

Trump's Pandemic:
A Content Analysis of Attribute Agendas in U.S. News Media Coverage of the
COVID-19 Outbreak Through November 2020

by

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ABSTRACT

2020 is a year that will forever be remembered for two highly significant events; the 2020 United States presidential election and the start of the global COVID-19 pandemic. These issues became highly politicized by the news media, and the presence of second level agenda setting effects became evident in mainstream coverage, specifically in building an association between President Donald J. Trump and the COVID-19 pandemic. This study explores how agenda setting played a role in the medias' coverage of the COVID-19 pandemic, particularly with regard to the following issue attributes: "Vaccine," "Mask," "Economy," "School/Student," "Biden," "Lockdown/Quarantine," "Deaths/Dead," "China/Chinese," "Pandemic," and "Trump." Articles with headlines mentioning the terms, "Trump" and "COVID-19," or "coronavirus," were aggregated using the GDELT Project, also known as the Global Database of Events, Language, and Tone. These articles were then analyzed in hopes of finding patterns in the overall coverage of the COVID-19 pandemic, especially as such patterns relate to the aforementioned attributes and the frequencies at which they appeared in the acquired dataset. This study addresses how such patterns and frequencies are informed by second level agenda setting, particularly as it relates to the use of global events as a political tool to either exalt or disparage a political figure.

Table of Contents

ABSTRACT	ii
LIST OF FIGURES	v
LIST OF TABLES	vi
CHAPTER 1: INTRODUCTION AND LITERATURE REVIEW	1
The Basics of Attribute Agenda Setting.....	4
Attribute Agenda Setting and Public Health	9
Attribute Agenda Setting and Pandemics	15
CHAPTER 2: METHODOLOGY:	20
Data.....	20
Procedures.....	21
Textual analysis.....	23
CHAPTER 3: RESULTS	25
Dataset descriptives	25
Headline attributes	25
Tone and Focus: A Qualitative Perspective	45
CHAPTER 4: CONCLUSIONS AND DISCUSSION:.....	54
Qualitative findings and suggestions for future research	60
Limitations.....	61
References	64

Appendix A: Python script for automating GDELT API Doc 2.0 downloads	69
Appendix B: Word frequency count Python script	74

LIST OF FIGURES

Figure 1. COVID-19 article volume by week, all sources	29
Figure 2. Headline attribute volume by week, all sources	31
Figure 3. Headline attribute volume by week, WashingtonPost.com	33
Figure 4. Headline attribute volume by week, FoxNews.com	34
Figure 5. Headline attribute volume by week, NYTimes.com	35
Figure 6. Headline attribute volume by week, APNews.com	36
Figure 7. Headline attribute volume by week, USAToday.com	37
Figure 8. Headline attribute volume by week, CNN.com	38
Figure 9. Headline attribute volume by week, MSNBC.com	39
Figure 10. Headline attribute volume by week, NPR.org	40
Figure 11. Headline attribute volume by week, WSJ.com	41
Figure 12. Average “Trump” attribute weekly volume, by source	45

LIST OF TABLES

Table 1. Article counts by source, for all articles and for all coded articles.....	27
Table 2. Headline attribute distribution, all headlines and all coded headlines.....	28
Table 3. Mentions of Trump attribute and most-competitive attribute, by source	42
Table 4. Trump attribute volume regressed on week, by source	43

CHAPTER 1: INTRODUCTION AND LITERATURE REVIEW

Lippmann (1922) asserted that most people experience most of what happens in public affairs not directly, through personal experience or firsthand observation, but indirectly, through interaction with a pseudo-environment created and maintained by news media. Four decades later, Maxwell McCombs and Donald Shaw imagined a key component of this pseudo-environment as an agenda, with issue objects arranged in descending order of salience – an order determined primarily by news media and transferred to their audiences. Media accomplished this transference, McCombs and Shaw theorized, through a frequency-driven process in which issues mentioned often in media coverage acquired more salience than issues mentioned less often in media coverage (McCombs & Shaw, 1968). It soon became evident that agenda setting operated at two levels. The original conceptualization of different issues competing with one another for agenda salience described "first-level" agenda setting, while "second-level" agenda setting involved salience competition among different attributes of the same object – for example, the salience of "qualifications," "personality," and "ideology" as attributes of a given political candidate (McCombs, Llamas, Lopez-Escobar & Rey, 1997).

Put another way, first level agenda setting states that a higher frequency of media mentions of a particular issue correlate positively with an audience's perception of the importance of the issue. Meanwhile, second level agenda setting states that a higher frequency of media mentions of an issue attribute correlates positively with an audience's association of an issue with the issue attribute. Thus, frequent mentions of an issue

attribute create an association between an issue and the issue attribute, such that an audience begins to think of the issue in terms of the issue attribute.

The research conducted herein comes in the midst of the COVID-19 pandemic, which began in March of 2020. However, the COVID-19 virus was first identified in December 2019, and declared a Public Health Emergency of International Concern (PHEIC) in January 2020 by the World Health Organization. Importantly, the chaos caused by this pandemic has largely coincided with the 2020 United States presidential election. As such, news media coverage in the United States throughout 2020, and to some extent, globally, reported on the pandemic using not only issue attributes related to public health but also issue attributes related to politics generally, the U.S. election, and a range of other areas. The core of this study involves identifying the top issue attributes in pandemic coverage by major U.S. national news media outlets, exploring the relative frequency of those attributes over time, both in all coverage combined and across coverage by individual news media outlets, and analyzing tonal differences in the way two particularly partisan outlets used references to U.S. President Donald J. Trump as an attribute in their pandemic coverage. In doing so, the study seeks to draw at least some tentative conclusions about the role and effects of second level agenda setting in news coverage of the pandemic. At the time of this writing, just over a year into the pandemic, the American public remains sharply divided about the risks posed by COVID-19, the wisdom and efficacy of the various measures taken over the past year in an effort to stem the virus' spread, and even the value of receiving any of the increasingly available vaccinations for the disease. How, one might ask, did we get here? And, did attribute agendas in media coverage of COVID-19 play a role?

The issue attribute comparison relied upon a manifest content analysis of headlines from news articles that mentioned COVID-19 or the coronavirus, that were published online by any of nine major U.S. national news outlets between Jan. 1, 2020 and Dec. 1, 2020, and that were extracted from a comprehensive, open-source database of news coverage from around the globe. The analysis explored five research questions:

RQ1: Are patterns evident in the overall volume of COVID-19 coverage by week?

RQ2: What were the most common attributes mentioned in COVID-19 story headlines published by the news outlets chosen for analysis?

RQ3: Is a rank order evident among the most common COVID-19 story headline attributes?

RQ4: Does the rank order among the COVID-19 headline attributes vary by news outlet?

RQ5: Does the rank order among the COVID-19 headline attributes vary by week?

The tonal investigation, meanwhile, focused on coverage by two cable news outlets, Fox News and MSNBC, which each tend to cater to people of fundamentally different political leanings. In particular, Fox News caters to a largely conservative audience, while MSNBC caters to a largely liberal audience (Grieco, 2020). Key leaders within these two news organizations likely wished to promote and convey very different agendas due to their own and/or their audiences' political leanings, especially during the time covered by this study (a presidential election year). Donald Trump was a Republican who ran for reelection and appealed significantly more to a conservative audience than to

a liberal audience. Considering that the outbreak of COVID-19 occurred during an election year, it seems likely that news outlets of different political leanings utilized their second level agenda setting power to different effects in hopes of influencing issue attribute salience among their respective audiences. As discussed previously, creating perceived issue attribute salience among audience members is reliant on issue attribute salience in media content. The tonal investigation also provided a validity check of some assumptions made by the headline content analysis.

Importantly, investigating the research questions outlined above will provide a framework by which to understand the agenda setting effects that may have been – and may continue to be – at play in national U.S. news media outlets’ coverage of the COVID-19 pandemic. Taking a close look into the rank order of issue attributes used in COVID-19 story headlines will provide insight into what attributes news outlets, as a group and individually, chose to focus on when covering the COVID-19 pandemic. Assessing how this rank order changed over time will enlighten the researcher as to the possible patterns that may be present in news outlets’ focus on specific issue attributes. Finally, answering these research questions will contribute to a deeper understanding of attribute agenda setting in news media, particularly with regard to coverage of the COVID-19 pandemic.

The Basics of Attribute Agenda Setting

As discussed previously, Walter Lippmann’s book, *Public Opinion* (1922), set the basis for agenda setting theory, which wouldn’t be specifically described for nearly another 50 years. Lippmann explains that the news media are the mechanism by which

world events are brought to the public. In this process of reporting events to the public, a filtering effect of sorts takes place, such that the news media filter the reality of these events into a series of “pictures,” which are practically the sole means for the general public to form an opinion on the event, issue, or public figure. In Lippmann’s book, he uses the term, “pictures,” to refer to the perceivable distortion between the images presented by the news media and the reality of the world. Due to the vast scope of events and issues taking place constantly around the globe, news stories are often shortened and confined to a series of “pictures” before being presented to the public. This process distorts the reality of these issues, which are then consumed in their shortened and distorted forms by the public. As McCombs writes on Lippmann’s central thesis, “The news media are the primary bridge between the vast array of events in the external world and the truncated views of these events in our minds” (McCombs, 2008). Public opinion, therefore, is largely reactive to the “pictures” presented by the news media, not to the reality of world issues and events. Lippmann concludes the first chapter of his book by prescribing a remedy to public opinions shaped by the images presented by the news media, writing, “Public opinions must be organized for the press if they are to be sound, not by the press as is the case today. This organization I conceive to be in the first instance the task of a political science that has won its proper place as formulator, in advance of real decision, instead of apologist, critic, or reporter after the decision has been made” (Lippmann, 1922).

Building on the work of Walter Lippmann, Maxwell McCombs’ and Donald Shaw’s groundbreaking study, “The Agenda-Setting Function of Mass Media,” presented the first clear articulation of agenda setting theory as it exists in academia today.

Crucially, McCombs and Shaw looked to the work of previous researchers when seeking to define agenda setting theory. They cited the work of Kurt Lang and Gladys Engel Lang, whose research found that the “mass media force attention to certain issues. They build up public images of political figures. They are constantly presenting objects suggesting what individuals in the mass should think about, have feelings about” (Lang & Lang, 1966). Additionally, McCombs and Shaw looked to the work of Bernard C. Cohen, who they believed provided the most succinct articulation of their hypothesized agenda-setting function of the mass media (McCombs & Shaw, 1972). Cohen stated that the press “may not be successful much of the time in telling people what to think, but is stunningly successful in telling its readers what to think *about*” (Cohen, 1963).

These observations by Lang, Lang, and Cohen heavily informed the work of McCombs and Shaw in their study of the agenda-setting function of the mass media in the 1968 United States presidential election, such that the researchers looked at the correlation between the salience of an issue in content presented by the mass media and the salience of an issue as perceived by the general public. As this concept relates to McCombs’ and Shaw’s study on the 1968 U.S. presidential election, they hypothesized that “the mass media set the agenda for each political campaign, influencing the salience of attitudes toward the political issues” (McCombs & Shaw, 1972). McCombs and Shaw found a significant relationship between frequent mentions of a campaign issue in the mass media and voters' perceived salience of these issues. McCombs and Shaw concluded, “The political world is reproduced imperfectly by individual news media. Yet the evidence in this study that voters tend to share the media’s *composite* definition of

what is important strongly suggests an agenda-setting function of the mass media” (McCombs & Shaw, 1972).

This study explored this agenda setting function of the mass media, particularly at the second level, with regard to the COVID-19 pandemic. To restate the previously given definition, second-level agenda setting (also known as attribute agenda setting) states that a higher frequency of media mentions, with regard to an issue attribute, correlates positively with an audience’s association of an issue with the issue attribute. As Maxwell McCombs elaborated, “When the mass media present an object — and when the public thinks about and talks about an object — some attributes are emphasized. Others are mentioned less frequently, some only in passing. Just as there is an agenda of objects, there is an agenda of attributes for each of these objects, an agenda on which the attributes can be rank-ordered according to their frequency of appearance” (McCombs, 2008). Importantly, McCombs used the term “object” as it relates to the realm of social psychology, which, in terms of media studies, can be understood as public issues.

Notably, attribute agenda setting was observed in the 1994 mayoral election in Taipei, Taiwan. The Taiwanese media created an association between the following attributes and the three mayoral candidates: personal ability, political experience, political style, personality, personal integrity, and aptitude in public speaking. Importantly, correlations were found between the voter’s perceptions of the three candidates, with regard to the aforementioned attributes, and the prevalence of these attributes in the Taiwanese news media (King, 1997). Likewise, these effects of attribute agenda setting were observed in the 2002 elections for Texas’ governor and senators, such that voters’

perceptions of the candidates significantly correlated with the news media's portrayal of the candidates (Kim & McCombs, 2007).

The 1996 Spanish general election demonstrated a level of attribute agenda setting similar to that observed in the 1994 mayoral election in Taipei and the 2002 state elections in Texas. A significant correlation was found between the Spanish news media's coverage of three major candidates, with regard to various attributes, and the voter's perceptions of the candidates. This correlation was found across newspapers (local and national) and television news broadcasts (McCombs, Lopez-Escobar, & Llamas, 2000).

Attribute agenda setting is not limited to the personal attributes of public/political figures, but also occurs with coverage of public issues (McCombs, 2004). As McCombs explained, "Some aspects of issues are emphasized in the news and in how people think about and talk about issues. Other aspects are less salient" (McCombs, 2008). Such an instance of attribute agenda setting was observed in Japanese newspapers, with regard to global environmental issues, around the time of the 1992 United Nations Rio de Janeiro conference. It was discovered that public opinion on these global environmental issues correlated positively with Japanese newspapers' media agenda, specifically with regard to the attributes that were associated with this issue (Mikami, Takeshita, Nakada, & Kawabata, 1994). Also in Japan, an analysis of the 1993 Japanese general election discovered attribute agenda setting effects in public opinion surrounding the issue of political reform (Takeshita & Mikami, 1995).

As Maxwell McCombs and Amy Reynolds wrote on the topic of attribute agenda setting in the realm of elections, "The theoretical distinction between the agenda of

objects (the candidates) and the agendas of attributes (their images) is especially clear” (McCombs & Reynolds, 2009). A primary example of this comes by way of the 1976 presidential primaries, in which the Democratic candidates’ portrayals in *Newsweek’s* candidate sketches correlated positively with New York voters’ perceptions of the eleven candidates (Becker & McCombs, 1978). Such studies as this illustrate the effectiveness of attribute agenda setting in media, particularly as it relates to public opinions concerning elections. Therefore, it stands to reason that attempts to create these effects will be seen in online news stories released by Fox News and MSNBC in the midst of the COVID-19 pandemic and the 2020 U.S. presidential election. These news outlets are likely to stay glued to their respective political biases and use the handling of the COVID-19 pandemic as a means to either exalt or disparage the presidential candidates.

Attribute Agenda Setting and Public Health

Agenda setting research has made it readily apparent that the mass media possess the power to influence public opinion in a significant manner. Several studies have applied agenda setting principles to the area of health communication. In her study titled, “Addressing the ‘Medical Malady’: Second-Level Agenda Setting and Public Approval of ‘Obamacare,’” Bethany Anne Conway assessed how the tone of the mass media’s news coverage of the Patient Protection and Affordable Care Act (PPACA) in 2009 and 2010 influenced the public’s opinion of this bill. As Conway notes on the significance of this public health concern, “in 2009, access to health care was named the most urgent health problem facing the United States for the third year in a row” (Conway, 2013). The PPACA, commonly known as “Obamacare,” provided millions of uninsured Americans

with health insurance, and stands as one of President Barack Obama's most impactful accomplishment as the leader of the United States. Supporting the passing of this bill in his first term showed that Obama was capable of effecting change, and acted as a major attribute contributing to his chances of being reelected for a second term in 2012.

Conway's study serves as an important exploration into the realm of agenda setting as it relates to the perception of public health concerns and alludes to the importance of the ways in which these concerns are covered by the mass media within the general framework of elections and the perceived electability of a candidate with regard to the candidate's preeminent achievements. Importantly, Conway's study found that "negative coverage of health care reform influenced public support for the PPACA" (Conway, 2013). In her study, "Multiple regression analyses indicated more than one-third of the variance in public support for the bill is accounted for by cumulative affective attribute salience in the media. This supports findings that agenda-setting effects occur not instantly, but as a result of exposure to similar messages over time... short-term changes in coverage fail to significantly influence public opinion" (Conway, 2013).

This notion that agenda setting effects require cumulative salience of issues and issue attributes within media coverage is particularly important. The public's opinion will not be significantly swayed by short-term coverage, as most strong opinions take a significant amount of convincing to change, therefore necessitating repeated news coverage demonstrating a particular agenda. Furthermore, in Conway's study, "findings suggest negative coverage had a compelling impact on audience evaluation. Though coverage could be interpreted as overwhelmingly neutral, the strong impact of negative attributes is well demonstrated in the literature" (Conway, 2013). However, Conway

posits that the agenda setting effects on attitude strength seen in this case may have been influenced by value systems, such that those who were already opposed to the PPACA may have had their opinions strengthened by negative coverage of the bill, while those who supported the PPACA did not have a significant change of opinion. Additionally, according to Conway, those that had neutral opinions of the PPACA, “may be swayed by more neutral sources, rather than more blatant overtures at opinion manipulation” (Conway, 2013). Notably, Conway’s claims to the greater impact of negative attributes, as opposed to positive attributes, are supported by Tamir Sheafer in his study titled, “How to Evaluate It: The Role of Story-Evaluative Tone in Agenda Setting and Priming” (Sheafer, 2007). However, as Sheafer’s work is concerned, he has been a leader in questioning whether the mass media’s influence actually changes public opinion, or simply strengthens public opinions (Sheafer, 2007), for which some evidence is seen in Conway’s study.

The central points addressed by Conway’s study are guiding factors when it comes to investigating how the agenda setting power of the mass media affects public opinion on public health issues, specifically, and political issues, generally. Understanding the importance of cumulative effects on public opinion, especially as it relates to consistency in agenda setting, sets the groundwork for analyzing the effectiveness of a particular agenda setting campaign. Just as Young Jun Son and David H. Weaver discovered in their (2006) study titled, “Another look at what moves public opinion: Media agenda setting and polls in the 2000 U.S. election,” to achieve total permeation in the eye of the public, a particular media message must be disseminated through all available channels consistently over a significant period of time (Son &

Weaver, 2006). Problems in achieving the level of coverage saturation necessary to sway opinions comes with the fact that there is a conceptual limit to the volume of news coverage that any media outlet can release in a particular period of time. Assuming that there is more than one noteworthy topic for media outlets to report on, achieving this saturation can be challenging. To rephrase: In order to influence public opinion, a media message must be consistently distributed over time, but creating this consistent coverage is challenging in an ever-changing and evolving news-cycle, where there are only so many topics that can be covered in a day by a particular media outlet.

Collectively, these studies suggest both that issue attribute volume should be examined over time, and that the tone of the attributes emphasized matters. Furthermore, according to Kepplinger, Brosius, and Staabs' study, titled, "Opinion formation in mediated conflicts and crises: A theory of cognitive affective media effects," Democrats' strengthening of previously developed opinions is significantly influenced by value systems," (Kepplinger, Brosius, & Staab, 1991) which speaks to the impact that value systems have in all value driven groups within the framework of agenda setting theory. However, the tone of the messages being disseminated by the media is a factor that must be investigated using qualitative methodologies. As a paramount discovery in politically based agenda setting research, previous studies show that the concept of tone significantly influences an audience's perceptions of political candidates and issues of national-importance, such as pandemics and other public health crises (Kepplinger, Donsbach, Brosius, & Staab, 1989; McCombs, Lopez-Escobar, & Limas, 2000; Son & Weaver, 2006; Wu & Coleman, 2009; Hester & Gibson, 2003; Sheafer, 2007; Schoenbach & Semetko, 1992). It would be an oversimplification to suggest that public

opinions fall perfectly along political lines, but the idea that informs such a statement is not to be completely ignored. Therefore, this study must investigate the tone of a sample of the online news articles that are under consideration in this study through a textual analysis. This textual analysis will seek to identify the tone of the articles under consideration, such that they will be broken down to reveal negative, neutral, or positive intentions. “Negative” intentions would be such that Trump is being disparaged for his role in the handling of the pandemic, “neutral” intentions would be such that Trump is neither being exalted or disparaged for his role in the handling of the pandemic, and “positive” intentions would be such that Trump is being exalted for his role in the handling of the pandemic. These designations are not stating the opinion of the researcher, or reflecting any perceived reality of the pandemic, but are simply in place to qualitatively assign tonal values to the articles in this study’s textual analysis.

Conway’s study, “Addressing the ‘Medical Malady’: Second-Level Agenda Setting and Public Approval of ‘Obamacare,’” has informed this study in numerous ways. Primarily, Conway’s study informs the quantitative aspects of this study by demonstrating the importance of long-term versus short-term agenda setting effects. As Conway explains, agenda setting “effects are not immediate and occur as a result of cumulative salience, or an accumulation of news coverage, in which audiences are subjected to prolonged exposure concerning an issue or object” (Conway, 2013). In terms of this study’s quantitative analyses, the concept of cumulative effects will provide insight into how the media’s coverage of the COVID-19 pandemic changed over time, particularly in terms of its emphasis on Trump as an attribute. For example, if there are inconsistencies in the mainstream media’s portrayal of Trump as an attribute of the

COVID-19 pandemic, then certain discussions must be had: Are at least some media truly attempting to set an agenda that associates Trump with the pandemic, whether guided by perceived positive or negative intentions, or are they simply reporting the facts in a neutral viewpoint? Additionally, how could the conceptual volumetric limit of “news” capacity have played a role in such an inconsistency? And might heavy emphasis on Trump as an attribute of the COVID-19 pandemic have influenced attitudes toward Trump, toward the pandemic, or both? Trump did, in fact, lose the 2020 election. Might media content connecting him to the pandemic have contributed to his loss? Or perhaps additionally, might media content connecting him to the pandemic have exacerbated ideologically-based attitudes toward, and responses to, the pandemic?

As discussed previously, Conway’s attention to the tone of the media coverage within her study is fundamental to the qualitative analysis contained within this study. A study, such as this one, which is mainly considering the effects of agenda setting as they relate to the frequency of media mentions, quantitatively, with regard to a specific issue and issue attribute, is innately limited. Such a study must qualitatively investigate the tone of the articles under investigation if they are to truly seek an understanding of the intentions of particular media outlets. Importantly, future research should seek to find an empirical way to quantify the tone of articles on a mass scale accurately and efficiently. Accomplishing such a feat is beyond the scope of this study. However, providing a qualitative context to this study, by way of a textual analysis of a sample of the articles from the acquired dataset, will shed further light on the multifaceted nature of agenda setting theory.

It is important to note that Conway's study looks at agenda setting as it relates to its influence on politically related value systems within a framework of a public health issue, which is, indeed, germane to a study, such as this one, which is investigating agenda setting effects regarding a public health crisis. Moreover, although Conway did not specifically investigate how the public's perception of a particular public health solution affected the electability of the candidate who championed it, the general groundwork for her study calls the importance of such an investigation into question. Just as public support for the PPACA, which is heavily associated with President Barack Obama, may have affected his chances at reelection, public perception of the COVID-19 pandemic, which is heavily associated with President Donald J. Trump, may have also affected his chances at reelection. Although this cannot be empirically tested by the present study, it is possible to discuss the potential influence of attribute agenda setting on political elections by way of public healthcare communications.

Attribute Agenda Setting and Pandemics

Studies on second level agenda setting in media, specifically as it relates to the suspected use of pandemic/epidemic coverage as a political tool, are difficult to find, which further justifies the need for a study such as this one. However, to begin understanding how such forces as agenda setting work in a modern pandemic setting, one must first look to past pandemics and their effects on society. Before the emergence of the COVID-19 pandemic, outbreaks of the bubonic plague, smallpox viruses, and influenza viruses, to name a few, gripped societies around the world, and even the global community itself, at various points throughout human history. One of the most notable of

these outbreaks was the “Spanish” influenza virus pandemic of 1918-1919, which infected an estimated 500 million people and was responsible for an estimated 50 million deaths around the globe (Taubenberger & Morens, 2006). Importantly, “All influenza A pandemics since that time, and indeed almost all cases of influenza A worldwide (excepting human infections from avian viruses such as H5N1 and H7N7), have been caused by descendants of the 1918 virus, including ‘drifted’ H1N1 viruses and reassorted H2N2 and H3N2 viruses” (Taubenberger & Morens, 2006). As such, the “Spanish” influenza virus of 1918 is verifiably the “mother” of all influenza pandemics that followed, including the 2009 H1N1 influenza virus pandemic, also referred to as the “Swine Flu” (Taubenberger & Morens, 2006).

According to the Centers of Disease Control and Prevention (CDC), the colloquial designation of the virus as “Swine Flu” came as a result of laboratory testing, which identified that the virus’ “gene segments were similar to influenza viruses that were most recently identified in and known to circulate among pigs” (“Origin of 2009 H1N1 Flu,” 2009). The World Health Organization (WHO) officially attribute a minimum of 18,449 deaths to the 2009 H1N1 influenza pandemic, while the CDC estimates the global death toll of this pandemic to be more than 285,000. The cause of this discrepancy is because “many people who die of flu-related causes are not tested for the disease” (Roos, 2012). The ways in which the media choose to report on such information, and portray the situation to the public, would obviously influence the public’s opinion on specific outbreaks, epidemics, pandemics, and their accompanying infection/death rates, according to agenda setting theory.

This concept, as it relates to global pandemics, is perfectly illustrated by a story from the 1918 “Spanish” influenza virus pandemic. Notably, the 1918 pandemic had started slowly in the United States, but took root much more aggressively in Europe, which caused many European soldiers to become sick during the last months of the first World War. These illnesses became particularly brutal in Switzerland, where many deaths were recorded early in the pandemic (Barry, 2009). John M. Barry reports these events in his article, “Pandemics: avoiding the mistakes of 1918,” where he elaborates further, explaining that on the third of August, 1918, “the US military received an intelligence report comparing the Swiss epidemic to the Black Death,” (Barry, 2009) a notorious pandemic caused by the bubonic plague bacteria.

It is crucial to note that the “Black Death” pandemic, which took place from 1347-1351, resulted in the death of an estimated 75 to 200 million people. This astounding death rate falls between 17% and 45% of the entire global population at that time, making this one of the most lethal pandemics in recorded history (“History’s Worst Global Pandemics,” 2021). Obviously the “Black Death,” as the name would suggest, brings with its mentioning a connotation of fear, dread, and utter hopelessness. Although the aforementioned intelligence report received by the United States’ military was not a message disseminated to the public through the mainstream media, the attempt at agenda setting is clear, such that creating an association between the 1918 influenza virus pandemic and the historically devastating pandemic called the “Black Death,” serves only to spread fear and lower the morale of the U.S. military.

During this time, *Public Opinion* author Lippmann and an associate of his, Arthur Bullard, sought to advise President Woodrow Wilson on how to proceed with an

intelligent strategy for government communication concerning the pandemic. This strategy centered on the concept of keeping morale high, even in a situation that seemed bleak (Barry, 2009). Such a tactic required a certain amount of deception, to be sure, as the truth of the pandemic's effects were concerning and unpredictable. Bullard explained the value of truth and falsehood, especially in terms of crisis communication, stating, "Truth and falsehood are arbitrary terms ... There is nothing in experience to tell us one is always preferable to the other ... The force of an idea lies in its inspirational value. It matters very little if is true or false" (Barry, 2009). When writing an advisory memo to President Wilson with regard to the government's crisis communication, Lippman concurred with Bullard's line of thinking, adding that, "Most citizens were 'mentally children' and advising that 'self-determination' had to be subordinated to 'order' and 'prosperity'" (Barry, 2009).

Upon receiving Lippman's memo, President Wilson issued an executive order aimed at controlling government crisis communication in a way that would downplay the severity of the pandemic in hopes of maintaining the nation's morale. Interestingly, President Wilson never publicly commented on the pandemic, and "lesser public figures provided only reassurance" (Barry, 2009). Rupert Blue, the U.S. Surgeon General at that time, addressed the public, stating, "There is no cause for alarm if proper precautions are observed" (Barry, 2009). In concordance with this message, the director of public health for the city of Chicago "decided not to 'interfere with the morale of the community,' explaining: 'It is our job to keep people from fear. Worry kills more than disease'" (Barry, 2009).

The agenda being set by the government in this particular situation clearly employed deception in order to achieve a stable communal morale within a time of immense crisis. As this relates to first level agenda setting, the government purposefully minimized the salience of the pandemic, such that it was mentioned infrequently by high-ranking government personnel, therefore minimizing the perceived importance/severity of the pandemic in the eyes of the public. In terms of second level agenda setting, it could be argued that the attribute of the pandemic (the issue) which the government emphasized was precautions, such as wearing a face mask to prevent contracting or spreading the virus, as opposed to another potential issue attribute, such as the virus' infection/death rate. By emphasizing this attribute, the government was attempting to make the public think of the pandemic in terms of the precautions that they could take to stay healthy, suggesting that "There is no cause for alarm if proper precautions are observed" (Barry, 2009). Both of these agenda setting tactics were employed to maintain the morale of the United States' citizens, even if that involved deception, because a national state of panic could have devastated the country. The government and the mainstream media both possess the power to set an agenda and influence public perception. Moreover, they can use this influence as a tool of political control, even in times of national and, indeed, global crisis. In sum, a review of the literature suggests that key principles from agenda setting theory, particularly second level agenda setting theory, can provide a helpful framework for investigating how U.S. national news media characterized the COVID-19 outbreak, and how characterizations differed across media outlets in ways observable by looking at the play they gave to different attributes of the pandemic.

CHAPTER 2: METHODOLOGY:

Data

Data for this study were collected via the GDELT 2.0 DOC API (The GDELT Project, 2017). GDELT, which stands for the “Global Database of Events, Language, and Tone,” is an exhaustive, open-source, ongoing archive of news content gleaned from online news outlets all around the world and then categorized and made searchable by the GDELT system (Leetaru & Schrodt, 2013). GDELT data has been used in a number of published academic studies including at least three in the area of agenda setting (Vargo & Guo, 2017; Guo & Vargo, 2017; Vargo, Guo & Amazeen, 2018). The API allows users to query the archive by adding various parameters to the API’s base URL, <https://api.gdeltproject.org/api/v2/doc/>. These parameters can specify keywords or phrases to search for in the archived media content and can limit the query to a specific media outlet and a specific date and time range, from the present back to as early as Jan. 1, 2017. Other parameters can specify the format in which the retrieved content will be provided, including a comma-separated value format used to collect data for this study. The API does not provide full content of the articles identified by a given search. It does, however, provide each article’s URL, headline, and date and time of publication. For example, the query:

```
https://api.gdeltproject.org/api/v2/doc/doc?query=("COVID-19" OR
"coronavirus")
domainis:apnews.com&startdatetime=20200401000000&enddatetime=20200402
000000&mode=artlist&maxrecords=250&sort=datedesc&format=csv
```

... will produce a comma-separated value file containing the URL, publication date and time, and headline for every archived article that mentioned either “COVID-19” or “coronavirus” and was published by APNews.com between midnight on April 1, 2020 and midnight on April 2, 2020, up to a maximum of 250 articles, the most the API allows a single search to retrieve. This example query will retrieve data for 104 such articles.

Procedures

Nine U.S. national news outlets were selected content sources for the study: washingtonpost.com, nytimes.com, foxnews.com, apnews.com, usatoday.com, cnn.com, wsj.com, npr.org, and msnbc.com. The outlets were chosen to reflect both print and broadcast platforms from a range of political ideologies. Nine sets of 335 queries per set – 3,015 unique queries in all – were constructed to search each outlet, on each day between Jan. 1, 2020 and Dec. 1, 2020, for articles that mentioned either “coronavirus” or “COVID-19.” Dec. 1, 2020 was selected as the end point for the sample to capture not only the outcome of the U.S. presidential election but at least the beginning of any post-election rebound in COVID-19 coverage volume. An Excel for Microsoft 365 spreadsheet automated most steps of the query construction, and a Python 3.0 script, produced with Jupyter Notebook 6.1.4 within the Anaconda Navigator 1.10.0 environment, automated the process of submitting each query to the API and storing the results in .csv files. See Appendix A for the Python script.

Once downloaded, the .csv files were imported in bulk into Excel and deduplicated using Excel’s “Remove Duplicates” tool, with the URL column specified as the column containing duplicate values. The deduplication step was critical, given that

some overlap was deliberately built into the queries to avoid missing articles published at exactly midnight between two adjacent days. Headers inserted into the data file by GDELT at each query iteration were also deleted.

The text of all article headlines was then copied from the Excel file's headline column, pasted into a text file, saved, and fed into a second Python 3 script that counted the frequency of each word and saved the words and their frequency counts as a comma-separated value file. See Appendix B for the script. Imported into Excel, this list was sorted by word frequency, in descending order, then examined to determine a short list of words – including, their plural forms and close synonyms – that appeared most often in the headlines and, unlike common “stop words” like “the,” “to” “a,” etc., conveyed meanings with an obvious connection to COVID-19 coverage. These words were treated as “headline attributes” of the COVID-19 coverage captured.

Next, Excel's Text Filter tool was used to code each headline as either containing, or not containing, each headline attribute. Specifically, each headline would first be coded as not containing the attribute. Then, the text filter would be applied to hide all headlines except those that included the attribute, or one of its alternate forms or synonyms. These filtered headlines would then be coded as containing the attribute, and the filter would be removed before repeating the process to code the headlines for the next attribute.

With the data thus deduplicated and coded for the most common headline attributes, Excel's PivotTable tool was used, as needed, to produce counts of articles per source and of articles per attribute, and also to aggregate attribute counts by week and by outlet. These aggregated counts were used to produce stacked area charts showing each

headline attribute's weekly volume over the period examined, both across all outlets and within individual outlets. Additionally, paired-samples t-tests, calculated using Excel's Data Analysis ToolPak add-in, were computed to compare average weekly volumes of pairs of headline attributes, while simple regression, also calculated using the ToolPak, was used to assess changes over time in the volume of headlines that included a given attribute. Finally, one-way repeated-measures ANOVA, calculated using IBM SPSS Statistics Version 27 for Windows 10, was used to compare the weekly volume of a given headline attribute across all nine news sources to learn whether some sources devoted significantly greater volume to the attribute compare to the volume afforded the attribute in coverage by other sources. The calculation included a post-hoc procedure for identifying significantly different pairs of means.

As with all research that does not involve rigorous experimental design, the goal of this study was not to assess causality. The purpose of this study was to explore patterns in headline attribute volume, both overall and as they varied by source and attribute, and perhaps draw some conclusions, all purely theoretical.

Textual analysis

The study included a brief textual analysis of 50 online news stories from the dataset that mention both "Trump" and "COVID-19." These stories were selected randomly from Fox News and MSNBC; 25 stories from Fox News and 25 stories from MSNBC. In conducting this analysis, the researcher attempted to provide some qualitative context to support the otherwise entirely quantitative nature of this study and to explore the ways in which the selected news stories portrayed President Trump,

especially in relation to the other issue attributes set forth by this study, with regard to the COVID-19 pandemic.

CHAPTER 3: RESULTS

Dataset descriptives

Due to intentionally overlapping publication dates in the code, the GDELT scrape captured duplicate records of some articles – specifically those published late on the last day of a month or early on the first day of a month. These duplicates were removed using Microsoft Excel’s “Remove Duplicates” tool, with the article URL used as the basis for identifying duplications. After these deduplication procedures were complete, the dataset contained 151,840 unique articles published between Jan. 1, 2020 and Dec. 1, 2020. Slightly more than half (54%) came from [washingtonpost.com](http://www.washingtonpost.com) (19.9%), [nytimes.com](http://www.nytimes.com) (19.1%), or [foxnews.com](http://www.foxnews.com) (15.7%). The [apnews.com](http://www.apnews.com) site provided the next-largest share of the articles (12.7%), and the remaining five sites each provided less than 10 percent of the articles.

Headline attributes

The headline word frequency script identified 42,652 unique words, only 215 of which occurred more than 1,000 times. After sorting the list by frequency and ignoring such common words as “the,” “to,” “of,” etc., 10 words were chosen as both frequently occurring and meaningful in the context of the COVID-19 outbreak. These 10 words were assumed to be the dominant “headline attributes” of the COVID-19 news articles captured for analysis. Microsoft Excel’s “Text Filters” tools were then deployed, as described earlier, to categorize each story headline as containing, or not containing, each headline attribute or some directly substitutable form of it (e.g., “China” or “Chinese.”) The filtering procedure involved excluding, as “false positives,” headlines selected by the

“death or dead” filter solely because they included “deadline,” “deadlock,” or “deadlift.” Coding all 151,840 for these 10 headline attributes determined that 101,473 (66.8%) of the articles contained none of the 10 attributes, while 50,367 (33.2%) contained at least one. Table 1 shows counts and percentages both of all articles and of all coded articles for each of the nine U.S. news outlets examined.

Table 2 shows how many times each of the 10 attributes appeared in a headline and gives the count both as a percentage of all articles and a percentage of all coded articles. Note that some headlines included more than one attribute. As a result, the percentages of all coded articles sum to greater than 100%. Analysis found that about 29% of all captured articles contained only one attribute, about 4% contained two, and less than 1 percent contained three or four. None contained more than four. Notably, the “Trump” attribute appeared in most of the multi-attribute headlines, especially those with three or more attributes (e.g., the Sept. 9, 2020 CNN headline, “Biden slams Trump for concealing pandemic threat: It was a life-and-death betrayal of the American people”).

Table 1*Article Counts By Source, For All Articles And For All Coded Articles*

Source	All articles	% All articles	Coded articles	% Coded articles
WashingtonPost.com	30,213	19.9%	10,992	21.8%
FoxNews.com	23,911	15.7%	9,236	18.3%
NYTimes.com	29,053	19.1%	8,765	17.4%
APNews.com	19,288	12.7%	4,711	9.4%
USAToday.com	14,124	9.3%	4,380	8.7%
CNN.com	11,331	7.5%	3,843	7.6%
MSNBC.com	6,361	4.2%	3,020	6.0%
NPR.org	8,361	5.5%	2,884	5.7%
WSJ.com	9,198	6.1%	2,536	5.0%
Total	151,840	100%	50,367	100%

Table 2:*Headline Attribute Distribution, All Headlines And All Coded Headlines*

Attribute	Count	% All headlines	% Coded headlines*
Vaccine	2,575	1.7%	5.1%
Mask	3,217	2.1%	6.4%
Economy	3,327	2.2%	6.6%
School or student	3,708	2.4%	7.4%
Biden	4,269	2.8%	8.5%
Lockdown or quarantine	4,513	3.0%	9.0%
Deaths/dead	5,334	3.5%	10.6%
China/Chinese	5,464	3.6%	10.8%
Pandemic	8,487	5.6%	16.9%
Trump	16,357	10.8%	32.5%
Total	57,251	37.7%	113.7%

*Sums to greater than 100 percent, because some headlines included two or more attributes.

Figure 1 depicts the total COVID-19 article volume, aggregated by week, for all nine news outlets examined. Several distinct phases are apparent. First, coverage volume rose dramatically starting in mid-February of 2020 and peaked about a month later, at just over 7,000 articles per week. Coverage volume then declined rapidly throughout late spring, falling to around 3,400 stories per week by the end of May. June through early October saw a continued, but less dramatic, decline in coverage volume. Finally, during the last weeks before the Nov. 3, 2020, U.S. presidential election, coverage volume once again declined rapidly until rebounding the week after the election.

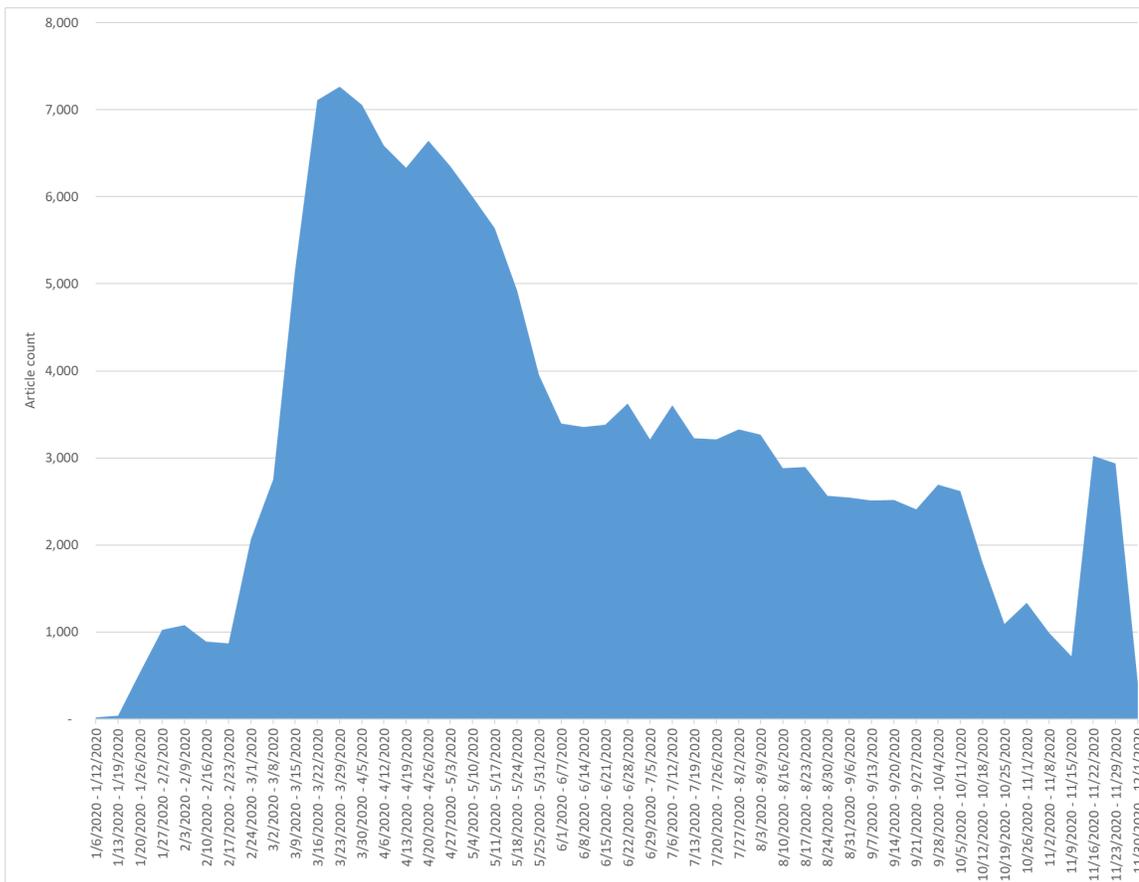


Figure 1
COVID-19 Article Volume By Week, All Sources

While Figure 1 shows weekly volume for all COVID-19 articles retrieved, Figure 2 shows the weekly volume of each of the 10 headline attributes examined, with the width of each layer indicating coverage volume for the headline attribute the layer represents. The figure's uppermost layer, which represents weekly volume of the "Trump" headline attribute, dominated the other layers for most of the period examined. On average, the "Trump" headline attribute averaged 340.8 appearances per week ($SD = 204.5$), while the next-most-common of the 10 attributes, "Pandemic," averaged 176.8 appearances per week ($SD = 140.6$). A paired-samples t-test indicated the difference of 164 mentions per week was statistically significant, $t(47) = 8.26, p < .001$. Despite this dominance, regression suggested that the "Trump" attribute's volume declined by a statistically significant 9.44 mentions per week between the coverage volume peak during the week of April 13, 2020, and the end of November, $F(1, 32) = 14.45, p < .001, R^2 = .31, R^2_{adjusted} = .29$. Mentions of the "Biden" attribute ran in the opposite direction during the same period, increasing by a slower, but statistically significant, rate of 1.70 mentions per week, $F(1, 32) = 6.23, p = .02, R^2 = .16, R^2_{adjusted} = .14$. Figures 1 and 2 show the same general shape across the time period, although the vertical scale on Figure 2 is about a third of the vertical scale on Figure 1, given that Figure 2 deals only with roughly a third of all articles captured – specifically, the third published under a headline that mentioned at least one of the 10 headline attributes chosen for analysis.

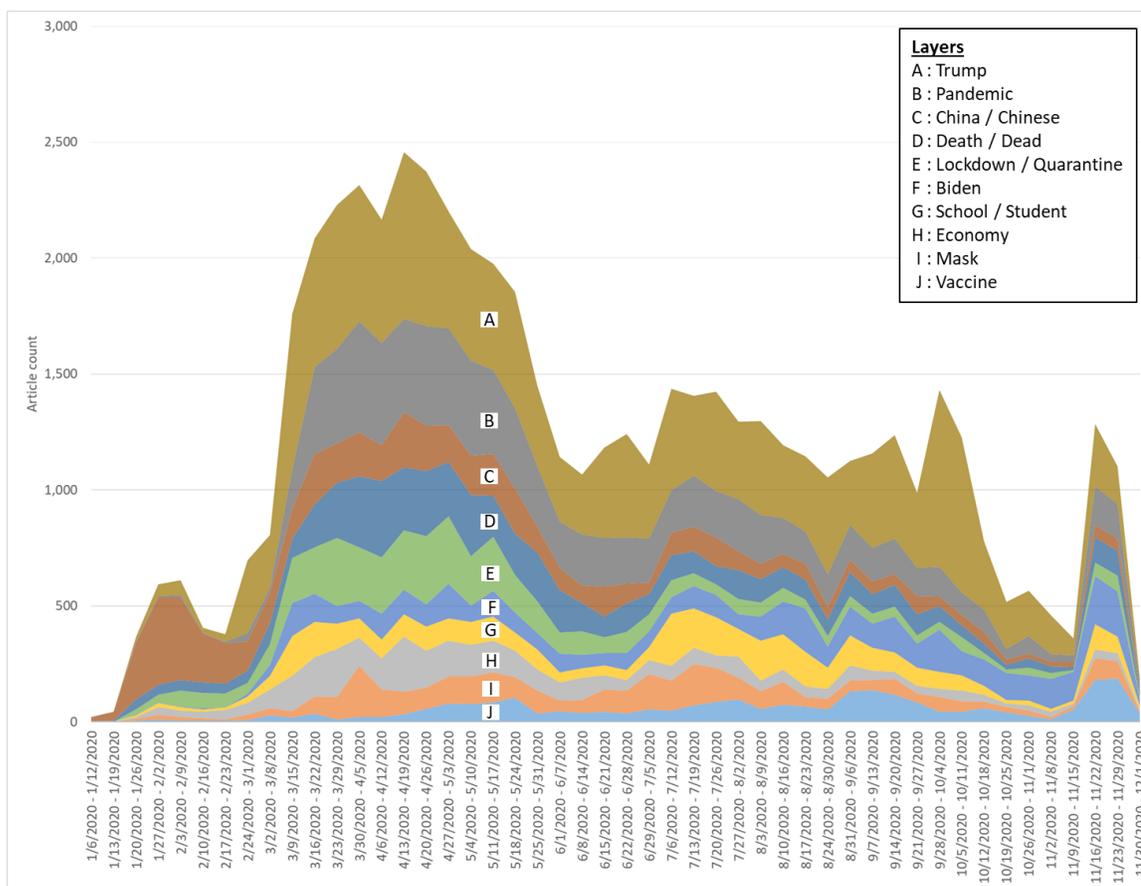


Figure 2

Headline Attribute Volume By Week, All Sources

Figures 3 through 11 duplicate Figure 2, but for the content of each individual news outlet, with the figures ordered in the same sequence as Table 1. Comparing the figures suggests that the heavy emphasis on the “Trump” attribute evident in overall coverage (Figure 1) did not occur in some of the individual outlets. For example, a closer look at the data for Figure 11 reveals that the “Trump” attribute appeared in only 330 of the WSJ.com articles examined, while the “China / Chinese” attribute appeared in 518; the “Pandemic” attribute in 505; and the “Economy” attribute in 405. On a per-week basis, the “Pandemic” attribute averaged 10.5 mentions ($SD = 6.8$), while the “Trump” attribute averaged only 6.9 mentions per week ($SD = 5.9$), a significant difference, according to a paired-samples t-test, $t(47) = 3.86$, $p < .001$. Furthermore, instead of declining between the week of April 6, 2020 through the end of the period studied, as it had in overall coverage, the “Trump” attribute’s volume in WSJ.com content appeared basically flat, dropping at a nonsignificant rate of one mention about every 10 days, $F(1, 33) = 1.23$, $p = .28$, $R^2 = .04$, $R^2_{adjusted} = .01$.

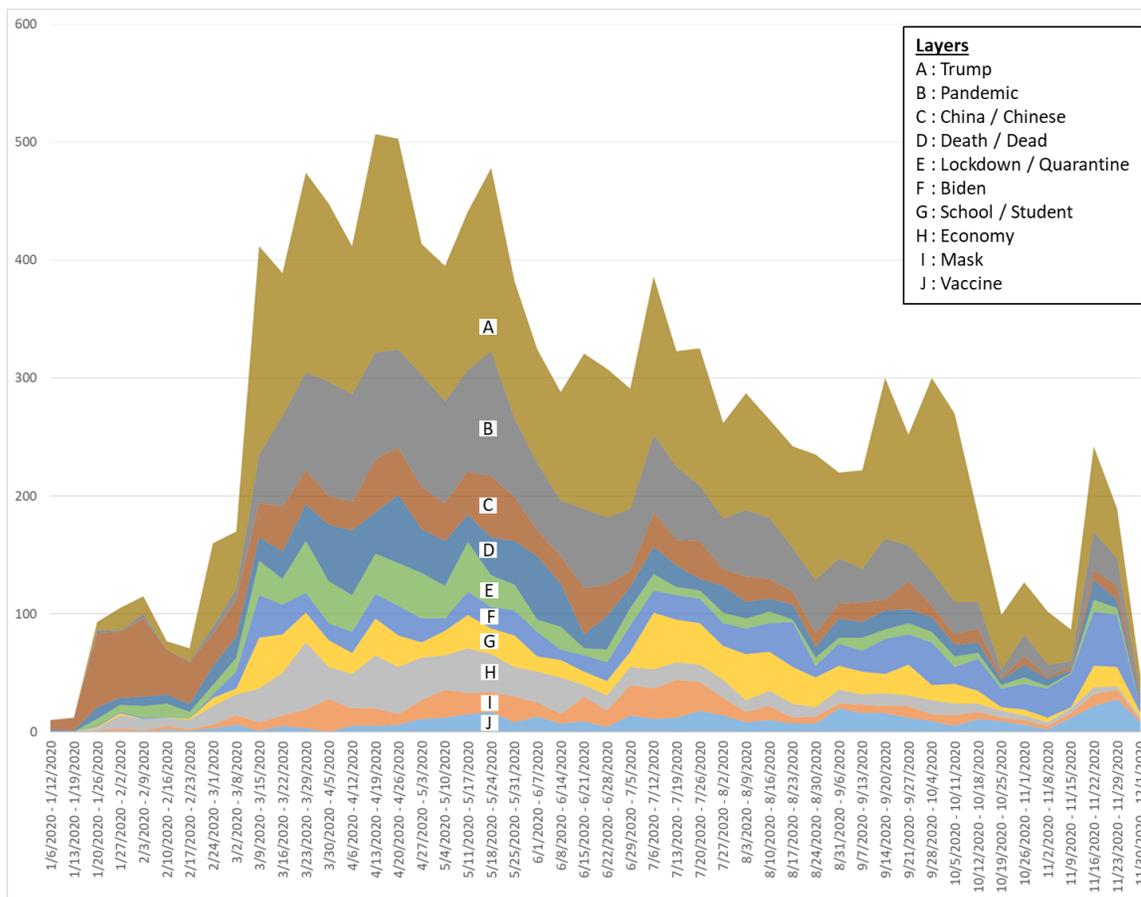


Figure 3

Headline Attribute Volume By Week, WashingtonPost.com

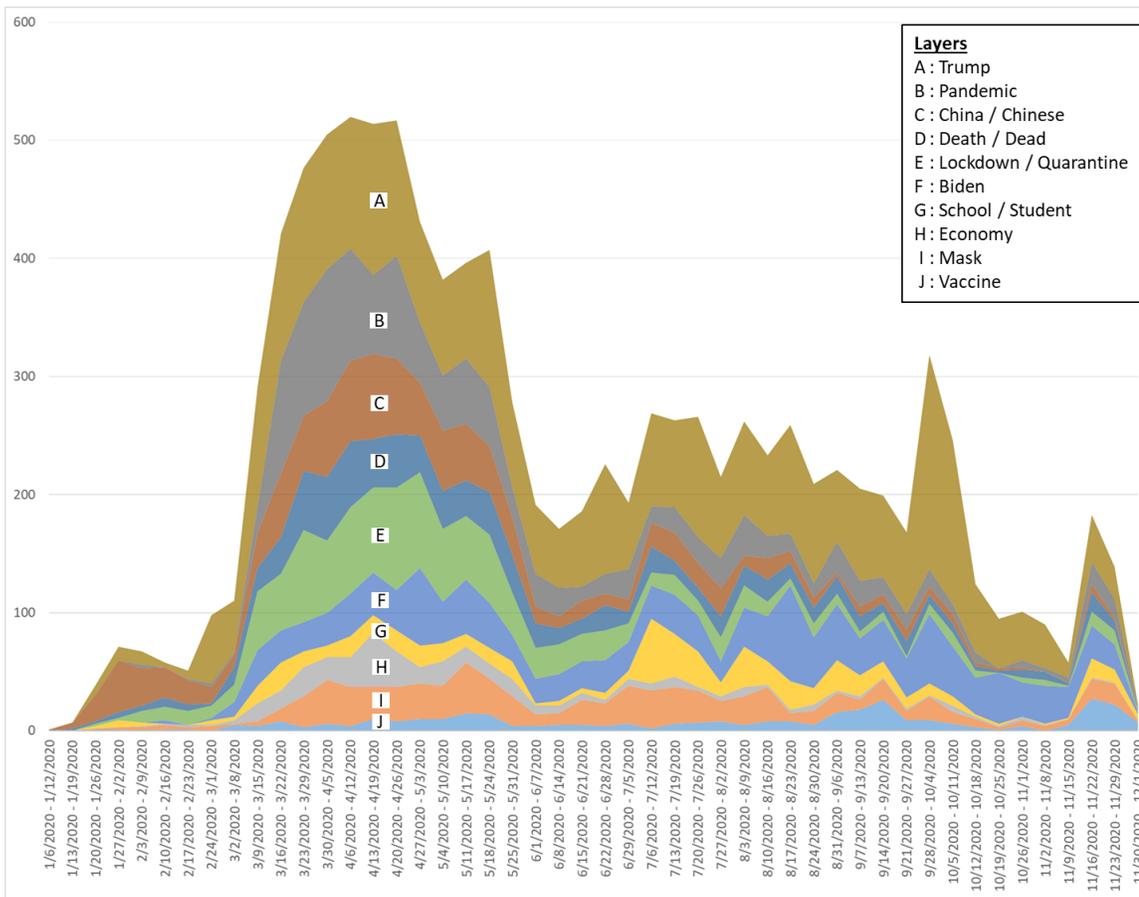


Figure 4

Headline Attribute Volume By Week, FoxNews.com

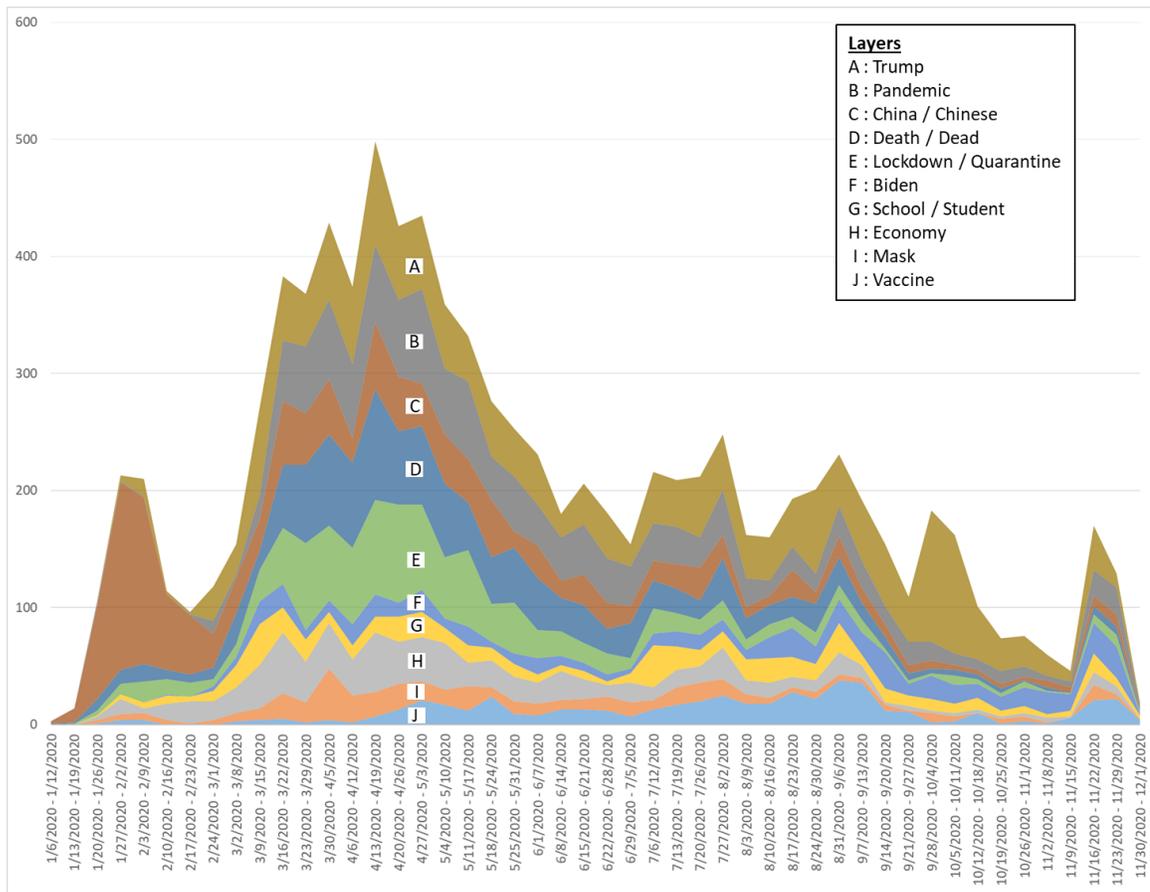


Figure 5

Headline Attribute Volume By Week, NYTimes.com

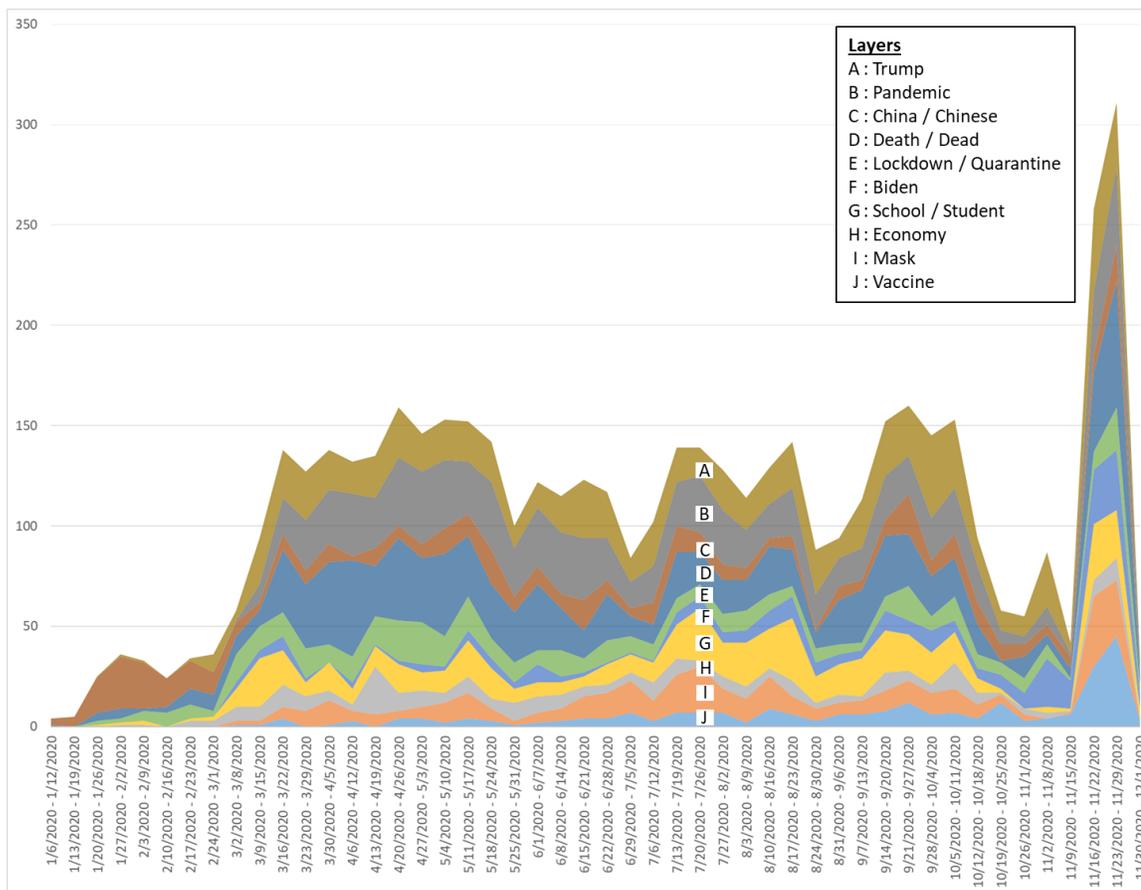


Figure 6

Headline Attribute Volume By Week, APNews.com

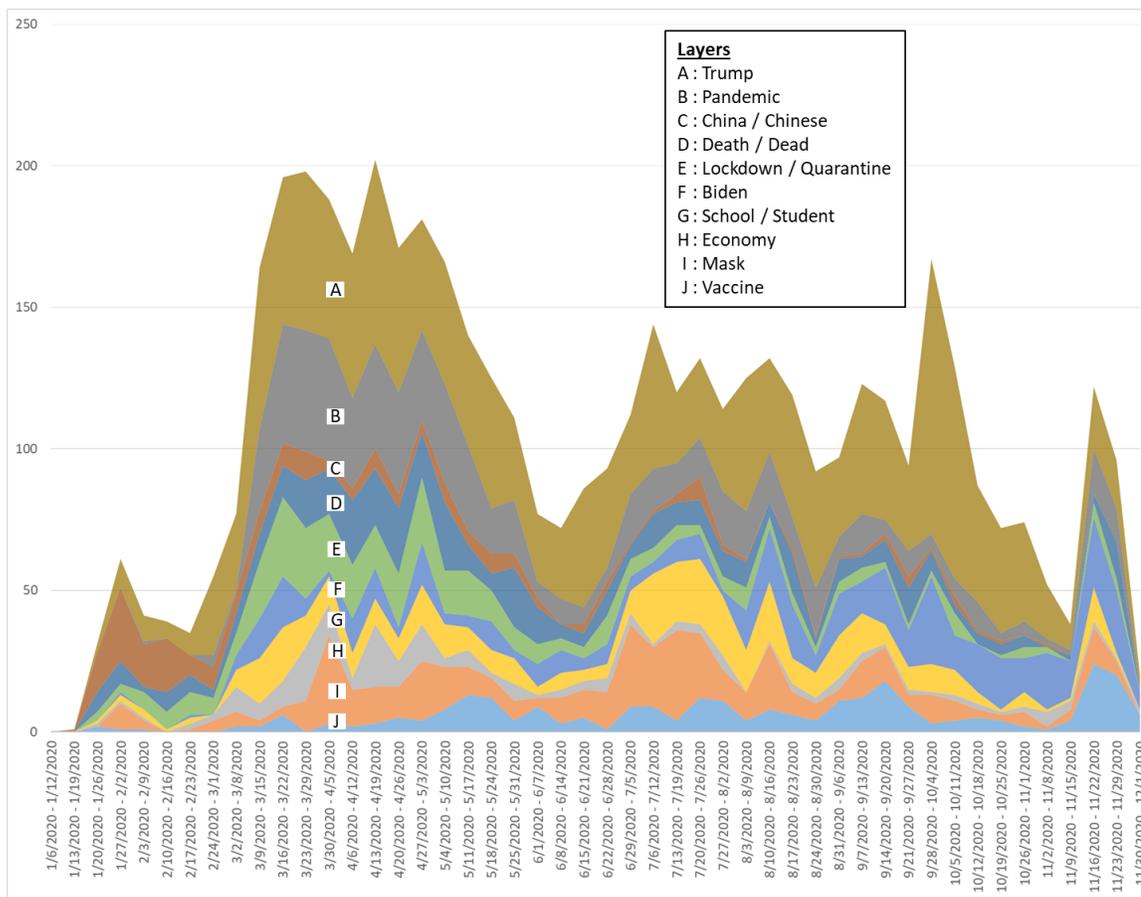


Figure 7

Headline Attribute Volume By Week, USAToday.com

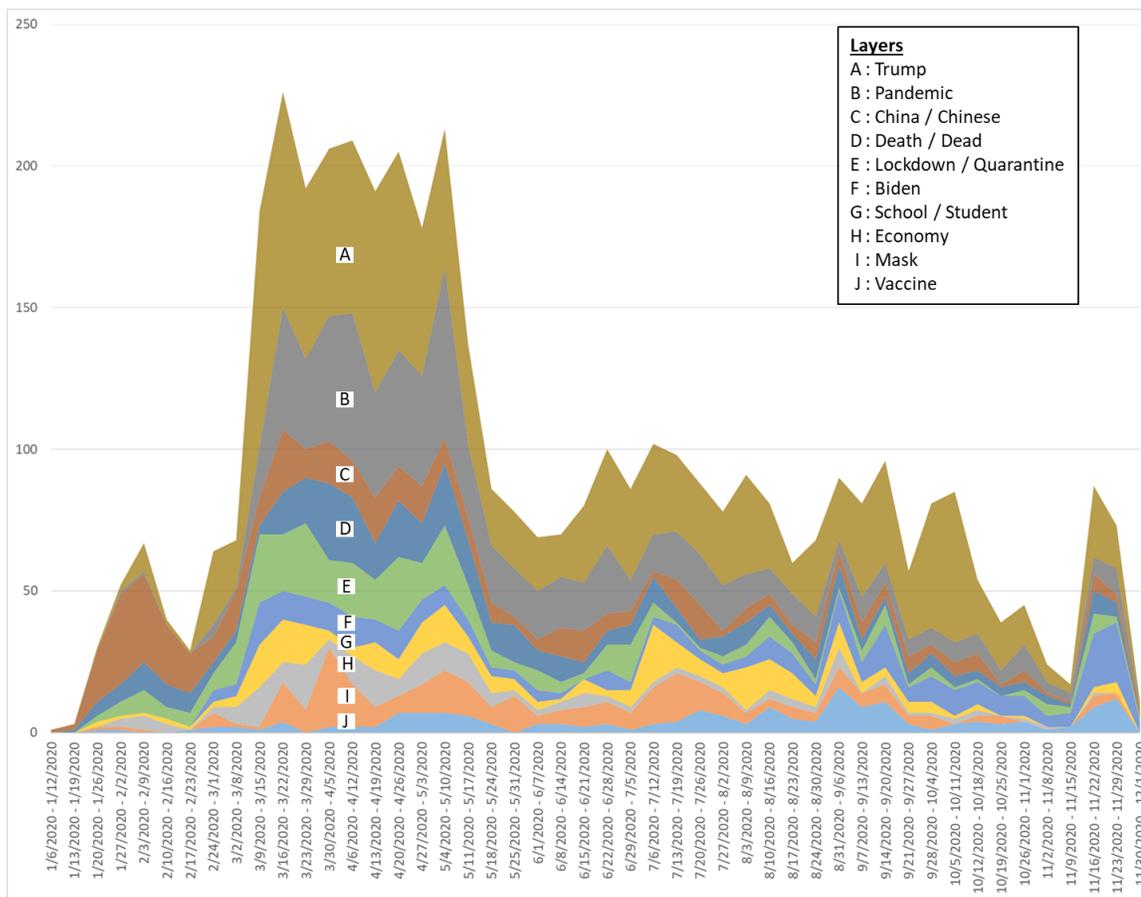


Figure 8

Headline Attribute Volume By Week, CNN.com

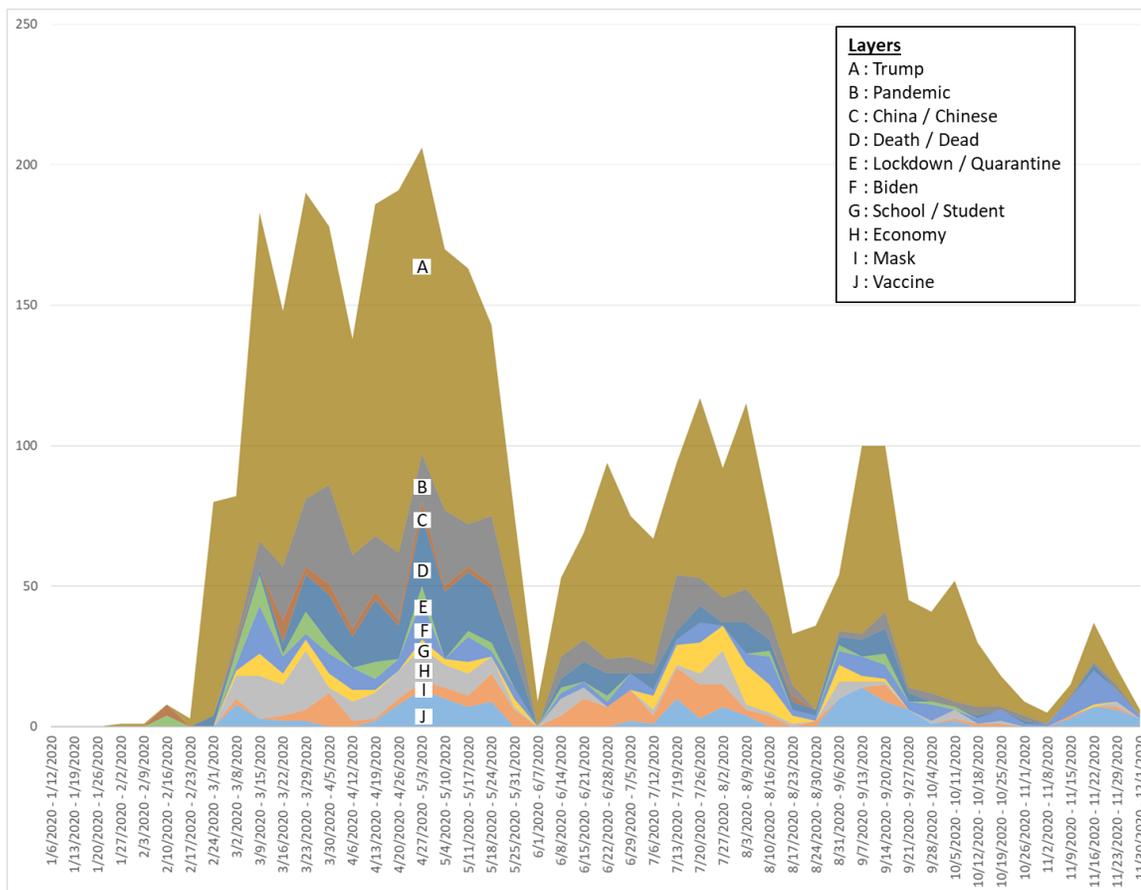


Figure 9

Headline Attribute Volume By Week, MSNBC.com

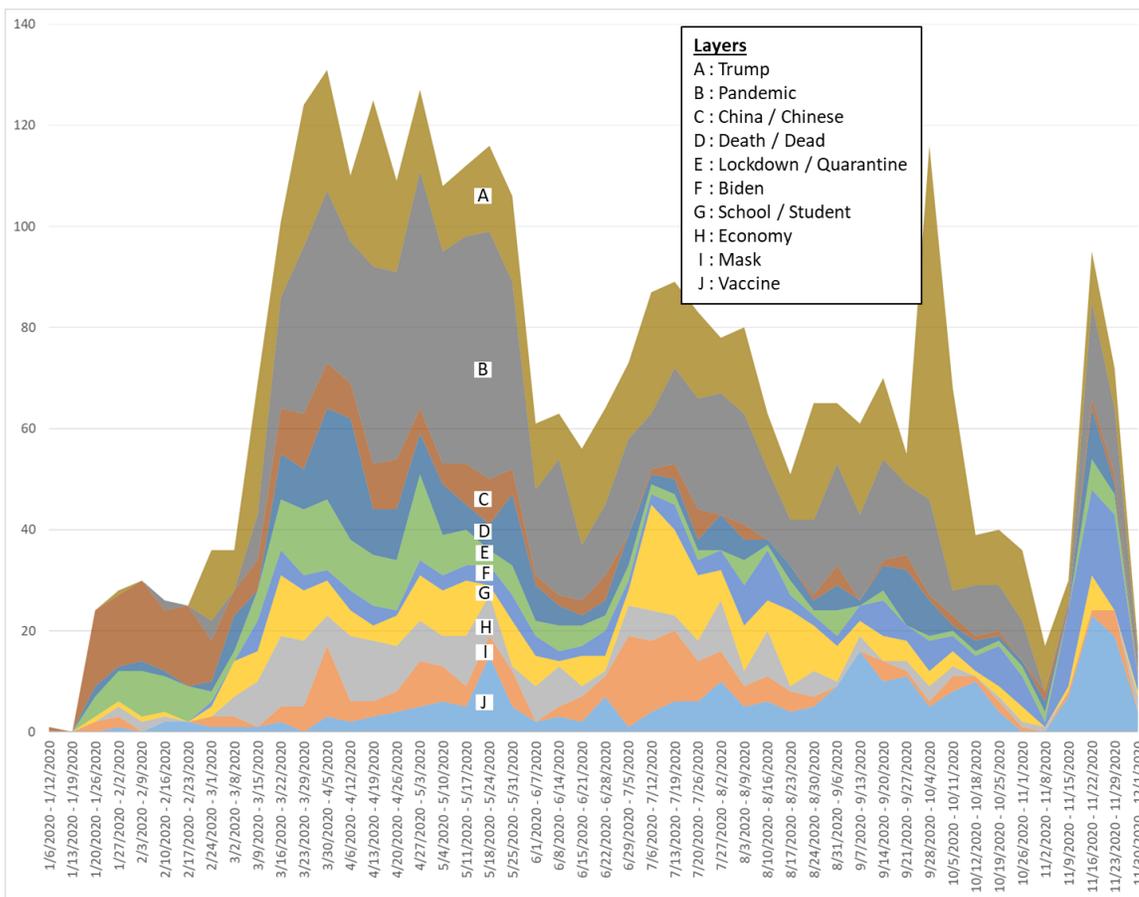


Figure 10

Headline Attribute Volume By Week, NPR.org

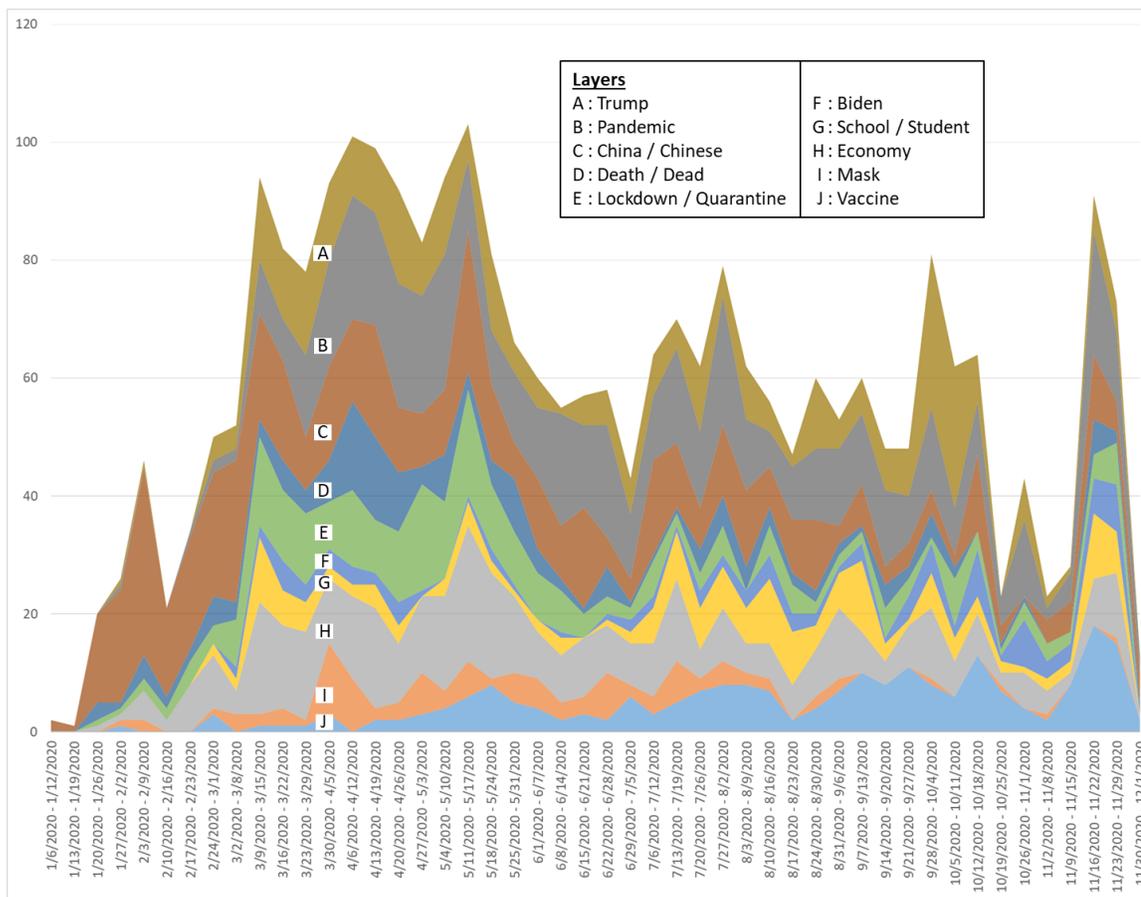


Figure 11
Headline Attribute Volume By Week, WSJ.com

Tables 3 and 4 explore these patterns comprehensively. Table 3 compares each source’s weekly Trump attribute volume average with the weekly volume average of the “most-competitive attribute,” operationalized as the non-Trump attribute with the highest weekly volume average. The table orders the sources by the difference between the weekly average volumes of the Trump attribute and the most-competitive attribute, with the greatest differences listed first. The Trump attribute’s weekly volume significantly

exceeded the most-competitive attribute's volume in five of the sources:

WashingtonPost.com, FoxNews.com, MSNBC.com, USAToday.com, and CNN.com.

Table 3

Mentions of Trump Attribute And Most-Competitive Attribute, By Source

Source	Trump attribute		Most-competitive attribute			$M_1 - M_2$	$t(47)$	p
	M_1	SD	Attribute	M_2	SD			
WashingtonPost.com	90.5	52.9	Pandemic	42.6	31.8	47.9	10.13	>.001
FoxNews.com	66.6	41.0	Biden	27.6	17.5	39.0	8.48	>.001
MSNBC.com	44.1	37.9	Pandemic	7.9	9.3	36.2	8.01	>.001
USAToday.com	33.8	19.9	Pandemic	13.8	13.0	20.0	8.19	>.001
CNN.com	28.4	21.7	Pandemic	14.8	14.9	13.6	6.61	>.001
NYTimes.com	39.3	25.9	China	28.9	31.7	10.4	1.63	.11
NPR.org	14.4	12.0	Pandemic	16.9	14.1	-2.5	1.16	.25
APNews.com	16.8	10.6	Death	19.6	14.1	-2.8	1.65	.10
WSJ.com	6.9	5.9	Pandemic	10.5	6.9	-3.6	3.86	>.001

Table 4*Trump Attribute Volume Regressed on Week, By Source*

Source	<i>b</i>	<i>F</i> (1, 33)	<i>p</i>	<i>R</i> ²	<i>R</i> ² _{adjusted}
WashingtonPost.com	-2.80	29.3	<.001	0.47	0.45
MSNBC.com	-2.56	48.76	<.001	0.60	0.58
FoxNews.com	-1.66	9.76	0.003	0.23	0.20
CNN.com	-1.02	19.92	<.001	0.38	0.36
NYTimes.com	-0.74	3.79	0.06	0.10	0.08
USAToday.com	-0.47	2.70	0.11	0.08	0.05
NPR.org	-0.13	0.44	0.51	0.01	-0.02
WSJ.com	-0.11	1.23	0.28	0.04	0.01
APNews.com	0.08	0.25	0.62	0.01	-0.02

Note: Data are for the week of April 6, 2020, through the week of Nov. 30, 2020.

The Trump attribute essentially tied with the most-competitive attribute in coverage by NYTimes.com, NPR.org, and APNews.com, and it significantly trailed the most-competitive attribute in coverage by WSJ.com. Table 4, meanwhile, shows that the Trump attribute's weekly volume declined significantly in coverage by WashingtonPost.com, MSNBC.com, FoxNews.com, and CNN.com but showed no significant change in content published by the other sources. Values in the table represent the period beginning with the week of April 6, 2020, when weekly Trump attribute volume peaked in overall coverage, and ending with the week of Nov. 30, 2020, the last week covered by the dataset.

Re-expressing each source's weekly Trump attribute volume as a percentage of all attribute mentions in the source's content during the week allowed a comparison, via repeated-measures analysis of variance, of average weekly Trump attribute volumes across all nine sources for each of the 48 weeks in the dataset, controlling for the differences in source article counts as summarized in Table 1. Mauchley's Test produced a significant result, $W = .002$, $\chi^2(35) = 275.30$, $p < .001$, suggesting a need to raise the ANOVA test's critical value of F using the Greenhouse-Geisser epsilon correction. The corrected test indicated at least one significant difference among the within-subjects effects, $F(2.27, 106.46) = 110.65$, $p < .001$. Figure 12 summarizes the results of a post-hoc pairwise comparison using the Bonferroni method by showing marginal means for each source and connecting significantly different ones with a horizontal bar. In sum, WSJ.com content showed the least Trump attribute volume, followed by content from APNews.com. Meanwhile, MSNBC.com content showed the most Trump attribute

volume, and the remaining sources showed levels that fell in between, many of them statistically equivalent to each other.

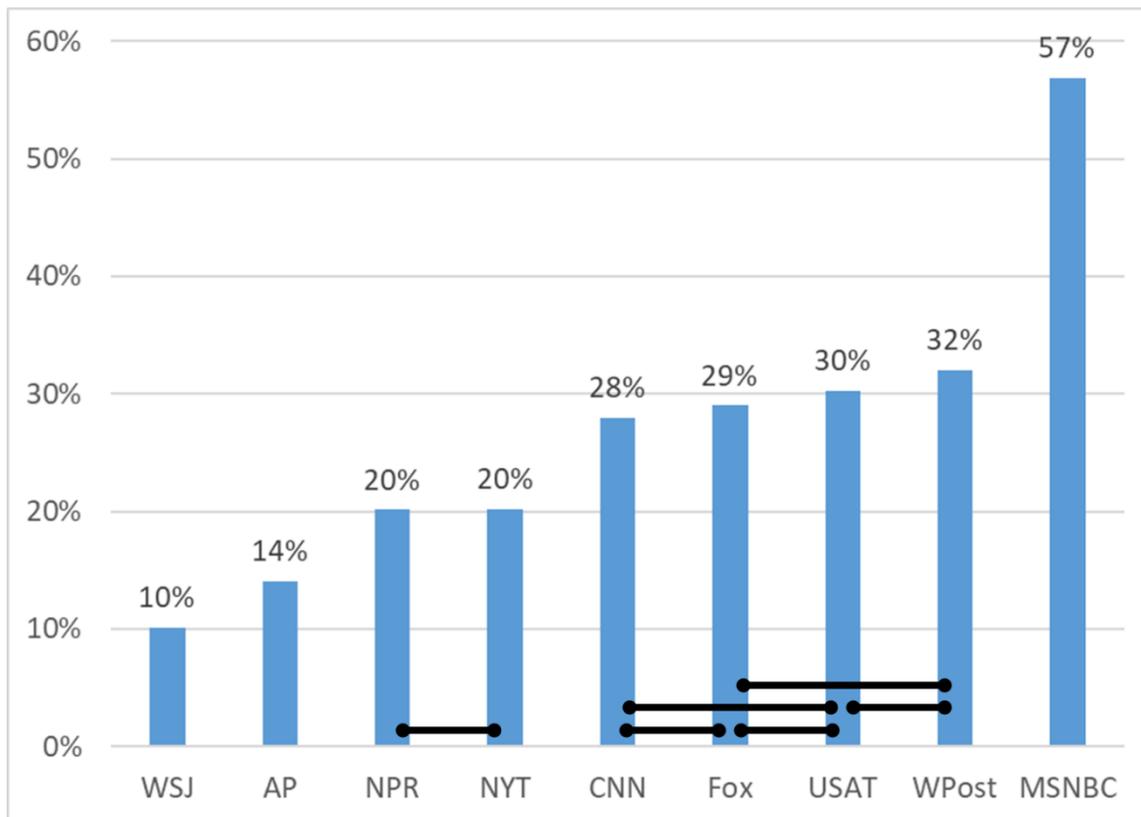


Figure 12

Average "Trump" Attribute Weekly Volume, By Source

Note: Columns connected by horizontal bars show no significant difference.

Tone and Focus: A Qualitative Perspective

A fundamental limitation of this study is the lack of a qualitative perspective.

Counting the frequency "Trump" attribute mentions in headlines cannot reveal the

context in which the attribute is covered or inform the researcher on the articles' tone and focus. In this analysis, "tone" is being qualified as positive, negative, or neutral, which will be subjectively determined by the researcher based on contextual clues and the diction/wording utilized in a particular piece. A positive tone would exalt President Trump and his handling of the COVID-19 pandemic, as well as other varying attributes of the pandemic. Meanwhile, a negative tone would disparage Trump and these factors, while a neutral tone would neither exalt or disparage Trump and these factors but would, instead, present the news in a perceivably unbiased manner. In terms of this analysis' attention to an article's "focus," the researcher will investigate an article's use of the following issue attributes that have been outlined in previous sections: Vaccine, Mask, Economy, School/Student, Biden, Lockdown/Quarantine, Deaths/Dead, China/Chinese, Pandemic, and Trump. Looking at the utilization of such issue attributes will allow the researcher to qualitatively analyze how attributes that are emphasized by a particular news outlet, article, and/or collection of articles, inform the agenda that such articles are trying to convey.

This analysis is not the primary focus of this study, but it serves to provide context that is not provided through the quantitative analyses being conducted. As discussed previously, equating the frequency of media mentions with regard to the term, "Trump," in articles concerned with "COVID-19" and/or "coronavirus" with an innately negative impact on the populus' view of President Donald Trump is a difficult argument to make from only one perspective. Importantly, the researcher believes that any level of association with the United States' handling of the COVID-19 pandemic is negative, as there is not a particularly positive aspect to such work, to date. To clarify, the United

States' handling of the COVID-19 pandemic has been generally regarded in a negative light, such that many people believe it could have been handled better and more efficiently. Therefore, regardless of any individual article exalting President Trump for his handling of the situation, the researcher would argue that the mere association of President Trump with the COVID-19 pandemic is disparaging to his image. However, a qualitative analysis is paramount to understanding the context of the situation, regardless of preconceived biases, to determine the differences with regard to tone and focus that are present in the online news coverage of the COVID-19 pandemic from Fox News and MSNBC.

This qualitative analysis investigated a randomly generated sample of 25 online news articles, or "stories," from Fox News and 25 online news "stories" from MSNBC. The importance of the quotation marks around the term, "stories," is significant. The methodology devised for this study was supposed to generate a list of online news articles with regard to the terms "COVID-19," or "coronavirus," and "Trump," released from assigned news outlets throughout the designated timeframe. However, this methodology inadvertently included online news posts that consisted of video news stories, posted under a headline, and including minimal subtext, but consisting mostly of video clips from cable news reports. Notably, in the random sample obtained for this analysis, the only video clips posted as online news stories were posted on MSNBC's online database. These videos were qualitatively analyzed for tone and focus in the same fashion as the fully text-based articles.

Generally speaking, in this sample of articles, Fox News had a much more neutral standpoint when presenting the issue of COVID-19 as it relates to President Trump and

other issue attributes. However, this is not to say that the online articles released by Fox News withheld topics that painted Trump's handling of the pandemic in a negative or positive light. While there are articles that both exalt and disparage Trump, the general tone of the articles in the obtained sample for this qualitative analysis presents the facts of the situation in plain, non-derogatory language. Granted, presenting the facts of the situation in this way does lead to a negative light being cast on President Trump, as there are certain situations that he did not handle in a professional manner. The variance in tone, both positive, negative, and neutral, contained within these articles can be seen clearly in three particular pieces from Fox News that deal with COVID-19 and President Trump, along with one other interesting issue attribute: China.

In terms of an article that demonstrates a neutral tone, one article states, "President Trump said Thursday he has seen evidence suggesting the coronavirus originated from a laboratory in China, while continuing his criticism of the World Health Organization's ties to Beijing, comparing the U.N.-backed agency to a public relations firm" (Robinson, 2020). Regardless of the accuracy of these claims, there is no perceivable negative or positive tone based on diction or wording. Instead, the article simply reports on the situation in a seemingly unbiased manner.

Another article presents a situation that quite clearly displays Trump in a negative manner, writing, "A photo of President Trump's notes during Thursday's coronavirus task force briefing shows 'Corona' crossed out and replaced with 'Chinese,' a label he continues to use despite criticism that it encourages anti-Asian sentiment... Washington Post photographer Jabin Botsford tweeted a photo of the notes, which said 'Chinese virus' instead of the widely used coronavirus to describe COVID-19... Trump and some

lawmakers have come under intense criticism for referring to the pandemic as the Chinese virus or Wuhan virus. The illness is linked to an animal market in Wuhan, China, and has claimed the lives of more than 3,200 people in China and has spread to almost every country around the world” (Casiano, 2020). For obvious reasons, this report is disparaging to Trump’s character and professionalism, demonstrating that he was not handling the situation in a mature and collected fashion despite profound criticism from a large portion of the world.

There is also an article in the obtained sample that seems to exalt Trump, touting him as a hero for speaking out against China and the Chinese government’s handling of the original COVID-19 outbreak and following pandemic. The article states, “How bad is China? So bad that they are ‘disappearing’ those telling the truth about the coronavirus. So bad that their leader, President Xi Jinping, apparently knew about the disease weeks before he fessed up to the public, possibly delaying the creation of treatments and jeopardizing millions...So bad that President Trump chose to risk his own reelection by confronting Beijing... history will best remember Donald Trump as the president who forced the world to acknowledge that China’s government is a criminal enterprise...As the coronavirus rolls on, sickening and killing thousands, we are reminded anew of the threat posed by China’s corruption. It has become clear that Beijing lied about the extent and the contagious nature of the disease, allowing hundreds of thousands of travelers to spread the virus well after it had been diagnosed” (Peek, 2020). The varied tones of these online articles, all released by the same outlet, Fox News, and all concerning the same issue attributes of COVID-19, Trump and China, shows the varied perspectives being presented by Fox News. These varied perspectives speak to the general sense of

neutrality being embodied by the outlet, at least as it relates to the random sample obtained for this qualitative analysis, such that no particular bias can be associated with the outlet. This is not to say that particular biases are not detectable in specific articles, but a general bias is not present across the acquired sample. However, such a general bias was overwhelmingly detectable in the random sample of MSNBC news stories.

Nearly every news story in this random sample from MSNBC spoke negatively about President Trump's handling of the COVID-19 pandemic, often using derogatory language in doing so. For example, one article states, "Trump's impatience, ignorance, and lack of foresight is leading him toward the most dangerous of all possible scenarios... Shortly before midnight (ET) on Sunday, Donald Trump published an unusual tweet – even by his standards – about the coronavirus crisis. 'We cannot let the cure be worse than the problem itself,' the president wrote in an all-caps missive. 'At the end of the 15 day period, we will make a decision as to which way we want to go!'" (Benen, 2020). Characterizing Trump as impatient and ignorant, while mocking the "standards" of his Twitter usage, certainly points to some sort of political bias, and uses derogatory language to do so. In another jab at President Trump's competency, one article writes, "Reality-based pandemic advice apparently grew tiresome, prompting Trump to turn to a more political voice he saw on cable news... Dr. Scott Atlas, a Fox News regular and a leading voice at a conservative think tank, had joined the White House team. There was no great mystery behind the decision: Atlas has pushed to re-open schools, downplayed the need for broader coronavirus testing, and criticized lockdowns intended to stop the pandemic's spread... The neuroradiologist has 'no expertise in public health or infectious disease mitigation,' he hasn't practiced

medicine in nearly a decade, and he's demonstrated a habit of echoing unscientific claims, but Atlas nevertheless had something more important: the capacity to tell the president what he wants to hear" (Benen, 2020). This article portrays Trump as a man detached from the realities of the COVID-19 pandemic which, regardless of one's personal opinions on President Trump, is tonally negative. This theme of deprecating the president and his competency is commonplace among this sample of MSNBC stories, with another stating, "Donald Trump's rhetoric on coronavirus testing has long been ridiculous, including the president's repeated recent assertions that the number of cases would largely disappear if only the United States stopped conducting tests" (Benen, 2020). It is important to note that a surprisingly high number of the text-based articles in this sample are written by MSNBC contributor, and producer of "The Rachel Maddow Show," Steve Benen. However, his pieces are not the only ones which use derogatory language directed at President Trump's handling of the COVID-19 pandemic; again, this theme is present throughout the sample.

One news story posted by MSNBC states, "Joe Biden and Kamala Harris both hit the president hard over his government's bungled response to the COVID-19 pandemic in their first appearance of the campaign together" (Biden and Harris torch Trump on COVID-19 in joint appearance, 2020). Using the word, "bungled," serves to portray Trump as clumsy and/or incompetent, furthering the theme of negative tonality within MSNBC's coverage of the pandemic, as it relates specifically to President Trump. Other coverage from MSNBC takes a more directly negative tonal approach, as opposed to utilizing innately derogatory language to express an opinion, stating, "Former Obama Campaign manager David Plouffe joins to spell out what he believes is a total failure by

Trump to manage the coronavirus pandemic... Coronavirus failures will be on Trump's political tombstone" (Plouffe: Coronavirus failures will be on Trump's political tombstone, 2020). Although the imagery of a tombstone is a bit excessive with regard to the "death" of Trump's political career, referring to Trump's handling of the COVID-19 pandemic as a "total failure" is not directly degrading to Trump's mental competence, but does further the negative tone of MSNBC's coverage, just with a different tactic for accomplishing this.

Overall, there is a distinct and perceivable difference between the general tones of Fox News' coverage and MSNBC's coverage of Trump's handling of the COVID-19 pandemic in this sample of online news stories, such that Fox News presented a broader range of tonality (e.g. positive, negative, and neutral) than MSNBC, which embodied an almost exclusively negative tone. It would seem that this qualitative analysis suggests a stronger level of political bias on the side of MSNBC, at least as it relates to coverage of President Trump. Even in Fox News' negative coverage of President Trump's handling of the COVID-19 pandemic, directly degrading language was not present in the articles obtained for this sample.

In terms of the online news stories' focus from these two news outlets, specifically as it relates to this sample, both outlets covered a wide range of the ten attributes set forth by this study. Attributes covered by the stories in this sample included: Vaccine, Economy, School/Student, Biden, Lockdown/Quarantine, Deaths/Dead, China/Chinese, Pandemic, and Trump. The only significant and notable difference in attribute coverage within this sample is that Fox News mentioned the China/Chinese attribute somewhat frequently and, as discussed previously, mentioned this attribute in

various and distinct ways. Conversely, the China/Chinese attribute was not mentioned once by MSNBC in the sample obtained for this qualitative analysis. Investigating whether this difference in focus is present in a larger sample from the overall dataset, as well as attempting to identify why this difference is present, would be a very interesting direction for future research on this topic. One would certainly expect China/Chinese to at least be a frequently used attribute after the initial COVID-19 outbreak in Wuhan, China.

Notably, conducting this analysis revealed an innate flaw in the methodology used for this study, such that not every news story acquired in the random sample for the qualitative analysis mentioned the terms “COVID-19” or “Coronavirus” in the story. Conducting a basic text search of these stories revealed that the terms “COVID-19” or “Coronavirus” were present on the web pages that displayed the stories. However, these terms appeared in various sub-story menus and links to other stories, instead of in the text of the story itself. To clarify, in some cases, GDELT flagged an article as being about COVID-19 purely because the article's page contained a standing "COVID-19" navigation link rather than because the page contained news text about COVID-19. Importantly, this error was present in a very small amount of the stories obtained for this qualitative analysis, suggesting that this error is not extremely detrimental to the results of the analyses contained within this study. Future research using similar methodologies should seek to remedy this issue, if possible.

CHAPTER 4: CONCLUSIONS AND DISCUSSION:

The results presented above point to a number of potentially valuable conclusions and raise several interesting questions. Discussion of some limitations is in order, too, along with suggestions for future research.

The first research question asked whether weekly patterns were evident in the overall volume of COVID-19 coverage. The answer, it seems, is “yes.” The most striking aspect of Figure 1 is the peak in coverage volume – more than 7,000 articles per week across all nine outlets – that appeared in late March, 2020. An examination of the content of these articles would be needed to better determine what drove coverage during this period, but it is possible to make some informed guesses. The pandemic was “hot news” in late March 2020, and news organizations rushed to inform their audiences about COVID-19’s causes, effects, and progress. Furthermore, COVID-19 precautions abruptly shut down many of the events news media might have covered otherwise, perhaps leaving a content vacuum that news organizations needed to fill in order to maintain operations. The steep decline in COVID-19 coverage volume during April and May of 2020 probably stems from the return of over newsworthy events, most notably, perhaps, nationwide unrest following a series of highly publicized incidents in which Black Americans died at the hands of white police officers. Breonna Taylor was fatally shot by police officers in Louisville Kentucky on March 13, 2020. Taylor’s death signaled the beginning of racial unrest, and movements against police brutality, that would sweep the nation in 2020. Shortly after Taylor’s death, George Floyd died while being arrested by police in Minneapolis, Minnesota. His death sparked a great deal of racial unrest in the United States, spurring a wave of peaceful protests and violent riots, largely facilitated by

the Black Lives Matter movement and the Antifa movement. Additional racial unrest overtook many U.S. cities shortly after August 23, 2020, when Jacob Blake was fatally shot by police in Kenosha, Wisconsin.

The deaths of these Black Americans resulted in an intense level of racial unrest across the United States, which captivated the mainstream media, even in the midst of a global pandemic. Additionally, the culmination of the United States' presidential campaigns, and following election, took over the media's attention from September, 2020, through the rest of the year, from the first presidential debates (09/29/20) through the Electoral College's final decision (01/06/21). After the initial falloff in the total volume of COVID-19 coverage following the death of Taylor, the volume continued to fall gradually throughout the entire span of racial unrest in the United States, eventually dropping below 3,000 articles per week. Then, once the election was in full swing, the total volume of coverage dropped below 1,000 articles per week. Notably, this drop took place between the second presidential debate (10/15/20) and election "day" (11/03/20). These fluctuations in the total volume of COVID-19 coverage may illustrate a perceivable level of available "bandwidth," so to speak, such that the news media can only cover a certain amount of issues in a given period of time. As other issues arose, coverage of the COVID-19 pandemic waned (See Figure 1).

Research Question 2 asked which attributes appeared most frequently in COVID-19 article headlines. Table 2 provides the detailed answers. Generally, few surprises appeared, here. The list includes "school or student," "death or dead," and "economy," all of which represent prominent areas of disruption or consequences resulting from the pandemic. Other attributes like "vaccine," "lockdown or quarantine," and "mask"

perhaps speak to measures taken to contain the virus. It is perhaps notable that variants of “test,” as in tests for COVID-19 infection, did not emerge as top attributes. Perhaps “test” is too general of a term. “Pandemic” probably emerged as usefully brief way for journalists to refer to the COVID-19 outbreak, especially in the context of a headline, while “Trump” and, perhaps to a lesser degree, “China,” probably reflected politically oriented COVID-19 coverage. Future research into the content associated with these headline terms could produce a clearer understanding of what these attributes represented, and why they emerged as the most frequent.

“Trump” is the overwhelming answer to Research Question 3, which asked whether a rank order was evident among the most frequently mentioned headline attributes. The former president’s name appeared in about a third of the headlines examined, about twice as often as “Pandemic,” the next-most-common headline attribute. Just as notable, perhaps, are the headline attributes that received far less play: those referring to death, lockdowns, schools, the economy, masks, and the vaccine. Arguably, these attributes were much more relevant and important than “Trump,” or even “China,” to audiences trying to navigate life during a pandemic. The results perhaps raise important questions about how well these media outlets served the information needs of their audiences during the period examined.

The finding may also help explain how attitudes about everything from the risk posed by COVID-19 infection to the efficacy of masks and social distancing as mitigation measures to hesitancy about receiving the vaccine came to divide so sharply along political fault lines (Deane, Parker & Gramlich, March 5, 2021). Trump was a polarizing figure throughout his presidency and famously – or infamously, depending on

one's perspective – expressed many controversial views about COVID-19's origins, threat levels, and treatments. Table 2 and Figure 2 both suggest that when media content invited American audiences to think about COVID-19, that content invited them to think about it with “Trump” at the top of the attribute list. If so, it seems likely that his connections to the issue invited the same levels of political polarization that his connection to so many other issues invited.

Research question 4 wondered whether the frequency of the headline attributes would vary by news outlet. Figures 3 through 11 suggest, perhaps, many ways to answer the question, and the overall conclusion is that it most certainly did. The most obvious differences pertained to the “Trump” headline attribute's volume relative to the volume of the other headline attributes. Five of the outlets examined – WashingtonPost.com, FoxNews.com, MSNBC.com, USAToday.com, and CNN.com – gave the “Trump” attribute significantly more weekly volume than any of the other top attributes. Meanwhile, the “Trump” attribute essentially tied at least one other attribute in three of the remaining outlets: NYTimes.com, NPR.org, and APNews.com, and significantly trailed at least one other attribute in content from WSJ.com. Figure 12 compares the outlets more directly in terms of their relative emphasis on the “Trump” attribute. MSNBC.com emerged as a clear outlier, emphasizing the “Trump” attribute much moreso than the other outlets, while WSJ.com landed on the other end of the spectrum, having emphasized a couple of the attributes more than, or as much as, the “Trump” attribute. CNN.com, FoxNews.com, USAToday.com, and WashingtonPost.com seemed to represent the norm among the outlets, emphasizing the “Trump” attribute less often than MSNBC.com but more often than NYTimes.com, NPR.org, and APNews.com.

The focus on the “Trump” attribute by WashingtonPost.com can perhaps be explained by the fact that President Trump was literally in the Post’s back yard for the duration of the period examined. The Post serves a national audience, to be sure, but its primary focus is on federal government operations centered in Washington D.C. The finding that all three cable broadcast news outlets examined – FoxNews.com, MSNBC.com, and CNN.com – placed heavy emphasis on the “Trump” attribute may suggest that these outlets serve audiences defined primarily by political factions that approve of, or disapprove of, President Trump and would have clamored for Trump-related content if the outlets had not provided it, even during a pandemic. And the inclusion of USAToday.com in the group is not, perhaps, as much of an anomaly as it might initially seem. From the start, the USA Today news operation has sought to emulate the tone and style of television broadcast news. Finally, outlets that gave the “Trump” attribute the least play – NYTimes.com, NPR.org, APNews.com, and WSJ.com – are perhaps more focused on niche audiences. A similar analysis of content from the same period published by network television news operations like CBSNews.com, NBCNews.com, and ABCNews.Go.com – which are broadcast outlets like the cable operations but serve general audiences – could shed some light on why the outlets ranked as they did in attribute volume.

A caveat is in order here, though, given the tonal examination of randomly selected FoxNews.com and MSNBC.com content. The examination revealed that the GDELT search picked up articles that didn’t fit the “headline / story” format anticipated by the methodology. It is also notable that, according to Figure 9, MSNBC.com aired virtually no content at all about COVID-19 during the week of June 1. That seems

unlikely. It may be that the GDELT database captures content from FoxNews.com and MSNBC.com (and perhaps other broadcast outlets, like CNN.com and NPR.org) that is structured in systematically different ways than content from outlets connected to historically print-oriented outlets like WashingtonPost.com and NYTimes.com. GDELT offers a separate API capable of searching the on-air content of MSNBC, CNN, and Fox News, and still another API that can search the text of on-screen captions displayed during these outlets' broadcasts. The on-air content for these broadcast outlets is perhaps more analogous to "article content" in legacy print outlets than the content capture in the API used for this investigation. Similarly, on-screen captions serve as "headlines" for broadcast content and, thus, might be a better sampling frame for studies involving topline attributes published by broadcast outlets. The problem doesn't necessarily invalidate the results of the quantitative analysis, though. FoxNews.com accounted for a sizable 18 percent of the headlines examined, but MSNBC.com contributed only 6 percent (See Table 1). More than half of the headlines examined came from outlets associated with legacy print operations.

The fifth, and final, research question asked whether the rank order among the headline attributes varied by week. Again, figures 2 through 11 suggest a variety of answers. The evident increase in the "Biden" attribute's volume, for example, proved statistically significant, at least between the coverage peak in late March and the end of the period examined. Notably, the analysis focused on changes in the "Trump" attribute's volume, finding that it declined significantly not only in the coverage as a whole but also in coverage by four of the outlets: WashingtonPost.com, MSNBC.com, FoxNews.com, and CNN.com., by rates of between one and nearly three mentions per week. Notably,

overall coverage of the “Trump” attribute spiked in early October, likely correlating with President Trump’s brief stint in the hospital after contracting COVID-19 in the first week of October. The general decline of the “Trump” attribute was perhaps especially surprising for FoxNews.com, given the outlet’s generally supportive attitude toward the President Trump. It would be interesting, in future research, to examine whether the content of these stories – or perhaps a sample of Trump content in general, regardless of its connection to COVID-19 – changed in character during the period.

Qualitative findings and suggestions for future research

This study’s qualitative analysis of the tone and focus of various stories from Fox News and MSNBC suggested that coverage of this pandemic used positive, negative, and neutral tonalities to cover Trump’s association with the issue. Importantly, Fox News appeared to produce less biased coverage than MSNBC in this regard. Therefore, it appears that all articles associating President Trump with the COVID-19 pandemic are not innately negative. Rather, some articles exalt Trump’s handling of the pandemic. However, the researcher contends that any level of lasting association with this overwhelmingly negative situation is damaging overall. Future research may be wise to investigate the lasting effects of Trump’s association with the COVID-19 pandemic, as it relates to his public perception.

This study provided an investigation into attribute agenda setting during the time of a controversial election and global pandemic, adding to the existing literature in a way that has not been explored deeply. Importantly, this study shows how such an issue as a global pandemic can be used as a political tool to either disparage or exalt political

figures. Additionally, this study provided a basis for analyzing news coverage of the COVID-19 pandemic as it relates to President Trump in a qualitative manner. The qualitative analysis conducted in this study merely scratched the surface of what such qualitative research may be able to accomplish. Future research should aim to conduct similar, but significantly more extensive, qualitative analyses in hopes of uncovering the intricacies of such news coverage's tone and focus with regard to the COVID-19 pandemic, Trump, and various other issue attributes. Additionally, future quantitative studies should continue to use new powerful tools, like GDELT, to aggregate and analyze vast quantities of news media. However, such studies would be wise to seek ways in which to avoid the minor errors found in this study's methodology (e.g. a minor amount of false positives for articles containing the terms "COVID-19" or "coronavirus"). Hopefully this study will act as a springboard for civilized media studies conversations on the political biases of news media outlets as they relate to agenda setting theory, particularly with regard to controversial political figures and the use of global events as a political tool to either exalt or disparage a political figure.

Limitations

This study's focus on an extraordinary period in U.S. history both makes the study interesting and limits its applicability to less extraordinary times, whether past or future. Pandemics don't happen often, and pandemics that coincide with the administration of a president as unusual as President Trump and a social movement as powerful as Black Lives Matter are even more rare. The concentration of media and public attention during 2020 on a relatively small number of long-running issues might

have helped remove some of the statistical noise that one might ordinarily find in an analysis such as the one undertaken here. But noisy political and social environments are the norm, and once the “new normal” arrives in the United States, the findings reported here may become difficult to replicate.

As discussed in more detail above, the tonal investigation raised some concerns about the representativeness of content retrieved from the GDELT API, particularly content produced from FoxNews.com and MSNBC.com. Care should be taken with GDELT content for these outlets in future studies, and alternative, and perhaps more suitable, APIs from GDELT should be considered for collecting content from those sources, and perhaps similar ones.

Finally, headlines serve as important indicators of what news articles are about. But future research should give article text more examination than it received here, either through an expanded qualitative investigation, quantitative sentiment analysis techniques, or both.

Despite these limitations, though, the results presented here suggest that attribute agendas in COVID-19 coverage during 2020 by U.S. national news outlets – at least as represented by headlines from that coverage – varied in their content as well as across both time and media outlets, perhaps in ways that influenced the outcome of the 2020 presidential election and in ways that helped intensify the partisan divide evident in Americans’ responses to the pandemic.

These results raise questions worthy of further research, and the methodology explained here holds promise for investigating agenda setting processes in the context not

only of COVID-19 and the troubled year that was 2020, but also of other issues and events in other times, past, present and future.

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Appendix A: Python script for automating GDELT API Doc 2.0 downloads

Description: This script will capture metadata from the GDELT 2.0 API for articles matching specified date and search term criteria. The dates and search terms are embedded in URLs that are generated by an accompanying "URL Generator for GDELT Headline Grab" Excel spreadsheet, downloadable from <https://tinyurl.com/y8bhdswj>. For more about using the GDELT API, see: <https://drkblake.com/gdeltintro/>.

Note: The code directly below will install the requests module in your current Jupyter Notebook environment. The installation is necessary only once per environment. After you have installed requests, you may speed the script's execution up somewhat by changing `pip install requests` to `!pip install requests`.

```
#pip install requests
from IPython.display import clear_output
import requests
import time
```

Directions: For each month of URLs, paste the URLs from the spreadsheet between the `[]` in the `URLlist = []` code. Each URL should be surrounded by a pair of `'` characters and separated with a comma. In other words, formatted as a Python list.

The code after each month's URL list will save the article metadata to a comma-separated-value file with a name that you specify. The default file name is `TopicYearXX.csv`, with the two-digit month year substituted for `XX`. Customization of the default file name is recommended, e.g., `COVID202001.csv` for coverage of COVID-19 during January of 2020. After the script has run, you will find the file on your computer, in the same directory as the script.

The `time.sleep(6)` line in the code below produces a six-second pause between retrieval operations. The pause will keep you under the GDELT API's rate limit, which allows no more than one retrieval every five seconds. You probably could speed the program up slightly by changing the code to `time.sleep(5)`, but I haven't tested a pause shorter than six seconds. Either way, if you are downloading a full month of data for each of the nine sources, plan on letting the program run for several hours.

For each month, a handy counter will appear after the first retrieval telling you how many of your URLs have been processed. When the last URL has been processed, the script will report that "The dataset is ready to view."

```
#URL list for Month 1
*****

URLlist = []
```

```

print("URL list loaded")
completed = 0.
OutOf = len(URLlist)
for URL in URLlist:
    clear_output(wait=True)
    myfile = requests.get(URL)
    open('TopicYear01.csv','ab').write(myfile.content)
    completed = completed + 1
    print("Completed: ",completed," out of",OutOf)
    time.sleep(6)
print("The dataset is ready to view.")

```

```

#URL list for Month 2
*****

```

```

URLlist = []

```

```

print("URL list loaded")
completed = 0.
OutOf = len(URLlist)
for URL in URLlist:
    clear_output(wait=True)
    myfile = requests.get(URL)
    open('TopicYear02.csv','ab').write(myfile.content)
    completed = completed + 1
    print("Completed: ",completed," out of",OutOf)
    time.sleep(6)
print("The dataset is ready to view.")

```

```

#URL list for Month 3
*****

```

```

URLlist = []

```

```

print("URL list loaded")
completed = 0.
OutOf = len(URLlist)
for URL in URLlist:
    clear_output(wait=True)
    myfile = requests.get(URL)
    open('TopicYear03.csv','ab').write(myfile.content)
    completed = completed + 1
    print("Completed: ",completed," out of",OutOf)
    time.sleep(6)
print("The dataset is ready to view.")

```

```

#URL list for Month 4
*****

```

```

URLlist = []

```

```

print("URL list loaded")
completed = 0.
OutOf = len(URLlist)
for URL in URLlist:

```

```

    clear_output(wait=True)
    myfile = requests.get(URL)
    open('TopicYear04.csv', 'ab').write(myfile.content)
    completed = completed + 1
    print("Completed: ", completed, " out of", OutOf)
    time.sleep(6)
print("The dataset is ready to view.")

#URL list for Month 5
*****

URLlist = []

print("URL list loaded")
completed = 0.
OutOf = len(URLlist)
for URL in URLlist:
    clear_output(wait=True)
    myfile = requests.get(URL)
    open('TopicYear05.csv', 'ab').write(myfile.content)
    completed = completed + 1
    print("Completed: ", completed, " out of", OutOf)
    time.sleep(6)
print("The dataset is ready to view.")

#URL list for Month 6
*****

URLlist = []

print("URL list loaded")
completed = 0.
OutOf = len(URLlist)
for URL in URLlist:
    clear_output(wait=True)
    myfile = requests.get(URL)
    open('TopicYear06.csv', 'ab').write(myfile.content)
    completed = completed + 1
    print("Completed: ", completed, " out of", OutOf)
    time.sleep(6)
print("The dataset is ready to view.")

#URL list for Month 7
*****

URLlist = []

print("URL list loaded")
completed = 0.
OutOf = len(URLlist)
for URL in URLlist:
    clear_output(wait=True)
    myfile = requests.get(URL)
    open('TopicYear07.csv', 'ab').write(myfile.content)
    completed = completed + 1

```

```

        print("Completed: ",completed," out of",OutOf)
        time.sleep(6)
print("The dataset is ready to view.")

#URL list for Month 8
*****

URLlist = []

print("URL list loaded")
completed = 0.
OutOf = len(URLlist)
for URL in URLlist:
    clear_output(wait=True)
    myfile = requests.get(URL)
    open('TopicYear08.csv','ab').write(myfile.content)
    completed = completed + 1
    print("Completed: ",completed," out of",OutOf)
    time.sleep(6)
print("The dataset is ready to view.")

#URL list for Month 9
*****

URLlist = []

print("URL list loaded")
completed = 0.
OutOf = len(URLlist)
for URL in URLlist:
    clear_output(wait=True)
    myfile = requests.get(URL)
    open('TopicYear09.csv','ab').write(myfile.content)
    completed = completed + 1
    print("Completed: ",completed," out of",OutOf)
    time.sleep(6)
print("The dataset is ready to view.")

#URL list for Month 10
*****

URLlist = []

print("URL list loaded")
completed = 0.
OutOf = len(URLlist)
for URL in URLlist:
    clear_output(wait=True)
    myfile = requests.get(URL)
    open('TopicYear10.csv','ab').write(myfile.content)
    completed = completed + 1
    print("Completed: ",completed," out of",OutOf)
    time.sleep(6)
print("The dataset is ready to view.")

```

```
#URL list for Month 11
*****

URLlist = []

print("URL list loaded")
completed = 0.
OutOf = len(URLlist)
for URL in URLlist:
    clear_output(wait=True)
    myfile = requests.get(URL)
    open('TopicYear11.csv', 'ab').write(myfile.content)
    completed = completed + 1
    print("Completed: ",completed," out of",OutOf)
    time.sleep(6)
print("The dataset is ready to view.")

#URL list for Month 12
*****

URLlist = []

print("URL list loaded")
completed = 0.
OutOf = len(URLlist)
for URL in URLlist:
    clear_output(wait=True)
    myfile = requests.get(URL)
    open('TopicYear12.csv', 'ab').write(myfile.content)
    completed = completed + 1
    print("Completed: ",completed," out of",OutOf)
    time.sleep(6)
print("The dataset is ready to view.")
```

Appendix B: Word frequency count Python script

```
# Open the file in read mode
text = open("Headlines1wordperline.txt", "r")
# Create an empty dictionary
d = dict()
# Loop through each line of the file
for line in text:
    # Remove the leading spaces and newline character
    line = line.strip()

    # Convert the characters in line to
    # lowercase to avoid case mismatch
    line = line.lower()

    # Split the line into words
    words = line.split(" ")

    # Iterate over each word in line
    for word in words:
        # Check if the word is already in dictionary
        if word in d:
            # Increment count of word by 1
            d[word] = d[word] + 1
        else:
            # Add the word to dictionary with count 1
            d[word] = 1
# Print the contents of dictionary
#for key in list(d.keys()):
#    print(key, ":", d[key])
s = dict(sorted(d.items(), reverse = True, key=lambda x: x[1]))
import csv
with open('HeadlineWordsv2.csv', 'w') as f:
    for key in s.keys():
        f.write("%s,%s\n"%(key,s[key]))
```