, and speeches is critical for creating observational data for mid-level analysis.

The first foreign policy aspect is the rhetoric of states in different international organizations. The statements and positions of states in international organizations constitute a specific area of analysis that focuses on the foreign policies presented in different organizations. This group of work is significant in elaborating on how countries reflect their international agendas and helps us understand whether states offer similar or different approaches. Pioneering with the United Nations, many studies have explored how countries introduce their policies and conduct cross-sectional comparisons. This comparison is critical for evaluating the current international system and provides insight into the subject matters on which countries are aligning—or not.

Leadership-based analysis is also important to focus on. A plethora of studies has focused on leaders' statements to assess the signals they send. Texts are very useful data sources to measure the conveyed level of information and the extent to which the statements show resolve. The content of statements and improved methods that can assess and measure a large group of statements collectively provide an important strength in evaluating signals and thus the role of leaders in decision-making and international interactions. While the content of texts is critical to illustrate the conveyed signals and assess whether leader statements matter in international politics, they are also valuable for analyzing leaders' psychological traits. Leadership trait analysis and operational code analysis, in this respect, are tools that will be explained and introduced as methods that incorporate texts as primary sources for analyzing the leader's role in international interactions.

This review will finally introduce social media as a form of diplomatic tool, as well as a reflection of foreign policies among the public. The data from social media are currently shaping the literature because of the vast amount of information that is being collected using new methods. While social media is perceived as a new diplomatic zone, it is also critical to understand its reflection and the extent to which certain foreign policies are discussed and disseminated most widely. Thus, this new strand in the literature—particularly related to foreign policymaking and the role of the public—is a critical part of this review.

The examples discussed above demonstrate diverse ways in which textual sources have been incorporated to study international interactions. Building on these cases, the following literature review explores how scholars have applied textual analysis in different areas of international relations. This section highlights key approaches, common themes, and methodological developments that have shaped this growing

field. By reviewing these contributions, this study aims to provide a clearer understanding of how texts function as both data and evidence in the study of global politics.

Extracting Events from News: Texts to be Used for Data Mining

Identifying and counting international interactions is critical for validating system-level international relations theories. To assess the reasons for war or explain why democratic countries do not fight each other, scholars must offer empirical assessments to provide suitable illustrations and evidence, which are built on observed cases. Henceforth, being able to gather data on certain events, such as wars, diplomatic interactions, alliances, and agreements, is critical for theory evaluation.

In particular, gathering data on international interactions, which includes all different types of interactions between states, will help scholars evaluate the probability of cooperation or war between states. Event data in international relations is one of the most important forms of datasets, aiming to classify international actions as events. Accordingly, this dataset form does not focus on only one type of event like war or conflict, but attempts to identify "flow of action and response between countries" (McClelland, 1978, p. 1). McClelland (1978) from the University of California, as the principal investigator of the World Event/Interaction Survey (WEIS), is a pioneering project established to gather international interactions. The aim of the dataset was to predict the future events of international actors based on the assumption that states are consistent and will act the same way under similar circumstances. Because of this policy-oriented project, using the New York Times as the primary source, an event dataset was created for the years 1966–1978. The author classified the events under 22 categories and formed a dictionary, which is a set of verbs that indicates either of the categories. This work was not only significant for the data collected; however, it also implied how textual information can be transformed into relevant and significant information for the discipline.

Azar (1980) established another event data called The Conflict and Peace Databank (COPDAB). According to Azar (1980):

> Events (or descriptors of the activities of international actors) contain useful information which permit a student of foreign policy to use events singularly or in the aggregate to study foreign policy outputs; and a student of international systems uses events singularly or in the aggregate to study patterns, structures, and transformation. (p. 145)

The events as the outputs of foreign policy are retrieved through different sources, which is a distinguishing element from WEIS, which only utilizes the New York Times as a source. These two datasets, which aim to collect international interactions and record them as data points, however, reveal different results. Based on this difference, Vincent (1987) compares these two event datasets and concludes that differences in sources for the data generation directed these datasets to have different emphasis in different regions and thus be over- or underrepresenting the events in certain regions. A plethora of scholars' effort to improve existing event datasets. Some scholars improved the measurement of events by introducing additional actors or measurement types (Goldstein Scale, PANDA, CAMEO), and some other scholars introduced technological improvements for data collection processes (KEDS and PANDA).

Clarifying the question "who did what to whom" as the basis for event data has become an intensive struggle in international politics. Goldstein (1992) elevated event data by measuring events in terms of a scale that ranks them according to their level of conflict and cooperation, to cope with the shortcomings of

categories that are problematic for statistical analysis. This scale, allows us to not only classify the events into categories but also scale them according to their dimensions. According to the data of Goldstein (1992), 24% of the events involved verbal cooperation, while 35% occurred when countries commented or consulted either verbally or through participatory actions (p. 371). Conflict and cooperative actions account for 17% in total, which indicates that verbal statements are comparably more frequent than actions—providing a critical finding. States do not only involve themselves in actions but may also use statements as critical signals to alter the course of events. Although the study does not investigate how verbal statements differ from actions, Goldstein (1992) created a scale to compare conflict and cooperation signals based on these different levels of interactions.

Conflict and Mediation Event Observations (CAMEO) is a more nuanced dictionary to develop event datasets. The authors also criticized the pre-conflict event databases—WEIS and COPDAB—for classifying conflict and cooperation events into verbal and material ones. However, this categorization only tags relevant events and does not pay attention to the individual statements of officials. Therefore, this categorization only classified verbal events and did not evaluate exactly what the officials stated.

These studies and datasets or dictionaries—such as CAMEO, WEIS, and Goldstein's conflict-cooperation scale—are all produced from news and texts. However, gathering these data required manual coding, which is a lengthy procedure where reliability might be questionable due to the dependency on labor work. Schrodt (1994) introduced a program called KEDS, which aimed to improve manual coding and thus the reliability of classifying international interactions. This machine-readable format has become an innovative example and a steppingstone for including computerized techniques in event data collection. Schrodt and Gerner (1994) demonstrated that there were no significant differences between machine-readable program and manual coding; however, the cost of manual coding decreased with this new technique. In addition, Schrodt (1990s onwards) developed a machine learning technique to detect events in texts using natural language processing. The inclusion of technology also increased the number of events collected, along with the development of a new technique in content analysis.

The Protocol for the Assessment of Nonviolent Direct Action, known as PANDA, used the KEDS system and WEIS categories to include non-state actors and nonviolent incidents into the framework. This adaptation of a fully automated system has thus been used to increase the collection of different events (Bond et al. 1994). Militarized Interstate Disputes (MID) (even though the ideas were produced around 1963 by David Singer), as one of the most important databases specifically focusing on militarized interstate disputes, was also developed and improved over time using automated text analysis techniques. The idea of collecting information on international interactions and the use of computerized techniques are therefore critical steppingstones for the development of this field.

The first important implication is the use of these data in various analyses. These different examples of event datasets were used to study different aspects of these events. While some studies have explored the factors that shape these events (Oktay 2015; Wilson et al. 2016; Clark et al. 2016; Manes and Valerino 2016), other studies have utilized events as foreign policy choices and explained how these decisions impact certain international components. While Oktay (2014) and Clark and his colleagues (2016) focused on how domestic institutions are effective in determining conflictual or cooperative international behavior, Wilson and his colleagues (2016) explored how international organizations can change the conflictual behavior of states in the international arena. Another group of studies employed event data as independent variables that have been argued to influence different events in the international arena (Thyne 2009; Thyne et al.

2018; Davis et al. 2019). Thyne (2009) utilized the World Events Interaction Survey (WEIS) and Conflict and Peace Data Bank (COPDAB) event datasets to distinguish cheap and costly signals by external states and evaluate how these international interactions shape civil conflict processes. Thyne and his colleagues (2018), in another study, examined how international interactions are important factors in coup d'états.

Second, the current state of event data highlights how important they are for forecasting these events (Chiba and Gleditsch, 2017). Forecasting conflicts is a crucial research field, and the role of event data in prediction is crucial. The Armed Conflict Location and Events Dataset (ACLED) aims to systematically collect, code, and analyze disaggregated data on political conflict within unstable states. ACLED records detailed information, including the exact date, location, and actors involved in various types of political violence—such as battles, civilian attacks, and protests—covering 50 countries from 1997 to 2010. These granular data enabled researchers to study local factors and the dynamics of civil and communal conflict at the local level, addressing critical gaps in traditional national-level studies. The importance of ACLED lies in its ability to reveal spatial and temporal trends, variations in violence types, and actor practices often obscured by aggregated data. By providing a fine-grained perspective, it challenges conventional assumptions, highlights the limitations of national-level analyses, and enhances understanding of internal conflict patterns and dynamics, which also enable scholars to predict possible future conflicts (Hegre et al., 2017).

As a result, it would not be wrong to indicate that texts have been an essential data source since the 1970s for identifying interactions and foreign policy decisions. With improved computerized technologies, the relevance and speed of accessing texts have become particularly critical in international relations. The improved technology also enables scholars to gather data from various sources in different languages, enriches the data, and thus helps scholars to achieve the full population of events more easily.

However, text data is not only important to identify these events. The next section will demonstrate how textual content can be used to identify signals sent by international actors and is thus significant for assessing their impact on interactions. While counting events is one way to examine states' foreign policy choices, analyzing speeches made on international platforms—like the United Nations—or by leaders can suggest the agenda of these states and their foreign policy choices in a comparative manner. The next section will take a closer look at how the texts, statements, and communications made by international organizations such as the United Nations have been explored.

International Rhetoric for Detecting the Foreign Policy Agenda in International Organizations

International organizations, as platforms in which states perform cooperation and set agendas to further their cooperative actions on an international scale, provide an important ground to understand the motivations of others and the effects of cooperative attempts. International organizations vary in subject and aim; thus, there are many platforms addressing different matters where countries can discuss and determine how global governance on certain topics should be shaped. Among these organizations, the United Nations (UN) is often the most debated (Baturo et al, 2017; Çiçek, 2024; Hanania, 2021; Sakamoto, 2023) . The United Nations General Assembly is an important UN organ where all countries debate major global issues. Henceforth, if individual country profiles are successfully portrayed, we can gain a clearer understanding of global relations and identify which countries are more aligned and which have different agendas.

The contribution of Baturo et al. (2017) in collecting and compiling the UN General Debate Corpus is significant in incorporating speeches to understand different foreign policy circles and agendas. This

dataset includes 7314 country statements delivered between 1946 and 2014. Participation increased from 70 countries in 1970 to 193 in 2014, reflecting the growth in UN membership. Non-member states, such as the Holy See and Palestine, also contributed; thus, their statements are included in the dataset. In total, the dataset includes contributions from 198 countries. On average, each speech contained 123 sentences and 945 unique words (Baturo et al., 2017). Therefore, this dataset is a comprehensive source that reveals the state preferences debated by the United Nations General Assembly. Although different research questions can be addressed using this dataset, the authors focus on tracking the rhetoric of the United States and Russia over time, illustrating both the state of the global agenda and its evolution.

Speeches made by the UN Security Council have also been perceived as important sources of information and used for various research questions. Particularly, the perception of security and how different subject matters become securitized were among the dimensions evaluated under the UNSC context (Hanania, 2021; Sakamoto, 2023). Sakamoto (2023) collected Security Council statements to examine how threat perception changed over time. This investigation into UNSC security discourse contributes to understanding how certain topics evolved into security matters and how they have changed over the years. Sakamoto (2023) used quantitative text analysis tools—specifically, word embeddings—to determine which keywords were closely associated with security threats. Hanania (2021), on the other hand, examined how humanitarian issues were brought to the UNSC in comparison to other conflict-related issues. These matters are critical for establishing arguments on whether human security was prioritized in the international agenda and on which issues were most frequently framed as security threats. Hanania (2021) used machine learning algorithms to classify resolutions as war-related, punitive, or humanitarian. The methods used in both studies enabled scholars to support existing theories, whereas Hanania (2021) further highlighted how machine learning algorithms can also be critical in proposing new theoretical perspectives.

Medzihorsky and his colleagues (2017) explored a nuanced question regarding the Syrian Civil War and how other countries positioned themselves in response to this severe conflict. They aimed to examine whether the positions of the permanent members of the United Nations Security Council converged or diverged over time. Different from the studies mentioned above (Baturo et al., 2017; Hanania, 2021; Sakamoto, 2023), Medzihorsky et al. (2017) collected relevant statements about the Syrian Civil War and classified permanent member speeches based on their content. Intervention and human rights violations were the main themes, and the frequency of related words in each member's statements was measured as an indicator of position and compared annually. The paper showed how different actors changed their stances regarding the Syrian civil war over time. While this shift and divergence among permanent members illustrate how foreign policy can change in response to international dynamics, the methods used to classify the statements also demonstrate how texts and statements can be systematically analyzed in a reliable manner.

Positions expressed in international organizations, as measured through statements, are helpful for comparing individual countries in the international arena and assessing countries that are more closely aligned. This approach is useful when states are assumed to be coherent and unified actors. However, if this assumption does not hold, texts can still be helpful tools for distinguishing the positions of different foreign policy actors and their impacts on policy outcomes. A plethora of studies has emphasized different foreign policy actors and used texts to compare their stances and overall positions (Schumacher et al., 2016).

The EUSpeech dataset compiles available speeches by EU elites and contains 18403 speeches delivered between 2007 and 2015 by prominent EU figures—such as heads of government from 10 member states,

members of the EU Commission, party leaders in the European Parliament, and leaders of the ECB and IMF. It offers rich data for analyzing sentiment, topics and ideological trends, making it suitable for studying changes in representation within the EU over time. This study demonstrates EUSpeech's utility via Wordfish scaling analysis. Scaling texts to define states' positions based on political texts constitutes a critical method to understand countries' international policy preferences. In this study, the method helps identify a pro-versus anti-Europe spectrum in European Parliament speeches, and sentiment analysis reveals that speech sentiment correlates with economic and political conditions. Brandon and Zhukov (2009) used quantitative text analysis to compare foreign-policy perceptions of the Russian state and military by creating a custom Russia-specific dictionary. The texts are used to compare the positions of leaders in the civil and military sectors separately. This approach distinguishes foreign policy attitudes and decisions, helping to understand which actor holds more influence. These studies are therefore valuable for revealing the positions of different foreign policy actors and comparing their stances using statements and texts—an essential step in detecting potential fragmentation or unity in foreign policymaking. These findings are not only critical for evaluating the "black box" of state behavior and revealing whether each country has a unique internal structure.

Overall, measuring state positions and comparing these views based on statements or written texts enrich our understanding of foreign policy decision-making. Evaluating these rich data sources—whether through classification or scaling—reveals significant information and allows us to identify similarities and differences among states. Compared with event data, which are also critical for understanding international dynamics, the expressed positions of states are equally important for clarifying international interactions. The next section introduces how texts are critical for analyzing signaling mechanisms.

Signals By Leaders: Texts For Measuring Reputation and Resolve of States

In addition to event data on international relations, political texts have been used as a source to extract information on different concepts related to international issues. In international relations, therefore, texts are not only used to define international interactions but also to understand further information that political texts provide. Discourse analysis and content analysis are two qualitative methods used to understand how leader statements and political texts are important for international interactions (Sallan Gül and Kahya Nizam, 2020). Framing and discourse analysis have been used in international relations, particularly by constructivists, to understand how rhetoric has been shaped and how it impacts international interactions (Sallan Gül and Kahya Nizam, 2020). Discourse analysis provides a thorough understanding of how communication and meaning-making are essential for the dissection of how norms are constructed, which are critical in communication and relations among states. Quantitative content analysis acknowledges the importance of textual content but seeks to develop quantitative methods with the help of computer-assisted technology. This provides fast problem-solving capacity and rapid classification of topics and frames in given texts. Jacobs and Tschötschel (2019) proposed that these are two compatible methods that can be used to further understand and detect common discursive elements and thus determine whether states have similar discourses or not. The speed of computer-aided content analysis, as well as valid and reliable assessment of texts, will therefore increase the number of research questions proposed in the international relations discipline.

The content of statements becomes central when the effectiveness and credibility of statements are questioned. The relevance and importance of effective and credible signals are the products of a bargaining framework (Fearon, 1994; 1995). This approach is critical for detecting mechanisms that lead to the failure of

negotiations, which could be due to ineffective or non-credible statements. This pre-foreign policy decision phase, which is the negotiation stage among countries, is therefore an important step to observe before war or any other tangible outcome. Based on this perspective, communication among states is critical when evaluating this process. Here lies the importance of the texts. Although several studies have introduced theoretical debates on the credibility and informational value of these cheap signals in the bargaining phases—often through game-theoretical models—the empirical evaluation is still a growing body, and many recent contributions show how these cheap signals can be significant. Reputation and credibility in international politics have been infused into the literature as an important subfield in security studies (Kocacık Şenol, 2025; Lupton, 2020; McManus, 2014). Thus, understanding threat perception and conditions leading to conflict initiation is critical.

The content of leader statements functions as signals and can be introduced as resolved statements. The Statements of Resolve project by McManus (2014) classified the statements of American presidents toward their rivals—the states they might engage in conflict with. This project aims to conceptualize resolve and measure it through the public statements of U.S. leaders. McManus (2014) created a relevant dictionary and classified official statements of U.S. leaders toward states they were engaged with in militarized disputes. The classification aimed to measure the level of signal that U.S. leaders conveyed to possible rivals, which she argued would change the likelihood of engaging in war.

Lupton (2018, 2020), in her study, evaluates how individuals acquire reputations for resolve and argues that these are built during the early years of a leader's tenure through statements and behavior. According to Lupton (2020), statements shape expectations about future actions, which, in turn, influence how leaders' resolves are perceived based on their subsequent behavior. In the experiment, leaders who make strong initial statements but later fail to follow through are viewed as far less resolute than those who consistently make firm statements and act accordingly. Similarly, leaders who do not back up their resolute statements are seen as less tough and determined than leaders who initially appear irresolute but ultimately stand firm, as well as those who send mixed signals yet still demonstrate firmness in the end. The relationship between leaders' behavior and statements creates different levels of reputation, which impacts how information receivers perceive their credibility. As the importance of statements is emphasized in this study, Kocacık Şenol (2025) provides an observational illustration of how past actions of U.S. presidents during the Bosnian Civil War affected their statements on Kosovo to improve their reputations. This study used U.S. presidential statements and compared texts on these civil wars by using a natural language processing method to determine the keywords that most characterized the statements. Here, texts are used as important and rich data to illustrate the theoretical expectations introduced by Lupton (2020).

The use of statements as data sources provides many insights into leaders' stances, reactions, and levels of resolve, which help us further investigate how so-called cheap signals are critical in international interactions. While these studies investigate the direct impact of signals—because they reveal information about possible actions and levels of determination—the following section utilizes texts as sources for measuring leaders' psychology. This behavioral approach and the use of statements to portray leader psychology are different, yet complementary, methods.

Leader Psychology Through Statements: A Micro-Level Approach

In the literature that defines and works on the credibility of signals, detecting differences in statements is related to the information conveyed to the receiver. Thus, the content of statements partially is related to

the signal quality, information level, and resolve level of each actor. However, leader statements provide a rich source for detecting the psychological traits of the ones who are making them. Leadership Trait Analysis (LTA) and Operational Code (OpCode) are methods that build on the verbs used in statements to detect psychological traits (Hermann, 1999).

Leadership Trait Analysis (LTA) and Operational Code (OpCode) are methodological approaches that aim to understand political leaders' beliefs and decision-making styles. By analyzing public statements, speeches, and writings, LTA and OpCode seek to uncover how leaders perceive the political world, their roles within it, and the strategies they employ to achieve their goals (Erişen 2012; Hermann, 1999). This approach provides valuable insights into leaders' personal traits, cognitive patterns, and strategic preferences, making it a key tool for studying political behavior.

At their core, LTA and OpCode focus on two primary dimensions: philosophical and instrumental beliefs. Philosophical beliefs relate to a leader's worldview, including his or her perceptions of the political universe —whether fundamentally cooperative or conflictual (Özdamar et al, 2023). They also include leaders' views on the predictability of political events and the roles of chance and skill in achieving political outcomes. Instrumental beliefs, on the other hand, revolve around the strategies leaders prefer to use in pursuit of their goals (Özdamar et al, 2023). These include their tendencies toward cooperative or confrontational tactics, tolerance for risk, and beliefs about the efficacy of their actions in shaping events.

The LTA and OpCode methodology involves systematic content analysis of textual data such as speeches and writings. The technique named Verbs in Context System (VICS) focus on the verbs in the sentences (Erişen, 2012; Özdamar et al. 2023). In some cases, manual coding is employed to allow for greater nuance or context-specific analysis. In most cases, Profiler Plus is used to classify the statements according to different traits. This dual approach ensures that the analysis is both systematic and adaptable to different kinds of data. Therefore, dissecting personal traits from statements is a critical tool not only for analyzing attitudes and personal traits but also being able to compare different leaders.

LTA and OpCode have several applications, particularly in the realms of foreign policy analysis and leadership profiling. In foreign policy, it helps in understanding leaders' tendencies toward aggression or negotiation, as well as to predict responses during international crises (White, 2022). For leadership profiling, LTA provides insights into the decision-making styles of various political figures, such as presidents, prime ministers, and military leaders. While this method can provide a general profile of leaders (Kesgin 2019, Çuhadar et al 2020, Özdamar et al, 2023), it can also be used to understand foreign policy decisions and their personal traits by focusing on events and cases. Therefore, the scope of the text is limited or general and will provide different findings about leadership traits. For this reason, this method provides a comprehensive way to study foreign policy making and the role of leaders and thus focuses on mid-level international relations (Kaarbo, 2015).

Çuhadar et al. (2020) compared different Turkish leaders to analyze whether their individual characteristics influenced foreign policymaking. In their study, they examined Süleyman Demirel, Bülent Ecevit, Necmettin Erbakan, Recep Tayyip Erdoğan, Abdullah Gül, and Turgut Özal, identifying 18 foreign policy cases to provide a comprehensive understanding of the similarities and differences among these leaders. While their analysis covered various cases, Kesgin (2020) provided a more detailed profile of Erdoğan in a separate study, offering deeper insights into his leadership style. This method for profiling leaders has also been applied to compare other political figures, including US presidents and leaders in the Middle East. For instance, Özdamar and Canbolat (2023) their book which analyzes Middle Eastern leaders based

on their public statements, demonstrating the adaptability of this approach. Additionally, the method has been developed to work with different languages, such as Turkish, Arabic, and English, which enhances its versatility and applicability across diverse contexts.

With this approach, public statements are perceived as mainstream, while recent years have also changed the platforms on which leader statements are perceived as critical issues. Social media platforms, such as Twitter, gained a huge importance in the last decade and even created a concept "digital diplomacy". Using tweets over statements also provides an important source of information on how leaders and bureaucrats are shaping the agenda since it is a newly emerging platform to share opinions and information. The next section explores this new field of study.

Public Opinion and Social Media as Diplomacy Tools in Foreign Policy

X/Twitter has been studied as a platform that serves as a critical data source to tackle different questions regarding political behavior and foreign policy. Different from a traditional diplomacy arena, X/Twitter stands out as one of the platforms where leaders, other foreign policymakers, bureaucrats, and the public reveal information and ideas that become influential (Chabbra, 2020; Collins et al., 2019).

The study by Collins et al. (2019) highlighted the importance of Twitter as a communication platform that foreign policymakers can use as a medium to express and support foreign policies. The authors were primarily concerned with understanding whether this platform was used in a way that showed consistent foreign policymakers' inclinations toward specific policies. The research investigates tweets from key foreign policy figures during the Obama administration to determine whether their Twitter diplomacy reflected a consistent and strategic communication framework—as predicted by the rational actor model—or a more fragmented approach, as suggested by pluralist and bureaucratic politics models. Additionally, the study explores variables influencing the impact of these tweets, including their structure, audience engagement, and international reach. The results show that Twitter diplomacy primarily followed the rational actor model, with tweet content aligning closely with declared U.S. foreign policy objectives. However, the authors also questioned whether this would be applicable in different cases. Collins and DeWitt (2023) compared the public diplomacy of Donald Trump to Barack Obama and explored how these two presidents used Twitter as a platform to promote their foreign policies and engage with the public beyond traditional tools. The study focused particularly on how the tweets by the presidents affected the image of the United States and found that Trump's communication was not positive and eroded the soft power of the U.S. compared to Obama's.

Therefore, this medium provides a significant tool for comparing or contrasting different actors and understanding whether tweets can be regarded as part of the new foreign policy sphere. While this is a very important but newly growing body of literature, the audience on social media platforms also deserves more attention in order to gain a full grasp of the foreign policy and diplomatic influence of social media. Not only leaders and other foreign policy makers but also the role and stance of the public—revealed through their presence on social media—constitute an increasingly relevant and important approach to understanding foreign policy and reactions in international relations. Hatipoğlu et al. (2018) provide valuable insights into public reactions to Syrian refugees. They shed light on how the issue of Syrian refugees was framed on Twitter among Turkish users and introduced a nuanced method to classify their responses. This is a crucial way to communicate and connect foreign policy-related research to the question of whether the audience is receiving the information and how they are framing these issues.

Conclusion

The growing reliance on texts as data sources has reshaped the way international relations scholars' study of interactions between states. The introduction of computerized methods like quantitative content analysis and natural language processing has unlocked new dimensions of analysis, enabling researchers to uncover patterns, motivations, and outcomes in international politics with greater precision. These methods allow for the systematic evaluation of decision-making processes, leader psychology, and diplomatic signals, thus enriching our understanding of complex phenomena like conflict initiation and alliance formation. By integrating these advanced techniques, this review highlights the transformative potential of "text-as-data" approaches in refining theoretical debates and advancing empirical research on international relations.

This review provides a comprehensive list of studies in different fields of international relations to understand the recent changes, which have re-iterated and underlined the significance of texts that are used and relied on even more as data sources in international relations. The answer to this question is: computer-assisted methods, which can be referred to as quantitative content analysis and natural language processing. These tools are adapted in social sciences for data generation and measurement, and these methods—to code, classify, and scale texts according to a defined set of rules in a replicable manner—are fast and reliable because of advanced algorithms and improved technology. Initially relying on manual coding, this method has evolved with technological advancements, allowing international relations scholars to employ the computational power of computers to analyze these rich data sources. Automated data collection and text analysis—broadly referred to as "text-as-data" under a larger field called computational social science—have become one of the most salient methods for data creation and measurement using texts as sources (Ünver, 2019).

In this article, key applications include the identification of events using reports and news sources, the comparison of state positions through leader statements, and the assessment of leader psychology based on individual speeches. These advancements in textual methods have significantly enriched discussions in the field by leveraging diverse data sources and the ability to test proposed theories. Despite significant advances in text-based international relations research, several challenges remain. One major limitation is the difficulty in capturing the context, nuance and implicit meaning of automated analyses, particularly across languages and political cultures. The reliability of computational methods also depends heavily on the quality of the source material and the transparency of the coding framework. Furthermore, the overreliance on English-language texts and elite discourse may skew findings and exclude diverse perspectives. These challenges are frequently acknowledged and continue to be addressed in ongoing research.

Based on the above discussion, future research should focus on using more texts from different languages, thereby creating multilingual corpora. Additionally greater attention is also needed to ensure the ethical use of political texts, especially in conflict settings where misrepresentations can have real-world consequences. Finally, interdisciplinary collaboration between international relations scholars, linguists, and computer scientists is essential for advancing the methodological rigor and theoretical relevance of text-as-data approaches. By addressing these challenges, future studies can build on existing foundations and more effectively harness the potential of textual sources to explain international behavior.

Author Details   Melike Ayşe Kocacık Şenol (Instructor)

¹ Sabancı University, Foundational Development Directorate, İstanbul, Türkiye

🔲 0000-0002-6876-5814   ✉ makocacik@sabanciuniv.edu

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