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DELETE YOUR ACCOUNT: A METHODOLOGICAL INVESTIGATION OF LEADERSHIP TRAIT ANALYSIS AND ITS ABILTY TO UTILIZE TWITTER AS SPONTANEOUS MATERIAL

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Abstract

Given the important roles political leaders occupy within the international arena, it is vital that we understand the way they behave. In order to better understand a political leader, it is imperative that we analyze their personality traits. This study investigates the methodological applicability of Leadership Trait Analysis by asking the following research question: *Is an analysis of social media an effective way to measure the Leadership Trait Analysis personality traits of international leaders?* In order to answer this question, the study utilizes Leadership Trait Analysis to analyze the personality traits portrayed within the traditional spontaneous media (interviews/press conferences) for five global leaders and compares the results to the personality traits displayed in their use of social media (Twitter). The five leaders examined in this study are: United States President Donald Trump, Speaker of the House Nancy Pelosi, British Prime Minister Boris Johnson, Indian Prime Minister Narendra Modi, and Japanese Prime Minister Shinzo Abe. The differences in trait scores between the social and traditional media used by each leader reveal that a Leadership Trait Analysis of social media does not provide the best indication of personality traits. To conclude, this study discusses the potential implications of these results, analyzes the strengths and weaknesses of the study, and suggests that future research find a way to incorporate social media into analyses of the personality traits of political leaders.

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Chapter 1: Introduction

Political leaders play an integral role within the realm of international politics. Not only are they tasked with leading their respective country or organization, but they also have to interact with the world around them. Given the important role political leaders play, it is vital that we understand who they are, how they lead, and the underlying factors that influence the overall process of leadership. While political leaders can take a variety of forms, this study will include leaders who are the heads of state (president or prime minister) or those who hold a high-ranking position within their country's government (speaker of the house). The leaders who are the head of their state or hold a high-ranking position are often the most influential leaders in the world as they possess a significant amount of power. Since their decisions (good and bad) have the ability to alter the current standing of the world around them, it is especially imperative that we understand the behaviors of these leaders.

Previous research has argued that in order to understand how a political leader will behave, we must first determine the personality traits possessed by the leader(s) in question (Hermann, 1980; 1983; 1999; 2003; Kaarbo and Hermann, 1998; Hermann and Pagé, 2016). There are various systems that have been utilized by previous research to examine the personality traits of political leaders, but one of the most widely respected methods is Leadership Trait Analysis (Schafer, 2014; Kaarbo 2017). Developed (and revised on several occasions) by Margaret Hermann, Leadership Trait Analysis utilizes spontaneous material to measure the personality traits of leaders. As a form of content analysis, Leadership Trait Analysis relies on an at-a-distance approach in which the

spoken material, usually from interviews or press conferences (traditional media), is analyzed and coded for the seven Leadership Trait Analysis traits: *control over events, need for power, conceptual complexity, self-confidence, task orientation, distrust of others, and in-group bias* (Hermann, 1999).

A significant amount of research has been conducted on the personality traits exhibited through traditional media, but the manner in which personality traits are portrayed through social media is understudied. In recent years, social media has evolved into an important form of political communication. Political leaders around the world have noticed the rise of social media and many have begun to rely on the platform to convey messages to their constituents. Since social media is a relatively new form of media, the research within the field of international relations on this topic is limited. In order to fill this gap and determine if social media can accurately measure the personality traits of political leaders, this study asks the following research question: *Is an analysis of social media an effective way to measure the Leadership Trait Analysis personality traits of international leaders?*

In order to answer this research question, this study conducts a Leadership Trait Analysis on the social and traditional media of five global leaders: *United States President Donald Trump, Speaker of the House Nancy Pelosi, British Prime Minister Boris Johnson, Indian Prime Minister Narendra Modi,* and *Japanese Prime Minister Shinzo Abe.* By analyzing the social and traditional media of these leaders, this study aims to determine whether or not social media can be used within the Leadership Trait Analysis system to accurately measure the personality traits of political leaders. Since

this area of Leadership Trait Analysis is relatively understudied this study represents an important methodological examination of Leadership Trait Analysis. This study seeks to close the methodological gap that currently exists by determining if social media can be utilized by Leadership Trait Analysis to accurately measure the personality traits of international political leaders.

This study contains five total chapters, including the introduction. In the next chapter, an analysis of previous scholarly literature is discussed. The literature that is examined includes scholarship that discusses what it means to be a political leader. While there are many factors that need to be considered when investigating political leaders, the most important ones pertain to how they well they are able to convey their ideas to their constituents and their effectiveness at turning their ideas into action (Dion, 1968; Keohane, 2010; Northouse, 2016; Abrahms et al., 2016). In order to better understand how a leader will act while in office, it is important to analyze the personality traits of that particular leader. Knowing the personality traits of political leaders can aid in our understanding of how they think, make decisions, and ultimately, how they will behave once they enter office (Matthews et al., 2003; Gerber et al., 2011). Due to the difficulty of interviewing these world leaders in person, scholars often opt to use at-a-distance content analysis approaches.

Next, this chapter discusses previous literature that has utilized Leadership Trait Analysis, a form of content analysis, in order to better understand the personality traits of political leaders. Often regarded as the most effective way to analyze the personality traits of political leaders, Leadership Trait Analysis has been used by scholars to better

understand the traits of leaders from all around the world. Through an analysis of spontaneous material, Leadership Trait Analysis assigns scores for seven different traits (Hermann, 1999). After examining several studies that have utilized Leadership Trait Analysis, this chapter next discusses the importance of social media as a tool of political communication. As more and more leaders begin to utilize social media to convey their positions and policy proposals, it is important to account for the personality traits that are portrayed through various social media platforms. To conclude this chapter, the study identifies several major gaps within the literature and examines how the study utilizes social media to attempt to fill one of the significant gaps that exists within the fields of international relations and political psychology.

The next chapter outlines the methodology used in the study. This chapter provides an explanation for each of the seven traits and briefly discusses how each trait is coded (Hermann, 2003). After discussing the seven Leadership Trait Analysis traits, the chapter identifies the distinction between social and traditional media. For the purposes of this study, traditional media consists primarily of spontaneous interviews and press conferences, while the social media used in this study comes from the Twitter accounts of the international leaders. After this, the chapter discusses how the data was collected and analyzed. The tweets are copied from the Twitter page of each leader, while the interviews and press conferences are found and then copied into a separate document.

After each type of media is collected for each of the leaders, the data will be entered (separately) into Profiler Plus, a system run by Social Science Automation. Profiler Plus, which analyzes material for all seven Leadership Trait Analysis traits,

assigns a value (from 0.0-1.0) for all seven traits. Next, the chapter introduces the five global leaders included in the study. To conclude the chapter, the criteria needed to be included in the study are discussed and a brief description of each leader is given in order to explain why each leader was selected for inclusion.

In the fourth chapter, the results section of the study, the results are first presented in a leader-by-leader manner. For each of the five global leaders, the results for all seven Leadership Trait Analysis traits are discussed and analyzed across social and traditional media. In addition to this brief written description, the analysis for each leader includes a table, which displays the scores for social and traditional media, the relationship between social and traditional media, and whether or not that specific leader exhibited a "match" or a "differ" for each trait. After presenting the data in a leader-by-leader manner, the chapter next presents the results for each of the seven Leadership Trait Analysis traits across the five global leaders. Much like the leader-by-leader section, this section describes the data that is contained within the table that accompanies each of the seven sub-sections. The tables display how each leader scored for that specific trait in terms of both social and traditional media. Based on the relationship exhibited, the table also describes whether a leader exhibited a "match" or a "differ" for that trait. To conclude, this chapter briefly describes the overall findings.

In the next and final chapter, the overall findings are discussed more in-depth. The results from this study show that there is a significant difference between the leaders' scores for social media and their scores for traditional media. No leader exhibited more than four matches among the seven Leadership Trait Analysis traits and no trait displayed

more than three matches when examined across the five global leaders. Next, this chapter identifies the implications that can be drawn from this research. Based on these results, the study concludes that social media, when using Leadership Trait Analysis, may not be an effective way to analyze the personality traits of political leaders.

In addition to the discussion mentioned above, this chapter will also examine the overall strengths and limitations of this study and discusses how future research should attempt to build off of the findings. The chapter encourages future studies to account for the importance of social media, while also acknowledging that more research must be undertaken in order to better understand the relationship between social media and the personality traits, specifically the Leadership Trait Analysis traits, of political leaders.

Chapter 2: Leadership Trait Analysis in the Age of Social Media

Introduction

Political leaders are some of the most powerful and influential individuals in the world. Whether they are a president, prime minister, senator, or member of parliament, they occupy a significant role within their society and are asked to protect and defend the interests of their constituents. For scholars looking to explain what political leadership looks like, understanding and analyzing the ways in which the personality traits of leaders impact their decision making is vital. Many people understand the importance of a leader's decision-making process, yet very few are able to explain the factors that influence how these leaders will lead.

One thing that has changed throughout the world is the way leaders and citizens utilize social media. In the age of social media, the ways in which leaders communicate their decisions are vastly different from the approaches utilized by leaders in the pre-digital era. What used to take hours or days to prepare can now be sent out in a matter of seconds thanks in part to social media platforms like Twitter, Facebook, and Instagram. While social media may make communicating easier, there are many ways in which these platforms can negatively impact the lives of both leaders and the citizens they are elected to represent. The rise of "fake news" has led many citizens to become skeptical of social media and how it is utilized. With that being said, social media is an area that should not be ignored in the study of political leaders. Despite the discomfort with digital media, political leaders continue to utilize these platforms due to their ability to quickly and efficiently convey messages to supporters and adversaries alike.

The goal of this study is to determine if material from social media can be used to analyze the personality traits of international political leaders. Using content analysis, scholars may be able to utilize social media in the same way they have come to analyze more traditional forms of media, including press conferences and interviews. With social media usage on the rise, it is important that we not only understand how personality traits impact domestic leaders, but also how they influence the decision-making process among foreign leaders. Given the important role social media has played in shaping the international political arena, it is important to look at how leaders from different backgrounds utilize social media as a form of political communication.

This chapter first looks at what it means to be a political leader and how the duties of a political leader differ from leaders of non-political organizations. This chapter will also review previous literature that have utilized a variety of methods to evaluate the personality traits of global political leader. By examining what it means to a political leader, this chapter will also analyze the importance of political personality traits, and more specifically, the traits embedded in Leadership Trait Analysis. While there are a variety of other reliable methods, previous literature suggests that Leadership Trait Analysis is the most well-known and highly regarded method for studying the personality traits of the political elite. Later on, this chapter will discuss the rise of social media within the realm of global politics and how this has impacted the way political leaders communicate with their constituents. To conclude, this chapter will evaluate the gaps that exist within the literature, including the lack of research on social media and its ability to accurately measure the personality traits of political leaders. Many of the previous studies

have relied solely on traditional forms of media (interviews, speeches, press conferences), thus ignoring the growing influence and importance of social media.

What Defines Political Leadership?

In order to pinpoint the exact nature of leadership in the political arena, we must first look at what it means to be a leader. Broadly, a leader is someone who seeks to lead a group of like-minded individuals in achieving a common goal. One main component of leadership is the ability to provide solutions that solve or attempt to solve a problem facing the community (Keohane, 2010). Ideally, these solutions will benefit everyone within the community, but unfortunately, there is no way to ensure that everyone is one hundred percent satisfied. Another important component of leadership is the ability to encourage individuals to use their collective energies to create meaningful change (Keohane, 2010). While it is important to have a competent leader, having a motivated and excited base is just as vital to the success of a community. Without action from the community, a leader will be unable to implement any of their proposed policies. There are certain instances in which a leader can maintain power through force, but these leaders do not comply with the commonly accepted ideals of good leadership.

Scholars often describe leaders as the people who get things done. Peter Northouse describes leadership as, "not just a specific characteristic or trait, but rather a transactional event that occurs between the leader and the followers" (Northouse, 2016, pg. 6). In order to achieve the goals of the community, leaders are asked to perform tasks that are essential to the survival and progression of the group. First, leaders must make decisions (Keohane, 2010; Dion, 1968). The decisions a leader makes can be very simple,

or they can be quite nuanced and carry serious ramifications. Even for the smallest decisions, leaders must enforce these decisions and accept the consequences that arise. One way that leaders look to gain support for these decisions is through "broadening" (Grove 5). By reaching out to other states or organizations, leaders attempt to find those with similar viewpoints and gain more support outside of their own jurisdiction.

Another important facet of leadership is the ability to compromise (Keohane, 2010). When a compromise is agreed upon, neither side gets everything they want from the deal. For leaders, knowing when to compromise allows for some, but not all, of the community's goals to be reached. This means that leaders are often asked to prioritize certain initiatives they believe will provide more benefit to the collective group. A leader's role in conflict resolution can also involve disagreements within their own community (Keohane, 2010). In larger communities, different opinions and conflict are both common occurrences. In these scenarios, the collective will often look to the leader for guidance in solving these discrepancies who ultimately decide what is best for the community as a whole.

An alternative take on leadership describes a leader as "one who regularly influences others more than he is influenced by them" (Pennock, 1979). It is important to note, however that leaders can also be influenced by the actions and motivations of their constituents. To this end, some of the responsibility falls on the collective group. In this sense, leadership can be considered a "group function," or in other words, leadership is a process that incorporates both the leader and those being led (Dion, 1968). By asserting pressure on the leader and letting their opinions be known, the collective community are

able to have an influence on the decision-making process. In order to ensure they are being fairly represented, the community must monitor their chosen leader (Keohane, 2010). If an overwhelming majority of their constituents oppose a measure, it is unlikely the leader will attempt to make that issue a priority.

Given what we now know about leadership as a whole, it is also important to understand the concept of "political leadership." When we think of the word "political," our attention is often drawn to the world of politics. Political leaders have the unique challenge of managing the many factors that tend to exist with political organizations (Dion, 1968; Hermann, 1999). Unlike the leader of a business or organization, political leaders are in charge of both their supporters and those who oppose them. Based on the established literature, the ideal political leader must work to not only keep their supporters happy, but also to create policy initiatives that are beneficial to all of their constituents (Dion, 1968; Keohane, 2010; Northouse, 2016). Of course, not all political leaders will seek to appease everyone, and some will instead focus on maintaining power.

The notion that political leadership is a stagnant process is misguided. Successful political leadership is a process that requires the cooperation of those who lead and those who are being represented. If a leader is allowed to operate unchecked, the potential for tyranny and abuse of power increases dramatically. Rather than running ideas and solutions by the community, a leader who engages in domination attempts to impose these commands on their constituents (Pennock, 1979). A community that sits idlily and allows the leader to make every decision is at risk of falling victim to a dominant leader. Dominant leaders, no matter the setting, are rarely able to maintain power through pure

force. Leaders cannot expect sustained success when operating on fear alone. It is vital to the success of both the political leader and the entity they represent that leadership remain a process of cooperation and collaboration (Keohane, 2010; Dion, 1968; Northouse, 2016; Abrahms et al., 2016).

While it is common to envision political leaders as presidents or prime ministers, political leadership exists outside of these offices. As Northouse's definition suggests, a leader must have followers or constituents that need to be led. Without followers, leaders are individuals who have a plan to improve their current condition but are unable to convince others of that position (Northouse, 2016). The word "political" mandates that leaders and their organizations be involved with the public affairs of a country, region, or non-governmental organization (NGO). An obvious example of a political leader would be an individual who occupies the role of secretary general at an organization like the United Nations or North Atlantic Treaty Organization. These individuals are responsible for representing the interests of not only their organization, but also the interests of member states and other NGOs. Additionally, members of the United States House of Representatives and British Parliament will also be classified as leaders within this study. Despite not being the head of state, these leaders are still tasked with representing a group of citizens. These citizens have given the leaders their consent to represent their interests at the national level.

Given the great diversity that exists from country to country and leader to leader, it is possible for leaders with different personality traits and leadership styles to remain in power. A strategy that works for one leader may not yield the same results for a leader

with a different background or political party. After following a great communicator like Ronald Reagan, George Bush decided to limit the amount of rhetoric in his presidency (Greenstein 2000). Instead of flooding his leadership style with perceived weaknesses, Bush opted to highlight some of the more effective areas of his personality. The style a leader chooses to employ can impact not only their decision-making process, but also how they interact with the world around them. The decisions made by political leaders can influence not only the constituency they represent, but also the rest of the world.

The Importance of Understanding Personality Traits

Scholars have long debated whether leaders are born with a specific set of traits or if particular leaders are more effective in certain situations (Tucker 1977). In a study of United States presidents from Washington to George W. Bush, researchers found that both personality traits and the political climate during their time in office had an impact on their perceived level of "greatness" (Newman and Davis 2016). Through the use of the Simonton Model for Presidential Greatness and a character analysis, they were able to identify intellectual brilliance and strength of character as factors that positively impact the decision making of a United States president.

Broadly speaking, personality traits are commonly used in psychology to assess how an individual behaves (Matthews et al., 2003; Gerber et al., 2011). They shape our evaluations of others and often play a key role in how we make decisions. Our personality traits may impact how we handle stressful situations, deal with others, and process information. The same can be said for political leaders. When it comes to analyzing leaders, one of the biggest challenges scholars face is the leaders' lack of

accessibility. While it may be easy to sit down with a local representative and analyze their personality traits, the same cannot be said for presidents, prime ministers, and other powerful political leaders. Since it is extremely difficult to conduct an up-close analysis of high-ranking political leaders, many scholars opt to use an at-a-distance approach. A popular at-a-distance method, known as content analysis, allows scholars to analyze the written and verbal media produced by leaders, without having to observe them in person.

Within the realm of global political leadership, there are quite a few ways to study the personality traits of political leaders. For instance, in their study of the foreign policy decisions of U.S. Presidents, Gallagher et al. emphasize the importance of accounting for Presidential personality. In an analysis of 605 opportunities (spanning across ten Presidents and fifty-three years) to use force, they find that Presidents chose to use military force in fifty-three percent of the cases (Gallagher et al. 2014). To measure Presidential personality, the researchers use the Revised NEO-Personality Inventory to gather Big Five personality trait scores (neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness) for the ten Presidents selected to be a part of the study. At the conclusion of their study, Gallagher et al. find that leaders who score high on "openness to action" are more likely to use military force to solve an international conflict. John F. Kennedy, who had the highest excitement seeking score, was fifty percent more likely to use force than the President with the lowest score (Harry Truman) (Gallagher et al. 2014).

Within the field of political psychology, there are four major research methods designed to analyze the personality traits of political leaders using an at-a-distance

method (Schafer, 2014). The first of these four methods, which deals primarily with integrative complexity, was created by Paul Suedfeld in the mid-1960s. Initially, this system was focused on complexity as a whole, but a few years into his research, Suedfeld focused his studies on the verbal indicators of complexity (Suedfeld, 1968). Shortly after this shift, Suedfeld and Phillip Tetlock (1976;1977) developed the official research program on integrative complexity. In this system, a leader's verbal material is analyzed and coded on a scale from 1-7, with higher scores indicating higher levels of complexity (Suedfeld and Tetlock, 1976). With the integrative complexity scale, there are three stages of complexity: 1-3 indicate that a leader portrays more differentiation, a score of 4 represents a transition between the two sections (high differentiation; little integration), and a score between 5-7 means that a leader possesses a more complex set of connections and relationships (Suedfeld and Tetlock, 1976;1977).

The next major at-a-distance-system deals primarily with the motive imagery in the verbal behaviors of political leaders. Developed by David Winter, this system utilizes Freudian thought to focus primarily on the psychological desires that cause individuals to partake in behaviors that have a known goal in mind (Schafer, 2014). As Winter developed his system of analysis, he came up with three different motive categories: power, affiliation, and achievement (Winter, 1980). With the help of Abigail Stewart, Winter developed the motive system into an at-a-distance method (Winter and Stewart, 1977). In this method, the verbal communication of political leaders is scanned for specific verbal cues that align with one of the three motive categories (Winter and

Stewart, 1977). When coding for the motives, a call for strong or forceful action would be classified within the "power" category.

The third of the major at-a-distance systems, known as operational code, is unique in that it has contributed significant data for both qualitative and quantitative analyses (Schafer, 2014). The term operational code was first used by Nathaniel Leites during his research which utilized psychoanalysis to analyze leaders within the Soviet Union (1951). Later on, Alexander George changed the operational code program into a qualitative one that focused on cognitive research by examining ten different questions about the belief system of a leader (1969). Both of these scholars provided the foundation for Stephen Walker's own work on operational code (Schafer, 2014). Walker, in his various studies, transformed the qualitative nature of operational code into one that examines the quantitative factors associated with a leader's system of beliefs (Walker, 1977; 1995). Within this updated system, there are two key dimensions: a leader's beliefs about others and a leader's beliefs in their own strategy (Walker, 1977; 1995). Out of this system, Walker created the Verbs in Context System, which codes for the verbs used by leaders, as well as the subject of the of a given sentence (Schafer, 2014).

The last of the major at-a-distance systems, Leadership Trait Analysis, was developed out of Margaret Hermann's work pertaining to the impact the psychological characteristics of leaders has on their handling of foreign policy (Hermann, 1980). By analyzing the verbal communication of political leaders, Leadership Trait Analysis assigns personality traits based both on the number of times specific words appear as well how they are used within the context of the overall text (Hermann, 1980). While each of

the seven traits carry their own meaning, Leadership Trait Analysis also accounts for the various combinations of traits that exist and the important role they occupy in understanding the personality traits of political leaders.

For the purposes of this study, it is not necessary to explore across the various different forms of content analysis. Leadership Trait Analysis is able to reliably measure the personality traits of political leaders across contexts and is, therefore, one of the most accurate forms of content analysis (Kaarbo, 2017). Additionally, Leadership Trait Analysis is multi-faceted study that includes beliefs and traits, as well as specific classifications for each of the seven traits included in the method (Kaarbo, 2017). This specificity makes it a method with clear expectations and one that is easy to understand and analyze. At the time of this study, Leadership Trait Analysis is both the most cited and most widely respected of the four at-a-distance methods. In previous studies, LTA has proven to be the most effective at-a-distance system at measuring the personality traits of political leaders (Kaarbo and Hermann, 1998; Hermann, 1999; Kille and Scully, 2003; Dyson, 2006; Schafer and Crichlow, 2010; Keller and Foster, 2011; Rohrer, 2014; Hermann and Pagé, 2016; Cuhadar et al., 2017).

Leadership Trait Analysis

Leadership Trait Analysis (LTA) seeks to analyze the written and spoken communication of political leaders with the goal of identifying and assigning personality traits to a given leader (Hermann, 1980; 1983; 1999; 2003; Hermann and Pagé, 2016; Kaarbo and Hermann, 1998). Over the course of the past forty years, Margaret Hermann and her colleagues have worked to apply the methods of Leadership Trait Analysis and

modify the system as needed. In her analysis of leadership style, Hermann developed seven traits that are useful in analyzing the leadership style of political leaders: (1) the belief that one can influence or control what happens, (2) the need for power and influence, (3) conceptual complexity, (4) self-confidence, (5) the tendency to focus on problem solving and accomplishing something versus maintenance of the group and dealing with others' ideas and sensitivities, (6) an individual's general distrust or suspiciousness of others, and (7) the intensity with which a person holds an ingroup bias (Hermann, 1999).

Leadership Trait Analysis has been applied to many different areas across the fields of political psychology and international relations. In one of her original articles on Leadership Trait Analysis, Herrmann found that leaders who display high levels of distrust of others and need for power were more likely to make decisions independently (1980). More recent contributions from Foster and Keller found that two of the Leadership Trait Analysis traits, distrust of others and conceptual complexity, are good indicators of a leader who is willing to engage in diversionary actions (2011). In an alternative study that focused on whether or not Leadership Trait Analysis traits have an effect on the quality of the decision-making processes of political leaders, researchers found that found several of the traits have a direct impact on the quality of leadership decision-making (Schafer and Crichlow, 2010). The results from such studies illustrate how Leadership Trait Analysis traits have a direct impact on the decision-making process of leaders, thus further illustrating the importance of understanding the personality traits of political leaders.

Leadership Trait Analysis has been used to analyze the leadership traits of individuals who occupy a variety of political offices (Dyson, 2006; Rohrer, 2014; Kille and Scully, 2003; Cuhadar et al., 2017). For instance, in a study of the decision making of former British Prime Minister Tony Blair, researchers used Leadership Trait Analysis to analyze the impact personality traits had on his decision making during the Iraq War (Dyson, 2006). While this specific study only directly examined the traits of one leader, the use of content analysis allowed for significant findings. By conducting a Leadership Trait Analysis of Tony Blair's responses to parliamentary questions concerning foreign policy, Dyson finds that Blair scores high in the traits of "belief in ability to control events" and "need for power" (Dyson, 2006). When compared to other British Prime Ministers (n=12), Blair scored .12 higher for "belief in ability to control events" (.45 to .33) and .06 higher in "need for power" (.30 to .24) (Dyson 2006). It is believed that when these two traits are combined, leaders are more likely to challenge the international system (Hermann 2003). A leader who scores lower in "need for power" and "belief in ability to control events" would have been less likely to participate in the Iraq War (Dyson, 2006).

In a similar study, Rohrer (2014) utilizes Leadership Trait Analysis to determine the effectiveness of British Prime Ministers. Using the MORI/Leeds ranking of twentieth-century British Prime Ministers and random samples of verbal communication, Rohrer hypothesizes that there will be a positive relationship between a prime minister's effectiveness in office and the traits of power motivation, belief in ability to control events, and conceptual complexity (Rohrer 2014). Other studies, like the ones conducted

by Kille and Kille and Scully, have used content analysis to measure the personality traits of UN Secretaries General and EU Commission Presidents. In these studies, content analysis was employed because of its ability to examine written and oral text in order to draw conclusions based on personality traits and other characteristics (Kille and Scully, 2003; Kille, 2006). Due to the prevalence and significance of content analysis in previous studies within political psychology, this method should deliver the most valid and reliable results in this study on political leadership.

Leadership Trait Analysis has also been used to examine the personality traits of leaders outside of the United States, United Nations, and Europe (Cuhadar et al., 2017; Douglas, 2017). In their study utilizing Leadership Trait Analysis, Cuhadar et al. examine three Turkish leaders who occupied the office of prime minister before eventually becoming president. The results from this study show that the Leadership Trait Analysis traits remain largely the same across both political offices, implying that personality traits are independent of the office a leader occupies (Cuhadar et a., 2017). In a different study that examines the personality traits of Chinese Leaders Mao Zedong and Xi Jinping, scholars analyzed and compared leaders from the same country who led during different eras (Douglas, 2017). While the results show that Mao and Xi are different leaders who employ different approaches to leadership, this study is important because it analyzes leaders from similar contexts, across different time periods. Whether the political leaders come from Turkey, China, or elsewhere in the world, the studies that have utilized Leadership Trait Analysis have proven the system to be effective at measuring the personality traits of political leaders from a variety of different contexts.

In addition to the variety of literature published in journals and the research conducted at other universities, recent Wooster Independent Study projects have also incorporated Leadership Trait Analysis into their understanding of the personality traits of political leaders (Huffman, 2014; Glidewell, 2016; Lee, 2017). In a study on nationalist leaders and their decision to utilize secession, Huffman uses Leadership Trait Analysis to compare three different nationalist leaders (2014). In her study on the applicability of Leadership Trait Analysis when applied to female leaders, Glidewell analyzed the interviews of World Health Organization (WHO) executive Gro Harlem Brundtland and Christine Lagarde of the International Monetary Fund (2016). Similarly, in her comparison of the personality traits of leaders from South Korea and France, Lee also utilized traditional media like interviews and press conferences (2017).

All three studies attempt to fill gaps within the literature with Huffman's aiming to gather more information on nationalist leaders from different countries, Glidewell's study focusing on the role gender plays in the understanding of political personality traits, while Lee's study attempted to determine if the personality traits of political leaders impact how they will perform within their respective political environments. These studies, while rather different from one another, emphasize the importance of understanding the personality traits of political leaders, with all three agreeing that Leadership Trait Analysis is the most reliable predictor of these personality traits.

The Age of Social Media and Political Communication

In the past, Leadership Trait Analysis has predominantly been used to analyze more traditional forms of media like press conferences and interviews. Anytime a leader

utilizes one of these forms of media, they are attempting to convey a message to their constituents. With the rise of social media, the ease of communicating these messages has dramatically increased. Due to the increased use of social media by political leaders, especially in the United States, it is vital that we determine if social media can accurately measure the personality traits of political leaders.

To start, it is important to understand what social media is. A recent Pew Research Center poll found that almost sixty-five percent of American adults are active on at least one social media site, a dramatic increase from only around seven percent in 2005 (Perrin, 2015). Various studies have attempted to define social media, yet there is still not an agreed upon definition of this alternative form of media. Broadly, social media is viewed as a way for individuals to have more frequent social interaction with another (Miller et al., 2016; Perrin, 2015). Unlike the more traditional forms of media, social media is relatively easy to create and can be accessed in a variety of different forms. Social media platforms like Twitter, Facebook, Instagram, and Snapchat have made it very easy for information to be distributed, analyzed, and ultimately shared among groups of people. Instead of having to wait for the nightly news, modern citizens can use social media to access the news has it happens. This trend has not gone unnoticed in the political world as political leaders are increasingly using social media to convey information to their supporters. A recent study found that current United States President Donald Trump tweets around eleven times per day, or around 4,200 times per year (Hinton, 2017). While many of Trump's tweets are retweets from pro-Trump accounts, a

good portion of his tweets contain information that is created by the president and intends to grab the attention of the American public.

To even the casual observer, it is clear that social media has both challenged and altered the political landscape. Through the use of Twitter, political leaders are able to engage with constituents in ways many believed were impossible (Molony, 2014; Carlisle and Patton, 2013). By utilizing a platform that nearly anyone access, political leaders are increasing the accessibility of political information and therefore, are encouraging more citizens to become involved in local and global politics (Carlisle and Patton, 2013). In their study, Carlisle and Patton discuss the implications of increased social media usage on the process of political engagement. The public response to the use of social media as a political tool has been largely negative due in large part to President Trump's habit of criticizing those who disagree with him through his Twitter account. Despite their poor reception among citizens, President Trump's tweets have become a mainstay in the national news cycle.

Elsewhere in the world, other leaders have begun to utilize social media as an alternative form of mass communication. While their social media activity has not garnered as much attention as President Trump's account, leaders like Boris Johnson and Narendra Modi both have over one-million followers on Twitter and maintain an active presence on the platform. The increased activity on the part of world leaders has not gone unnoticed by Twitter, with the company recently announcing a new policy that regulates how leaders are able to use their accounts. In the announcement Twitter, stated that it would punish accounts that promote terrorism, represent clear and direct threats of

violence, or post private information without the other party's consent (Webb, 2019).

These regulations represent Twitter's response to the many complaints about the platform's inability to monitor the content posted by global leaders, most notably Donald Trump.

In an unpublished undergraduate research study on social media's ability to accurately measure personality traits, it was discovered that the personality traits of President Trump are much different on Twitter than they are in more traditional forms of media (Hinton, 2017). This study, one of the first that utilized Leadership Trait Analysis to analyze the personality traits exhibited through social media, compared over 1,000 tweets from the account @realDonaldTrump to thirteen interviews/press conferences. For five out of the seven LTA traits, "need for power," "conceptual complexity," "self-confidence," "distrust of others," and "in-group bias," the difference between Twitter and the traditional forms of media was greater than .1 points, a significant difference (Hinton, 2017). Although the data suggests that Leadership Trait Analysis is not an effective way to measure the personality traits exhibited in tweets, an alternative explanation may be in found in the way President Trump uses Twitter. Political leaders, like Donald Trump, may be more authentic on social media. On Twitter, President Trump is able to post whatever pops into his head at any hour of the day, as seen in the "covfefe" and other delirious late-night tweets (Hinton, 2017).

In today's era of technology, social media has become an integral part of the life of many citizens. Twitter, originally intended to allow individuals to maintain contact with their friends and family, has evolved into a political tool for the most powerful

people in the world. Information that used to take hours to send out can now be released to the public in a matter of seconds, something that will continue to shape global politics.

Gaps in Literature

After examining the literature, it is clear that research in the area of political leadership personality is not complete. It is not easy to observe global leaders up close, so we must evaluate them from far away through the use of speeches and other comments given to the general public. Among studies that have utilized Leadership Trait Analysis, many of them have looked into the personality traits of "Western" leaders like presidents, prime ministers, and the leaders of IGOs like the United Nations. Although some researchers have undertaken the task of conducting a Leadership Trait Analysis on the leaders of non-Anglo-American countries, this study seeks to expand the diversity that exists within previous research. In addition to the limited geographic diversity in previous studies, few have attempted to analyze the personality traits of female leaders. This could be due to the fact that there is not enough written or spoken material to conduct a content analysis, but nonetheless, the personality traits of diverse political leaders should be considered in order to aid our understanding of political leadership.

Another idea that has not been closely examined is the ability of social media to accurately measure the LTA traits of political leaders. To this point, most of the research on the personality traits of political leaders has utilized Leadership Trait Analysis to analyze only the more traditional forms of media. Leadership Trait Analysis has been very effective in analyzing interviews and press conferences, but with the rise of social media, it is imperative that scholars include this new form of media in studies on the

personality traits of political leaders. Instead of relying solely on pre-written material, political leaders are adapting and using social media in combination with the more traditional forms of communication. By examining a range of political leaders, such as Trump, Pelosi, Modi, Abe, and Johnson, this study identifies and discusses the potential benefits and drawbacks of evaluating the personality traits of political leaders in the age of social media.

Conclusion

Overall, the current state of the literature suggests that while Leadership Trait Analysis is the most effective way to measure the personality traits of political leaders, there are a few areas in which the research can be expanded. Given the importance of social media within the realm of international politics, this study utilizes social media in its analysis of the personality traits of the political elite. The previous literature has established that social media is a form of spontaneous material, and since Leadership Trait Analysis is able to measure personality traits from any form of spontaneous material, this study expects that Leadership Trait Analysis would be able to accurately utilize social media. Despite this expectation, some preliminary research suggests that Leadership Trait Analysis may not be an accurate way to measure the personality traits exhibited in the social media accounts of political leaders.

Chapter 3: Methodology

Introduction

In a world dominated by the political elite, it is important that we understand the underlying relationship between their individual personality traits and their style of leadership. Since it is difficult to observe political leaders up close, many scholars opt to use content analysis, an at-a-distance approach that measures their personality traits by analyzing spoken and written material. The most widely regarded of these methods, Leadership Trait Analysis, has been used extensively to measure the personality traits of presidents, prime ministers, and other world leaders. In the past, Leadership Trait Analysis has been used to measure the personality traits leaders portrayed in more traditional forms of spontaneous material such as interviews, phone conversations, and press conferences. An area that has only briefly explored is Leadership Trait Analysis's ability to use social media as a way to measure the personality traits of political leaders. Since Leadership Trait Analysis claims to be able to analyze any type of spontaneous material, and this study has argued that social media is a vital emerging form of this type of material, this study expects that social media is an effective way to analyze the traits of political leaders. In order to test this relationship, this study aims to answer the following research question: *Is an analysis of social media an effective way to measure the Leadership Trait Analysis personality traits of international leaders?*

This chapter provides a roadmap of the methodological approach used in this study by first discussing Leadership Trait Analysis as a form of content analysis. This section also discusses the traits included in Leadership Trait Analysis and how they are coded within Profiler Plus, the online analysis tool utilized in the study. Next, the chapter

examines the importance of including both social media and traditional media in this study. Since there are countless social media platforms, the decision to utilize only Twitter will be discussed. Finally, the leaders included in the study are introduced and discussed. In addition to a brief description on each leader, this section looks at how each leader has met the criteria needed to be included in this study.

Leadership Trait Analysis

In order to accurately measure leadership personality traits, this study employs Leadership Trait Analysis. Developed by Margaret Hermann, Leadership Trait Analysis consists of seven different traits: control over events, need for power, conceptual complexity, self-confidence, task orientation, in-group bias, and distrust of others (Hermann, 2003). Since the LTA system has already been developed, the definitions provided by Hermann (Table 1) in her study on Leadership Trait Analysis will be used in this study. During Hermann's studies on Leadership Trait Analysis, which span across twenty years, she also discusses how to code for each of the traits.

Control Over Events

For the trait "control over events," the coding focuses on verbs or action words (Hermann, 2003). Since leaders are willing to take responsibility for their own actions, Hermann focuses on actions that the leader has either proposed or carried out themselves. In order to generate a quantitative value for this trait, the system calculates the percentage of times the verbs in the material are used to take responsibility for an action as compared to how often these verbs are not used to take responsibility (Hermann, 2003).

Need for Power

For the trait "need for power," Hermann indicates that this trait is present when a leader is concerned with gaining, maintaining, or restoring the power associated with political office (Hermann, 2003). Much like "control over events," the coding for "need for power" is focused predominantly on verbs. A few examples where "need for power" is scored include when the leader engages in or proposes a strong action, gives unsolicited advice, tries to manage the behavior of another person or group, attempts to argue with someone in order to avoid reaching a conclusion, attempts to use their power to impress others, or shows concern for their own reputation (Hermann, 2003).

Conceptual Complexity

The personality trait "conceptual complexity" is coded for words that show the leader's willingness to discuss complicated issues and analyze them accordingly (Hermann, 2003). More specifically "conceptual complexity" is measured by determining a leader's ability to tell the difference between people and things within their environment. The coding system seeks to identify words that show a leader's ability classify different objects and place them into distinct categories. Words like approximately and possibility show a high level of conceptual complexity within a leader, whereas the words absolutely and certainly are believed to show a low level of conceptual complexity. Leaders who are able to think more broadly and evaluate different perspectives are classified as more conceptually complex. The score for this trait is calculated by finding the percentage of words that indicate high complexity (Hermann, 2003).

Self-Confidence

As the trait implies, "self-confidence" measures the level to which a leader believes they are important (Hermann, 2003). Individuals develop their self-confidence by comparing themselves to those around them and thus, the Leadership Trait Analysis trait "self-confidence" represents how leaders place themselves within their respective contexts. In the Leadership Trait Analysis coding system, pronouns such as "my," "myself," "I," and "me" are the main focus in determining the self-confidence of a leader. Leaders who use these pronouns more frequently are thought to be surer of themselves and will likely score higher for "self-confidence." The average score for this trait is calculated by finding the percentage of times these pronouns are used (or not used) within a given press conference or interview.

Task Orientation

In her analysis, Hermann found that political leaders perform two primary functions that shape the continuum for the trait "task orientation." The first part of leadership is to help the group move towards the completion of a goal and so this function is often seen as occupying the "task orientation" end of the spectrum. The second function, which represents the maintenance building side of the continuum, is to help their group maintain morale and build relationships (Hermann, 2003). Prior studies have found that leaders who fall somewhere in between the two traits are thought to be more charismatic (Hermann, 2003; Bass, 1981). They focus on solving the problem when it is appropriate and dedicate their time to building relationships when that seems more feasible. The coding for task orientation also focuses on counting how often (or not)

specific words are used, with the focus on words the describe the feelings or desires of a leader (Hermann, 2003). Examples of the task-oriented words include accomplishment, proposal, and tactic, while words that illustrate group maintenance are appreciation, amnesty, collaboration, and suffering. The score is calculated by finding the percentage of task-oriented words in comparison to the percentage of words that signify relationship building. Leaders who use a higher percentage of task-oriented words will also score higher for the trait "task-orientation."

In-Group Bias

The trait "in-group bias" indicates the belief that one's group holds a more important position than all other groups (Hermann, 2003). A leader who displays a high level of "in-group bias" is likely to make decisions that solely favor their own group. The coding for "in-group bias" focuses on specific words or phrases that refer to the superiority of their own group. Words that suggest high levels of "in-group bias" are ones that reference their own group positively (great, successful), ones that attempt to portray strength (powerful, capable), and ones that indicate a high level of honor or identity among the group (decide our own policies, need to defend) (Hermann, 2003). The score for "in-group" bias is found by calculating the percentage of times the leader refers to (or does not refer to) their own group in ways that imply their group is superior to other groups.

Distrust of Others

The final Leadership Trait Analysis Trait, "distrust of others," indicates that a leader possesses feelings of doubt or uneasiness about others they believe to be members

of a group different from their own (Hermann, 2003). Much like the trait "in-group bias,"

higher scores for "distrust of others" indicate a sense of superiority and could even

suggest that a leader is less willing to work with others they believe to be "outsiders."

The coding for this trait focuses on words that refer to other individuals and groups who

are not members of the leader's group. The score for this trait is calculated by finding the

percentage of times a leader uses language that indicates the distrust of another group.

Table 1: Leadership Trait Analysis Trait Descriptions

Trait	Description	Coding Words
Belief in Ability to Control Events	Degree of control the author perceives over the situations that one is in, perception that one can influence what happens.	Verbs that indicate people taking responsibility for planning or initiating an action. Actions proposed or taken by the author indicates belief in control over events. Ex. Possession, use of verbs like me and we when referring to a solution to an event.
Need for Power	Degree of the author's concern for establishing, maintaining or restoring one's power. The desire to control, influence, or have an impact.	Verbs where the author engages in a strong forceful action, gives unasked advice, attempts to regulate someone else's behavior, tries to persuade, bride or argue, endeavors to impress or gain fame with an action, or is concerned with his reputation or position.
Conceptual Complexity	Degree of differentiation which the author shows in describing or discussing other people, places, policies, ideas, or things.	Words that suggest the author can see different dimensions in the environment and words that indicate the author sees only a few categories along which to classify objects and ideas.
Self-Confidence	The author's sense of self-importance, or image of his ability to cope adequately with objects and persons in the environment.	The pronouns my, myself, I, me and mine. When the pronoun reflects the speaker is instigating an activity, should be viewed as an authority figure or is the recipient of a positive response, self-confidence is indicated.
Task Orientation	The author's relative emphasis on interactions with others when dealing with problems as opposed to focusing on the feelings and needs of relevant and important constituents.	Words that indicate work on a task, as well as words that center around concern for another's feelings. Task-oriented: achievement, plan, position, recommendation. Group-maintenance: appreciation, amnesty, collaboration, disappointment.
In-Group Bias	View of the world in which one's own group holds center stage, is perceived as the best and shows strong emotional attachment to this group.	References to the author's own group that are favorable, suggest strength, or indicate the need to maintain the group honor and identity. Ex. Maintain group identity, defend our borders
Distrust of Others	Wariness about others or the degree of the author's inclination to suspect the motives and actions of others.	References to persons other than the leader and to groups other than those to whom the leader identifies that convey distrust, doubt, misgivings, or concern. Ex. Leader portrays a sense of uneasiness for dealing with another leader or group.

Herman, 2003

While Leadership Trait Analysis was originally coded strictly by hand, recent advances in technology have allowed for the creation of an online system for coding the personality traits. Through the use of this new system, known as ProfilerPlus, this study will be able to more effectively analyze the reliability of using social media as a way to measure the personality traits of political leaders. ProfilerPlus, which is run by Social Science Automation, can be found by going to profilerplus.org. Upon creating an account with the website, users have access to a variety of coding schemes, including Leadership Trait Analysis. While the system has more than five coding schemes available, this study will solely utilize the Leadership Trait Analysis coding scheme. As shown in the literature review, Leadership Trait Analysis is the most reliable and most effective way to analyze the personality traits of political leaders.

Traditional and Social Media

Leadership Trait Analysis has predominantly been used to analyze the more traditional forms of media like interviews and press conferences. These media were used frequently by political leaders as a way to communicate their thoughts to the rest of the world. While these traditional forms of media continue to be used by present day leaders, the rise of social media has made way for an entirely new form of communication. The term social media encompasses any website or electronic application that allows users to quickly share information, ideas, and messages with one another (Miller et al., 2016; Perrin, 2015). Within the context of political leadership, social media platforms like Twitter and Facebook allow leaders to communicate these ideas in a more efficient manner.

When examining political leaders' use of social media, it is clear that Twitter is the preferred platform of many leaders. While some leaders, such as Donald Trump, have accounts through other social media platforms like Facebook and Instagram, they are often just reposts of the most important material from their Twitter accounts. As social media has evolved, fewer and fewer people are using Facebook to get their information. With recent debates over fake news still prominently in the minds of many citizens, more people are looking to get their information directly from the source. Through the use of Twitter, citizens are able to receive "direct" messages from their leaders, rather than relying on a third-party news corporation. This trend has not gone unnoticed by political leaders as many of them use Twitter as their primary form of political communication. Due to the prevalence of Twitter among both leaders and citizens, this study will utilize written material only from Twitter in conducting the analysis of the social media accounts of political leaders.

Collection and Analysis of Data

For the purposes of this study, Leadership Trait Analysis is used to examine the traits of international leaders based off of the text from their tweets, comparing them to the text from interviews and press conferences that have taken place during each respective leader's time in office. In order to be considered a valid study, the creators of Leadership Trait Analysis recommend that at least five-thousand words be collected for the traditional and social media analyses for each leader. Leadership Trait Analysis claims to be able to analyze any kind of spontaneous material. This study aims to determine if social media can be used by Leadership Trait Analysis to accurately measure

the personality traits of political leaders. In this study, the traditional forms of media will serve as the control group for the analysis of the selected leaders' personality traits. Since Leadership Trait Analysis has mostly utilized the more traditional forms of media to analyze the personality traits of leaders, the analysis of these kinds of material will serve as a comparison to the analysis of social media.

Once the data was collected, it was entered into Social Science Automation's Profiler Plus. In order to get the best picture of their traits, the Leadership Trait Analysis coding scheme was used in this instance. Since this study intends to compare the personality traits portrayed in tweets to those displayed in the traditional forms of media, the two types of media will be entered separately for each of the five leaders. After the analysis is complete, ProfilerPlus gives the leaders a score for each of the seven Leadership Trait Analysis traits. The score provided by Leadership Trait Analysis is quantified as a value from 0.0 to 1.0, with 1.0 representing the highest percentage for a given trait.

Table 2: World Leader Control Group

Personality Trait	284 World Leaders
Belief in Ability to Control Events	**Mean** = 0.35 **Low** < 0.30 **High** > 0.40
Need for Power	**Mean** = 0.26 **Low** < 0.21 **High >** 0.31
Conceptual Complexity	**Mean** = 0.59 **Low** < 0.53 **High** > 0.65
Self-Confidence	**Mean** = 0.36 **Low** < 0.26 **High** > 0.46
Task Orientation	**Mean** = 0.63 **Low** < 0.56 **High** > 0.70
Distrust of Others	**Mean =** 0.13 **Low <** 0.07 **High >** 0.19
In-Group Bias	**Mean** = 0.15 **Low** < 0.10 **High** > 0.20

Social Science Automation Version: October 2012

In order to standardize the scores for the leaders included, this study relies on Hermann's study of the personality traits of 284 political leaders from over forty-eight different countries. These leaders were in office between 1945 and 2012 and represent a variety of offices including: cabinet members, legislative leaders, terrorist leaders, and heads of state (Table 2). The score for each trait will fall near the mean (moderate), on the low end of the scale (low), or on the higher end (high). It is important to note that the scores for each trait will be labeled by where they fall in relation to the "control" group, which is derived from the average scores of 284 world leaders. (Table 2) (Hermann, 2012) The various relationships, which are represented in Table 3, will be written with

the social media score first, followed by the score for traditional media (social media level-traditional media level). If the score for the specific trait was the same for both traditional and social media, (moderate-moderate, low-low, or high-high) then the result for that trait will be classified as a "match." If the scores for a trait are different between traditional and social media, (moderate-high, low-high, or moderate low) then the results for that trait will be labeled as "differ."

Table 3: Trait Relationships

Relationship	Match/Differ
Low-Low	Match
Low-Moderate	Differ
Low-High	Differ
Moderate-Low	Differ
Moderate-Moderate	Match
Moderate-High	Differ
High-Low	Differ
High-Moderate	Differ
High-High	Match

Case Selection

In order to conduct this study, both social media and traditional media must be included in the analysis. This study utilizes the Twitter accounts of five different global leaders: United States President Donald Trump, Speaker of the House Nancy Pelosi,

British Prime Minister Boris Johnson, Indian Prime Minister Narendra Modi, and Japanese Prime Minister Shinzo Abe. In order to be included in the study, each leader must meet all of the four required criteria created for the purposes of this study. First and foremost, this study includes only leaders who all well-known within the international arena. While local leaders and the leaders of smaller constituencies certainly play an important role in the world of politics, this study has opted to include only those leaders who reach a large number of people and hold a significant role within their respective countries or territories (Prime Minister, President, Speaker of the House). Since it is important to include leaders who reach a significant amount of people on Twitter, the second criterion is that they must have at least one million followers on Twitter. The leaders included in this study will not all have similar followings on Twitter, but it was important to create a threshold that all leaders must meet in order to be included in the study.

The third criterion is that they must tweet at least three times per day. In addition to having well-known figures, this study aims to analyze the social media accounts of leaders who frequently use the platform to engage with their constituents. Leaders who tweet at least three times per day can be classified as individuals who rely heavily on Twitter as a form of political communication. The fourth and final criterion is that the leaders in question must use their Twitter accounts to promote some kind of policy position or portray any other information that serves to improve their political standing. This criterion is more difficult to quantify than the other three but can be seen among leaders who directly engage with voters and other leaders through the use of Twitter.

While searching for leaders to include in this study, it became apparent that it is important to included leaders from outside of the United States and Europe. While social media may be used more frequently in "Western" nations, it's impact can be felt around the world. The international political arena is filled with diverse voices and it is important for this analysis to reflect the great diversity, both culturally and geographically, that exists.

Since it is nearly impossible to collect every piece of material from each of these leaders, this study will analyze the tweets from each leader during the time period of June 1, 2019 to January 1, 2020. It is important to analyze the leaders within the same time period and this seven-month time period was selected because it represents the very recent past and will allow for a significant amount of material to be collected both from social media and the more traditional forms of media. This time period should allow for a significant number of tweets to be included in the analysis of each respective leader. Rather than conducting a partial analysis, this study has opted to conduct a complete analysis by analyzing all of the tweets from within this time period. Tweets are usually less than one-hundred and fifty characters and so a significant number of tweets must be collected from each leader in order to accurately analyze their personality traits.

In order to gain a real understanding of the traits of these leaders, it was important to find an array of interviews and press conferences. The number of interviews and press conferences given by the leaders in this study vary greatly. Leaders like Donald Trump and Nancy Pelosi give interviews or press conferences on a daily basis, whereas Japanese Prime Minister Shinzo Abe is known for being reluctant to conduct press conferences.

Due to the variation among leaders, this study aims to collect at least ten-thousand words for each of the five leaders, double the recommended number of words needed to conduct an accurate Leadership Trait Analysis (Hermann, 2012). Much like the tweets collected for this study, the interviews and press conferences used all took place sometime between June 1, 2019 and January 1, 2020. While leadership traits are unlikely to change over time, it is important that this study gather material from the same time period for all leaders.

International Leaders Selected for Inclusion in the Study

United States President Donald J. Trump

As the President of the United States, Donald Trump has the ability to reach one of the largest audiences in the world with his Twitter account. Given that the United States is one of the most technologically advanced countries in the world, it should come as no surprise that a significant percentage of the population is active on social media. Approximately 66.9 million people follow President Trump on Twitter, making him the most followed political leader on the platform and the eleventh most followed person in the world. Donald Trump defied the pattern created by President Barack Obama by opting to use his personal Twitter account as the primary account during his time in office. For the sake of this study, the account @realDonaldTrump will be used as the source for Donald Trump's tweets. The @POTUS account is often just retweeting the @realDonaldTrump account and is not directly run by the President. In addition to being the focus of much of the conversation regarding political leaders' use of social media, Donald Trump meets all four of the main criteria to be included: he is well-known

political leader, he has over one million followers on Twitter, tweets at least three times per day, and actively uses his Twitter account to discuss policy initiatives and persuade voters to support them. All of President Trump's press conferences and interviews were found through a search on the White House website (whitehouse.gov).

British Prime Minister Boris Johnson

Despite only recently being elevated to the position of Prime Minister in July of 2019 after the resignation of Theresa May, Boris Johnson has already garnered a significant following on Twitter. An outspoken supporter of Brexit and member of the British Parliament prior to his time as Prime Minister, Boris Johnson has a total of 1.23 million followers on Twitter. While this number may seem relatively low compared to Donald Trump's large following on the social media platform, Boris Johnson's total makes him one of the most followed politicians on Twitter. In addition to being a well-known leader, he has more than one million followers on Twitter, tweets more than three times per day, and uses his account to target voters and portray his policy initiatives. As the official leader of the United Kingdom, Boris Johnson holds one of the most powerful political leadership roles in the world and thus merits inclusion in this study. The account @BorisJohnson will be used in the analysis of Boris Johnson's Twitter usage. Since Boris Johnson was only recently elevated to the position of Prime Minister, some of the tweets included in the analysis will come from his time as a member of Parliament. Given the important role he played in the Brexit push within the British Parliament, Johnson's tweets from before his time as Prime Minister are still relevant in our study on political leadership. Since Prime Minister Johnson gives press conferences far less frequently, it

was more difficult to find transcripts for his interviews and press conferences. In order to find material that met the minimum number of words required by this study (10,000), interviews and press conferences were found from a variety of different news sources like *The Spectator, Aljazeera, The BBC, and ITV News*, as well as the official government website of the United Kingdom (gov.uk).

Speaker of the House Nancy Pelosi

The first non-head of state included in our analysis, Speaker of the House Nancy Pelosi, merits inclusion in this study due to the importance of her role within the United States House of Representatives, as well as her standing as one of the most powerful female leaders in the world. While the other leaders included in this study are the head of state in their own country, the literature indicates that it is valuable to study the political leadership of individuals who occupy other roles within the political arena. As Speaker of the House, she is one of the most powerful people in the United States. Since most heads of state around the world are men, Speaker Pelosi's inclusion allows this study to have more gender diversity. Often thought of as the most important person in all of Congress, Speaker Pelosi has been known to use her Twitter account to advance the policy initiatives of the Democratic party. She is also an outspoken critic of President Donald Trump and often utilizes her Twitter account to reach her followers and inform them of the negative impact President Trump has had on the United States. While not as popular on Twitter as Donald Trump, Nancy Pelosi has 3.38 million followers on the platform, second to only Alexandria Ocasio-Cortez among members of the House of Representatives. She also tweets at least three times a day and actively attempts to reach

and persuade voters through the platform. Nancy Pelosi is the owner of two Twitter accounts, but since one of her accounts is run by her campaign team, the account @SpeakerPelosi will be used. All of the press conferences and interviews used in the analysis of Speaker Pelosi were found on the official website of The United States Speaker of the House (speaker.gov).

Indian Prime Minister Narendra Modi

Given his position as the Prime Minister of India, Narendra Modi represents a different kind of political leader. Since most of the other leaders are from Western states, it was important to include leaders from other parts of the world, including Asia and the Middle East. Elected in 2009, Prime Minister Modi has been an active figure on Twitter for the entirety of his time in office. With 51.3 million followers on Twitter, Modi is the second most followed political leader in the world, second of course to United States President Donald Trump. In addition to the significant number of followers he has on the platform, Modi meets the other three criteria as he is well-known, tweets more than three times per day and uses Twitter as an alternative way to reach his constituents. Tweets from the account @narendramodi will be used in the analysis of leadership personality traits and since his tweets are predominantly in English, the study need not utilize the Google translation for Prime Minister Modi. The press conferences and interviews for Prime Minister Modi were collected from the official website for the Prime Minister of India (narendramodi.in), as well as news sources including *NDTV, The BBC*, and *India Today.*

Japanese Prime Minister Shinzo Abe

Another powerful Asian leader, Japanese Prime Minister Shinzo Abe, has been included in this study because of Japan's standing within the international community. Although he only has 1.61 million followers on Twitter, Prime Minister Abe is a well-known figure within the international political arena. While he does not tweet as frequently as some of the previously mentioned leaders, Prime Minister Abe still tweets around three times per day and relies on his Twitter account to convey policy proposals to his constituents. This study will utilize tweets from the account @AbeShinzo, and since Prime Minister Abe's tweets are in Japanese, Google translate will once again be relied on to provide the study with English translations. The difference in language also made it difficult to find traditional media sources for Prime Minister Abe. In order to collect at least 10,000 words, this study found transcripts from a few different sources including *CNBC, The Washington Post*, The UN website (un.org), as well as the official website of the Prime Minister of Japan and his cabinet (japan.kantei.go.jp).

Conclusion

Building off of research by Hermann (1999; 2003), this study utilizes Twitter accounts in order to analyze the personality traits of political leaders. Prior studies have relied predominantly on more traditional forms of media like interviews and press conferences, and while this study includes an analysis of the kinds of media, it is important to understand the reliability of using social media. By examining the Twitter accounts of five diverse, global leaders, this study attempts to gain a better understanding of Leadership Trait Analysis's ability to analyze other forms of spontaneous material. In

order to be deemed effective, the scores for each of the traits must be similar for both the

traditional forms of media and social media.

Chapter 4: A Trait Analysis of Tweets vs. Traditional Leadership Material

Introduction

In the previous chapters, the importance of analyzing the social media accounts of political leaders was discussed at length. As a growing form of political communication, the influence and impact of social media within the realm of political leadership is something that merits our attention. In this chapter, the results of the analyses within the study are presented and discussed. First, the results of the Leadership Trait Analysis for each of the five global leaders is discussed. Then, the results for each of the seven Leadership Trait Analysis traits are presented for each leader and are looked at individually for both traditional media and social media. This structure will allow for the analyses of each of the global leaders to be compared across the different media types (traditional vs social).

In addition to a leader-by-leader discussion, this chapter will also present the results of the analyses of each Leadership Trait Analysis trait. In this section, the results for all five global leaders will be grouped by the Leadership Trait Analysis traits, allowing for a better understanding of how the traits were portrayed across all of the leaders. If a leader's scores for a specific trait on social and traditional media fall within the same range, (moderate-moderate, low-low, or high-high) then the result for that leader will be classified as a "match." If the scores for traditional and social media do not fall within the same range, (moderate-high, low-high, or moderate low) the results for that leader will be labeled "differ." To conclude, this chapter reviews the overall results

from the analyses of all five leaders and discusses some of the trends present within the data.

Global Leaders Results

United States President Donald J. Trump

As the most followed leader on Twitter in the world, President Donald Trump occupies an important role in society and within the confines of this study. To start, the overall results (See Table 4) show that President Trump exhibited similar levels of a trait for only two of the LTA traits, "control over events" and "task orientation". For "control over events," both social media and traditional media fell within the moderate range at 0.35 and 0.38, respectively. In the case of "task orientation," President Trump scored 0.61 for social media and 0.68 for traditional media, meaning that both scores are classified as high.

For the other five LTA traits, the results show that the traits displayed by President Trump in his use of social media are different from the traits portrayed in traditional media. For the trait "need for power," President Trump's social media language scores high (0.35), whereas his use of traditional media indicates a moderate (0.23) level of this trait. The data shows that President Trump possesses a low level (0.47) of the trait "conceptual complexity" on social media and a moderate level (0.65) when using traditional forms of communication. The trait where President Trump displays a moderate level on social media, and a high level on traditional media, is "self-confidence" where he scored 0.29 for social media and 0.50 for traditional media. For the other two traits, "distrust of others" and "in-group bias," Donald Trump possesses high

levels of each trait on social media, 0.30 and 0.21, respectively, and moderate levels in

his use of traditional media, 0.18 and 0.16, respectively. Overall, the results show that for

most of the traits, President Donald Trump displays different levels of each trait on social

media than he does through his usage of traditional media.

Table 4: Trump Results

Traits	Match/Differ	Social Media	Traditional Media	World Leader (N=284)
Control Over Events	Match	Mean = 0.35 (Moderate)	Mean = 0.38 (Moderate)	**Mean** = 0.35 **Low** < 0.30 **High** > 0.40
Need for Power	Differ	Mean = 0.35 (High)	Mean = 0.23 (Moderate)	**Mean** = 0.26 **Low** < 0.21 **High** > 0.31
Conceptual Complexity	Differ	Mean = 0.47 (Low)	Mean = 0.65 (Moderate)	**Mean** = 0.59 **Low** < 0.53 **High** > 0.65
Self-Confidence	Differ	Mean = 0.29 (Moderate)	Mean = 0.50 (High)	**Mean** = 0.36 **Low** < 0.26 **High** > 0.46
Task Orientation	Match	Mean = 0.61 (Moderate)	Mean = 0.68 (Moderate)	**Mean** = 0.63 **Low** < 0.56 **High** > 0.70
Distrust of Others	Differ	Mean = 0.30 (High)	Mean = 0.18 (Moderate)	**Mean = 0.13 Low < 0.07 High > 0.19**
In-Group Bias	Differ	Mean = 0.21 (High)	Mean = 0.16 (Moderate)	**Mean** = 0.15 **Low** < 0.10 **High** > 0.20

United Kingdom Prime Minister Boris Johnson

As the recently appointed Prime Minister of Great Britain and leader of the Brexit

movement, United Kingdom Prime Minister Boris Johnson also occupies an important

role within the realm of political leadership. The analysis of Prime Minister Johnson's

traits reflects something similar to the one conducted on President Trump: there is a good

degree of variance between the trait levels exhibited on social media and the levels exhibited from the more traditional forms of media. Prime Minister Johnson exhibited similar levels for only two traits, "control over events" and "conceptual complexity." He scored 0.54 for social media and 0.43 for traditional media, levels that are considered high for the trait "control over events" (Table 5). For "conceptual complexity" he scored 0.55 for social media and 0.56 for traditional media, both well within the moderate range for this particular trait.

For the five traits in which Prime Minister Johnson portrayed different levels for social and traditional media, there were a few different patterns present. There were two traits in which he scored moderate on social media and high for traditional media: "self-confidence" and "distrust of others." For "self-confidence," Prime Minister Johnson scored 0.35 for social media and 0.52 for traditional media; and for "distrust of others," he scored 0.15 and 0.25 for social and traditional media respectively. There were also two traits in which he displayed a moderate level on social media and a low level within traditional media. His "task orientation" scores were 0.60 for social media and 0.54 for traditional media, whereas his scores for "in-group bias" were 0.16 for social media and 0.07 for traditional media. For the final trait, "need for power," Prime Minster Johnson displayed a high level on social media (0.46) and a moderate level (0.30) within his usage of the traditional forms of media.

Table 5: Johnson Results

Traits	Match/Differ	Social Media	Traditional Media	World Leader (N=284)
Control Over Events	Match	Mean = 0.54 (High)	Mean = 0.43 (High)	**Mean** = 0.35 **Low** < 0.30 **High** > 0.40
Need for Power	Differ	Mean = 0.46 (High)	Mean = 0.30 (Moderate)	**Mean** = 0.26 **Low** < 0.21 **High** > 0.31
Conceptual Complexity	Match	Mean = 0.55 (Moderate)	Mean = 0.56 (Moderate)	**Mean** = 0.59 **Low** < 0.53 **High** > 0.65
Self-Confidence	Differ	Mean = 0.35 (Moderate)	Mean = 0.52 (High)	**Mean** = 0.36 **Low** < 0.26 **High** > 0.46
Task Orientation	Differ	Mean = 0.60 (Moderate)	Mean = 0.54 (Low)	**Mean** = 0.63 **Low** < 0.56 **High** > 0.70
Distrust of Others	Differ	Mean = 0.15 (Moderate)	Mean = 0.25 (High)	**Mean** = 0.13 **Low** < 0.07 **High** > 0.19
In-Group Bias	Differ	Mean = 0.16 (Moderate)	Mean = 0.07 (Low)	**Mean** = 0.15 **Low** < 0.10 **High** > 0.20

United States Speaker of the House Nancy Pelosi

  As the United States Speaker of the House, Nancy Pelosi is arguably one of the most powerful female political leaders in the world. The results of the analysis on her media usage are somewhat similar to the analysis of President Trump in that only one of the seven LTA traits matched across social and traditional media. For the trait "distrust of others" she displayed similar levels across both social and traditional media. She scored 0.19 for social media and 0.13 for traditional media, both of which fall within the moderate level (Table 6).

Much like President Trump and Prime Minister Johnson, the results from the analysis of Speaker Pelosi portrayed a few different patterns. For the traits "control over events," "need for power," and "in-group bias," she displayed a high level for social media and a moderate level for traditional media. Her scores for "control over events" were 0.41 for social media (high) and 0.38 (moderate) for traditional media, her scores for "need for power" were 0.33 (high) for social media and 0.24 (moderate) for traditional media, and her scores for "in-group bias" were 0.21 (high) for social media and 0.12 (moderate) for traditional media. Speaker Pelosi exhibited a different relationship (low-moderate) for the trait "conceptual complexity," scoring 0.40 and 0.63 for social and traditional media respectively. She exhibited the same low-moderate trend for the trait "self-confidence," scoring 0.16 (low) for social media and 0.46 (moderate) for traditional media. The trait where Speaker Pelosi scored moderate for social media and low for traditional media was "task orientation." Speaker Pelosi scored 0.59 on social media and 0.52 for traditional media.

Table 6: Pelosi Results

Traits	Match/Differ	Social Media	Traditional Media	World Leader (N=284)
Control Over Events	Differ	Mean = 0.41 (High)	Mean = 0.38 (Moderate)	**Mean** = 0.35 **Low** < 0.30 **High** > 0.40
Need for Power	Differ	Mean = 0.33 (High)	Mean = 0.24 (Moderate)	**Mean** = 0.26 **Low** < 0.21 **High** > 0.31
Conceptual Complexity	Differ	Mean = 0.40 (Low)	Mean = 0.63 (Moderate)	**Mean** = 0.59 **Low** < 0.53 **High** > 0.65
Self-Confidence	Differ	Mean = 0.16 (Low)	Mean = 0.46 (Moderate)	**Mean** = 0.36 **Low** < 0.26 **High** > 0.46
Task Orientation	Differ	Mean = 0.59 (Moderate)	Mean = 0.52 (Low)	**Mean** = 0.63 **Low** < 0.56 **High** > 0.70
Distrust of Others	Match	Mean = 0.19 (Moderate)	Mean = 0.13 (Moderate)	**Mean** = 0.13 **Low** < 0.07 **High** > 0.19
In-Group Bias	Differ	Mean = 0.21 (High)	Mean = 0.12 (Moderate)	**Mean** = 0.15 **Low** < 0.10 **High** > 0.20

Japanese Prime Minister Shinzo Abe

The analysis of Japanese Prime Minister Shinzo Abe differs from the previous three leaders in that he displayed similar levels for four of the Leadership Trait Analysis traits. He displayed a high-high relationship for "control over events," scoring 0.51 for social media and 0.45 for traditional media (Table 7). The only trait in which he scored moderate for both social and traditional media was "need for power," where he scored 0.29 and 0.28, respectively. For the traits "self-confidence" and "distrust of others," he scored low for both social and traditional media. His scores for "distrust of others" were 0.06 for social media and 0.03 for traditional media, whereas his scores for "self-

confidence" differed slightly more at 0.10 for social media and 0.25 for traditional media.

The traits where Prime Minister Abe scored low for social media and moderate for

traditional media were "conceptual complexity" and "task orientation." His social media

score for "conceptual complexity" was 0.50 (low) and his score for traditional media was

0.57 (moderate). For "task orientation," the other trait that he displayed a low level for

social media and a moderate level for traditional media, Prime Minister Abe scored 0.46

and 0.64 respectively. For the final trait, "in-group bias," Prime Minister Abe scored 0.15

for social media and 0.21 for traditional media, meaning that he displayed a moderate

level for social media and a high level for traditional media.

Table 7: Abe Results

Traits	Match/Differ	Social Media	Traditional Media	World Leader (N=284)
Control Over Events	Match	Mean = 0.51 (High)	Mean = 0.45 (High)	**Mean = 0.35** **Low** < 0.30 **High** > 0.40
Need for Power	Match	Mean = 0.29 (Moderate)	Mean = 0.28 (Moderate)	**Mean = 0.26** **Low** < 0.21 **High** > 0.31
Conceptual Complexity	Differ	Mean = 0.50 (Low)	Mean = 0.57 (Moderate)	**Mean = 0.59** **Low** < 0.53 **High** > 0.65
Self-Confidence	Match	Mean = 0.10 (Low)	Mean = 0.25 (Low)	**Mean = 0.36** **Low** < 0.26 **High** > 0.46
Task Orientation	Differ	Mean = 0.46 (Low)	Mean = 0.64 (Moderate)	**Mean = 0.63** **Low** < 0.56 **High** > 0.70
Distrust of Others	Match	Mean = 0.06 (Low)	Mean = 0.03 (Low)	**Mean = 0.13** **Low** < 0.07 **High** > 0.19
In-Group Bias	Differ	Mean = 0.15 (Moderate)	Mean = 0.21 (High)	**Mean = 0.15** **Low** < 0.10 **High** > 0.20

Indian Prime Minister Narendra Modi

As the leader of India, Prime Minister Narendra Modi represents the second most populated country on the planet. He is also extremely active on Twitter, often relying on the platform to convey key messages to the Indian people and to the rest of the world. An initial review of the results shows that like most of the other global leaders included in this study, Prime Minister Modi's trait levels differed between social media and the traditional forms of political communication. Only two of the traits, "need for power" and "distrust of others," fell within the same level for both social and traditional media. For "need for power," Prime Minister Modi scored a 0.27 for social and traditional media, both of which fall within the moderate level (Table 8). For "distrust of others," the other trait in which his scores "matched," the Prime Minister scored 0.07 for social media and 0.12 for traditional, both which are classified as moderate.

Outside of the traits that matched, there were four different traits in which he exhibited low levels for social media and moderate levels for traditional media. His scores for "control over events" were 0.24 for social media and 0.31 for traditional media, for "conceptual complexity" the scores were 0.52 for social media and 0.60 for traditional media, for "self-confidence," his scores were 0.15 for social media and 0.31 for traditional media, while his scores for "task orientation" were 0.50 for social media and 0.65 for traditional media. The final Leadership Trait Analysis trait, "in-group bias," displayed a high level for social media at 0.22 and a moderate level for traditional media at 0.18.

Table 8: Modi Results

Traits	Match/Differ	Social Media	Traditional Media	World Leader (N=284)
Control Over Events	Differ	Mean = 0.24 (Low)	Mean = 0.31 (Moderate)	**Mean** = 0.35 **Low** < 0.30 **High** > 0.40
Need for Power	Match	Mean = 0.27 (Moderate)	Mean = 0.27 (Moderate)	**Mean** = 0.26 **Low** < 0.21 **High** > 0.31
Conceptual Complexity	Differ	Mean = 0.52 (Low)	Mean = 0.60 (Moderate)	**Mean** = 0.59 **Low** < 0.53 **High** > 0.65
Self-Confidence	Differ	Mean = 0.15 (Low)	Mean = 0.31 (Moderate)	**Mean** = 0.36 **Low** < 0.26 **High** > 0.46
Task Orientation	Differ	Mean = 0.50 (Low)	Mean = 0.65 (Moderate)	**Mean** = 0.63 **Low** < 0.56 **High** > 0.70
Distrust of Others	Match	Mean = 0.07 (Moderate)	Mean = 0.12 (Moderate)	**Mean =** 0.13 **Low <** 0.07 **High >** 0.19
In-Group Bias	Differ	Mean = 0.22 (High)	Mean = 0.18 (Moderate)	**Mean** = 0.15 **Low** < 0.10 **High** > 0.20

Leadership Trait Analysis (LTA) Traits Results

For the purposes of this study, it is important to not only analyze the results on a leader-by-leader basis, but also on a trait-by-trait basis. The next section will analyze each of the seven Leadership Trait Analysis traits on a trait-by-trait basis. By looking at each trait individually, this section allows for a closer analysis of the patterns that may exist across all five global leaders. Instead of determining how many "matches" or "differs" there are for each leader, this section is focused on determining the level of agreement (or difference) between social media and traditional media for each Leadership Trait Analysis trait.

Control Over Events

As we examine the trait "control over events" across the five global leaders included in the study, the results appear to be inconclusive. Three of the global leaders, President Trump, Prime Minister Johnson, and Prime Minister Abe, scored within the same level for both social and traditional media. President Trump was the only leader who scored moderate for both, while Prime Minister Johnson and Prime Minister Abe both displayed high levels of the trait within their social and traditional media (Table 9). One leader who displayed different levels for social and traditional media was Speaker Pelosi, who scored high for social media and moderate for traditional media. While the difference between her two scores was only 0.03 points, they do fall within two different levels and therefore must be labeled "differ." The last leader, Prime Minister Modi, scored low for social media and moderate for traditional media, making him the only leader to display a low level of "control over events" through his social media.

Table 9: Control Over Events Results

Leader	Match/Differ	Social Media	Traditional Media
Donald Trump	Match	Mean = 0.35 (Moderate)	Mean = 0.38 (Moderate)
Boris Johnson	Match	Mean = 0.54 (High)	Mean = 0.43 (High)
Nancy Pelosi	Differ	Mean = 0.41 (High)	Mean = 0.38 (Moderate)
Shinzo Abe	Match	Mean = 0.51 (High)	Mean = 0.45 (High)
Narendra Modi	Differ	Mean = 0.24 (Low)	Mean = 0.31 (Moderate)

Need for Power

For the trait "need for power," only two of the leaders displayed similar levels across both social and traditional media. Both Prime Minister Abe and Prime Minister Modi displayed moderate levels for social and traditional media, with Prime Minister Modi scoring 0.27 for both types of media (Table 10). The other three leaders, President Trump, Prime Minister Johnson, and Speaker Pelosi, all displayed high levels of "control over events" for social media and moderate levels of the trait for traditional media. The leader who had the most variation between the two scores was Boris Johnson, who scored 0.46 for social media and 0.30 for traditional media.

Table 10: Need for Power Results

Leader	Match/Differ	Social Media	Traditional Media
Donald Trump	Differ	Mean = 0.35 (High)	Mean = 0.23 (Moderate)
Boris Johnson	Differ	Mean = 0.46 (High)	Mean = 0.30 (Moderate)
Nancy Pelosi	Differ	Mean = 0.33 (High)	Mean = 0.24 (Moderate)
Shinzo Abe	Match	Mean = 0.29 (Moderate)	Mean = 0.28 (Moderate)
Narendra Modi	Match	Mean = 0.27 (Moderate)	Mean = 0.27 (Moderate)

Conceptual Complexity

As evidence by the results (Table 11), only one of the global leaders displayed the same level of the trait "conceptual complexity" across both social and traditional media.

Prime Minister Johnson portrayed a moderate level for both media types, scoring 0.55 for

social media and 0.56 for traditional media. The other four global leaders all exhibited a

similar pattern for "conceptual complexity." President Trump, Speaker Pelosi, Prime

Minister Abe, and Prime Minister Modi all displayed low levels of "conceptual

complexity" on social media and moderate levels of the trait through their use of

traditional media. President Trump and Speaker Pelosi displayed wide variations in this

trait between their social and traditional media, with differences of 0.18 and 0.23

respectively. While Prime Minister Abe and Prime Minister Modi also differed in the

levels of "conceptual complexity" they displayed, their differences were much smaller

(0.07 and 0.08) than the other two leaders.

Table 11: Conceptual Complexity Results

Leader	Match/Differ	Social Media	Traditional Media
Donald Trump	Differ	Mean = 0.47 (Low)	Mean = 0.65 (Moderate)
Boris Johnson	Match	Mean = 0.55 (Moderate)	Mean = 0.56 (Moderate)
Nancy Pelosi	Differ	Mean = 0.40 (Low)	Mean = 0.63 (Moderate)
Shinzo Abe	Differ	Mean = 0.50 (Low)	Mean = 0.57 (Moderate)
Narendra Modi	Differ	Mean = 0.52 (Low)	Mean = 0.60 (Moderate)

Self-Confidence

Much like the results for "conceptual complexity," the data for "self-confidence" shows that there is a good deal of variation between the social media accounts and traditional forms of communication. Only one leader, Prime Minister Abe, displayed similar levels of "self-confidence" across social and tradition media, scoring on the low level for both (Table 12). Among the other four leaders, two displayed a moderate level for social media and a high level for traditional media (Trump and Johnson), while the other two leaders (Pelosi and Modi) portrayed a low level for social media and a moderate level for traditional media. Of the leaders that displayed moderate levels for social media and high levels for traditional media, President Trump displayed more variation between the media types, scoring 0.29 for social and 0.50 for traditional media. The results from the leaders who scored low for social media and moderate for traditional media show that the difference Speaker Pelosi displays (0.30) nearly doubles the difference displayed by Prime Minister Modi (0.16).

Table 12: Self-Confidence Results

Leader	Match/Differ	Social Media	Traditional Media
Donald Trump	Differ	Mean = 0.29 (Moderate)	Mean = 0.50 (High)
Boris Johnson	Differ	Mean = 0.35 (Moderate)	Mean = 0.52 (High)
Nancy Pelosi	Differ	Mean = 0.16 (Low)	Mean = 0.46 (Moderate)
Shinzo Abe	Match	Mean = 0.10 (Low)	Mean = 0.25 (Low)
Narendra Modi	Differ	Mean = 0.15 (Low)	Mean = 0.31 (Moderate)

Task Orientation

President Trump was the only one of the five leaders to display a similar level of "task orientation" across both social and traditional media. He scored 0.61 for social media and 0.68 for traditional media, both of which are classified as moderate (Table 13). Among the other leaders, both Prime Minister Johnson and Speaker Pelosi displayed moderate levels of "task orientation" on social media and low levels when they utilize traditional media. The other two global leaders, Prime Minister Abe and Prime Minister Modi, both displayed low levels of "task orientation" on social media and moderate levels for traditional media. While both displayed somewhat large differences between the two types of media, Prime Minister Abe displayed a greater difference (0.18) than Prime Minister Modi, who differed by 0.15 between social and traditional media.

Table 13: Task Orientation Results

Leader	Match/Differ	Social Media	Traditional Media
Donald Trump	Match	Mean = 0.61 (Moderate)	Mean = 0.68 (Moderate)
Boris Johnson	Differ	Mean = 0.60 (Moderate)	Mean = 0.54 (Low)
Nancy Pelosi	Differ	Mean = 0.59 (Moderate)	Mean = 0.52 (Low)
Shinzo Abe	Differ	Mean = 0.46 (Low)	Mean = 0.64 (Moderate)
Narendra Modi	Differ	Mean = 0.50 (Low)	Mean = 0.65 (Moderate)

Distrust of Others

The "trait distrust of others" also displays varying results across the five different global leaders, with three of the leaders displaying similar levels of the trait and two leaders portraying different levels of the trait across social and traditional media (Table 14). Of the leaders who displayed similar levels, Prime Minister Abe was the only one to display low levels of "distrust of others" on social media (0.06) and traditional media (0.03). The other two leaders who displayed similar levels across both media types, Speaker Pelosi and Prime Minister Modi, both portrayed a moderate amount of "distrust of others." President Trump, one of the leaders who displayed different levels of "distrust of others," scored high for the trait (0.30) on social media and moderate (0.18) through his use of traditional media. While Prime Minister Johnson also displayed different levels of "distrust of others," he portrayed a moderate level (0.15) on social media and a high level (0.25) through his traditional forms of media.

Table 14: Distrust of Others

Leader	Match/Differ	Social Media	Traditional Media
Donald Trump	Differ	Mean = 0.30 (High)	Mean = 0.18 (Moderate)
Boris Johnson	Differ	Mean = 0.15 (Moderate)	Mean = 0.25 (High)
Nancy Pelosi	Match	Mean = 0.19 (Moderate)	Mean = 0.13 (Moderate)
Shinzo Abe	Match	Mean = 0.06 (Low)	Mean = 0.03 (Low)
Narendra Modi	Match	Mean = 0.07 (Moderate)	Mean = 0.12 (Moderate)

The trait "in-group bias" is different from the other six LTA traits in that all five

leaders differed in the levels of the trait they displayed between social media and the

traditional forms of media (Table 15). Among the global leaders in the study, President

Trump, Speaker Pelosi, and Prime Minister Modi all displayed high levels of "in-group

bias" on social media and moderate levels for traditional media, with Speaker Pelosi

showing the largest difference (0.09) between social and traditional media. Prime

Minister Johnson was the only leader in the study to display a moderate level of in-group

bias on social media (0.16) and a low level when utilizing traditional media (0.07). The

final leader included in this study, Prime Minister Abe scored 0.15 for social media and

0.21 for traditional media, thus displaying a moderate level of "in-group bias" on social

media and a high level on traditional media.

Table 15: In-Group Bias

Leader	Match/Differ	Social Media	Traditional Media
Donald Trump	Differ	Mean = 0.21 (High)	Mean = 0.16 (Moderate)
Boris Johnson	Differ	Mean = 0.16 (Moderate)	Mean = 0.07 (Low)
Nancy Pelosi	Differ	Mean = 0.21 (High)	Mean = 0.12 (Moderate)
Shinzo Abe	Differ	Mean = 0.15 (Moderate)	Mean = 0.21 (High)
Narendra Modi	Differ	Mean = 0.22 (High)	Mean = 0.18 (Moderate)

Conclusion

The results above indicate that all five global leaders exhibit some form of variation between the personality traits portrayed through social media and those exhibited through the use of traditional media. None of the leaders included in the study registered more than three trait "matches" across social and traditional media, with some registering as few as one "match" across all seven Leadership Trait Analysis traits. In the examination of the results on a trait-by-trait basis, no trait recorded more than three matches across all five leaders, with one trait (in-group bias) portraying zero matches among the leaders. The major findings of this study, as well as their overall implications, will be discussed in the next chapter.

Chapter 5: Conclusion

The purpose of this study is to answer the question: *is an analysis of social media an effective way to measure the Leadership Trait Analysis personality traits of international leaders?* Previous literature has established the importance of understanding the personality traits of political leaders, but most of these studies relied solely on an analysis of traditional media. Of the systems that have been used to examine the personality traits of political leaders, Leadership Trait Analysis has been identified as one of the most reliable. Leadership Trait Analysis, which has been shown to be effective at analyzing spontaneous material, has been used predominantly to analyze the press conferences and interviews given by political leaders. This study is an important new step in the potential application of Leadership Trait Analysis in that its main goal is to determine if social media can be used by Leadership Trait Analysis to accurately measure the personality traits of political leaders using this approach. Due to the growing importance of social media within the political arena, it is important to understand if social media is an accurate predictor of the personality traits of political leaders.

Overview of Findings

In order to answer the research question, this study analyzed the text from the Twitter accounts of five global leaders and compared it to the text utilized by the leaders within more traditional forms of media (e.g. press conferences, interviews). Using Leadership Trait Analysis, each leader was given a score (from 0-1.0) for each of the seven Leadership Trait Analysis traits. After a score was given for both social and traditional media, the results were compared on a leader-by-leader basis, as well as a

trait-by-trait basis. The results from this study indicate a lack of match between social media and traditional media. Out of the five global leaders included in the study, none of the leaders displayed "matches" for more than four of the seven Leadership Trait Analysis traits. Prime Minister Shinzo Abe "matched" for the traits "control over events," "need for power," "self-confidence," and "distrust of others" (Table 7). For the traits that did differ, Prime Minister Abe remained within one level (low-moderate, moderate-high) of one another. This means that while the results fell into different levels, the difference was not significant enough to exhibit a low-high or high-low relationship.

President Donald Trump only displayed two "matches" for the traits "control over events" and "task orientation" (Table 4). While his scores for the other five traits remained within one level of one another (low-moderate, moderate-high), they did not match across social and traditional media. When examining his use of traditional media, Donald Trump scored within the moderate range for six of the of the seven traits, with the only exception being a high score for "self-confidence." His social media usage on the other hand, displayed only three scores within the moderate range, three within the high range, and one within the low range. Given that he fell within the moderate range established by the world leader control group (N=284) for traditional media (Hermann, 2012), the results from the analysis of President Donald Trump appear to question the idea of social media, and more specifically Twitter, as a form of spontaneous material.

Another leader who only "matched" for two of the seven Leadership Trait Analysis traits, Prime Minister Boris Johnson, exhibited a high-high relationship for "control over events" and a moderate-moderate relationship for "conceptual complexity"

(Table 5). Much like President Trump, the traits in which Prime Minister Johnson "differed" all remained within one level of each other. Of the traits exhibited through his use of social media, only two fell within the "moderate" range, while three were classified as "high," and two were considered "low." When examining his social media scores, five of the traits fell within the "moderate" standard set by the control group of world leaders, while the other two were classified as "high." These results much like the analysis of President Trump's media usage, suggest that social media may not be a reliable form of spontaneous material.

The final leader who exhibited only two "matches" was Prime Minister Narendra Modi. He exhibited a moderate-moderate relationship for both "need for power" and "distrust of others" (Table 8). For the traits in which he did differ between social and traditional media, four of them exhibited a low-moderate relationship (control over events, conceptual complexity, self-confidence, and task orientation), while only one exhibited a high-moderate relationship (in-group bias). It is important to note that the analysis of Prime Minister Modi's traditional media exhibited moderate levels for all seven Leadership Trait Analysis traits. This means that the scores for all seven traits fell within the range established by the control group of global leaders (Hermann, 2012). In his use of social media, only two of the traits (need for power and distrust of others) fell within the moderate range established by the control group.

The last global leader included in our study, Speaker of the House Nancy Pelosi, only exhibited a "match" for one of the seven Leadership Trait Analysis traits (distrust of others) (Table 6). Of the traits that she "differed" on, three were high-moderate, one was

low-moderate, and one moderate-low. When looking at her scores for traditional media, six of them fell within the moderate range established by the world leader control group (Hermann, 2012). For the analysis of her Twitter account, two of the traits fell within the "moderate" level, three were classified as "high," and two were considered "low." These results once again call into question the validity of considering social media as a form of spontaneous material.

When examining the results on a trait-by-trait basis, it is once again unclear whether or not the social media can be utilized by Leadership Trait Analysis to measure the personality traits of political leaders. For the trait "control over events," three out of the five leaders displayed "matches" between social and traditional media (Table 9). Of the three "matches," two leaders displayed a high-high relationship, while one displayed a moderate-moderate relationship. The two leaders who "differed" in their scores, Speaker of the House Pelosi and Prime Minister Modi, displayed a high-moderate and a low-moderate relationship respectively. Although more than half of the leaders displayed "matches," the results for the trait "control over events" once again call into question the accuracy of classifying social media as spontaneous material.

For the next trait, "need for power," only two of the global leaders displayed "matches" for the trait: Prime Minister Abe and Prime Minister Modi (Table 10). Both leaders who exhibited a "match" exhibited a moderate-moderate relationship. For the leaders who "differed" between their social and traditional media scores, all three exhibited a high-moderate relationship. The leader who displayed the most variation in their scores was President Donald Trump, who scored 0.35 for social media (high) and

0.23 for traditional media (high). The overall disparity that exists for the trait "need for power" indicates that social media may not be a form of spontaneous material capable of being analyzed by Leadership Trait Analysis.

The next Leadership Trait Analysis Trait, "conceptual complexity," only exhibited one "match" out of the five global leaders (Table 11). The leader who displayed a "match," Prime Minister Boris Johnson, scored moderate for both social and traditional media. All of the leaders who differed in their scores for social and traditional media exhibited a similar relationship. In the case of "conceptual complexity," all four leaders exhibited a low-moderate relationship. These results once again bring into the question the idea of classifying social media as a form of spontaneous material.

The results for the trait "self-confidence" were similar to the results for "conceptual complexity" in that they both displayed only one "match" across the five global leaders (Table 12). The leader who matched for "self-confidence," Prime Minister Abe, exhibited a low-low relationship. Of the four leaders who differed, two displayed a moderate-high relationship (Trump and Johnson), while the other two (Pelosi and Modi) exhibited a low-moderate relationship. Much like the results from the three aforementioned Leadership Trait Analysis traits, the results for "self-confidence" suggest that social media may not useful in measuring the personality traits of political leaders.

The results from the fifth Leadership Trait Analysis, "task orientation," again call into question this study's understanding of social media as a form of spontaneous material. The only leader to exhibit a "match" was President Donald Trump, who displayed moderate levels of the trait for both social and traditional media (Table 13).

Among the four leaders who differed, Prime Minister Johnson and Speaker Pelosi both exhibited a moderate-low relationship, while Prime Minister Abe and Prime Minister Modi both displayed a low-moderate relationship for this trait. The results for "task orientation" do not provide any clarity in the process to better understand how to classify social media.

The next trait, "distrust of others," was one of only two Leadership Trait Analysis traits that exhibited three or more matches across the five global leaders (Table 14). Of the leaders who matched, two (Pelosi and Modi) exhibited a moderate-moderate relationship, while the other leader (Abe) displayed a low-low relationship. The two leaders who differed for the trait "distrust of others" exhibited opposite relationships. President Trump scored high for social media and moderate for traditional media, while Prime Minister Johnson scored moderate for social media and high for traditional media.

The last of the seven Leadership Trait Analysis traits, "in-group bias," did not display any matches across the five global leaders (Table 15). Three of the leaders, President Trump, Speaker Pelosi, and Prime Minister Modi, scored high for social media and moderate for traditional media. The other two leaders included in the study, Prime Minister Johnson and Prime Minister Abe, both exhibited different relationships. Prime Minister Johnson displayed a moderate-low relationship, while Prime Minister Abe exhibited a moderate-high relationship. The results for the trait "in-group bias," perhaps more than any of the other traits, suggest that social media is not effective at measuring the personality traits of political leaders within the Leadership Trait Analysis system.

This study was a methodological investigation into the effectiveness of using text from social media within Leadership Trait Analysis; a few important findings arose from the findings. The main goal of the study was to determine if social media could act as a form of spontaneous material and based on the results, we must question the validity of this description. Among the five global leaders, none displayed "matches" for more than four of the seven Leadership Trait Analysis traits. The traditional forms of media, including press conferences and interviews, have been proven by previous studies to be effective at analyzing the personality traits of political leaders. Consequently, the results of the analyses of the global leaders are assumed to be fairly accurate. Given the discrepancy that exists between the results of the traditional media analyses and the social media analyses, the idea of social media as a form of spontaneous material must be questioned.

Implications

In this section, the overall implications of this study are discussed. First, the section analyzes the classification of social media as a form of spontaneous material. While social media was considered by this study to be a type of media that is created instantaneously or without much thought, there are several factors that question the validity of this claim. First, there is no proof that the leader is actually the one creating the tweets that come from their account. In the case of President Trump, some scholars have argued that his social media and communication teams are largely responsible for the creation of his tweets. Another reason to question the classification of social media as spontaneous material is the fact that leaders can edit and alter their tweets before sending

them out. When a leader gives an impromptu press conference or interview, they do not have a lot of time to think through their thoughts, thus making these traditional media sources spontaneous.

After the discussion on social media, this section analyzes the accuracy of Leadership Trait Analysis. If social media is considered to be spontaneous material, then the skewed results from this study could be due to a flaw within Leadership Trait Analysis, which claims to be able to analyze any form of spontaneous material. If the issue is not a flaw within Leadership Trait Analysis, then the results could be due to a variety of issues associated with social media, including the aforementioned lack of spontaneity, the question of whether or not the leader is the one who creates their tweets, or the differences in the language used on social media and on Twitter.

Social Media as Spontaneous Material

At the beginning of this study, social media was thought to be media that is created instantaneously or without significant preparation. When most individuals tweet, it is commonly believed they do not typically spend a significant amount of time planning out their message. Within the realm of political leadership, many leaders appear to follow this practice by sending out tweets that contain language that is less formal than the typical language utilized in traditional forms of media. One leader who has displayed a pattern of speaking in a similar manner to how he tweets is United States President Donald Trump. Often criticized for not speaking or behaving like the traditional leader of a country, President Trump has defied the previously held ideas of how a leader should

act and has revolutionized the ways in which leaders are able to use social media as tools for political communication.

The results from this study suggest that the notion that tweets are spontaneous may be incorrect. When a leader gives an impromptu press conference or interview, they are more than likely speaking on the spot, or spontaneously. While they may have prepared for the potential questions ahead of time, their thoughts are often unfiltered and are formulated in that very moment. In the case of social media, and more specifically Twitter, it is unclear whether or not tweets are as spontaneous as this study originally believed them to be. Given the discrepancies that exist in the data, the process of creating and sending out tweets must be called into question. It is entirely possible that instead of randomly tweeting whenever they feel like it, the world leaders included in this study undertake a very meticulous process when writing their tweets. The process of sending out the tweets could involve creating the tweets and revising them before deciding to release them to the public. If this were to be true, it would completely alter the way this study classified social media, as this process of revision indicates a lack of spontaneity.

When leaders utilize traditional media, there are often other witnesses who can testify that a leader has spoken the words they claim to be their own. In the case of social media, there are very few instances in which a leader can be seen tweeting or posting on social media. When the account of a leader sends or creates a post, it is often assumed that the leader was the one who sent it. While Donald Trump claims that all of his tweets are written and approved by him, there are several scholars who have called into question the accuracy of this statement. According to a recent *New York Times* article, the

president may have other people writing and ultimately sending out the heavily publicized tweets. In a recent lawsuit filed by individuals who have been blocked by the account @realDonaldTrump, the President, along with three of his staff members (Hope Hicks, Sarah Huckabee Sanders, and Dan Scavino) were named as defendants (Draper, 2018). This, along with Scavino's role as "Director of Social Media," appears to suggest that the President is not the one who is creating his own tweets. While the President and his team deny that the tweets come from anyone other than the President himself, the strong difference between the traits he exhibits on social media and the ones he exhibits through traditional media suggest that there may be some validity to this claim.

For the purpose of this study, all tweets were assumed to be the unfiltered, original thoughts of the political leaders in question. If it is true that someone else is developing and sending the tweets on behalf of a leader, this might explain the discrepancy between the scores for social and traditional media exhibited in the results. While this study cannot say with complete certainty that these claims are correct, if true, they indicate that the tweets may be someone else's words and thus, cannot be attributed to the leader whose account they are tweeted from.

While this case applies specifically to Donald Trump, it is reasonable to believe that the other global leaders in this study have incorporated a similar strategy when it comes to social media. Having other individuals who tweet on behalf of the leader allows for more tweets to be produced at a much faster pace. This saves the leader time and effort, all while allowing them to publicly maintain the idea that these tweets are their original and unfiltered thoughts. Unfortunately, it is difficult to determine who is creating

and sending the tweets on a daily basis. Aside from the leader admitting to not being the creator of their tweets, there is insufficient evidence that can prove whether or not tweets are in fact the personally crafted messages of a leader.

The Accuracy of Leadership Trait Analysis

As established in the literature review, Leadership Trait Analysis is considered to be one of the most reliable predictors of the personality traits of political leaders. Developed by Margaret Hermann, Leadership Trait Analysis claims to be able to analyze any form of spontaneous material. Based on the results of the study and what we know about social media, some might question if Leadership Trait Analysis is only useful when analyzing the more traditional forms of media. The Leadership Trait Analysis system was originally designed to analyze the personality traits of political leaders based on their use of traditional media. While social media is often considered to be a form of spontaneous material, the language used by political leaders on Twitter differs greatly from the language they use in more traditional settings. Tweets are meant to be short, concise statements that allow constituents to quickly learn about a leader's opinion. Press conferences and interviews, on the other hand, are often lengthy affairs that allow the leader to speak for significant periods of time and provide complete descriptions of their proposed policies. The differences in language between tweets and their more traditional counterparts (press conferences and interviews) may provide a partial explanation for the differences exhibited within the data.

This study also raises concerns about the overall reliability of Leadership Trait Analysis. If the previous concerns about social media as a form of spontaneous material

are incorrect, then we might call into question the reliability of Leadership Trait Analysis. While these concerns are valid, the problem does not lie within Leadership Trait Analysis, but rather with the types of material this study attempted to use. For the most part, the results among leaders were much more stable among the traditional media category. Three of the five leaders included in this study scored within the control group's moderate range for at least six of the Leadership Trait Analysis traits. Given that the control group was created by taking the averages of 284 global leaders, it makes sense that a majority of the leaders in this study displayed similar levels of the Leadership Trait Analysis traits. Overall, the results show that Leadership Trait Analysis is most effective at analyzing the traditional forms of media used by political leaders. In order to use social media properly, Leadership Trait Analysis may need to change certain parts of its coding scheme in order to account for the differences in language, length, and formality that exist between social media and the traditional forms of media.

Strengths of Study

One of the study's main strengths is that it is one of the first studies (aside from a semester long project) to utilize social media within a Leadership Trait Analysis system. By using social media, this study seeks to challenge the system of Leadership Trait Analysis. The study was able to utilize a significant amount of material for both traditional and social media. Tweets for each leader were collected over a seven-month period and at least ten-thousand words were used for the traditional media, doubling the minimum suggested by Leadership Trait Analysis. While this study is considered a partial analysis, there was a significant number of words included for both social and

traditional media. The creator of Leadership Trait Analysis, Margaret Hermann, recommends that a minimum of 5,000 words are needed in order to conduct a proper analysis. Within this study, every single category (social or traditional media) for each of the five leaders contained at least 10,000 words, doubling the suggested number of words.

Another strength of this study is the diverse group of global leaders included in the study. In addition to the leaders of two of the most powerful countries in the world (the United States and the United Kingdom), the study was able to include the perspectives of the Prime Ministers of a global economic power (Japan) and a rapidly developing country with the world's second highest population (India). Additionally, the study was able to incorporate one of the most powerful female leaders in the world, allowing for both gender and racial diversity within the study. By including this set of diverse leaders, this study is able to expand on a previous study that looked exclusively at the personality traits of President Donald Trump (Hinton, 2017).

Limitations of Study

While this study attempted to develop a complete and accurate analysis of social media within Leadership Trait Analysis, there are a few noticeable limitations. One of the main limitations, which was discussed earlier in the section, is that scholars cannot determine whether or not all of the tweets sent out by a leader's account are actually sent by that specific leader. Without watching the leader create and send each tweet, it is nearly impossible to determine who is sending out the tweets. For the purpose of this study, we have determined that until a leader explicitly admits that they are not sending

out their own tweets, we must assume that the tweets sent out by a leader's account are the authentic thoughts and opinions of that leader.

Another limitation of the study is the number of leaders included in the study. While it would have been ideal to include leaders from other backgrounds and regions, it would have been difficult to include more individuals. This study was conducted over the course of eight months, meaning that there was simply not enough time to collect and analyze the data from more than five international leaders. If the study was conducted over the course of a few years, it would have been easier to include more leaders.

Another setback comes in the form of a potential selection bias regarding the interviews. This study was not able to include every interview or press conference given by each leader during the established time period. For some of the leaders who do not frequently give press conferences, it was more difficult to find these types of traditional media, which made selecting interviews and press conferences across the time period somewhat difficult.

In addition to the potential selection bias, the study was also limited by the period time from which the social and traditional media were collected. While it would have been ideal to collect tweets over the course of a few years, various time constraints made this task rather difficult. The number of words collected from each leader's twitter account exceeded 10,000 words (more than double the words suggested), but a greater increase in the number of words included would have allowed for even more reliable results to be collected. If 10,000 plus words were collected from a seven-month period, the number of words analyzed could easily exceed 50,000 words if the tweets and

traditional media were collected over the course of a leader's time in office. A lengthened collection period would also allow the study to eliminate potential biases that have occurred due to the time period.

A limitation that applies to one leader in particular, Japanese Prime Minister Shinzo Abe, pertains to the study's use of "Google translate." Since Prime Minister Abe communicates primarily in Japanese, this study relied on the translate feature provided by Google. Even though Google claims that its translations are very accurate, previous studies have found the system to be somewhat inaccurate (Brummer et al., 2020). Since the words used in this analysis were the result of a Google translation, this study must call into question the accuracy of the results for Prime Minister Abe. If the Google translation from Japanese to English was even slightly off, it could have had a major impact on the scores Prime Minister Abe displayed for both social and traditional media.

Future Research

While the results from this study were inconclusive, it is important to continue studying the personality traits of political leaders. As some of the most powerful people in the world, political leaders occupy important roles within society and thus merit our attention. The more we know about a leader and their personality, the better we are able to determine how they think and make important decisions. One of the best ways to analyze the personality traits of political leaders is to look at the spontaneous material they produce. In order to enhance our understanding of these personality traits, future research should seek to expand on the literature that exists on Leadership Trait Analysis. It is also important that future research focus on leaders from historical underrepresented

areas. This means conducting more research on female leaders and leaders from non-Western nations.

In addition to the aforementioned goals, it is also important that future studies on Leadership Trait Analysis come up with a way to analyze the words of non-English speaking leaders. This study, which relied on Google translate to analyze the traits of Prime Minister Abe, would have benefited from a system capable of analyzing text from a variety of different languages. In addition to increasing the accuracy of the results, a system that is capable of analyzing text from multiple languages would allow for greater diversity within the research on Leadership Trait Analysis. To this point, much of the research on Leadership Trait Analysis has either been conducted on leaders who speak English or has utilized flawed systems like Google translate to account for leaders who speak a different language. The development of a system that can be utilized to study leaders who speak a variety of languages would be instrumental in expanding the literature that exists on Leadership Trait Analysis.

This study also indicates that future research should focus on ways to effectively incorporate the written material from social media into our understanding of the personality traits of political leaders. Even though this study ultimately found that when using Leadership Trait Analysis, social media is not the most effective way to understand the personality traits of political leaders, future research might allow for the creation of different methods to incorporate this growing form of political communication. When discussing future research on Leadership Trait Analysis, it is important that the system adapt to better incorporate material that comes from social media. Whether that be a

change in the coding scheme, or the creation of a system dedicated solely to social media, action must be taken in order to include this important form of media. The differences exhibited in the results could also have something to do with the way tweets are worded. Future research could allow for adaptations to the current Leadership Trait Analysis system in order to accommodate for the language utilized on social media. While leaders still hold press conferences and give interviews, more and more are turning to social media as a way to spread their message in a more efficient manner. Future scholars should take note of this trend and begin to alter their analyses to better incorporate social media into the study of political personalities.

It is also important that future research establish a way to classify social media. The results from this study suggest that social media should not be considered spontaneous material, but future research should expand on the results from this study and provide a more definitive classification. If future research finds that social media is not a form of spontaneous material, then studies in the future should seek to determine if social media can still be used to analyze the personality traits of political leaders. Social media is a growing form of political communication, and regardless of how future studies decide to classify it, must at least be considered when discussing and analyzing the personality traits of political leaders.

In order to effectively utilize social media as a tool for understanding the personality traits of political leaders, there are few goals future research must accomplish. To start, it is important that future studies determine if leaders are actually the ones who are creating and sending out tweets. Although it will likely be very difficult to determine

who is doing the tweeting, scholars can go about examining this situation in a few different manners. While the researchers could ask the leaders themselves, they might have more success reaching out to individuals who work with or previously worked under these leaders. Some individuals may be hesitant to respond honestly to these questions, especially if the leader in question is still in office. Researchers may find more success if they begin their inquiries into who is responsible for tweeting after the leader has left public office.

Another important goal for future research is to determine the process leaders undertake to create their tweets. The exact details of this process are currently unknown, but in order to accurately classify social media, future studies must gain more insight into the steps leaders use to create their tweets. If, as this study originally believed, the tweets of political leaders are sent out with little preparation, then the classification of social media as spontaneous material would be deemed correct. On the other hand, if it is discovered that tweets are sent out only after significant thought and revision, it would seriously damage the idea that tweets possess spontaneity. The most obvious way for future studies to solve this discrepancy is to ask the leaders themselves about the process, something that may be rather difficult to achieve. Even if the leaders agree to answer questions about how their tweets are created, there is no guarantee that they will be honest about the process. Additionally, it may be difficult to find individuals willing to speak to the exact nature of the process utilized to create tweets. Future studies may have an easier time finding people who can attest to the process after the leader they worked for has left office. In this case, studies would rely on the testimonies of individuals who

witnessed the process firsthand or had advanced knowledge of how the leader and their staff undertook the challenge of creating tweets.

Building off of some of the limitations of this study, future research should seek to expand on the period of time from which the social and traditional media were collected. This study, due to time constraints, was only able to collect tweets across a seven-month time period. While the overall number of words nearly doubled the recommended amount, future research would benefit from including tweets and traditional media over the course of a few years, rather than just a few months. If the analyses were to be conducted after leaders have left office, future studies could collect data from the entirety of their time in office, thus increasing the reliability of the results.

In addition to a longer collection period, future research should seek to increase the number of leaders included in this study. Again, due to time constraints, only five global leaders were included in this study. The results from this study provide many important implications, many of which would be better supported if the number of leaders was increased. In the control group that was utilized for this study, Hermann was able to discover the personality traits of 284 international political leaders. Should future research identify social media as a form of spontaneous material, they could build on this study by examining the social media accounts of each of these leaders and comparing the results across all 284 of them. While this may be difficult to accomplish due to the fact that not every one of leaders may possess a Twitter account, an expanded number of leaders would help to confirm or reject the overall results and implications found within this study.

Conclusion

Building upon the prior literature conducted on Leadership Trait Analysis, this study tested a methodological component of the approach by utilizing the social media of five international political leaders. More specifically, the study sought to determine if social media could be utilized by Leadership Trait Analysis to produce an accurate measure of the leaders' personality traits. The results from this study suggest that under the current system of Leadership Trait Analysis, social media is not a form of media that can accurately measure the personality traits of political leaders. While the results may not have shown social media to be an accurate way to analyze the personality traits of political leaders, this study encourages future studies to search for different ways to incorporate social media into our understanding of political personalities. Despite these findings, this study has contributed positively to the fields of international relations and political psychology and has opened the door for future research to explore the ways political leaders utilize social media.

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Appendix: Traditional Media Data

President Donald Trump

- Press Gaggle: Donald Trump Speaks to the Press Before Marine One Departure - November 20, 2019

- Press Gaggle: Donald Trump Speaks to the Press Before Marine One Departure - November 4, 2019

- Press Gaggle: Donald Trump Speaks to the Press Before Marine One Departure - October 25, 2019

- Press Gaggle: Donald Trump Speaks with Reporters at the United Nations - September 24, 2019

- Press Gaggle: Donald Trump Speaks to the Press Before Marine One Departure - September 16, 2019

- Press Gaggle: Donald Trump Speaks to the Press After Marine One Arrival - September 1, 2019

- Press Gaggle: Donald Trump Speaks to the Press Before Marine One Departure - August 7, 2019

- Press Gaggle: Donald Trump Speaks to the Press Before Marine One Departure - July 24, 2019

- Press Gaggle: Donald Trump Speaks to the Press Before Marine One Departure - June 11, 2019

- Press Conference: Donald Trump Answers Questions Before Leaving for Camp David - June 1, 2018

Prime Minister Boris Johnson

- The Full Transcript of Sophy Ridge's Interview with Boris Johnson

- Full transcript of PM's conference interview with Laura Kuenssberg

- Full Transcript of Boris Johnson's Conference Interview with ITV News

- Transcript: Boris Johnson on Andrew Marr

- The Transcript of Boris Johnson's Remarks at the UN General Assembly

- PM press conference at EU Council: 17 October 2019

- Full transcript: Boris Johnson Grilled by Andrew Neil

Speaker of the House Nancy Pelosi

- Transcript of Pelosi Weekly Press Conference Today
  Dec 19, 2019 Press Release

- Transcript: House Speaker Nancy Pelosi on "Face the Nation," November 17, 2019

- Pelosi & Schiff Hold News Conference
  Aired October 2, 2019

- Transcript of Speaker Pelosi, Bicameral Congressional Delegation to COP25 Madrid Press Conference
  DECEMBER 6, 2019

- Transcript of Pelosi Weekly Press Conference Today
  NOVEMBER 21, 2019

- Transcript of Pelosi Weekly Press Conference Today
  JUNE 20, 2019

- Transcript of Pelosi Weekly Press Conference Today
  June 27, 2019

- Transcript of Pelosi Weekly Press Conference Today
  September 26, 2019

- Transcript of Pelosi Weekly Press Conference Today
  September 12, 2019

- Transcript of Pelosi Weekly Press Conference Today
  July 11, 2019

Prime Minister Shinzo Abe

- Presidency Press Conference by Prime Minister Shinzo Abe Following the G20 Osaka Summit
  [June 29, 2019]

- Prime Minister Abe's Interview with Bangkok Post (Kingdom of Thailand) (November 4, 2019)

- Prime Minister Abe's Interview with al-Sharq al-Awsat (June 26, 2019)

- Prime Minister Abe's Interview with Izvestiya (Russia) (September 5, 2019)

- Remarks: Donald Trump Holds a Second Bilateral Meeting with Shinzo Abe of Japan - August 25, 2019

- Remarks: Donald Trump Attends a Signing Ceremony with Shinzo Abe of Japan - September 25, 2019

- Keynote Address by the Prime Minister at the Opening Session of the Seventh Tokyo International Conference on African Development （TICAD VII）

- "Japan and the EU: The Strong and Steady Pillars Supporting Many Bridges"– Keynote Address by the Prime Minister at the Europa Connectivity Forum

Prime Minister Narendra Modi

- PM's interview to Bangkok Post on India's role in the region and the world ahead of ASEAN related summits in Bangkok
  02 Nov, 2019

- ET Exclusive: Will make India a better place to do business, says PM Modi
  August 12, 2019

- Remarks by PM During DVC with Maldivian President Solih

- PM Modi's Remarks at Joint Press Meet with Sri Lankan President

- PM Modi's Remarks at Joint Press Meet with President Putin

- PM Modi's Interview to IANS
  August 13, 2019

- KT EXCLUSIVE: Even the Sky is Not the Limit for UAE-India Ties, Says Indian PM Modi
August 24, 2019