2024

How political elite leverage Twitter to polarize America

Woodson Morris Hobbs V
qhobbs@gmail.com

Pepperdine University

Graduate School in Education and Psychology

HOW POLITICAL ELITE LEVERAGE TWITTER TO POLARIZE AMERICA

A dissertation submitted in partial satisfaction

of the requirements for the degree of

Doctor of Philosophy in Global Leadership and Change

by

Woodson Morris Hobbs V

March, 2024

Eric Hamilton, Ph.D. – Dissertation Chairperson

This dissertation, written by

Woodson Morris Hobbs V

under the guidance of a Faculty Committee and approved by its members, it has been submitted to and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

Doctoral Committee:

Eric Hamilton, Ph.D., Chairperson

H. Eric Schockman, Ph.D.

Richard Herko, Ph.D.

TABLE OF CONTENTS

LIST OF TABLES

Page

LIST OF FIGURES

Page

ACKNOWLEDGEMENTS

Thank you to the following people for helping me accomplish what felt like an impossible task:

My wife, Alison,

My daughter, Mina,

My dogs: Shasta, Pebbles, Chardonnay, Shelley, and Trinity,

My mom,

My amazing family (Dad – Woody Hobbs, Stepdad – Steven Minor, Sister Natasha Hobbs, Sister - Brooke Hobbs, and all the rest!)

Dr. Peter Minor,

Dr. Eric Hamilton,

Dr. Eric Schockman,

Dr. Richard Herko,

Dr. Shane Praiswater,

Dr. Cody Thompson,

Dr. Thomas Onorato,

and everyone else who encouraged me along the way!

VITA

Woodson Morris Hobbs V a.k.a. “Quinn”

Quinn Hobbs, an experienced digital marketer, shifted his focus toward academics in 2018 when he decided to enroll in Pepperdine University’s doctoral program. Frustrated by the blatant disregard for consumer protections in the digital landscape, Quinn felt that academia would allow him to utilize his expertise in social media data studies to create a greater understanding of the upcoming challenges of a digital world. Pepperdine University's Ph.D. in Global Leadership and Change was the perfect program for Quinn’s transition from digital marketing into academics as it allowed him to embrace his skills as a marketer and a leader while expanding his abilities in quantitative and qualitative research.

While studying at Pepperdine University, Quinn's passion for ecology and preserving the environment was captivated by the ever-expanding regenerative agriculture movement. Having some experience in enology, Quinn began interning at wineries in Western Australia where he learned about natural winemaking. Subsequently, like the fearless entrepreneur he has always proven to be, Quinn embarked on a complementary journey and started Hollow Wines in late 2020. By 2024, Hollow Wines had produced over 100,000 bottles of wine sold over three continents in at least six countries. His passion for sustainable winemaking lends itself to his quest to critique political narratives created by world leaders in their misuse of social media platforms.

Quinn Hobbs' passion for Plato and Socrates embraces the Socratic method and believes that bridging the political divide, albeit challenging, will be possible with rigorous and fair discourse amongst leaders and followers in a safe space. While the digital world has created immense new opportunities for the sharing of ideas and knowledge, it can be misused in the hands of the wrong individuals. Bringing humanity back to civil discourse is something Quinn passionately believes in and hopes to accomplish in his academic pursuits.

Education:
Bachelor of Science in Political Science and Philosophy with an Emphasis in Pre-Law and Ethics from Santa Clara University, 2009
Master’s in Business Administration from Pepperdine University, 2016

Employment:
Owner/Winemaker at Hollow Wines - Gilroy, CA 2020-Current
Owner Dangerous Dude’s Media - El Segundo, CA 2014-2021
Location: North Freemantle, Western Australia & Gilroy, CA

ABSTRACT

While social media has changed how humans use the internet, Twitter has drastically reformed how individuals worldwide receive their news. As news outlets fail to keep up with the rapid dissemination of information online, Twitter has become a sounding board for the political elite who leverage the platform's immediacy and virality. This study, using Quantitative Ethnography's Epistemic Network Analysis, seeks to determine if the political elite, specifically members of Congress, are leveraging Twitter to spread polarizing information to strengthen their base.

In this study, extensive coding of select members of the 118th Congress was completed and compared to Voteview.com's DW-Nominate polarization scores for each studied Member of Congress. The second question looks at Twitter's algorithm. It seeks to determine if the algorithm gives preferential status to the political elite who use polarizing tweets to generate higher user engagement resulting in higher ad revenue. In the second research question, the study dives into the type of rhetoric used by Members of Congress to determine the key terms used in polarizing tweets that garner the highest engagement.

Lastly, the study intends to determine if the political manipulation of Twitter users is problematic. A review of the former President Donald Trump and Former Brazilian President Jair Bolsonaro's Twitter accounts are studied, coded, and imported into the Epistemic Network Analysis Web Tool to determine if these two leaders bear any responsibility for the subsequent insurrections that took place in Washington D.C. and Praça dos Três Poderes, Brazil. The study revealed that there is an immediate need for

monitoring and potentially regulating social content as there is extensive use of highly polarizing language by the political elite that has brought with it harmful consequences.

Chapter 1: Introduction

Frances Haugen revealed to the world in September 2021 that Facebook had designed its algorithm to incite its users into highly polarized discussions because it led to increased user time spent on its platform, expanding its ad revenues (Zubrow et al., 2021). Following this leak, it soon followed that Twitter was also leveraging its algorithm to incite further polarization by ranking political figures with more polarizing views and massive followings (Hong & Kim, 2016). This study generally defines polarization as the general population's increasingly divided opinions and beliefs such that consensus becomes increasingly more improbable. Some argue that the two-party system has always created a polarized culture in America dating back to the political discourse between urban and rural communities in America.

This dissertation looks at the rapid adoption of social media and its impact on widening the political divide in the United States. Some research concludes that echo chambers created on social media are to blame for the rise in affective and pernicious polarization (Bessi, 2016; Bessi et al., 2016; Cinelli et al., 2021). *Pernicious polarization* can be defined as the breakdown of democracy such that two distinctly different groups distance themselves based on increasingly unmergeable ideology (McCoy & Somer, 2019). Contrarian research concludes that partisan sorting mediated by social media platforms like Facebook and Twitter has dramatically increased opinion dynamics, intensifying conflict**,** and polarization (Dubois & Blank, 2018; Flaxman et al., 2016; Törnberg, 2022). This dissertation uses Epistemic Network Analysis, an instrument created by Dr. Shaffer (2018) and the team at the University of Madison Wisconsin (Marquart et al., 2019), to show how both a combination of echo chambers and partisan

sorting generated by algorithm used by Twitter are increasing the political divide in America to increase profits at the expense of American democratic values.

Many of the problems with social media surrounding echo chambers and increased sharing of misinformation were recognized in during my tenure as a digital marketing consultant (2014-2021). While the study relies on other academic research, my experience working in social media platforms observed firsthand the rapid rise of misinformation online to sell products and sway voters. My bias is in the belief that these platforms enable and encourage harmful content-sharing behavior, as supported by Francis Haugen in her statements to the SEC and media publications (Whistleblower's SEC Complaint, 2021). While this study's objective is to remain neutral, some of my bias led to specific design choices and approaches to the methodology and research questions. In particular, Research Question Two looks at the algorithm's impact on Twitter and develops a method for measuring a tweet's level of engagement, i.e., counting the number of likes and shares.

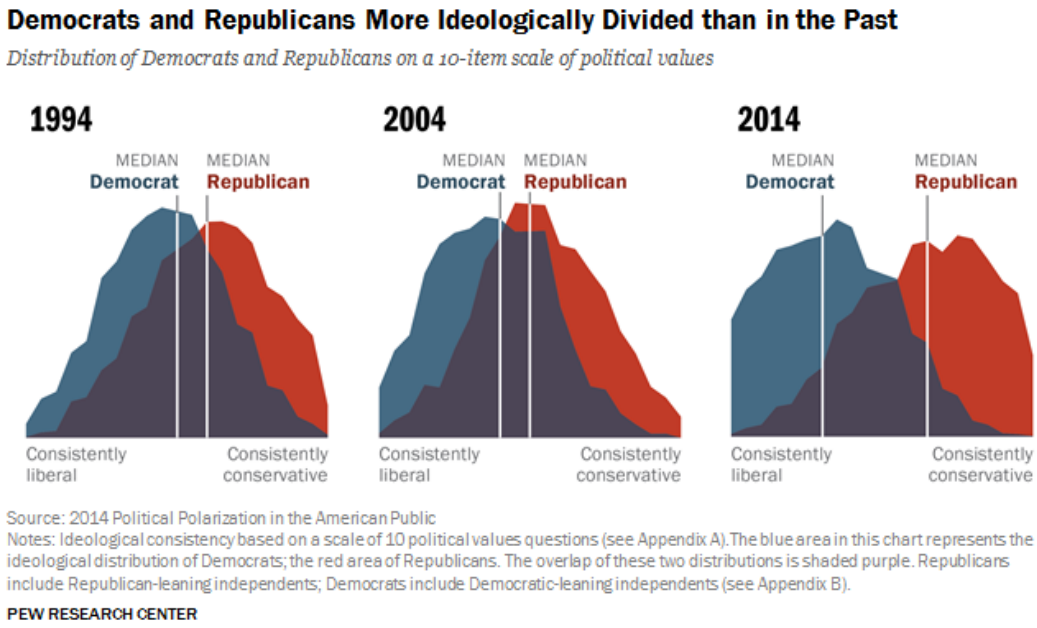
America's Polarization Problem

Polarization has existed in the United States for quite some time. According to Duverger's Law, the lack of a proportional representation system in America that favors two parties, coupled with the Constitution's separation of House and Senate, inadvertently created a vehicle for polarization in its attempt to preserve individual states' identities among the nation (Huder, n.d.). A 2014 Pew Research report reported that the American ideological divide was at the center of political polarization; Figure 1

below shows how in just twenty years, polarization has increased significantly between the Democrat and Republican parties (Geiger, 2014).

Figure 1

Democrats and Republicans More Ideologically Divided than in the Past



Note. Reprinted from 2 from "Political Polarization in the American Public." Pew Research Center, Washington D.C. (12 June 2014) https://www.pewresearch.org/politics/2014/06/12/political-polarization-in-the-american-public/. With permission from https://www.pewresearch.org/about/terms-and-conditions/

Since social media's rapid adoption and inclusion in the daily lives of Americans and politicians, there has been a more significant divergence from the centrist ideologies of the 20th century. This dissertation seeks to determine if social media and the political elite drive the polarization America is experiencing today. This study will define the political elite as current United States 118th Congress members and former political leaders Donald Trump and Jair Bolsonaro. The former Brazilian President is included in this study to show that this problem of elite polarization isn't limited to the

United States but a worldwide problem on social media. Additionally, the January 8th uprising in Brazil was equally significant as the January 6th uprising, as there is sufficient evidence linking the attacks on government to the the leaders uses of Twitter (Dwoskin, 2023; Harton, 2022). Political analyst and commentator Ezra Klein believes that the recent shift towards more extraordinary polarization results from a systemic imbalance that has encouraged parties to distance themselves as they have become ideologically driven (Klein, 2020). It becomes nearly impossible for voters to feel comfortable shifting from one party to another (Klein, 2020).

Historically the term conservative and liberal was not associated with political ideology rather it referred to people's values on individual policies (Levendusky, 2009, p. 3). Conservative, previously defined in American political circles as individuals with fiscally conservative parties evolved into an ideologically bound definition created by the political elite (Levendusky, 2009, p. 25). Inevitably Republicans, identifying as conservatives, started actively promoting socially conservative values in addition to their fiscal values during the former President Regan’s tenure (Levendusky, 2009, p. 25). This same process of tying ideology to parties occurred among Democrats, who started identifying and sorting themselves as liberals be means of promoting social welfare, and corporate taxes (Levendusky, 2009, pp. 3, 126). The political elite's use partisan sorting inevitably led to much of the pernicious polarization experienced around the world today as individuals of differing political ideologies become increasing divided (McCoy & Somer, 2019).

Pernicious and affective rhetoric has become commonplace in modern social media as platforms expand and monitoring and regulation become increasingly more

complicated (Levy, 2021). The vitriol dialogue among politicians makes it harder for individuals to compromise, as negotiating with an alternative viewpoint can bring backlash from within their community (McCoyet al., 2018). While there are many theories and beliefs behind the causation of polarization in America, more important, however, is the ability of the government to continue to function even when it is polarized. This level of polarization intensity seen in America today is a significant threat to the future democracy in the United States (Carothers & O'Donohue, 2019). It is not without a warrant to be concerned with Twitter's potential impact on democracy worldwide as it has been at the center of political uprisings worldwide and in the storming of the United States Capital on January 6, 2021 (Budenz et al., 2019; Dreisbach, 2022; Theocharis et al., 2015; Valenzuela et al., 2018).

McCoy and Somer (2019) dive deeper into the roots of pernicious polarization due to "us vs. them" with a strong mentality distrusting the other party; this is further ingrained because of the rhetoric of politicians like Senator Hawley or Congresswomen Greene of Louisiana. These extremist polarized views are subsequently ending conversations between moderate conservatives and liberals as each one might fear their constituents seeing them as some traitor for reaching across the aisle (Klein, 2020; McCoy & Somer, 2019).

How does a democracy avoid becoming deadlocked into endless "us vs. them" debates? The challenges of pernicious polarization presented by McCoy et al. (2018) suggest that the future of American democracy is at stake due to the inability for rational debate to occur as individuals like Congresswomen Greene make highly incendiary policy positions targeted at reasonable discourse in Congress. To further validate this, a

Pew Research poll conducted in 2016 before the Presidential elections found that antipathy of both democrats and republicans towards the opposing party grew significantly in the previous 22 years, 91% of Republican respondents found the Democratic Party position unfavorable (up from 74% in 1994), and 86% of Democratic respondents found the Republican party position unfavorable (up from 59% in 1994; Geiger, 2016).

From a historical perspective, the growth of the internet, the expansion of globalization, and the increase of general welfare have all potentially contributed elements to the increase in polarization worldwide. This dissertation aims to focus on social media's impact, specifically Twitter, on polarization and determine if it is a part of the cause or just another effect of the rapidly dividing world population.

Purpose of Research

The following paragraph utilizes Creswell's formula for developing a purpose statement to determine the aim of the dissertation and identify critical elements in determining the author's goals in their work (Creswell & Poth, 2016). The purpose of this quantitative ethnographic study will be to understand the impact of social media on the users' political views as the world seemingly becomes increasingly more polarized. The importance of this is immeasurable in determining if Twitter is contributing to events like January 6 and whether there is cause for further concern regarding political divisiveness being resonated by United States politicians on Twitter. By examining members of the House and Senate's Twitter accounts, this study will reveal and compare the sentiments inside members of Congress's (MoC) tweets and determine if Twitter's algorithm rewards polarizing behavior. The study seeks to determine if polarization among political

elites is the driving force behind polarization in America, or conversely, polarization is a pre-existing social construct and identity of the American system. Determining how polarization occurs will impact the study of social media, especially Twitter. This study assumes that current polarization is beyond partisan sectioning/sorting as populations become increasingly disaffiliated from one another, and populist leaders become more prevalent around the world (Klein, 2020).

While there is much debate between the theories of partisan sorting and echo chambers, this study will assume that both are relevant to current polarization in the United States and that political elites are leveraging partisan sorting to create their echo chambers (Bail et al., 2018; Brown & Enos, 2021; Törnberg, 2022). These echo chambers, powered by the political elite, create dangerous narratives reinforced by unsubstantiated claims online that are wildly repeated by Twitter's algorithms (Simon et al., 2020). One study found that while Facebook has tried to combat the spread of misinformation since 2016, Twitter continues to fail to do so as misinformation is rapidly increasing (Allcott et al., 2019). Misinformation is defined as the unintentional spread of inaccurate information. At the same time, disinformation is the pervasive use of spreading malicious or salacious rhetoric to dissuade an individual from further research (Misinformation and Disinformation, 2023). This study aims to determine if civil unrest, like the January 6 Uprising and the subsequent uprising following the former President Bolsonaro in the 2022 Brazilian Presidential Elections, are instigated by the aforementioned politicians' Tweets (Allcott et al., 2019; Bugs et al., 2023; Cinelli et al., 2021).

The general intention of the study is to gain insight and determine if Twitter's algorithm favors polarizing content such that it increases their overall advertising revenue. Many publications have revealed that since Elon Musk's takeover, advertisers have been leaving Twitter (Ghaffary, 2023; Saeedy et al., 2023). The Facebook whistleblower, Frances Haugen, identified that the financial motivation for favoring polarizing content led to higher levels of user engagement due to human's propensity to share salacious content (Akinwotu, 2021; Rathje et al., 2021). Many academic researchers have shown correlations between polarized populations engaging actively on social media in specific echo chambers; however, the causal formation of these echo chambers is still widely debated (Cinelli et al., 2021; Hong & Kim, 2016; Rathje et al., 2021). Using ENA to compare politicians' rhetoric on Twitter will help identify if Twitter's algorithm favors highly inflammatory posts.

The primary question this study seeks to answer is who is liable for the rapid polarization of Americans. Is it Twitter that is actively contributing by not monitoring the algorithms? Alternatively, is it the political elite, i.e., former President Donald Trump, Senator Elizabeth Warren D-MA, and Congresswomen Greene R-GA, who propagate provocative agendas on Twitter, which are furthering the political divide in America? By comparing users' responses to the Twitter threads created and posted by the former Presidents, Quantitative Ethnography and ENA will quantify the level of impact these tweets had on the target population.

Follow-up research questions will look at users and their average levels of engagement with Twitter based on the post type. Rubin defines the uses and gratification approach (U&G) as a central component to understanding how people

engage with social media from a psychological perspective and will also evaluate how social media can satisfy their needs to communicate and engage (Nabi & Oliver, 2009). A study conducted in 2010 concluded that Twitter users were using tweets and retweets to satisfy their communication needs with other individuals (Chen, 2011). Extending these studies to examine how polarized users engage within their echo chambers will be crucial in understanding if users are coming to Twitter with pre-existing bias (partisan segregation) or if echo chambers are furthering new biases.

Summary of Research Questions and Hypotheses

The following research proposed above will consider the following questions followed by their subsequent hypotheses:

- RQ1: Do the political elite (Members of Congress) leverage Twitter to promote identity politics furthering political polarization in America?
- RQ2: Is Twitter's algorithm giving preferential status to the political elite who use polarizing tweets to generate higher user engagement resulting in higher ad revenue?
- RQ3: Were President Donald Trump's (@realDonaldTrump) and President Jair Bolsonaro of Brazil (@jairbolsonaro) tweets leading up to the uprising of January 6, 2021, and January 8th, 2023, respectively, responsible for the unfortunate and subsequent events?
- $H1_0$: There is no correlation between political elite tweets and affective polarization in America.
- H1a: ENA reveals a correlation between the tweets of the political elite and the rise in affective polarization in America.

- $H2_0$: Twitter's algorithm does not treat polarizing tweets with preferential treatment.
- H2a: Twitter's algorithm favors highly polarizing content and tweets by giving it more significant viewership.
- $H3_0$: Former President Donald Trump's and former Brazilian President Jair Bolsonaro's tweets did not significantly impact the January 6, 2021, uprising in Washington D.C. or the January 8, 2023, uprising in Brazil.
- H3a: Using ENA, former President Donald Trump and former President Jair Bolsonaro's tweets used rhetoric that may have significantly impacted the events that took place on January 6 and January 8.

Methodological Approach

While there is continued debate about the existence and causes of polarization, the research conducted in this dissertation assumes that polarization exists both in political spheres (elite polarization) and in the public of the United States (social polarization; Banda & Cluverius, 2018; Hare & Poole, 2014; Iyengar et al., 2019). What is also to be assumed and measured is that societal-level grievances are being exploited and exacerbated by the elite political rhetoric (McCoy & Somer, 2019). This dissertation seeks to determine if politicians leverage Twitter's algorithm to maintain leadership positions by creating non-navigable divisions using us-or-them rhetoric, furthering pernicious polarization (McCoy & Somer, 2019). This study reviewed select Members of Congress (MOC) from both the House of Representatives and Senate; the account of the selected for the study will be based on their official Congressional account, while some of these accounts may be managed by their staffers, for this study

it will be assumed that these accounts are a wholistic representation of their political ideology and values. Additionally, since these MOC are using their official title on their Twitter title page, the study will assume that even staff-managed accounts are representations of their values.

Other assumptions included are that Twitter's algorithm is intended to increase user time on the platform, such as advertisers generating more views and increasing ad spending to maximize Twitter's profits (Hines, 2023). Buzzword or not, the algorithm is one of the core foundations of 21st-century technology companies. Even as artificial intelligence is making its way into the world, AI was only possible with massive algorithmic and machine learning research developments. This study's challenge is determining the algorithmic bias; inherently, algorithms are intentionally designed to create a bias (Boddington, 2017, p. 17). For example, the European Court of Justice 2011 required insurance companies to eliminate gender bias in their algorithm because it set lower premiums for females seeking pensioners insurance due to average more extended lifespans (Boddington, 2017, p. 17). The ethics of using AI and algorithms will continue to challenge the future of social media platforms as their rapid user uptake and increase in world presence continue. One of the most robust assumptions made in this study is determining the intention of the user of Twitter.

As society becomes increasingly divided, morality and ethics become less about a shared system of justification and more about the reasoning of specific groups or echo chambers (Boddington, 2017, p. 20). For example, followers of congresswomen Marjorie Taylor Green (R-GA; on Twitter as @mtgreenee) will most likely have a widely different code of ethics than those who are following Senator Elizabeth Warren (D-MA;

on Twitter as @SenWarren). Former Rep. Frank D-MA stated that "ethics were not political until Gingrich" was elected in 1978 and while serving his first term in Congress (Tolchin, 2019, pp. 1-2). Since the Republican Revolution of 1994, the Republican party has latched onto its perceived view of ethics linked to Christian values, while Democrats, like Sen. Warren, have attributed their ethics to prioritizing citizens over corporate profits (Tolchin, 2019). Prior to this, the ethical bounds of party lines were rarely drawn. The framers of the Constitution designed a system similar to the approach in The Republic by Plato, in which Philosopher Kings determine the moral high ground through careful thought (Boddington, 2017, p. 20). The Philosopher Kings are for the sake of this dissertation, not @mtgreenee and @SenWarren; this paper assumes that the framers of the Constitution determined a framework for moral high ground that values Freedom of Speech (the First Amendment) and the sanctity of democracy in the form of a constitutional republic (Boddington, 2017, p. 20).

Much of this study will use Epistemic Network Analysis and other tools to bring quantitative results to qualitatively observed actions on a social platform. Quantifying emotional responses on Twitter while using various existing tools like the Vader Sentiment Analysis tool and nCoder, each has potential flaws and limitations (Hutto, 2023; Marquart et al., 2019). The tool for verifying measures of polarization created by this study will be the DW-NOMINATE tool (Lewis et al., 2023). DW-NOMINATE was created by Poole & Rosenthall (1985) to use congressional roll call voting to measure each MoC voting behavior on a liberal versus conservative scale (Lewis et al., 2023). A website maintained by UCLA named Voteview.com updates DW-NOMINATE scores

after each Congressional roll call vote and maintains up-to-date, accurate scores for each MoC (Lewis et al., 2023).

Hemphill et al. (2016) created the #Polar scores tool using the coding language of Python to determine how polarized a particular tweet is from a member of the United States Congress. Additionally, #Polar scores can differentiate between users with similar scores based on the tags used by tweeting politicians and their frequency of tweeting (Hemphill et al., 2016). Because of the new design of Twitter and the shift towards quote tweeting, hashtags are no longer an effective tool for gaining views and shares. This change makes #Polar scores less effective for measuring modern politicians' Twitter feed polarities. However, the study conducted by Hemphill et al. (2016) reviewed some of the same MoC examined in this study, so legacy scores can be compared to the results from the current study's ENA results to determine if members of Congress's tweets are more of less polarized in correlation to their previous #Polarscore. This study proposes introducing a new tool that combines the VADER sentiment analysis tool with nCoder (software for matching large data sets with codes) to create a polarization score based on the discourse used by each MoC (Hutto, 2023; Marquart et al., 2019). Using DW-NOMINATE, this study can validate the polarization scores of the combined SA and nCoder scores generated in this dissertation (Hutto, 2023; Lewis et al., 2023).

To determine the impact on users, the number of likes and retweets of members of Congress will be categorized and scored based on the level of engagement, then mapped on ENA to determine if the tweet has any other polarizing effect (Hemphill et al., 2016; D. W. Shaffer, 2018). This has become increasingly more important as identity

politics continues to dominate the media's election narratives in social media (Herrera & Sethi, 2022).

The outcome of the 2022 mid-term elections left the Republicans failing to capture the Senate but gaining an advantage in the House. More academic research needs to be revealed regarding the 2022 elections. However, many speculate that the Republicans lost the Senate due to their hyper-polarized candidates pushing identity politics rather than pushing for more centrist candidates (Everett et al., 2022). Using tweets generated by the political elite and DW-NOMINATE will allow the study to determine if the House is, in fact, more polarized than the Senate both in their roll call votes and use of social Twitter (Lewis et al., 2023).

VADER sentiment analysis will again be used to help gain a broad and quick understanding of user behavior on Twitter (Lyu & Kim, 2016). Lyu and Kim (2016) created a sentiment dictionary to measure the strength of specific user responses in social media. Similarly, the author of this dissertation and Dr. Eric Hamilton of Pepperdine University used ENA to model the political discourse of user interactions on Facebook (Hamilton & Hobbs, 2021). From these sentiments, categorizing users by political ideology is often less challenging, as many can interact in specific echo chambers (Baumann et al., 2020). However, independent voters/moderates are often more challenging to identify as they might engage with media sources of all types and interact with politicians on Twitter from both parties.

Lastly, understanding how one's engagement on social media within specific echo chambers translates into potentially anti-democratic behavior is more challenging to research, apart from January 6 and, in Brazil, the insurrection on January 8, 2023.

Studies have shown that algorithms on Facebook have tended to skew to show users posts that specifically align with their political views (Van Bavel et al., 2021). Tying incidents like January 6 to specific individuals' behaviors outside of Twitter is more complicated; however, understanding how this type of user engaged in Twitter before January 6 can better understand how Twitter might have impacted their decision to enter the capitol on January 6. Similarly, specific Tweets and the former President of Brazil Jair Bolsonaro's Telegram page have been attributed to instigating the insurrection on January 8, 2023 (Dwoskin, 2023). In this portion of the study, the tweets of former President Donald Trump and former President Jair Bolsonaro will be coded using nCoder, VADER, and the ENA web tool to determine if the rhetoric used by both presidents elicited the subsequent insurrections (Hutto, 2023; Marquart et al., 2019, 2021).

Definition of Terms

This dissertation considers the many forms of polarization to determine how and if Twitter's elites drive any or all forms. Elite polarization is created by political and social elites (Politicians, business & thought leaders, and celebrities) whose highly radicalized political interests disseminate to the general population's polarization (Banda & Cluverius, 2018). *Affective polarization* is when partisans become so polarized that they dislike and distrust members of the opposite party based on party identity alone (Druckman et al., 2021).

Van Bavel et al. (2021) defines *echo chambers* as a group of like-minded individuals found on communities on platforms, i.e., Facebook or Twitter, where they can share and confirm strongly biased opinions without considering opposing

viewpoints. At the same time, not all researchers agree on whether social media polarizes individuals; they often agree that the echo chambers found in social media provide a catalyst for further polarization and confirmation bias of certain groundless beliefs (Van Bavel et al., 2021). Echo chambers, also referred to by some researchers as "selective exposure," are perhaps the prominent hypothesis for current theories on social media-driven affective polarization in America (Baumann et al., 2020; Bessi, 2016; Bessi et al., 2016; McPherson et al., 2001; Tokita et al., 2021; Van Bavel et al., 2021) However, others have argued that social media does not enable echo chambers as users are more exposed to contrarian viewpoints in social media and its pre-existing segregation knows as partisan sorting is driving affective polarization in America (Bail et al., 2018; Brown & Enos, 2021; Törnberg, 2022).

Partisan sorting is the belief that pre-existing forms of segregation of voters in America are causally linked to the increase of polarization in the United States (Brown & Enos, 2021; Mason, 2016; Törnberg, 2022). Brown & Enos (2021) conducted a study using election data compared with geographic data and found that much of partisan sorting is an extension of racial/ethnic sorting, as seen in the urban and rural divide. Perhaps the most surprising part of the study found that the most isolated ten percent of Democratic voters had 93% or more encounters with other Democrats in their respective urban areas (Brown & Enos, 2021). These isolated environments have increased the "us vs. them" mentalities leading to the most problematic form of polarization, pernicious polarization (McCoy & Somer, 2019).

As defined by McCoy and Somer (2019), *Pernicious polarization* is the idea that polarization eventually becomes so unreconcilable that political actions taken by

individuals are dictated solely by their status within their subgroup or echo chamber rather than free thought. The greatest challenge in combating pernicious polarization is that individuals struggle to cross the political divide as their constituents see their actions reprehensible (McCoy & Somer, 2021). This way, democracy is threatened by pernicious polarization's rigidness in limiting free thought and speech.

Sentiment analysis is a key term used in social media studies to determine users' attitudes, emotions, and the strength of their emotional responses when engaging in discourse online. Specific sentiment dictionaries have been created to map these sentiments into measurable responses such that they can be compared to other responses (Lyu & Kim, 2016). Other sentiment analysis uses come from studying political discourse in an analytic framework that can be translated into models used in various quantitative and qualitative studies (Hamilton & Hobbs, 2021). Epistemic network analysis is a mixed-method approach designed by Dr. Shaffer of the University of Wisconsin Madison in his book, Quantitative Ethnography, which allows researchers to use "big data" to capture quantitative and qualitative results into meaningful networks that can highlight correlations that might not be quantifiable without a visual representation of their network connections (D. W. Shaffer, 2018).

On average, today's social media users view their political expression or self-presentation online as politically active and knowledgeable (Lane et al., 2019). These concepts of political self-awareness are central in approaching social media political discourse as one can avail superior knowledge while feeling more knowledgeable under the guise and protection of a digital platform that allows for expression with managed consequences (Lane et al., 2019). For example, users can correlate ideas and relay

inaccurate historical references in echo chambers without being corrected. Increases in political self-efficacy, the level at which one believes one can influence politics, have given rise to political movements like QANON and the Proud Boys (Abramson & Aldrich, 1982).

One of the more challenging terms to define is misinformation, as political commentators regularly use the term "fake news" to describe it; however, the latter has no actual relevance to any academic study (Ng et al., 2022). Misinformation is widely understood to mean information not verifiable by either science or common historical knowledge spread unintentionally (Misinformation and Disinformation, 2023). It is essential to study how politicians disseminate misinformation on social media, reaffirming potentially harmful ideologies leading to identity politics (Ng et al., 2022). Social identity theory can help classify users on Twitter and determine engagement on these platforms about events like the January 6 uprising (Ng et al., 2022). Disinformation, as described earlier, is also imperative in understanding, although harder to prove, as the intent of spreading false information requires insight into the creator's intentions. Social identity theory is the belief that an individual's identity becomes increasingly more attached to their social networks. This alludes to the potential increases in polarization worldwide (Wakefield & Wakefield, 2023).

Significance of the Study

The study of Twitter's aims and uses of its algorithms is essential to understanding how social media is changing political behavior amongst active users. More specifically, gaining insight into Twitter's algorithms might help anticipate/predict potential uprisings using machine learning algorithms (Bahrami et al., 2018). While

many might believe January 6 to be a one-off incident, and Twitter is not entirely to blame, there are many examples of even foreign governments leveraging Twitter to try and influence the public, for example, the Hong Kong protests in 2019 and the insurrection on January 8, 2023, in Brazil (Dwoskin, 2023; D. Wood et al., 2019). Much of the challenge the US government faces in regulation is determining who the responsible actor is; Section 230 of The Communication Decency Act of 1996 suggests that the third party, the one posting the troublesome content, is the only liable actor (D.O.J., n.d.). However, more research suggests that the platforms could play a more significant part in prompting potentially harmful content through its algorithms design.

One study found that when a user shares a tweet with their readers, retweeting misinformation leads to more significant viewership and distribution of misinformation (Pang & Ng, 2017). Perhaps more importantly, the study conducted by Pang and Ng (2017) found that primary users were not more likely to spread misinformation in all cases. However, followers retweeting their posts had a more significant impact (Pang & Ng, 2017). This could indicate that further research regarding Twitter's algorithm needs further study to determine whether Twitter users spreading potential misinformation or Twitter's positioning of that tweet could create more harm.

Following the Mueller and Cambridge Analytica Scandal, allegations of using misinformation on social media to interfere with elections became apparent to the government and the United States Public (Mueller, 2019). The FTC levied the most significant fine against a company for Facebook's negligence in protecting its user data from Cambridge Analytica in 2019 (Fair, 2019). However, since then, there has been little to no legislation passed in Congress to prevent such further attacks on American

data. The rapid spread of misinformation on Twitter, YouTube, Facebook, WhatsApp, and TikTok revealed the continued lack of controls by tech companies in managing harmful content during the early months of the COVID-19 epidemic in 2020 (Gisondi et al., 2022; F. Simon et al., 2020).

While some believe that polarization is an irreparable situation in American politics, the level of pernicious polarization seen both in the United States government and the American public is cause for alarm (J. Campbell, 2018, p. 57). The rate at which Americans are drifting away from centrist politics, as seen in Figure 1, indicates that January 6, 2021, will not be the last attack on American democracy (Geiger, 2016).

Summary of the Proposed Study

This dissertation seeks to determine if the political elite, for this study, select Members of Congress (MOC), are leveraging Twitter to further incite political discord in America by leveraging identity politics through pernicious rhetoric. The second question is to determine if Twitter's algorithms are giving preferential treatment to the MOC studied to generate. The final question will look specifically at former President Donald Trump's and former Brazilian President Jair Bolsonaro's tweets leading up to January 6 and January 8 uprisings to determine if the rhetoric used by the former presidents could be correlated to the actions taken by those who led their respective insurrections.

Previous studies on elite polarization done by Lewis et al. (2023) and Pew Research have generally shown increasing polarization in the United States over the past 50 years, with an even more dramatic rise in the past ten years (Abramson & Aldrich, 1982; Geiger, 2016; Voteview, 2022). Social media's impact on said polarization has been debated on whether it is to blame. Theories on previous partisan segregation

put for by Bail et al. (2018), Brown & Enos (2021), and Törnberg (2022) suggest that social media is not to blame as users were already polarized and social media merely has amplified the awareness of affective polarization. While there is significant evidence to support prior partisan segregation in America, the competing echo chamber theories by Bessi (2016), Tokita (2021), Cinelli et al. (2021), and Baumann et al. (2020) coupled with this study's focus on elite polarization driving mass polarization helps determine that social media is being utilized as a tool to polarize.

The studies conducted on COVID-19 misinformation helped create the hypotheses that the political elite is driving political polarization (Gisondi et al., 2022; F. Simon et al., 2020). Before these studies, academics were less likely to point the finger at the political elite. Views of political moderatism dominating voting behavior are still pushed by Fiorina et al. (2021) versus the counter view that political elites are driving affective polarization (A. Abramowitz, 2008; Banda & Cluverius, 2018; Hetherington, 2001; Zingher & Flynn, 2018).

Most researchers have encountered challenges studying polarization online Twitter varies significantly as the platform frequently changes both the algorithm and the users engaging on Twitter. One study on the amplification of politics on Twitter showed that randomizing control groups in studying the effects of the interaction on social media was impossible due to the nature of the content being shared by the user on the platform (Huszár et al., 2022). VADER Sentiment Analysis (VADER) tool also presented challenges to other researchers, as the tweets are character-limited, and users might employ the use of sarcasm or jargon not yet classified by the VADER tool (Hutto, 2023; Lyu & Kim, 2016; Misiejuk et al., 2021).

This study is needed now more than ever; misinformation and disinformation campaigns are driven by social media platforms' algorithms and political elites who fuel messages of affective polarization (Akinwotu, 2021; Atad et al., 2023; Tønnesson et al., 2022). Social commentator and comedian Sascha Baron Cohen revealed in his acceptance speech to the Anti-Defamation League in 2019 that he was able to convince a slightly radicalized Trump follower to use fake explosives (which the subject believed were real) to attack and theoretically kill members of Antifa based on misinformation he was feeding him (Cohen, 2019). Sascha Baron Cohen, in his speech, referred to Voltaire's famous quote in Questions sur les Miracles, "Those who can make you believe in absurdities can make you commit atrocities" (Cohen, 2019). While experiments conducted by Sascha Baron Cohen have zero academic credibility, it provides an allegory to a potential situation that has been witnessed in the case of many tragedies, including the Capitol Breach on January 6, where five people died. This study ultimately seeks to show how extremist language used in social media, specifically on Twitter, leads disenfranchised public members to commit violent uprisings (Capitol Breach Cases, 2021; Harton et al., 2022). These members of society are distorted by pernicious polarization. They are told by political elites that there is no compromise with the other side and that, in some cases, violence and uprising are the only solutions (McCoyet al., 2018). The threats to democracy are genuine with the rise in populism worldwide and the constant reaffirmation of such radical beliefs.

The elite movement catalyzes the affective and pernicious polarization society is encountering across the globe (McCoy & Somer, 2019). This dissertation aims to show that using ENA coupled with the VADER tool and nCoder will exemplify how Twitter's

rapid and mass delivery capability spreads uncontrollable pernicious discourse, leading to attempted and potential democracy in America.

Chapter 2: Review of Literature

Background and Research

While the origins of polarization in American society are debated widely by academics and politicians, the effects of social media on polarization were not seriously considered until the COVID-19 epidemic and Frances Haugen's interview with 60 Minutes (Akinwotu, 2021; Hart et al., 2020). Some argue that polarization was pre-existing in social media and that, most likely, platforms like Facebook and Twitter gave greater awareness of the existing polarization (Banks et al., 2021). This sparked the debate between partisan sorting (existing segregation of voters into polarized groups) and echo chambers (homophilic groups that create platforms to extend confirmation bias to users everywhere). Törnberg (2022) is perhaps one of the most prominent critics of echo chambers' causal effects on polarization and believes that existing segregation is amplified on social media to create the perception that social media is creating echo chambers. While substantial evidence supports the pre-existing segregation, the subsequent echo chambers have become too large to ignore. The creation of platforms like Truth Social, Parler, and even Elon Musk's purchasing of Twitter signaled the dominance of the homophilic interest of a few to create and buy social media platforms such that their voices can be heard (M. Otala et al., 2021).

This literature review will seek to explain how the political elite has leveraged the flaws of human nature and social media to influence increased partisan segregation into seeming uncontrollable polarization. The first portion of this literature review will focus on the historical perspectives of segregation and polarization in America. With a general review of the theories and types of polarization. Leading to definitions of the harsher,

more extreme cases of pernicious polarization followed by a general review of social media regulation. Lastly, this literature review will follow the methodical approach of reviewing previous studies measuring discourse and polarization on social media and how they impact this study.

History of Polarization

While Americans have had ideological differences since its foundation, mainly seen in urban and rural divides, divisive political polarization is something that has only varied in intensity throughout its history. The principles of the Constitution called for politicians to compromise and put aside differences as a means to an end (J. Campbell, 2018). However, the electoral college and development of the House of Representatives, made up of congress members from area-specific districts, as opposed to a whole state or country, lends itself to a two-party system according to Duverger's Law (Hare & Poole, 2014, p. 414). Duverger's Law is the understanding that in proportional electoral systems, the United States included participants tend to vote for the party/person with the best chance of expressing and matching their ideologies (Schlesinger & Schlesinger, 2006). Hare & Poole (2014) reference the historical polarization and depolarization of the United States as a cycle. This cycle remained in balance; however, in the past ten years, ideological framing and identity have become more critical to party identity than ever, further accelerating what seems like unremovable polarization.

The first mass political polarization in the United States occurred in the lead-up to the Civil War (Hare & Poole, 2014). This mass polarization occurred because the Southern Democrats and Whigs felt affronted by the North with their high tariffs on

exporting commodities and the North's push to end slavery (Hare & Poole, 2014). Mass polarization, in this case, was brought on because it impacted Southerners economically and culturally, as well as a fear of overreach from the Federal government (Hare & Poole, 2014). The impact of the end of the Civil War should have narrowed much of the preexisting ideological and cultural gaps; however, a disgruntled President, Andrew Johnson, reinstated racial animosity and inequality when he returned power to white supremacists (Klein, 2020, pp. 34-35).

The dominance of the Republican Party following the Civil War leading to the Great Depression led to some deep-seated resentment among Southern Democrats (B. D. Wood & Jordan, 2017, p. 49). However, from the Great Depression until the Civil Rights movement, there were significantly low levels of polarization (B. D. Wood & Jordan, 2017, p. 128). The slow return to institutionalized racism in America, especially in the South, continued for the next hundred years following the Civil War. These cultural differences between parties in America remained at ease, and mass polarization did not occur again until the Civil rights movement in the middle of the 1960s (Hare & Poole, 2014). The Civil Rights Movement of the 1960s was monumental because it transcended both parties and brought a resurgence of mass polarization in America (Campbell, 2018, pp. 54). As it had after the Civil War, Southern Democrats felt affronted by the Federal Government's overreach with the passage of the Civil Rights Act of 1964 and the Voting Rights Act of 1965 (J. Campbell, 2018; Hare & Poole, 2014). These affronts not only led to the inevitable end of the Dixiecrat as Southern Democrats became Republicans and Democrats in urban communities brought on minorities to its party (Carmines & Stimson, 1989, pp. 62). Campbell's Revealed Polarization Theory

(2018) credits the Civil Rights movement, and the challenges faced in the 1960s were at the heart of the foundation of polarization today.

In the late 1960s through 1970s, the continued liberalization of the Democratic party, coupled with the Republican Party's shift towards strict conservativism, led to the modern forms of polarization seen in American politics today (Hare & Poole, 2014; K. Poole, 2008). During this time, a divergence started forming among political elites as Democrats and Republicans started to become more isolated from one another. Pauline Kael was famously quoted for saying in 1972 that she "did not know how Nixon could have won because I did not know anyone that would have voted for him" (Brandt & Spälti, 2018). This belief in perceived social norms by social sampling is possibly the beginning of the future's echo chambers and filter bubbles (Brandt & Spälti, 2018; Flaxman et al., 2016). In the 1980s and early 90s, there was an increase in elite political polarization as income inequality, and immigration rose (K. Poole, 2008). Former President Regan rolled back civil rights reforms and began dialogues introducing religious ideology (Levendusky, 2009, p. 25). While at the time, these issues weren't vital enough concerns to polarize the masses, politicians and political elites became increasingly divided among these ideological concerns (Hare & Poole, 2014).

Gradually members of Congress became increasingly more divisive over concerns of gun control, abortion, and social welfare to the point where ideological values started becoming platforms for politicians(D. Green et al., 2004, pp. 210–211). The use of sorting individuals' ideological values by politicians inevitably leads to the general polarization seen in society today (Iyengar et al., 2019; Klein, 2020). Like the 1960s, many social issues centered around race (D. P. Green et al., 2004, p. 3). The

Democratic party has become increasingly more diverse as the Republican party finds itself losing favor with minorities (Klein, 2020).

Former President Obama's win in the presidential election in 2008 was not met without racism as birtherism, touted primarily by Donald Trump, that Obama was not born in the United States but instead an African Muslim (Klein, 2020). This racism only continued into President Donald Trump's electoral victory as he campaigned on ideological concerns over concerns of illegal immigration (Harton et al., 2022). President Trump's tenure, coupled with the advent of the COVID-19 epidemic, accelerated polarization to new heights as party ideology became coupled with public health strategy (Morris, 2021). A study conducted using 2016 voter data coupled with COVID-19 cases and morality data in the Spring and Summer of 2020 found that while counties that did not vote for Trump had higher death rates in the earlier months later were surpassed by Republican counties as the summer passed on (Morris, 2021). Morris (2021) noted in the study that political ideology led to wildly divergent health strategies for managing COVID-19. This draws much concern as COVID-19 revealed how deep partisan ideology became more important in the United States in manners of public health (life or death) than the well-being of the people (Morris, 2021). Sadly, both parties were equally to blame for politicizing COVID-19 responses (Morris, 2021). The media essentially aided this political elite manipulation by giving more airtime to politicians than scientists and medical professionals during the epidemic's early stages (Hart et al., 2020).

From COVID-19 to January 6, the United States has been besieged with the realization that social media was primarily to blame for the massive influx of

misinformation online (Gisondi et al., 2022). Further research will reveal that COVID-19, coupled with the alternative narratives pushed forward by former President Donald Trump and the company, led to a greater distrust of mainstream media, driving polarization to a new height.

Theories & Types of Polarization Explained

Campbell (2018, pp. 40-41) attributes modern polarization to three different theories; the first is the Emerging Polarization Theory, which argues that polarization happens in political party leadership, and their electorate follows. The Emerging Polarization Theory identifies polarization as a more modern concept and that extreme polarization did not occur until the 2000s (Campbell, 2018, p. 40). According to a Pew Research poll (Duggan e al., 2016), which showed voters the departure from centrist ideology in the late 2010s, historically, as identified by Hare and Poole (2014), the cycle of polarization has been around since the Civil War.

Campbell's (2018, p. 40) second theory of polarization is the No Polarization Theory which suggests that the public is still largely centrist and that polarization is, in fact, a myth. The midterm elections in 2022 hypothetically indicated that America is growing tired of extremist politics, as decidedly polarized candidates did poorly while moderate candidates thrived. On the contrary, a Harvard University Poll (Harvard IOP Youth Survey, 2022) revealed that 59% of Generation Z voters polled were planning on voting in the midterms in record numbers because they felt their rights were under attack by extremist politicians. Campbell's (2018, p. 40) No Polarization Theory is problematic and can only be defended as a form of ideological sorting (Klein, 2020).

The third theory of polarization, defined by Campbell (2018, p. 41), is the Revealed Polarization Theory which claims that Americans have been highly polarized since the 1960s and that politically homogenous parties have masked polarization. This only became apparent to the population as the Republican and Democratic parties in the 1990s and 2000s started to take on polarized platforms (Campbell, 2018, p. 41). Ezra Klein, author of the book Why We Are Polarized (2020), argued that the core component of current polarization is an extension of Campbell's Revealed Polarization theory (2018), which looks at identity politics as the core component of current polarization.

According to several polls, over 40 percent of Americans believed a second civil war was imminent (Orth, 2022; Zogby, 2021). While there is some debate about whether America is on the precipice of a second civil war, the division of Americans during the 1960s and early 70s by ethnicity and socioeconomics led to what is known as greater mass polarization (J. Campbell, 2018). Mass polarization, or group polarization, resulted from this as communities again, like the first industrial revolution leading to the Civil War. Political parties divided communities as they embraced the ideological concerns of their constituents and pushed away from bipartisanship (J. Campbell, 2018; Sunstein, 1999;).

The continued focus on identity politics by the Democratic and Republican parties further revealed the partisan sorting in America (Fiorina et al., 2008; Klein, 2020). Issues like abortion, healthcare, social security, continued racial inequality, police reform, and immigration are transitioning from sorting to party mainstays as they ingrain themselves into party identity and further deepen polarization (D. P. Green et al., 2004;

Klein, 2020). Opportunistic political actors, like Marjorie Taylor Greene (R-GA) and Matt Gaetz (R-FL), leverage existing societal cleavages (created by partisan sorting) to build their agendas and dominate political discourse among their radicalized subgroups (McCoy & Somer, 2019). Political cleavages do not account for polarization; however, once political actors embrace these cleavages as part of their platforms and ideologies, they create formative rifts, resulting in pernicious polarization (McCoy & Somer, 2019).

There are many examples of how identity politics continue to interfere with the success of the United States and the rest of the world. The Greater Idaho Movement seeks to expand Idaho's borders into Eastern Oregon to create a more significant conservative state because it does not match the "cultural divide" (The Greater Idaho Movement, 2023). This is quite terrifying in theory as it suggests that states should be bound by cultural identity and nothing else. The principles set forth by the founding fathers of the United States of America relied on compromise and civil debate to frame a constitution that created platforms that allowed reasonable discourse and checks and balances. When the political elite push identity politics to determine a state's borders, this is a prime example of albeit reprehensible and pernicious behavior.

To outsiders, one of the most fascinating aspects of American politics is the focus on national politics over regional politics, which typically have a far more significant impact on their daily lives (Hopkins, 2018). The internet and social media have stimulated national political identity more than ever. In the 2000 presidential election, Tim Russert, who at the time was at NBC, was credited for popularizing the red-state vs. blue-state terminology while discussing the elections (Crouch & Rozell, 2014). These "red vs. blue" narratives exploded in the media as increasingly everything

seemed to become some form of "us vs. them" (Crouch & Rozell, 2014). It has gone so far that most Americans no longer perceive media as non-partisan (Crouch & Rozell, 2014). Social media has seemingly fanned the flames of the already highly charged political rivalry among political elites in the past decade.

Affective to Pernicious Polarization

Affective polarization is when partisans become so ideologically bound to their party's values that they disaffect themselves from the contrary opinions (Iyengar & Westwood, 2015). Ultimately the level of disaffection from other members of society leads the affectively polarized to believe the other party is uncompromising (Iyengar & Westwood, 2015). For example, fundamentalist Christians support the Republican party based on ideological values and avow support to any of its leaders regardless of their status as a Christian, i.e., former President Donald Trump. Affective polarization increases as ideological values are amplified and increased political turmoil (Iyengar et al., 2019). The events following the January 6 insurrection and division in mainstream media and later isolated disclosure of evidence to a partisan media source, Fox News, by House Speaker McCarthy enabled both affective and pernicious polarization (Grisales & Swartz, 2023).

Pernicious polarization, coined by McCoy and Somer (2019), is when individuals cannot cross party lines or ideological boundaries without fear of reprisal from their respective cohorts. With pernicious polarization, one's political identity becomes tantamount to each of their actions. Any action out of touch with that particular ideology can further that individual's social relationships and positions even in their respective neighborhood (McCoy & Somer, 2019). One catalyst for this behavior has been social

media which has led to the self-segregation of individuals into echo chambers (Törnberg et al., 2021). Group polarization is the belief that when groups segregate themselves into ideological enclaves and expel contrary discourse, they become more radicalized (Sunstein, 1999). Democracy struggles to thrive when pernicious polarization occurs because civil discourse is limited and often blocked.

Partisan media has exploded since the advent of the internet and exacerbated pernicious polarization. Normative views of bipartisanship are frequently under attack by mainstream media. As a result, viewers find themselves far more uncompromising and furthering themselves into affective modes of polarization (Levendusky, 2013). One study found that partisan polarization was a key physiological driver in spreading misinformation on Twitter (Osmundsen et al., 2020).

Divisive Alienation

Divisive alienation has become one of the unfortunate outcomes for many as pernicious polarization continues to plague America on social media. One study found that as the shareability of news on social media increased, polarization increased as users reflected less tolerance to contrarian viewpoints and media sources (Coscia & Rossi, 2022). While shareability was previously viewed as a positive for social media, the speed at which false information can be easily shared and repeated has potentially harmful circumstances (Coscia & Rossi, 2022). One Twitter engineer who worked on the "Retweet" button later admitted that he regretted this decision as harmful content sharing exploded in use (Haidt, 2022). Since 2020, Twitter has tried to limit frivolous sharing by asking users if they want to share a link they have not opened yet (Hern,

2020). The idea was that if the user has to read the link first rather than just the pre-popped headline, the user might second-guess sharing the article (Hern, 2020).

Twitter and Facebook have made other attempts at reducing misinformation by using misinformation labels on posts (Papakyriakopoulos & Goodman, 2022). One study found that warning labels on Donald Trump's tweets about election fraud in the 2020 US Presidential election did not change the magnitude of users' interaction with the tweets (Papakyriakopoulos & Goodman, 2022). However, the study found that labels did reduce users' propensity to create harmful content and retweet information labeled as misinformation (Papakyriakopoulos & Goodman, 2022). Sharing content in the hopes of becoming viral became a part of the social media game, and users tend to contribute maliciously as the platforms seem to favor content that incites mob dynamics (Haidt, 2022).

The COVID-19 epidemic in 2020 gave significant rise to a partisan divide across the globe as governments attempted to manage an unmanageable virus with various strategies, each currying or losing favor with its respective base. The general approach across right-leaning states in the United States was to remain open and wait for herd immunity; Governor Ron DeSantis was praised for keeping Florida open and gained significant status as a Republican national leader. On the Opposite side, left-leaning states, like California and New York, experienced lengthy and big pushes for mass vaccination. Governor Gavin Newsome of California was praised for his response by Democratic politicians across America. Neither leader had any noticeable similarities in their COVID-19 mitigation strategies, and both emerged as successful leaders during the epidemic, each praised for their approaches. Much of this resulted from the highly

politicized viewpoints of traditional newspaper and network news coverage (Hart et al., 2020). Hart et al. (2020) found that politicians were more regularly featured than scientists in newspaper coverage.

Two studies found that conservative respondents showed greater trust in government authorities to manage COVID-19 than the World Health Organization (WHO) and scientists (Kerr et al., 2021). Among Congressmen, the typical tweets among Democratic members were promoting COVID-19 safety and threats to public health, whereas Republican members blamed China and spoke of damages to American industry (Kerr et al., 2021). The decrease in cross-party relationships and cooperation was further exacerbated by COVID-19 and the January 6 uprising, as politicians showing any amount of party distancing were immediately discredited (Haidt, 2022). Liz Cheney suffered the consequences of Pernicious polarization when she voted to impeach Donald Trump following his role in the January 6 uprising. She was subsequently voted by the Republican Party of Wyoming to no longer recognize her as a Republican (Associated Press, 2021). This type of pernicious polarization has occurred in political circles and communities around America, both on and offline.

Politically sorted social networks have emerged more robust as users tend to favor homogenous viewpoints and begin to isolate themselves from contradictory ideologies (Tokita et al., 2021). A study on Twitter users found that individuals were becoming increasingly more likely to unfollow users and create homogenous social environments where they were less likely to continue to follow new sources with cross-ideology (Tokita et al., 2021).

Social Media Regulation Effects on Polarization

Social media regulation has been virtually nonexistent on a Federal level as social media companies claim immunity from misleading or harmful content posted on their platform using Section 230 of the Communications Decency Act of 1996 (Cramer, 2020). Section 230 was created before the existence of social media as it is seen today while enforcing it is legally valid, morally unethical, and dubious as it has enabled the proliferation of misbehavior in social media (Cramer, 2020). Section 230 has also been misused in assuming that it allows social media to censor specific individuals; for example, politicians Ted Cruz (R-TX) wrongfully criticized the law saying Facebook leveraged it to censor right pundits like Alex Jones (Cramer, 2020).

The challenge with Section 230 is that it does protect free speech, but at what cost? The reality of Internet companies policing and moderating content on their platforms has led to disastrous consequences, like the rallying of users to commit genocide in Myanmar (Cramer, 2020). While Facebook certainly did not intend to enable this behavior, its platform created the vessel to allow for such actions to occur; ultimately, legal expert Cramer argues that corporate social responsibility (CSR) that will leverage Facebook to be its police for the good of its users as well as profits (Cramer, 2020). The moderation challenge is inevitably cost-driven; Twitter and Facebook could not be profitable if humans prescreened all tweets and posts (Goldman, 2018). While some want to create more significant restrictions around Section 230, the reality is that doing so would create greater protections for existing internet giants like Google and Facebook, who can take on any new regulatory costs (Goldman, 2018). Start-ups can

compete against Facebook and Google with the ability not to worry so much about moderation and focus more on growth (Goldman, 2018).

While the Federal Government has taken it upon itself to remain committed to Section 230, other states have enacted stricter laws enforcing greater scrutiny of social media platforms. In March 2023, the state of Utah enacted a law that requires explicit parental permission for anyone in households under the age of eighteen to use Facebook, TikTok, Instagram, and Facebook (Singh, 2023). The ban also calls for platforms to moderate and adapt their platforms such that they are non-addicting for underage users (Singh, 2023). While this ban is explicitly targeted at youth, there is also a more significant cause for concern as now Civil Liberties groups point out that parents have control over their children's accounts and might be able to single out LGBTQ+ (Singh, 2023). While it is difficult to answer precisely, children are subject to first amendment rights (Garvey, 1979; Tinker v. Des Moines Independent Community School District, 393 U.S. 503 (1969)). Whether or not this applies to children's content being monitored by their parents is still debatable, and it seems there will be potential legal cases against Utah's bill.

Regulating content on social media platforms and the debate of free speech has been a challenging subject, one that now Twitter CEO Elon Musk has faced in the past with an SEC violation regarding a tweet he had made online (Krisher, 2022). The subject of hate speech, insider trading, child pornography, and misinformation have all presented legal challenges in the United States with little or no avail to setting up concrete laws to protect users from what is still a wildly complicated platform to police. Misinformation, commonly referred to as "fake news on Twitter, is perhaps the most

relevant subject regarding determining if social media is in effect, leading to any form of affective or pernicious polarization. A complex study looking at "fake news" tweets in which articles promoting misinformation were shared on line garnered a significant amount of polarized debated in the comment threads (Ribeiro et al., 2017). Ironically, the study found that "fake news" was generally used not as a tool for identifying misinformation but for some users, particularly right-leaning, to express disagreement (Ribeiro et al., 2017).

The Mueller Report presented evidence of Russian election interference with misinformation campaigns on social media (Polyakova, 2019). Subsequently, the CEOs of Facebook, Mark Zuckerberg, Twitter, Jack Dorsey, and Google, Sundar Pichai, were called to testify in a Senate hearing multiple times over the allegations of potential election interference on their successive platforms (Guynn, 2020). Unsurprisingly, even with the evidence that Robert Mueller had presented, no laws were passed in Congress to protect Americans from any future harm caused by misinformation campaigns (Kim, 2020). Even less surprising is that election interference through social media campaigns continued even into the 2020 presidential elections, except this time, rather than individuals being surprised, it seemed par for the course (Kim, 2020).

In 2020 the COVID-19 epidemic led to a monumental rise in misinformation being distributed on social media (Gisondi et al., 2022). The ease of sharing on social platforms allowed users to leverage algorithms and rapidly disseminate antivaccine information, questionable cures, and wild conspiracy theories as to the origins of the virus (Gisondi et al., 2022). Even before COVID-19, misinformation on human well-being was being exploited by users on social media; one study found that over seven

years (2012-2018), the number of eligible articles addressing health misinformation online increased from 7 to 41 a year with a substantial rise in 2017 (Wang et al., 2019). Some of the sharp rises in vaccine hesitancy, even before the COVID-19 epidemic, was identified as some community's objection to a corrupt elite (McKee & Diethelm, 2010; Wang et al., 2019). The massive uptake in 2021 is primarily attributed to the increase in celebrity and high-level authority figures' misinformation (Gisondi et al., 2022; F. Simon et al., 2020). Simon et al. (2020) found that these authority figures and celebrities only accounted for 20% of the misinformation on social and traditional media but 69% of the total share of engagements on social media. These massive uptakes in misinformation led to some of the first significant examples of censorship led by Facebook and Twitter; Facebook alone removed over 7 million posts and added warning labels to another 98 million between April and June 2020 (Lerman, 2020).

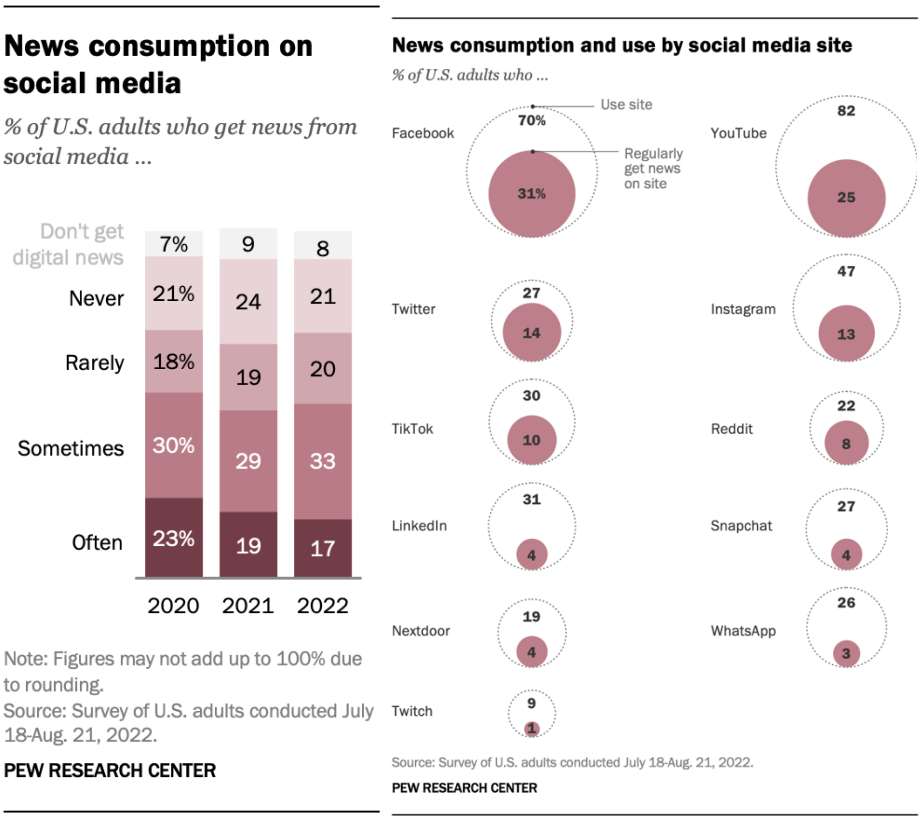
The sheer volume of posts flagged by Facebook in just three months should offer insight into their capabilities in managing misinformation. Gisondi et al. (2022) believe that part of the problem is in the scientific and medical communities' failure to use social media correctly and convey messages that are accessible to users at all levels. These massive rifts and echo chambers created among users on social media by health misinformation are not unlike the rifts seen in political discourse online. Monitoring and holding politicians accountable for their social posts is tantamount to the reduction of polarization across the world. The unprecedented blocking of former President Donald Trump's Facebook and Twitter accounts on January 7, 2021, was monumental in establishing a clear line in First Amendment rights online (Conger et al., 2021).

Ethical Implications and Future of Media Regulation

The challenge of social media and media regulation is that the government is an elected body that changes every two years in the case of the House, six years in the Senate, four years in the Presidency, and a lifetime in the Supreme Court. On the other hand, companies are reactive. New tech companies are creating technologies faster than lawmakers can respond to past technologies. By the time bills are signed into law, they are often no longer effective at managing the new technologies. Facebook and Google have resisted becoming arbiters of political discourse, yet they actively monitor paid content on their platforms (Kreiss & Mcgregor, 2019). Industry self-regulation is needed now more than ever as artificial intelligence becomes a large part of modern corporations' futures. Social media never intended to become a source of American news (Bell, 2016). Even more surprising is how many Americans consume their news on social media; a Pew Research Poll found that, even though social media news consumption has decreased since 2020, nearly 50% of Americans Sometimes reported or Often get their news on media (See Figure 3 below; Pew Research Center, 2022). Of those, 31% got their news from Facebook, 14% from Twitter, and 25% from YouTube (Pew Research Center, 2022). These are massive numbers with powers to generate substantial effects with little government oversight.

Figure 2

News Consumption on Social Media Sites from Pew Research Center



Note. Reprinted from "Social Media and News Fact Sheet." Pew Research Center, Washington, D.C. (20 September 2022) https://www.pewresearch.org/journalism/fact-sheet/social-media-and-news-fact-sheet/. Reprinted with permission.

While there are arguments for and against protecting Section 230 of the Communication Decency Act, the challenge of regulating platforms extends beyond the free speech protections as Facebook, Twitter, and other platforms allow paid promotional content (Cramer, 2020, p. 135). Kreiss & Mcgregor (2019) conducted a study on Facebook and Google's paid political advertising and found that while paid media was being monitored rigorously, public content was seldom reviewed. Advertisers were a primary force in pressuring social media companies to hire more content moderators after brands became concerned with their advertisements being placed next

to conflictual content (Cramer, 2020, p. 135). The fear of reprisal or backlash from brand loyalists has been a concern of many companies on social media as social media content has seemingly become more and more disdainful. However, the platforms have argued that social media promotes free speech. Before his takeover of Twitter, Elon Musk was embroiled in legal controversy regarding his tweet suggesting he had the offer to take Tesla private at a higher valuation, which subsequently drove the stock price up (SEC.GOV, 2018). The SEC subsequently charged Elon Musk with securities fraud and required him to have all of his tweets preapproved by a lawyer (Hawkins, 2023; SEC.GOV, 2018).

Twitter vs. The World: Who is Responsible?

The foundation of modern corporations can be traced back to the East India Company of the 17th century (Roy, 2012, p. xi). The significant difference between the formation of the East India Corporation in the 17th century and corporations today is that in the 17th century, they relied on private interest from other lords and ruling elite members (Roy, 2012, p. xiii). In contrast, today, the general public has the power to be owners of corporations (Roy, 2012, p. xiii). By the 18th century, the industrial revolution pushed away from monopolistic structures managed by the ruling elite as individual members of the public became enabled to become owners of corporations (Roy, 2012, p. ix). Today significant corporations like Google, Facebook, Twitter, and Amazon can create changes that impact society in instrumental ways, often with more significant impact and speed than the government. This presents an ethical dilemma faced by the United States government and governments worldwide.

When Elon Musk acquired Twitter in October 2022, many conservative elites and pundits rejoiced. Senator Ted Cruz (R-TX) hailed it as a significant win for free speech (Rohlinger et al., 2023). The immediate aftermath of Musk's takeover was significant as he cleared out his auditing team, and hate speech dramatically increased (Conger & Frenkle, 2022). Shortly following Musk's takeover, previously banned accounts, i.e., @realDonaldTrump and several others, were unbanned, giving access to users deemed by the previous leadership as harmful (Rohlinger et al., 2023). After this unbanning, a study looked explicitly at rhetoric before and after the banning in regards to the Arizona election audit, the study found that even with the ban, the type of information regarding the audits was no different, and in fact, conspiracy theories regarding the ban seemed to increase (Rohlinger et al., 2023). This marks a challenge for social media companies and not just Twitter. Does banning certain accounts prevent the dissemination of fake news? Rohlinger et al. (2023) study suggests that banning Twitter accounts did not mitigate any misinformation spread or amplification on Twitter. This presents a challenge for not only Elon Musk but other technology leaders like him to determine what their responsibilities are in the spreading of misinformation.

January 6 and the genocide in Myanmar were violent and tragic events strongly correlated to the misuse of social media platforms (Harton et al., 2022; Tønnesson et al., 2022). Harton et al. (2022) use the dynamic social impact theory (Latané, 1981, 1996) to determine that the ease of communication on social media between like-minded and troubled individuals led to the January 6 uprising. DSIT is an extension of Latané's social impact theory (1981) which suggest the emergence of cultural elements are connected and form group-oriented values and dynamics based on clustering, once

thought to be a regional now extending into social media as users can cluster online based on their values (Latané, 1981, 1996). A literature review found that individuals were persuaded by one another, and affirmations from then-President Donald Trump led to the rise of the mob that unlawfully entered the capitol on January 6 (Harton et al., 2022). In Myanmar, military groups made Facebook pages to convey their status as legitimate states (Tønnesson et al., 2022). While Facebook attempted to ban these groups' pages as they were created, the forces would turn to hashtags to continue sharing misinformation (Tønnesson et al., 2022). The Myanmar government was forced to shut down the internet in seven Rahkine townships from June 2019 to February 2021 because paramilitary groups used Facebook for military operations and commands (Tønnesson et al., 2022). As these social media platforms grow, managing content becomes extremely difficult and costly. However, these social media companies profit from sharing user-generated content by selling advertiser space. They have a moral obligation to protect both their users and their advertisers.

Methodologies and History of Polarization Studies

Methods for Measuring Political Divide

To determine how affective polarization impacts society can be done using the Törnberg et al. (2021) model, which looks at identity-centered politics as a driver for social or affective polarization. The model looks at how the internet, specifically social media, allows individuals to isolate themselves and engage in spaces where other like-minded individuals can avoid conflictual ideas (Törnberg et al., 2021).

Social media has the power to both enable access to free speech and disseminate democratizing values, but using the same rapid information release can

also harm democratic values by propagating propaganda aimed at harming particular groups or instilling doubt among citizens (Lorenz-Spreen et al., 2022). To study the effects of social media on democratization, Lorenz-Spreen et al. (2022) used two approaches focused on observational data that provided correlational evidence; the first was looking at articles that examined social media and democracy. The second approach was a deep analysis of the articles reporting causal evidence of these breakdowns in democratic values (Lorenz-Spreen et al., 2022). The results indicated that there were, in fact, a significant number of negative correlations of polarization found on Twitter, "Political Parties," and "Social Media" (Lorenz-Spreen et al., 2022). These correlational studies also found that Twitter users were consistently embracing homophily and engaging in their echo chambers at higher rates than other social media sources (Lorenz-Spreen et al., 2022).

Some studies suggest that while polarization does exist, it exists in the absence of social media; these preexisting echo chambers have dominated negative discourses online, leading to a perceived increase in polarization (Buder et al., 2021) (Banks et al., 2021). It is suggested that negative social media frames are more likely to increase perceptions of polarization even if they lack policy content (Banks et al., 2021). However, another study looking especially at Twitter users and their engagement with contrarian political views through a guided study found that previously conservative users became more conservative following engaging with the study (Bail et al., 2018). These studies, however, are limited in that it is hard to isolate independent voters in the findings as they are less likely to engage in a predictable or repeatable manner such as

a highly liberal or conservative Twitter user would (Bail et al., 2018; Banks et al., 2021; Buder et al., 2021).

One of the most used tools to determine political polarity on members in both houses of Congress is NOMINATE (now referred to as DW-NOMINATE, Dynamic Weighted NOMINA Three-step Estimation; K. T. Poole, 2005, 2007; Voteview, 2022). DW-NOMINATE, created by Keith T. Poole and Howard Rosenthal in the 1980s, evaluates every congressional vote and spatially places each member on a conservative to liberal scale (Examples seen in Chapter 4; K. T. Poole & Rosenthal, 1985; Voteview, 2022)

Hare and Poole found that the study of polarization in contemporary politics measuring political actors' ideologies was contingent on each other (2014). The DW-Nominate procedure is an effective estimation tool for the ideological scoring of Senators and Representatives (Hare & Poole, 2014). Bringing the DW-Nominate tool and referencing said Senators' and Representatives' Twitter accounts would help determine if the polarization expressed in said Congressman's' tweets are comparable to their voting behaviors (Voteview, 2022).

In the past, many politicians have often used hashtags on Twitter to indicate keywords or topics associated with their tweets (Hemphill et al., 2016). Hemphill et al. found that these hashtags are used in that they provide metadata and are practical tools for organizing political discussions (2016). Hemphill et al. created the #Polarscores tool to determine the political spectrum identity of Members of Congress by enumerating their hashtag positioning, the act of using specific hashtags to identify a political position in a tweet, and scaling it into a political identity score (Hemphill et al., 2016). #Polar

Scores found a strong correlation between Members of Congress's DW-Nominate score and their #Polar Score (Hemphill et al., 2016).

Other tools include the Valence Aware Dictionary for Sentiment Reasoner (VADER) tool, which uses "grammatical and syntactical rules" to detect language and generate a positive or negative sentiment score (Hutto, 2023). The VADER sentiment tool can measure responses and tweets using the coding language Python in real-time (Elbagir & Yang, 2019; Hutto, 2023). Another tool for measuring sentiment is the Twitter sentiment analysis tool; the tool can detect various human sentiments. Unfortunately, there are some sentiments it struggles to detect, particularly humor (18% error rate) and neutral, mistaken for sentiment (16% error rate) (Zimbra et al., 2018). Some of these mistakes are also seen in the VADER tool; however, sentiment analysis often fails to improve even with a human review (Elbagir & Yang, 2019; Hutto, 2023). Epistemic Network Analysis can unpack extensive SA data sets into more meaningful groups by splitting them into single-subject focus groups (Misiejuk et al., 2021). This study can test SA's effectiveness in comparing the results of SA with nCoder results and DW-NOMINATE scores (Lewis et al., 2023; Marquart et al., 2019).

nCoder, not unlike Twitter's SA tool, relies on artificial intelligence to help unpack and code extensive datasets (Marquart et al., 2019). Unlike SA, nCoder requires advanced coding by the researcher; for example, when creating a set of codes to identify potentially harmful sentiments, the researcher would list as many possible variables (a minimum of five keywords or phrases) reflecting the users' sentiments (Marquart et al., 2019). Following this, the researcher can train the AI by manually coding a training set instance for as many variables of their choosing (minimum of ten

and 80 to get validation; Marquart et al., 2019). The results of nCoder, while again rarely perfect, will allow this study to analyze massive data sets with the hopes that, in combination with ENA and VADER, the results will be reliable.

Significance of Social Media Data for Polarization Study

Facebook whistleblower Francis Haugen first made the world aware of using algorithms to amplify contemptuous discourse on the platform (Whistleblower's SEC Complaint, 2021). Since then, studies have been conducted to determine if Twitter's algorithm has amplified specific politicians' and commentators' voices (Huszár et al., 2022). Huszár et al. developed an algorithmic amplification model to measure tweets from politicians from left and right-leaning groups and measured Twitter users' responses (2022). The study found that the right across seven countries, including the United States House and Senate, saw benefits from its increases in the amplification versus the left, which had minor amounts in comparison (Huszár et al., 2022). The study concluded that additional research was needed to complete if media sources and politicians' use of Twitter were responsible for increased political extremism (Huszár et al., 2022). This dissertation aims to continue this research and determine if the responses generated by users on the tweets made by politicians and media sources validate the rise of political extremism.

Understanding moral sentiment in social media and its connection to the rise of political extremism is a rigorous task and has been modeled in various ways. The MAD model (motivation, attention, and design) was developed to explain mortal contagion online (Brady et al., 2022). The primary premise of the MAD model is that people "have group-identity-base motivations to share moral content," triggering and capturing

audiences such that they continue to share and repeat (Brady et al., 2022). Social networks are commonplace for over 3 billion users worldwide; disseminating political and moral discourse by its users has created a demand for politicians, even at the local level, to embrace it to win elections (Brady et al., 2022). A Pew Research Poll conducted in 2016 found that nearly 84% of respondents believed that people post things on social media that they would never say in person (Duggan & Smith, 2016). This is troubling as research has indicated that social media is structured such that it is designed to amplify attention to moral content, and in particular, algorithms favor highly engaged content (Brady et al., 2022).

Human nature has played a part in social media's rise in moral and emotional content, as humans are biologically and psychologically driven to engage with specific content (Brady et al., 2022). This human behavior, along with the algorithms designed by Twitter and Facebook to keep users engaged (spending more time means more ad revenues), has led to an increased focus on group identity or echo chambers (Barberá et al., 2015; Brady et al., 2022). One study found that while Twitter has a vast array of interpersonal networks that are not always bound by ideological configurations regarding political ideologies, users tend to be more apprehensive about engaging with content from dissimilar sources (Barberá et al., 2015). The study and Bail et al. found that liberal users tend to engage slightly more with opposing viewpoints, while conservative users tend to fall into increasingly polarized viewpoints (Bail et al., 2018; Barberá et al., 2015).

Estimating political viewpoints on social media while gauging ideological placement was done using three steps. Using the Twitter REST API, Barberá et al.

found followers of Congress and political elites such as the President and Vice President, then correlated their followers with other non-political figures but users who were favored among liberal and conservative voters (Barberá et al., 2015). For example, liberals matched users with following accounts such as The Huffington Post and Stephen Colbert; and then matched users following Tea Party and Tucker Carlson with having conservative ideology (Barberá et al., 2015). Once this was completed, Barberá et al. (2015) validated the demographics by comparing the 113th U.S. Congress roll call votes, which saw a correlation of r=.95. While estimating political ideology was far more complex in years past, social media has seemingly made political preferences easier to determine.

Much of this preferencing and ideological authentication has been made more accessible by Facebook's algorithm, which tends to circulate content that validates and reassures their confirmation bias (Roee, 2021). The field study by Levy (2016) determined that Facebook's algorithm was less likely to deliver posts from counter-attitudinal outlets. A case study in Israel compared interactions between Facebook, Twitter, and WhatsApp users and found that of all platforms, Twitter users interacted more homophilic than the others and supported the case of enabling echo chambers (Yarchi et al., 2021). A systematic literature review also concluded that social media favored the emergence of polarizing echo chambers, which limited said users to diverse information (Iandoli et al., 2021).

Echo chambers have tremendously shaped social media across all platforms as users find homophily and refuge amongst their constituents (Cinelli et al., 2021). Cinelli et al. (2021) compared how users consumed news on Facebook, Gab, Reddit, and

Twitter and gave scores to the users and the media sources to determine their ideological preferences. The study found that Facebook and Twitter users were particularly homophilic, and the algorithms tended to mimic their behaviors as users were significantly more segregated than Gab and Reddit (Cinelli et al., 2021). When comparing how specific news articles or posts were shared on Facebook and Reddit, the study found that on Facebook news articles, final recipients tended to be exclusively those of the seed users' leanings, indicating the presence of echo chambers, whereas on it did not occur this way on Reddit (Cinelli et al., 2021).

One of the limitations of this study is in the review of just Twitter. Since the January 6 uprising, new social media platforms have been released and created specifically to enable greater free speech targeted at conservative communities (this is according to their stated function; Fischer, 2022). Theoretically, these platforms will have an increased level of pernicious and affective dialogue that is not currently allowed on Twitter or was not allowed in the past, as the new owner of Twitter, Elon Musk, has theoretically opened the platform to users like the former president (Elon Musk [@elonmusk], 2022; Fischer, 2022).

Modern Theories on Political Polarization

Polarization: Echo Chamber vs. Partisan Sorting

One of the challenges many researchers have faced when scrutinizing social media and polarization is whether social media is the cause of polarization. One study using Dutch Panel data on social media and affective polarization found little correlation that one caused the other (Nordbrandt, 2021). The challenge with the study is that the data is from the Netherlands, which the author admits exhibits a lower level of

polarization than other countries (Nordbrandt, 2021; Reiljan, 2020). This theory lends itself to Campbell's third theory of revealed polarization, such that polarization only now seems to increase the masses' ability to articulate with the significant presence of social media (J. Campbell, 2018). Nordbrandt (2021) and Campbell (2018) fail to account for social media's ability to project outside users' homogenous groups and bring outside their local bubbles, fueling polarization (Törnberg, 2022). Multiple studies concluded that partisan sorting is causally linked to increased affective polarization, especially among conservative Americans (Bail et al., 2018; Törnberg, 2022).

A survey conducted in an Ipsos panel posted in 2022 found that nearly 50% of Americans believed there was a likelihood of a civil war in the next few years (Garen J. Wintemute et al., 2022). This is cause for significant alarm following the uprising on January 6, 2021. Americans are more willing to believe that the use of force will be required to end what is likely the most significant level of polarization seen since the Civil War (J. Campbell, 2018). Selective exposure, the assumption that users are isolating themselves in echo chambers, has long been touted as the central hypothesis for affective polarization; however, Törnberg (2022) reveals in his recent study that echo chambers are merely an "intellectual cul-de-sac.” Additional research conducted by Bail et al. (2018), Flaxman et al. (2016), and Dubois & Blank (2018) have also fostered this result when looking at social media platforms, as it believes that studies on echo chambers have neglected to identify social media's increasing exposure to cross-political content. While these are all sound peer-reviewed studies with evidence, it is hard to determine a proper methodology for approaching social media as there are

many complexities. Most studies on polarization find it hard to filter individuals with centrist ideologies engaging with politicized content online (Flaxman et al., 2016).

Most of the centrist or moderate voter identification challenge stems from the understanding that a massive spectrum of moderate voters exists (Drutman, 2019). A FiveThirtyEight study examined YouGov America and Democracy Fund Voter Survey data to break down moderate, undecided, and independent voters (Drutman, 2019). The study revealed that even those who are ideologically moderate and independent (only 2.4% of the electorate) are still wildly different in ideological values (Drutman, 2019).

The disappearing centrist voice in all media forms correlates to the general population's rapid polarization of the center (Drutman, 2019). Opinion dynamics formulated by social media algorithms and attitude polarization push media consumers into wildly extreme positions (Jones et al., 2022). Jones et al. model found that rationally behaving major-party candidates will gain from supporting highly polarized platforms more so than pivoting to the center (2022). Upon examining highly polarized Congress members like Margorie Taylor Green R-GA, and Josh Hawley R-IL, they have leveraged extremist positions to furth their base and maintain a significant presence in Congress with little centrist positioning.

Multiple forms of segregation have existed and continue to exist since the foundation of the United States in the 18th century. The continued segregation of human social groups has led to numerous negative consequences that are mainly responsible for the massive levels of 180 million sorted votes in the United States (Brown & Enos, 2021). Political party affiliation has become a critical social identity despite little impact

on one's day-to-day life (Green et al., 2004). Brown & Enos attribute these increases in partisan sorting to isolated partisan environments that lack interpersonal contact (2021). Exposure to cross-political viewpoints is reasonably low in the United States, with the average Democrat seeing Republicans at just .30 and converse at .36 (Brown & Enos, 2021). Many voters live in extreme isolation, with 10% of Democrats having virtually no exposure to Republicans (Brown & Enos, 2021). These low exposure levels are vital in understanding how subsequent affective polarization occurs in the American public (Luttig, 2018).

Partisan sorting and affective polarization in America are seemingly occurring together, and Americans' need for closure drives part of this partisan divide (Luttig, 2018). The closure theory drives the "us" versus "them" mentality as individuals find it increasingly more challenging to connect with partisan outgroups (Luttig, 2018). Brown & Enos identify the part of the problem as the lack of exposure and segregation that leads to prejudiced personalities and inevitably pernicious polarization (Brown & Enos, 2021; Luttig, 2018; McCoy & Somer, 2019).

Some have argued that mainstream media are not responsible for the forces driving the current polarization (Garen J. Wintemute et al., 2022). However, the rapid rise of news and media consumption via social media has driven primary mainstream news sources like Fox News, CNN, and MSNBC to take more partisan positions.

Psychology of Polarization

There are many beliefs and theories about the psychological causes of polarization; one particular social psychologist, Dr. Bibb Latané of Florida Atlantic University, pioneered group dynamics research in the 1980s and 90s (Latané, 1981,

1996). In the social impact theory, Latané (1981) suggested that the influence of one person is directly related and multiplied by the strength, immediacy, and number of individuals engaging in the target (person). By 1996, social impact theory expanded to dynamic social impact theory (DSIT), which added the tendency for individuals to be influenced by those nearby, with immediacy and high redundancy, thus accelerating the social impact (Latané, 1996). Social media created the perfect platform for the explosion of highly influential subcultures with similar values and ideologies, as they could quickly form echo chambers and like-minded users willing to share similar ideologies (Latané, 1996). Social media has been the catalyst for many subcultures and groups like QANON, Proud Boys, and Oath Keepers; these communities formed online as individuals continued to feed their needs for validation and securing social standing in like-minded communities with strong leaders (Harton et al., 2022).

While DSIT is a relatively new theory in which social media and the creation of echo chambers sufficiently provide evidential examples to support it, human nature and behaviors have always seen this type of radicalization, enabling it to occur much faster. The allegory of Hitler's rise to power in Germany is a story told by many but understood by few regarding the consequences of media and access to information. The inclusion of political programming on the radio in Germany didn't start until 1929; subsequently, it became increasingly politicalized (Adena et al., 2015). While the Weimar Republic was effective in slowing Nazi growth by controlling the radio news programs in 1929, by 1933, Nazis took control over radio programming and were able to convince many Germans to engage in antisemitic behavior and join the Nazi party (Adena et al., 2015). The speed in which pro-Nazi messages were distributed on the radio was unlike any

other forms of media seen in previous human history; it allowed for less scrutiny and opened the doors for newspapers to follow suit furthering the DSIT model of social impact (Adena et al., 2015; Latané, 1996).

The rapid adoption of social media platforms has allowed for little to no regulation and oversight leaving the doors wide open for bad actors to influence those with misinformation at incredible speeds. This is referred to as a "post-truth" world by many media members and political pundits. Twitter enabled former President Donald Trump to leverage DSIT because of Twitter's simplicity, impulsivity, and incivility (Ott, 2017). The original 140-character limit of Twitter (it doubled during Trump's tenure in office and now is 10,000) encouraged simplicity which meant that context is often lost, and users are left with the ability to misinterpret information however they see fit (Ott, 2017; Weatherbed, 2023). Former President Trump leaned hard and successfully into his ability to create ambiguity and stir up the media and interest with his tweets as people craved the potential for being viral.

Twitter's ability to create impulsivity follows this desire to become a viral social media influencer (Ott, 2017). The ease of posting on Twitter or sharing discourages self-reflection and encourages users to act quickly for the best quote-tweet or tweet regarding an incident. A study on disseminating fake and real news on Twitter concluded that fake news spread faster and more effectively because humans were sharing the news, not bots (Vosoughi et al., 2018). The human desire to engage in self-promotion inadvertently relies on humans' choices to act negatively toward those they see as threatening (Ott, 2017). This use of incivility for self-promotion is one that former

President Donald Trump and other polarizing politicians have leveraged frequently on Twitter (Ott, 2017).

Former President Donald Trump mastered Twitter in many ways by capitalizing on Twitter's strengths and flaws. He was able to create communities to spread his messages through DSIT and create easily repeatable messages like "Stop the Steal," Build the Wall," and "Make America Great Again" (Harton et al., 2022). According to the Washington Post Fact Checker team, on the day before the election on Nov. 2, 2020, then-President Donald Trump made 503 false or misleading claims regarding election interference; over his four years, this number is 30,573 about 21 false claims a day (Kessler et al., 2021). Perhaps more disturbing is that significant media publisher Fox News validated these beliefs, even though they knew these claims were false (Levine & Lerner, 2023). To the devotees of some Trump followers, the only truth is the one he created (Ott, 2017).

The Trump base, however, is not necessarily to blame for their blind faith in his seemingly endless stream of false claims. Before the 2016 election, affective polarization and ideological contempt had been engrained in both the Republican and Democratic parties (Geiger, 2016). Former President Trump offered a completely different narrative than the existing aristocracy and gave a small-disenfranchised group hope following the economic struggle and long recovery of the 2008 crash (S. Simon, 2021). Using simple language coupled with emotionally and morally charged tweets, Trump quickly captured the attention of the previously disenfranchised (Ott, 2017).

The challenge media faces today is that often the news isn’t as emotionally triggering as the fake news, and as a result, it gets shared less (Brady et al., 2017). This

phenomenon is called "moral contagion," in which the spread of moral ideals is shared more frequently and with higher engagement (Brady et al., 2017). Brady et al. 2022 explain moral contagion with their psychological model, MAD (motivation, attention, and design). The MAD model exemplifies how individuals are more likely to share “moral-emotional content” which is fueled by group identities because of their likelihood to garner responses (Brady et al, 2022).

Former President Trump’s tweets exemplify the MAD model at the core; even when he deleted the infamous "covfefe" tweet, the media responded with questions over his mental acuity, and rather than getting defensive, he leaned in with the subsequent tweet, "Despite the negative press covfefe" (Estepa, 2018). Trump continued to engage his base and feed his existing narratives without hesitation and did so successfully by constantly invalidating his opponents, the out-groups (Harton et al., 2022). Trump’s consistent use of inflammatory and frankly racist language when talking about the border issues between the United States and Mexico was also an effective example of the MAD model (Brady et al. 2022)

This polarizing strength of former President Trump waylays into social media, specifically Facebook and Twitter, favoritism towards posts promoting "out-group animosity" (Rathje et al., 2021). Rathje et al. (2021) found that the likelihood of a Tweet or a Post going viral increased by 4.8 times when using out-group terminology over negative affect language and 6.7 times more than moral-emotional language. Out-group language is the number one predicting political and media account-sharing behavior (Rathje et al., 2021a. It can be assumed that the success of highly polarized politicians

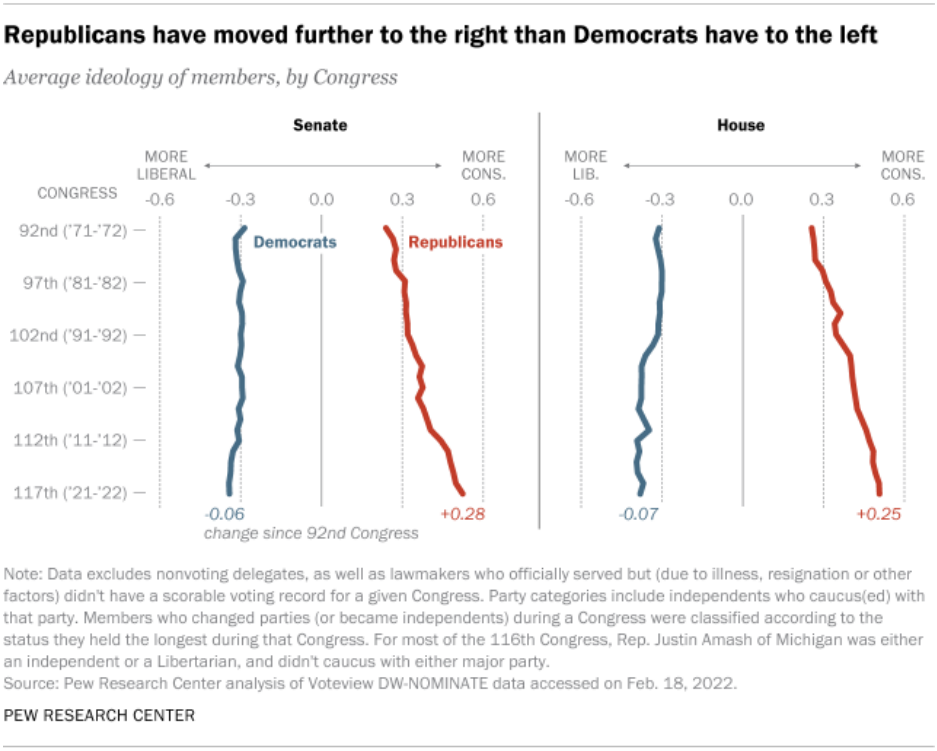
on Twitter, like Rep. Greene (R-GA), Sen. Hawley (R-IL), and Senator Warren (D-WA), is from their leveraging of this out-group animosity phenomenon in their tweets.

Elite Polarization in the 21st Century

While there is still much room for debate, ultimately, this dissertation seeks to demonstrate how elite polarization continues to drive mass/group polarization in America. Social media, not unlike mass media in the 1930s in Germany, is acting as a catalyst for segregated groups to form partisan echo chambers fueled by pernicious polarization. While there have undoubtedly been minority groups pushing for highly ideological party formation, the super-minority's magnification due to Twitter's nature is giving these outliers much more power (Banda & Cluverius, 2018; Rathje et al., 2021). In 2001 it was common for political scholars to state that American political parties were weak and in decline (Hetherington, 2001). However, in the 1980s, there was a shift in the political elite (members of Congress specifically) as partisan voting became increasingly more common (Hetherington, 2001). By the mid-1990s, voters began voting for a party based on personal ideology more than ever (Hetherington, 2001). Another Pew Research Center Analysis study using DW-NOMINATE found that Congressional polarization was at an all-time high as the divide between Democrats and Republicans had increased significantly (Desilver, 2022). Figure 3 shows average political ideology scores for members of the Democratic and Republican parties using DW-NOMINATE in ten-year intervals from the 92nd to 117th Congress (Desilver, 2022). Much of this divergence from centrist politics is due to the loss of moderate-to-liberal Republicans and moderate-Conservative-Democrats as both have vanished from Congress (Desilver, 2022).

Figure 3

Republicans Have Moved Further to the Right than Democrats to the Left



Note. Reprinted from "Republicans have moved further to the right than Democrats have to the left." Pew Research Center, Washington, D.C. (9 March 2022) https://www.pewresearch.org/ft_22-02-22_congresspolarization_featured_new/. Reprinted with permission

While there is much debate over the causes of elite polarization in Congress, there is certainly no doubt in its existence. Some political theorists speculate that the affective polarization in echo chambers drives elite polarization (Diermeier & Li, 2019). These theorize that voters are becoming increasingly more responsive to ingroup deviations than out-group deviations, i.e., politicians fear partisan reprisal for going against party ideology (Diermeier & Li, 2019). Former Rep. Liz Cheney (R-WY) and former Rep. Adam Kinzinger (R-IL) experienced this partisan reprisal firsthand as both were chastised by other Republicans for their work in the January 6 committee and lost

re-election in their districts (Harknik, 2022). There is little research, however, determining if affective polarization is driving elite polarization or to the contrary, it is hard to create a model in which the choices of politicians can be measured such that it reflects decision-making on their values, party values, or the values of the affected masses (Banda & Cluverius, 2018).

Banda & Cluverius (2018) argue that elite polarization drives affective polarization such that the political elite leverage out-group leadership and takeover fear to rally their base. Social identity threat is ingrained in American psychology, and when an individual is categorized as a group member, this can be perceived as a threatening experience (Branscombe et al., 1999). The fear of miscategorization to an out-group based on an ideological value can be highly deterministic in creating voting behavior (Banda & Cluverius, 2018; Branscombe et al., 1999). This experience is leveraged by pernicious polarization as cross-cutting ties between elites become systematic conduct of the political elite (McCoy & Somer, 2019). The challenge is that there is no constructive element in this type of us vs. them political bargaining (McCoy & Somer, 2019). The Republican party experienced this self-destructive behavior as Congressmen Kevin McCarthy (R-CA) battled with the far-right conservatives to secure his position as House Speaker (Greve & Gambino, 2023). Representative McCarthy (R-CA) failed fifteen times before making several concessions which inevitably weakened his status as the leader of his party (Greve & Gambino, 2023).

While the Republican party has shifted further right than the Democrats have to the left, the reality is that both parties have put tremendous focus on identity politics in their campaigns (Desilver, 2022). One study found that as elite-level polarization

increased among the Democratic party, those further on the left became increasingly polarized (Zingher & Flynn, 2018). Republican elites did not experience the same increase in polarization with their more conservative base as the Democrats saw with their extreme liberal base (Zingher & Flynn, 2018). However, regardless of ideology, both parties saw increases in mass polarization as their elite became increasingly more ideological (Zingher & Flynn, 2018). Crossover voting is becoming extremely rare, as noted by shifts in presidential campaigns focused on core supporters rather than independent voters (J. E. Campbell, 2005; Zingher & Flynn, 2018). The 2004 Presidential Election marked a significant election in that NES election data revealed that 56% of votes had determined whom they would vote for before the national conventions (J. E. Campbell, 2005, p. 227). Democrats stood solidly behind John Kerry because he was not former President G.W. Bush; however, this was not enough as states who had previously voted for Bush in 2000 saw a significant uptake in voter turnout (J. E. Campbell, 2005, p. 237). This behavioral shift signified the start of the extreme polarization that followed in subsequent elections as ideological voting behaviors of the masses began to take place and the fight for the disappearing independent voters diminished (J. E. Campbell, 2005; Zingher & Flynn, 2018).

The general shift towards affective and pernicious polarization has sufficiently eliminated much of the moderate voter category in America (A. I. Abramowitz, 2010; Drutman, 2019). In the 2008 presidential election, presidential nominees in both the Democratic and Republican parties took hardline positions that reflected the party views of their majority (A. Abramowitz, 2008). This partisan-ideological polarization among the political elite, especially in the case of presidential candidates, brought these partisan

beliefs front and center to the American voter (A. I. Abramowitz, 2010, p. 36). Contrary to this argument, a few have argued that these divisions have existed since the 1950s and that the center is alive and well hence the existence of mixed blue and red states (Republican governors voting blue in a presidential election; Fiorina et al., 2008).

Fiorina et al. (2008) frequently met with a rebuttal as their views are highly idealist and grant significant credit to American voters' knowledge of the government system (A. I. Abramowitz, 2010, p. 36). A survey poll conducted with Penn State University after the 2018 midterm congressional elections suggested that Republican voters had reasonably strong views regarding the intentions of the average Democratic voter (Plutzer & Berkman, 2018). Only one in four Republican voters surveyed believed that Democratic voters had the country's best interest in their mind when voting (Plutzer & Berkman, 2018). The other parties' lack of social trust is furthering affective polarization among American votes (Lee, 2022). Social trust and perception of others following suit in the belief that other Americans will follow through for the public's good was tested and failed drastically during the COVID-19 epidemic (Lee, 2022). Lee's (2022) survey found that the higher levels of perceived polarization led to a significant reduction in social trust cross-party lines. The amplification of trust issues among the political elite only leads to greater affective polarization in America (Theiss-Morse et al., 2015).

McCoy et al. (2018) found that elite polarization significantly created and intensified divisive pernicious rhetoric in Hungary, Turkey, the United States, and Venezuela. The study found that the elites effectively targeted societal cleavages to push their base to a position of distrust and animosity (McCoyet al., 2018). Elites used

messages instilling fear of cross-political ideologies in their base to garner political support and funding (Iyengar & Westwood, 2015). Former President Obama signified the begging of partisan cues entering the daily lives of Americans as individuals became increasingly more determined to express their political identities (Iyengar & Westwood, 2015). This increasing behavior of expressing partisanship, coupled with the ability to disseminate information rapidly, accelerates the polarization created by social media.

Using Epistemic Network Analysis to Evaluate Twitter

Several studies cited in this paper have successfully used epistemic network analysis (ENA) to provide quantitative and qualitative insights into political rhetoric used on Twitter (Hamilton & Hobbs, 2021; Misiejuk et al., 2021). ENA identifies and quantifies connections of critical themes and sentiments in coded tweets by creating dynamic network models that generate and illustrate qualitative connections through quantitative summary statistics (D. W. Shaffer et al., 2016). The challenges of traditional multivariate statistical models for social media analysis lie in the inability to indefinity networks and patterns in massive data sets like Twitter feeds (D. W. Shaffer et al., 2016). ENA allows this study to identify key phrases to model the rhetoric used by those engaging in highly charged political feeds. As mentioned early in the chapter, the study conducted by Misiejuk et al. (2021) incorporated SA data into ENA by coding sentiments of Twitter feeds of both Democratic and Republican users regarding the COVID-19 epidemic. Figure 4 below shows the networks created by adding SA data into their coding scheme and developing a second network; they could identify sentiments expressed by individuals in a particular party and a positive and negative correlation (Misiejuk et al., 2021). The thickness of the line determines the strength of the connection in ENA; in

Figure 4 below, the correlation between stimulus action and favorable among Democrats was a strong correlation which is not surprising considering the media's representation of Democratic support for COVID-19 stimulus relief packages (Misiejuk et al., 2021).

Figure 4*:*

Incorporation Sentiment Analysis into ENA

Note. Obtained from “Incorporating Sentiment Analysis with Epistemic Network Analysis” by K. Misiejuk, J. Scianna, R. Kaliisa, K Vachuska, D.W. Schaffer, A. Ruis, and S.B. Lee., 2021, *Advances in Quantitative Ethnography* p. 378 Copyright 2021. Reprinted with Permission.

A systematic literature review of social media sentiment analysis studies found that, in large part, most of the studies conducted their research using the opinion-lexicon analysis method (Drus & Khalid, 2019). Since the data set this study will use are far too large for human coding, the study will rely instead on the machine-based learning models of the VADER sentiment tool and nCoder (Hutto, 2023; Marquart et al., 2019). The review found that while the opinion-lexicon model was suitable for small data sets, machine-based learning with proper training was just as accurate (Drus & Khalid, 2019). One of the studies reviewed found that using both machine-based learning and

onion-lexicon sentiment data, Twitter feeds 43 days before the 2016 presidential election were just as strong if not stronger predictors than polling data (B. Joyce & J. Deng, 2017). While opinion-lexicon outperformed in smaller datasets, the Naive Bayes Machine Learning Algorithm achieved a higher correlation coefficient the more extensive the data set (B. Joyce & J. Deng, 2017).

Chapter 3: Methods

Designing a study using ENA to Discourse on Twitter

While there have been numerous studies on human discourse on Twitter, few have used ENA to design qualitative and quantitative studies to gain a clearer insight into the outcomes of specific types of rhetoric (Garson, 2020/2023). While Twitter's sentiment analysis (SA) tool has been criticized as being inaccurate, one study found that looking at SA results in ENA gave more meaningful insights when comparing SA results individually (Misiejuk et al., 2021). In May 2023, while this study was being conducted, Elon Musk eliminated academic access to the Twitter API and required costly packages to access legacy datasets (Calma, 2023). Hence this study shifted away from the Twitter SA tool and took on the VADER sentiment tool, which performs arguably better (Elbagir & Yang, 2019). While the VADER is one aspect of this study, the primary research questions are to determine if the specific rhetoric being tweeted is polarizing. Determining this is challenging as the study will have to assume that the respondents to specific tweets convey their intentions as polarizing or neutral. Like any study, there needs to be some philosophical assumption in the research (Creswell & Poth, 2016). Specifically, this is going to be the belief that ENA will create a network of responses using the comments on each tweet that indicate both the political identity of the user as well as their intention with the tweet.

The first research question: RQ1: Do the political elite (Members of Congress) leverage Twitter to promote identity politics furthering political polarization in America? Various studies have shown that the political elite, celebrities, and influencers have been some of the most effective at spreading COVID-19 misinformation (Gisondi et al.,

2022; F. Simon et al., 2020). In their study, Simon et al. (2020) found that the political elite, celebrities, and prominent public figures (influencers) generated around 20% of the misinformation on social media but garnered nearly 69% of the total media engagement. This study led to the focus of this dissertation on the political elite, as they have a tremendous influence on Twitter users.

Following Question 1, a deeper understanding of how followers and Twitter users are responding to the political elite will provide insight into the effectiveness and perceived nature of the elite user's tweets. This dissertation hypothesizes that the political elites leverage the spread of disinformation and polarizing rhetoric to further drive cross-political animosity and, in turn strengthen their position within their base.
RQ2: Is Twitter's algorithm giving preferential status to the political elite who use polarizing tweets to generate higher user engagement resulting in higher ad revenue?
The second research question is more challenging to study as the nature of Twitter's algorithm is published; however, determining if users are becoming polarized is more difficult to prove. This research aims to determine who is responsible for the divisions created on social media. Once a satisfactory outcome of RQ2 is determined, the subsequent question of blame will be revealed. Is the political elite tweeting or Twitter driving the spread of the information?

Since Elon Musk's takeover of Twitter, he has pledged to make the company even more transparent and revealed in a blog post how the recommendation algorithm works (Twitter, 2023b). According to Twitter (2023b), the recommendation algorithm generates a user's feed through a complex system of scoring the user's tweets and matching them to similar tweets that the user might find engaging. One of these intricate

methods of determining these groups is a space called SimClusters, a cluster of influential users that generally see users interacting within (Satuluri et al., 2020; Twitter, 2023b). It is hard to differentiate between SimClusters by Twitter's definition and echo chambers; however, the original recommendation made by Twitter is being made off the foundation of the user's first follows or tweet likes such that they are the building blocks for their feed.

Every story has a who, what, where, when, why, and how. RQ1 seeks to answer the who and what by looking at what the political elite are tweeting. RQ2 seeks to answer the where and when by looking at users' engagements on Twitter and determining if there are corresponding behaviors to specific types of tweeters (are the loudest/craziest voices being heard the most?) RQ3 (below) seeks to answer why this study matters and how it impacts the world.

RQ3: Were President Donald Trump's (@realDonaldTrump) and President Jair Bolsonaro of Brazil's (@jairbolsonaro) tweets leading up to the uprising of January 6, 2021, and January 8th, 2023, respectively, responsible for the unfortunate and subsequent events?

While Trump was banned from Twitter following his potentially triggering tweets leading up to January 6, Elon Musk restored his account shortly after his takeover at Twitter (Elon Musk [@elonmusk], 2022). This study will look at specific tweets from @realDonaldTrump and determine if those who illegally entered the capitol on January 6 liked and commented on any of those tweets. Again, using the ENA web tool, the study will model the language with nCoder and VADER sentiment analysis on the

specific tweets to determine if the former presidents could be linked to inciting subsequent insurrections.

Following several hearings in Congress and a few court cases, many of those defending their actions to commit treason cited the former President's tweet on December 19, 2020, cited below, for their actions (Dreisbach, 2022).

> Peter Navarro releases 36-page report alleging election fraud 'more than sufficient' to sing victory to Trump…. A great report by Peter. Statistically impossible to have lost the 2020 Election. Big protest in D.C. on January 6th. Be there, will be wild! (Trump, 2020)

"Will be wild" was the triggering phrase for many of the rioters who believed that their actions were being condoned by former President Trump (Dreisbach, 2022; Trump, 2020). While many Americans believed former President Trump's actions were antidemocratic, nearly 70% of Republican voters believed that Trump was trying to defend democracy (Malloy & Schwartz, 2021). The outcomes of the insurrection on January 6 are still lingering, and whether or not democracy is still at risk is debated as no politicians have been held accountable nearly two and half years later (S. Simon, 2021). Not unlike former President Donald Trump's tweet on December 19, former President tweeted on the night of the election, October 30, 2022, a bible quote translated with Google Translate read:

> "Put on the whole armor of God so that you can stand firm against the Devil's wiles, for our fight is not against humans, but against the powers and authorities, against the rulers of this world of darkness...
> Ephesians 6:11-12
> - MAY GOD BLESS OUR BELOVED BRAZIL! (Bolsonaro, 2022; Google Translate, n.d.)

While the context of this tweet is subjective in nature, journalistic publications and one study have found that former President Bolsonaro's tweets and denial of the election results could have led to the uprising on January 8, 2023 (Bugs et al., 2023; Dwoskin,

2023). This study aims to provide insight into determining the accountability of the political elite who engaged with those who were inside the capitol illegally on January 6, 2021, and for those who incited insurrection in Praça dos Três Poderes, Brazil on January 8th, 2023.

Research methodological approach and Study Design

ENA Theory

The following three research questions rely on Epistemic Network Analysis (ENA), a technique for modeling the structure of connections in data. ENA assumes: (1) that it is possible to systematically identify a set of meaningful features in the data (i.e., tweets); (2) that the data has local structure, i.e., the constituents grouped by their ideological identity; and (3) that an essential feature of the data is the way that Codes are connected within conversations (Bowman et al., 2021; D. Shaffer & Ruis, 2017; D. W. Shaffer, 2018; D. W. Shaffer et al., 2016)

ENA models the connections among Codes by quantifying the co-occurrence of Codes within conversations, producing a weighted network of co-occurrences, along with associated visualizations for each unit of analysis in the data. Critically, ENA analyzes all the networks simultaneously, resulting in a set of networks that can be compared both visually and statistically.

While ENA was initially designed to address challenges in learning analytics (D. Shaffer et al., 2009), the method is not limited to analyses of learning data. For example, ENA has been used to analyze (a) task performance (Brückner et al., 2020; D'Angelo et al., 2020); (b) gaze patterns (Andrist et al., 2015; Brückner et al., 2020; D'Angelo et al., 2020); (c) team communication (Sullivan et al., 2018; Wooldridge et al.,

2018); (d) governmental communication and policy (Schnaider et al., 2021) and social media (Dubovi & Tabak, 2021; Misiejuk et al., 2021) The critical assumption of the method is that the structure of connections in the data is meaningful. Thus, ENA is a valuable technique for modeling polarization in social media because it can model the relationships among Members of Congress' rhetoric on Twitter as they occur among their constituents.

Research Question 1: Research Design and Data Gathering

Elite polarization has had a tremendous impact on American politics as it becomes more evident that parties are becoming increasingly ideologically driven (Banda & Cluverius, 2018; K. T. Poole, 2007). Several studies have identified levels of elite polarization on Twitter and concluded that politicians were using social media to share misinformation to garner additional support for their party (Banda & Cluverius, 2018; M. Otala et al., 2021). RQ1 uses ENA to compare the polarization levels determined by the nCoder of members of Congress with DW-NOMINATE (Lewis et al., 2023; Marquart et al., 2019). Using DW-Nominate to help identify members of Congress to determine political leanings will determine in their tweeting behavior matches their voting record seen on Voteview.com (Lewis et al., 2023). DW-Nominate was created to develop a spatial model of roll call votes in Congress to determine if individual members of Congress were more or less liberal or conservative based on the measure or bill passed (K. T. Poole & Rosenthal, 1985). Lewis et al. (2023) use DW-NOMINATE and post results for each roll call vote in Congress, ultimately generating an ideology score based on their liberal to conservative spectrum (Lewis et al., 2023). Voteview.com (2023) allows for rankings of both houses of Congress to be downloaded into a CSV file

where each candidate was identified by their ranking as either Far Left, Median Left, Center Left, Center Right, Median Right, and Far Right. With these assigned rankings, ten MoCs from each category were selected from both houses, such that 120 members of Congress were selected for their data to be collected from Twitter. To develop consistent networks, both Independent Senators Bernie Sanders and Senator Angus King will be categorized as Democrats as they caucus with the Democrats and ideologically are included as Democrats in DW-NOMINATE scores on Voteview.com (Lewis et al., 2023).

While Twitter data was accessible using the Twitter API, which is free to use and allows Twitter users to make calls to Twitter's data sets, request data, and even post data for a small fee if the number of posts exceeds (Hutto, 2023). Elon Musk removed API access for academics in May 2023, which forced the study to rely on a web scraping tool called TwExportly instead that allowed for a maximum number of 1,000 tweets to be downloaded instead (TWExportly, 2023).

Using TwExportly, tweets from each member of 120 Members of Congress (MoC) were downloaded, and the most recent 200 up to July 28, 2023, for each member studied will be studied (this study will look only at data from the 118th Congress). The data collected will include the author (MoC), the 160-character tweet and any corresponding URL or retweet, the number of likes, the number of retweets, corresponding hashtags, and the number of comments made on each tweet. Once the data is collected, using the VADER sentiment analysis tool, each tweet will be scored as positive, negative, or neutral (1 to -1 scale; (Hutto, 2023).

Once the tweets were collected, the study used nCoder, a tool created to codify massive datasets using machine learning, to code the tweets into the codes in Table 1 below (Marquart et al., 2019). The below coding chart is the intended tool with specific examples from members of Congress, with the Senate with the highest and lowest scores and the most moderate Republican and Democrat (Lewis et al., 2023).

Table 1

Codes used in RQ1

Left Polarizing	Neutral/Unifying	Right Polarizing
Check Supreme Court	Improve/Improving	Patriot
Supreme court ethics	Innovate/Innovation	Radical Left
Gun Violence	Assistance/Working With	Mainstream Media
Judiciary Act	Train/Trained	Bidenomics/ Biden
Tax-dodging/Wealthy	Honor	Administration/ Joe Biden
Cheating	Applaud	Southern Border
Reproductive	Bi-partisan	Borders/Border
health/Body's Choice	Together/Teamed	God/GodBless
Striking down	Congrats/Celebrate	Hunter Biden
MAGA	Happy	National Security
Weapons Ban	Opportunities	American People
Gun Violence		

Table 2

Sample Coding in RQ1

Member of Senate	DW-NOMINATE Score	Latest Tweet (as of May 17, 2023)	Sentiment Analysis	nCoder Polarization Sentiments
Thomas Hawley Tuberville @TTuberville	.936 (Most Conservative member of Senate)	I've said it before and I'll ALWAYS say it: I'm 100% ALL-IN for President Trump. He's the one to get us over the goal line and SAVE AMERICA from the radical left. Stand with President Trump today >> https://bit.ly/3MnLfph	Positive	Pro-Trump Save America Radical Left
Susan Margaret Collins	.116 (Most Liberal member of the Republican senators)	It was an honor to accept the Edward M. Kennedy National Service Lifetime Leadership Award. I was delighted to be joined by so many champions of AmeriCorps, who selflessly dedicate their time and efforts to improving the world around them.	Positive	Unifying Improving
Member of Senate	DW-NOMINATE Score	Latest Tweet (as of May 17, 2023)	Sentiment Analysis	nCoder Polarization Sentiments
Joe Manchin III	-.06 (Most Conservative member of Democratic Senators)	GOOD NEWS: Improving and modernizing our roads, bridges and highways continues to be one of my top priorities, and I'm pleased the @USDOTFHWA is investing more than $7.1 MILLION in repairing roads in West	Positive	Improving Unifying

		Virginia damaged by severe flooding. MORE:		
Elizabeth Warren	-.751 (Most Liberal member of Senate)	The last time Silicon Valley Bank's CEO testified to the Senate Banking Committee, he was lobbying for looser regulations. Today, he came back to talk about how his bank had failed—under weaker oversight. I'm fighting to put strong protections in place and prevent more crashes.	Negative	Failure Oversight Improving

Once the data is compiled, it will be loaded into the ENA web tool. Each data set from each house of Congress can be evaluated in terms of their DW-NOMINATE score, sentiment analysis, and corresponding polarization codes. If H1a is correct, using the corresponding SA scores with the matched tweet sentiment codes will result in a corresponding score that should be similar to their distance from 0 on DW-NOMINATE scores (Garson, 2020; Lewis et al., 2023; Misiejuk et al., 2021). This will validate whether the study correctly identifies whether the tweets are polarizing.

Once the sentiment scores were reviewed, the data was uploaded into the n-Coder web tool to be coded into the following codes in Table 1. The challenge with n-Coder is getting a meaningful result due to the potential overlap of specific terms and the inability of machine learning to detect sarcasm and identify all the potential keywords that might be used for each category. Many of the codes could also be perceived as both left and right polarizing. However, after coding, narrowing down

keywords for each group, and training the data sets, our Left Polarizing, Right Polarizing, and Neutral/Unifying codes achieved reliable Kappa and precision (Hallgren, 2012). For Right polarizing, a Kappa of .80 and a precision of .87 were reached, indicating substantial agreement between the test sets created by the author and the machine learning algorithms of the n-Coder web tool (Hallgren, 2012; Marquart et al., 2019). For our Left polarizing, a Kappa of .89 and precision of .88 was reached and indicating an almost perfect agreement and precision, along with a Neutral/Unifying code reaching a Kappa of .94 and a precision of .82, suggesting again almost perfect agreement and precision (Hallgren, 2012; Marquart et al., 2019).

Research Question 2: Research Design and Data Gathering

Once the outliers are determined in research RQ1, RQ2 will look at the levels of engagement of the tweets posted by the members of Congress in RQ1. By adding a ranking of tweets by likes and shares, the virality of each MoC tweet can be measured. In this instance, MoCs were ranked using a quartile system (Highest Engagement, Above Median, Below Median, and Lowest Engagement), where all the tweets' likes were averaged for each MoC, then ranked by their results.

Using the same categorizations for RQ1, the DW-NOMINATE classifications for polarity groupings, Far Right to Far Left, will be used to determine if the increased levels of polarization reflect the level of engagement received (Lewis et al., 2023). I will also compare (if they should vary from RQ1s results) the most polarized MoCs tweets with a significant follower count. Responses to each of the selected tweets will also be coded using VADER and nCoder to determine their stance affirming their desire for cross-cutting (pro-polarization) or invalidation of polarization (Hutto, 2023; Marquart et al.,

2019). To gain further insight into potential polarization themes and understand why specific tweets gain virality over others, a more in-depth coding system was used to determine linking themes behind each MoC polarizing or non-polarizing tweet. The categories were Government, Social, and Economic. Government codes were when an MoC blamed the other side, a particular policy, or a branch of government for some fault. Social reflected attacks on social policies or religious themes alluding to isolating and polarizing behaviors. Lastly, economics pointed to economic policies or bills targeted as being divisive by MoC.

Once a sample of the tweets is taken from the user, and set, the codes (a partial list is shown in Table 3 below) to be used in nCoder will be programmed. Following this, Table 4 is an example of the coding implementation used in the study, followed by a sample data set with like share counts.

Table 3

Codes used in RQ2

Left – Economic	**Neutral/Unifying – Economic**	**Right – Economic**
clean energy, student debt, tax wealthy, working families, fossil fuel, labor pensions, rigged tax, social security for all, special interests, carbon-free energy, extreme heat, Clean Air Act, paid sick days, tax cuts, blue economy, rich,	Inflation reduction act, innovation, innovate, Economy works for all, Economy works, Small businesses, Bipartisan Digital, upgrade infrastructure, Trade Award, economic growth, made in America, BipartisanInfrastructureLaw, strengthen our economy,	Debt ceiling, Small businesses, American people, Inflation reduction act, Big tech, Debt ceiling deal, Right to work, National right work, Right to work act Farm bill, Bidenomics, deep faith, ban Obamacare, taxpayer dollars,

Left – Social	**Neutral/Unifying – Social**	**Right – Social**
reproductive health care, health care for all, mental health, mental health crisis, health crisis, health education, women's rights, trans rights, sexual identity, maternal mortality, maternal health crisis, weapons ban, assault riffle ban, red flag, reproductive health, reproductive rights,	PACT Act, condemn hate, honor, American heroes, Educational Partnership, mental healthcare, public health, Cost-of-Living Adjustment Act of 2023, police reform, social security for all,	Child sex trafficking, Protect Children's innocence, Southern border, religious liberty, Trafficked, bypass parents, sanctity of life, abortion is murder, First Amendment, second amendment, girls safe, censure, God bless, conception, illegal immigration, violate young

Left – Government	**Neutral/Unifying – Government**	**Right – Government**
extreme maga republicans, extremist right, radical right, extremist right, extremist maga, supreme court justices, supreme court ethics, senate judiciary committee, maga republicans, conservative court, Trump	Bipartisan infrastructure, working together, National security, Bipartisan bill, RESTRICT Act, TikTok, bipartisan infrastructure law, Bipartisan Digital, brave men women, both sides, support veterans	Blame Biden, Biden crime family, Million-dollar bribe, Bill protects children's, left-wing extremists, DOJ IS WEAPONIZED, FBI, Hunter Biden, executive overreach, Biden Administration, tyrannical FBI, DOJ is corrupt, FBI is corrupt, FBI leadership

Table 4

Sample Coding in RQ2

User	Tweet	Likes	DW-NOM	Sentiment	Codes
@RepMTG **Rep.** **Margorie** **Taylor** **Green** **R-GA**	"I sold a lot state secrets and a lot of very important things" Joe Bides brain is going and he's literally admitting his crimes out loud. Impeach Biden! It's unreal and so insulting to America. https://t.co/Wt58cB7X5T	**68581**	**.8**	**-.5**	**Polarizing Right - Government**
@SenWarren **Sen.** **Elizabeth** **Warren** **D-MA**	The same Supreme Court that overturned Roe now refuses to follow the plain language of the law on student loan cancellation. This fight is not over. The President has more tools to cancel student debt and he must use them.	**37748**	**-.753**	**-.4**	**Polarizing Left - Government & Economic**
@RepGregLandsman **Rep.** **Greg** **Landsmans** **D-OH**	We've got incredible leaders in SW Ohio who are on the ground doing the work, and these projects will make a huge impact on our communities	**4**	**-.187**	**.31**	**Unifying/Neutral - Economic**

Following the VADER sentiment analysis tool, each MoC tweets were coded using nCoder into three categories to determine which themes drove polarizing rhetoric on Twitter. The selected categories were Social, Government, and Economic for both left and right and for the Unifying/Neutral non-polarizing categories. (Marquart et al., 2019). After coding and achieving the following Kappa and Precision are seen in Table 5.

Table 5

Kappa and Precision Scores from nCoder on RQ2

Code	Kappa	Precision
Left – Government	.89	.88
Left – Social	.82	.79
Left – Economic	.77	.87
Unifying – Government	.92	1.00
Unifying – Social	.66	.83
Unifying – Economic	.54	.69
Right – Government	.84	.88
Right – Social	.92	1.00
Right – Economic	.60	.82

According to the nCoder web tool, the Kappa and Precision of the data set were sufficient to proceed with uploading the data into the ENA web tool (Marquart et al., 2019, 2021). To test the effectiveness of the model, the ENA web tool will provide a Pearson and a Spearmen Score (Marquart et al., 2021). Additionally, comparing to the result and findings from other studies should provide insight into the accuracy of the model (Ballard et al., 2023; Russell, 2021).

Research Question 3: Research Design and Data Gathering

RQ3 seeks to answer if the tweets created by former President Donald Trump and former President Jair Bolsonaro were significant in instigating the capitol breach on January 6, 2022 in Washington D.C. and the insurrection in Praça dos Três Poderes on

January 8, 2023. The likes, shares, and comment data will be collected from the specific from @realDonaldTrump on November 19th, 2020 (Trump, 2020) and from @jairbolsonaro on October, 30th, 2022 (Bolsonaro, 2022). Unfortunately, due to the limits of the Twitter feed, only select tweets could be downloaded from the relevant time frame to capture the pre-event sentiments: for @realDonaldTrump, 56 tweets were collected, and for @jairbolsonaro, 142 tweets were collected. From this, the data will be categorized to determine if the subjects responding to the tweet had indicated any potential for incursion into the capital leading (Capitol Breach Cases, 2021).

Similar to RQ1 & RQ2 using nCoder and sentiment analysis, the following comment threads on the specified tweets can be matched to words and phrases indicating potential actions taken or sentiment regarding the tweet (Trump, 2020). The following coding system was used, Potential Threat, Moderate Threat, Actual Threat, Religion, Rigged. Defining these codes was based on the language used that could signify a direct threat or just an open-ended confirmation of the former president's Tweets; the codes Rigged and Religion were added because they were central themes to the rhetoric used by former President Bolsonaro and former President Trump. While religion and rigged do not signify threats, confirmation of the original tweet indicated a correlation in developing a conversation study to classify the tweets. Table 5 below shows the codes used in the manual coding as well as an example coding of three different responses to the tweet.

Table 6

Codes used in RQ3

Religion (Good vs. Evil)	God, our side, protection, god bless, honor
Rigged (Fraud)	Fraud, election, count, recount, votes, voter id, corrupt
Come together (Potential threat)	Join, come together, count me in, let's go,
Justice/Freedom (Moderate threat)	Protest, freedom, resistance, we will win,
Actual threats	War, fight, guns, strap up, prepare for,

Table 7

Sample Coding in RQ3

Replying to	Tweeter	Tweet	Sentiment Score	Code
@jairbolsonaro	@dinizacessorios	Amen! Prepared for war, let's go Brazil	-.5093	Religion/Minor Threat, Major Threat
@realDonaldTrump	@Perpetualmaniac	Count me in, Mr. President.	.501	Come Together (minor threat)

Because the sample set for the data was relatively small, it precluded adding additional tweets from both form President Bolsonaro and Trump. This way, the standard codes seen in the first part of RQ3 can be explored in R2 to narrow and account for how often each invokes polarizing language. The data set included 500 tweets from each of the former two presidents, collected starting two days following each insurrection and going backward through each subsequent insurrection. Two days following was selected because, on January 8, 2021, Twitter suspended former President Donald Trump's account, and while it is currently reinstated, he has not tweeted since (Conger et al., 2021; Elon Musk [@elonmusk], 2022). After reviewing the tweets from each president, using nCoder, four categories were created to determine themes in their subsequent tweets. Table 6 and 7 shows the subsequent codes with their nCoder kappa and precision scores following the coding (Marquart et al., 2019). Positive sentiments were included to account for times when either subject was not overtly polarizing. The other codes, Rigged/Corruption accounting for claims of election fraud, Good vs. evil was a catch-all-category for blaming the other candidate in the lost election or invoking some division in Bolsonaro's case, this was typically a reference to god, and in Trump's case he would frequently blame the other candidate or socialists, and the final code Fight/Rebel was simply looking for tweets that invoked hostile behavior.

Table 8

Codes for RQ3 Part 2

Positive Sentiments	Vaccines, MAGA, make America great, American people, Brazil, jobs, employment, trade
Rigged/Corruption	Rigged, stole, stolen, steal, fake, fraud, voter fraud, signature,
Good vs. Evil	God bless, may god, god, save America, Socialism, Lula, Biden, Communist
Fight/Rebel	Fight, rise up, rebel, protect, defend, march, stop,

Table 9:

Sample Coding for RQ3 Part 2

Respondent	Comment	Likes	Shares	SA	Coding
@jairbolsonaro	"Put on the whole armor of God, so that you may be able to stand against the wiles of the devil, for our struggle is not against humans, but against the powers and authorities, against the rulers of this dark world..." Ephesians 6:11-12 - MAY GOD BLESS OUR BELOVED BRAZIL! 🇺🇸 https://t.co/T2A6iqgFgB	282106	40096	.972	Good vs. Evil, Fight/Protect
realDonaldTrump	Peter Navarro releases 36-page report alleging election fraud 'more than sufficient' to swing victory to Trump https://t.co/D8KrMHnFdK . A great report by Peter. Statistically impossible to have lost the 2020 Election. Big protest in D.C. on January 6th. Be there, will be wild!	142241	36231	-.509	Rigged/Corruption, Fight/Protect

Table 10:

Kappa and Precision Scores from nCoder on RQ3 p.2

Code	Kappa	Precision
Positive Sentiments	.83	1.00
Rigged/Corruption	.71	.74
Good vs. Evil	.67	1.00
Fight/Protect	.71	.85

Since a sufficient Kappa and Precision were reached after using nCoder, VADER sentiment analysis was conducted, and a sample of the following Tweets is shown in Table 8 (Hutto, 2023; Marquart et al., 2019). The results discussed in Chapter 4 will review the ENA web tool results for the Pearson and Spearmen scores to validate the corresponding data sets in addition to validating the study and hypothesis H3a (Marquart et al., 2021).

Human Subjects Considerations

The following study relies entirely on existing data sets generated by Twitter's feeds and historical case analysis. Due to the nature of the study, no human interactions will be necessary to conduct any research. Twitter's API is open and available to all individuals by creating a free account at developer.twitter.com. Twitter's API allows any user to create data sets from all open and public accounts. This study will only use open accounts and look at public tweets. Since the data is made available to the general public, IRB subject review is not required per IRB guidelines stated in the Belmont Report (HHS, 1979).

Proposed Data Analysis Process

Epistemic Network Analysis (ENA) must use data that can be used in machine learning such that it is standardized to represent data when imported into the ENA tool found at epistemicnetwork.org (D. W. Shaffer, 2014). Part 1 of Research Question

Number 1 seeks to determine if the Sentiments of the tweets are positive, neutral, or negative. No network is being created in this analysis, as results will be returned in variable formatting, so ENA will not be used to analyze the studies' SA. The study will consider and assume that a positive sentiment score is unifying and a negative sentiment score is polarizing. Once the average VADER sentiment scores are calculated for each MoC, using the Mann-Whitney U test, and Voteview.com, the data will be compared to see if VADER's SA score helps determine the polarization of a particular MoC (Hutto, 2023; Lewis et al., 2023; Marquart et al., 2019, 2021; McKnight & Najab, 2010).

Using nCoder can add the variability of the type of polarization and determine if the specific MoC is pushing highly conservative or liberal narratives based on the coding type used (Marquart et al., 2019). From this, the data can be interpreted to create networks that identify groups of MoC making highly polarizing narratives on social media. nCoder, using machine learning, can look at the massive data sets acquired from the members of Congress's tweets and match them to phrases and words that convey the polarization (Marquart et al., 2019). Once these networks are created, the SA scores can be added to the networks to add validity using the method developed by Misiejuk et al. (2021), which can help quantify the effect of potential statements made using the ENA tool (Marquart et al., 2021).

In Research Question 2, the tweets and responses of the five most significant contributors to the liberal and conservative polarizing language tweets will be collected using the TwExportly and again coded using VADER and nCoder results (Hutto, 2023; Marquart et al., 2019; TWExportly, 2023). For this study, the selected tweets reviewed

were the highest shared and commented-on tweets prior to July 28th, 2023 going back to 200 tweets for each MoC. The nCoder results of the language used by the MoC of the specified tweets will help provide insight into the users' reactions to the specified data. Then like RQ1, the Misiejuk et al. (2021) method for incorporating VADER into ENA will be added to each of the responses to verify if there is any correlation between positive and negative sentiments to the potentially polarizing tweets (Hutto, 2023; Shaffer et al., 2016).

Validating Study

In RQ1, data validation of the VADER sentiment scores and the DW-NOMINATE scores were compared using comparative and regression analysis (Hutto, 2023; Lewis et al., 2023). These regressions of the ENA results determined how close each MoC'sMoC's VADER and nCoder scores are compared to their recent DW-NOMAINTE pulled at the same instance of their last roll call vote (Lewis et al., 2023). Some variances, however, don'tdon't suggest the study is invalid, as some MoC might be leveraging polarizing rhetoric to exploit Twitter'sTwitter's algorithm but voting more predictably. A 2010 review of Congressional member Twitter accounts revealed that the platform'splatform's primary use was self-promotion and engaging with their base; it was rare that MoCs used the platform to discuss policy formation (Golbeck et al., 2010). It is becoming increasingly evident that social media has disrupted America'sAmerica's general news and information sources. How the political elite uses social media will determine the safety of America and other democracies across the globe, as the power of their messages is highly effective in generating mass polarization. While this study

will provide insight into the problems surrounding Twitter, further research will be needed to understand how the masses perceive Twitter feeds.

Chapter 4: Findings

Research Question 1: Results and Findings

As stated in this dissertation's purpose statement, this study aims to determine if social media, specifically Twitter, is being utilized by politicians to polarize their bases to gain political ground. Research Question 1: Do the political elite (Members of Congress) leverage Twitter to promote identity politics furthering political polarization in America? While our null hypothesis states there is no correlation between political elite tweets and affective polarization in America, our hypothesis suggests that ENA would reveal a correlation between the tweets of the political elite and the rise in affective polarization in America.

The study compared DW-Nominate scores for Members of Congress found at Voteview.com to the rhetoric revealed on their official Twitter accounts (Lewis et al., 2023). The first step was ranking the members of Congress by their polarization score taken from VoteView.com on August 28th, 2023; the politicians were then grouped by their level of polarization: Highly polarized Republican/Democrat, Median Republican/Democrat, and Centrist Republican/Democrat (Lewis et al., 2023).

To grab an influential sample group, ten members from each of the groupings, as mentioned earlier's extremes and each party's medians were selected for their official Twitter accounts to be studied. Two hundred tweets were scraped from Twitter using the 100xTools.com TWExportly tool from each of the selected 60 members of the House and 60 members of the Senate for a total of 24,000 tweets (2023). Once all the data was extracted and the tweets were categorized, the VADER sentiment analysis tool was

used to score each of the tweets, with 1 being a positive sentiment score, 0 as neutral, and -1 as a negative (Hutto, 2023).

The VADER sentiment scores were then averaged for each selected member of the Representative and Senate (Hutto, 2023). The findings, when averaged by each group Far Democrat, Median Democrat, Centrist Democrat, Centrist Republican, Median Republican, and Far Republican, revealed high Pearson correlation coefficients between both Senate (*R*2 = .9636) and members of the House (*R*2 = .8945).

Figure 5

DW-Nominate Scores of Representatives vs. Sentiment Scores

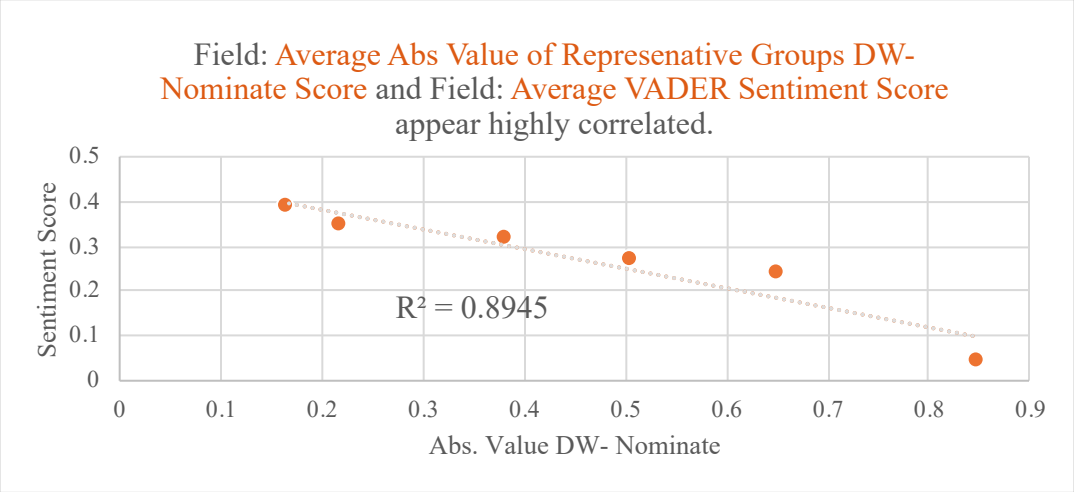
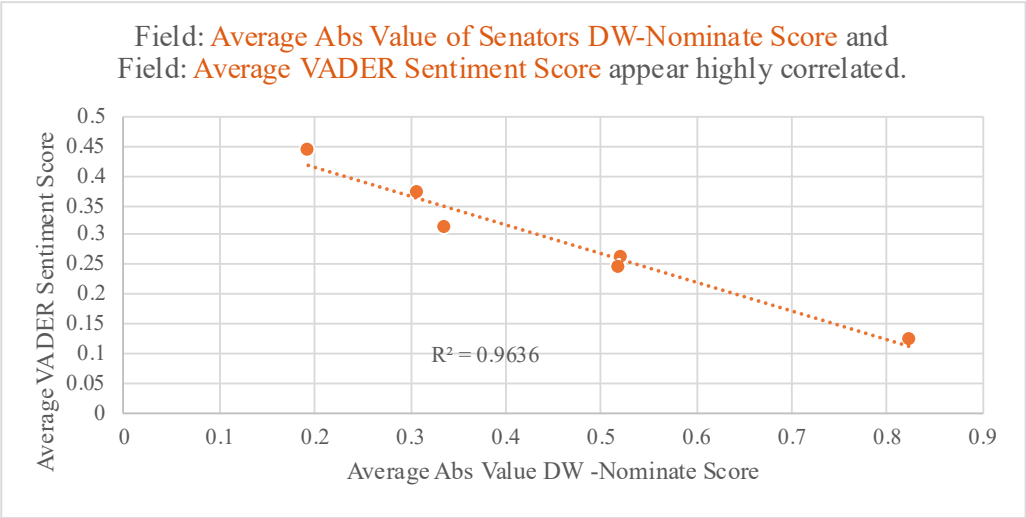


Figure 6

DW-Nominate Scores of Senators vs. Sentiment Scores



In this, the absolute value of the DW-Nominate Score was used to determine mostly level of polarization in comparison to their average sentiment scores. The study found that MoCs with lower DW-Nominate scores (Center Republicans and Center Democrats) were more likely to have higher sentiment scores than those who were highly polarized based on their DW-Nominate for both parties. The average Sentiment Score among all the tweets for Senators and Representatives was .283. The median was significantly higher at .422, suggesting a negative skewness which was not surprising as it seems more and more politicians are using negative language in their regular tweets. Tying sentiment scores to congressional voting behavior is not a new concept. While it appeared to work well with the data set using more recent tweets, another study found exciting variations in the data where skewness changed under the Trump presidency (Spell et al., 2020). Should Twitter's API be opened to academics, tweets from different presidencies should be correlated to the sentiment scores. One

hypothesis would suggest that members of the same party as the president would generally show higher sentiment scores in their tweets.

For the second part of the study, the data set, once coded with nCoder, was applied to ENA (Bowman et al., 2021; D. Shaffer & Ruis, 2017; D. W. Shaffer, 2018; D. W. Shaffer et al., 2016) using the ENA Web Tool (version 1.7.0; Marquart et al., 2021) I defined the units of analysis as all lines of data associated with a single value of Party (Republican/Democrat) subsetted by Chamber (House of Representatives/Senate) and each Member of Congress (MOC) reviewed. ENA algorithm uses a moving window to construct a network model for each line in the data, showing how codes in the current line are connected to codes that occurred previously (Ruis et al., 2019; Siebert-Evenstone et al., 2017), defined as all lines preceding the current line within a given conversation. In this model, an infinite stanza was used as the study is only looking at recent tweets and not connecting with tweets from the past. The resulting networks are aggregated for all lines for each unit of analysis in the model. In this model, an aggregated network was used in a binary summation in which the networks for a given line reflect the presence or absence of the co-occurrence of each pair of codes.

The ENA model included the following codes: Left Polarizing, Neutral/Unifying, and Right Polarizing. The study defined all conversations as all lines of data associated with a single value of Position. For example, one conversation comprised all the lines associated with Position and Far-R. The ENA model normalized the networks for all units of analysis before they were subjected to a dimensional reduction, which accounts for the fact that different units of analysis may have different numbers of coded lines in the data. A singular value decomposition was used for the dimensional reduction, which

produces orthogonal dimensions that maximize the variance explained by each dimension (See Bowman et al., 2021, and Shaffer et al., 2016 for a more detailed explanation of the mathematics).

Networks were visualized using network graphs where nodes correspond to the codes, and edges reflect the relative frequency of co-occurrence, or connection, between two codes. The result is two coordinated representations for each unit of analysis: (1) a plotted point, which represents the location of that unit's network in the low-dimensional projected space, and (2) a weighted network graph. The positions of the network graph nodes are fixed, and those positions are determined by an optimization routine that minimizes the difference between the plotted points and their corresponding network centroids. Because of this co-registration of network graphs and projected space, the positions of the network graph nodes—and the connections they define—can be used to interpret the dimensions of the projected space and explain the positions of plotted points in the space. The model had co-registration correlations of 0.99 (Pearson) and 0.99 (Spearman) for the first dimension and co-registration correlations of 0.99 (Pearson) and 1 (Spearman) for the second. These measures indicate that there is a strong goodness of fit between the visualization and the original model.

ENA can be used to compare units of analysis in terms of their plotted point positions, individual networks, mean plotted point positions, and mean networks, which average the connection weights across individual networks. Networks may also be compared using network difference graphs. These graphs are calculated by subtracting the weight of each connection in one network from the corresponding connections in

another. To test for differences, a Mann-Whitney test was applied to the location of points in the projected ENA space for units of Independent Senator Sanders (identified as a Democrat in the ENA tool for ease of viewing and because he caucuses with the Democrats) and Republican Senator Lisa Murkowski. Along the X axis (MR1), a Mann-Whitney test showed that Democrat (*Mdn* = -0.64, *N* = 60) was statistically significantly different at the alpha = 0.05 level from Republican (Mdn = 0.66, *N* = 65 *U* = 404.00, *p* = 0.00, *r* = 0.79). Along the Y axis (SVD2), a Mann-Whitney test showed that Democrat (*Mdn* = 0.09, *N* = 60) was not statistically significantly different at the alpha = 0.05 level from Republican (*Mdn*=-0.10, *N* =65 *U* = 2036.00, *p* = 0.67, *r* = -0.04). The Mann-Whitney test revealed that the study's correlation and visualization revealed there are significant differences between Republican and Democratic members of Congress and their use of either conservative or liberally polarizing language. However, it did show that for non-polarizing tweets, there were minimal differences; this is not surprising as the Senators and Members of Congress taken from the center of the DW-Nominate Score were found to be more likely to use non-polarizing language and, even more surprisingly, some center Democratic MoC (Rep. Golden D-MA, Senator Stabenow – D-MI, Rep. Don Beyer D-VA, Rep. Robert Garcia D-CA) and were found on the right or the nearing the right of the spectrum seen in Figure 13. Similarly, many center-leaning Republicans were identified as using fewer polarizing tweets and left-leaning tweets in the polarization spectrum. Figure 8 shows Senator Lisa Murkowski R-AK, Rep. Molinaro R-NY, Rep. Brian Fitzpatrick R-PA, Rep. Tom Kean R-NJ, as well as several others were found in the upper left quadrant signifying uses of higher uses of non-polarizing language and some use of Left Polarizing language.

Figure 7

ENA Results RQ1 all MoC

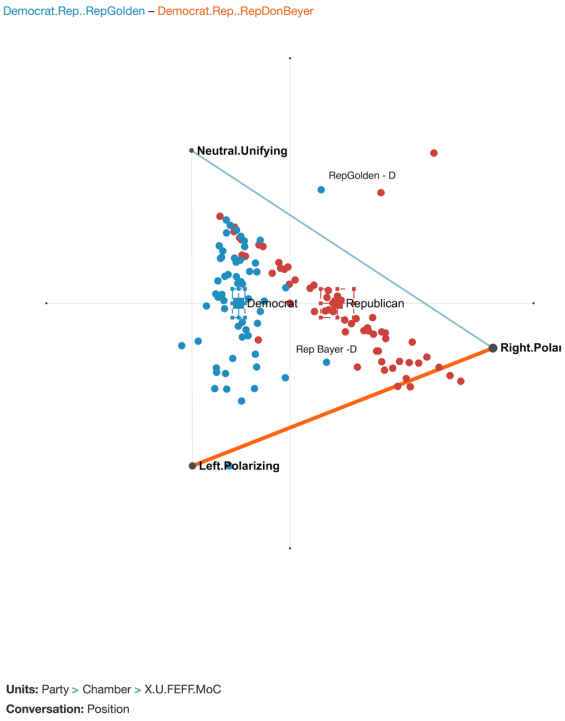
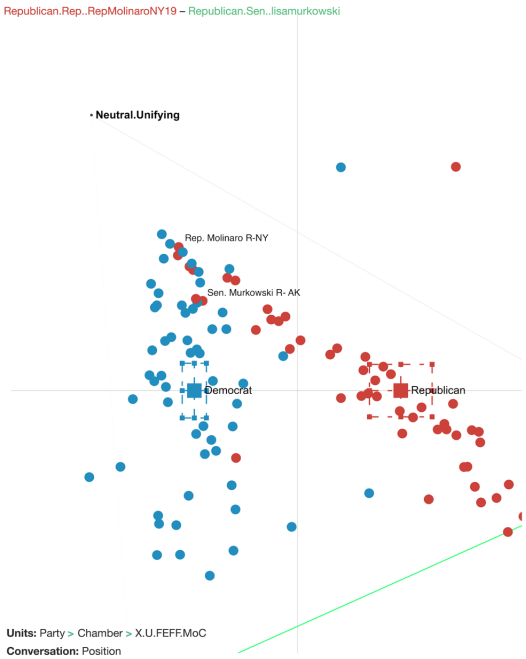


Figure 8

ENA Results RQ1 Centrist



When comparing the overall results from the ENA, incorporating all 60 members from the House and Senate, each reveals interesting similarities visually to the VoteView.com DW-nominate visualization, with the general outliers remaining similar for Republican Party MoC but slightly different on the Democratic Side the same (Lewis et al., 2023).

Further left or right indicates more significant levels of either Left or Right Polarization, with the Y-axis representing increased positive sentiments and pro-bipartisanship as one moves up the Y-axis. For the House of Representatives, Representative Margorie Taylor Greene, R-GA, and a DW-Nominate Score of .8 and is one of only three representatives with a negative average VADER sentiment score at -.128 (Hutto, 2023; Lewis et al., 2023). On the Democrat party side, Rep. Greene R-GA, is a clear outlier as she is on the extreme right. In contrast, Rep. Sean Casten D-IL was a slight outlier on the ENA results, not unlike his DW-Nominate score as the 3rd most liberal with a score of .673 and a positive sentiment score of just .188. The Republican Representatives did have two strange outliers regarding scoring high in Neutral/Unifying: Rep. David Valado, R-CA, and Rep. Adrian Smith, R-NE. After reviewing the tweets that were scored highly, it was clear that they frequently congratulated veterans and wished their followers happy holidays, which the n-Coder system recognized as a Neutral/Unifying code. While these types of tweets are, in fact, positive sentiments, they aren't rewarded with much traction on the Twitter platform; RQ2 will reveal in greater detail why these types of tweets are significant in considering the polarizing effects of politicians' use of Twitter.

Figures 9 and 10 show the selected members of the House, except for the aforementioned outliers; the distribution is relatively normal compared to the expectations seen in Voteview.com DW-Nominate results (Lewis et al., 2023). Likewise, in Figure 9, a similar distribution for the Senators is included in the study. The study results merit further inquiry into RQ2 to look at how the messages of polarization are being categorized and delivered by the MoC on Twitter. The simple three-code structure provides some insight; however, the additional coding provided in RQ will add further clarification.

Figure 9

ENA results for RQ1: House of Representatives

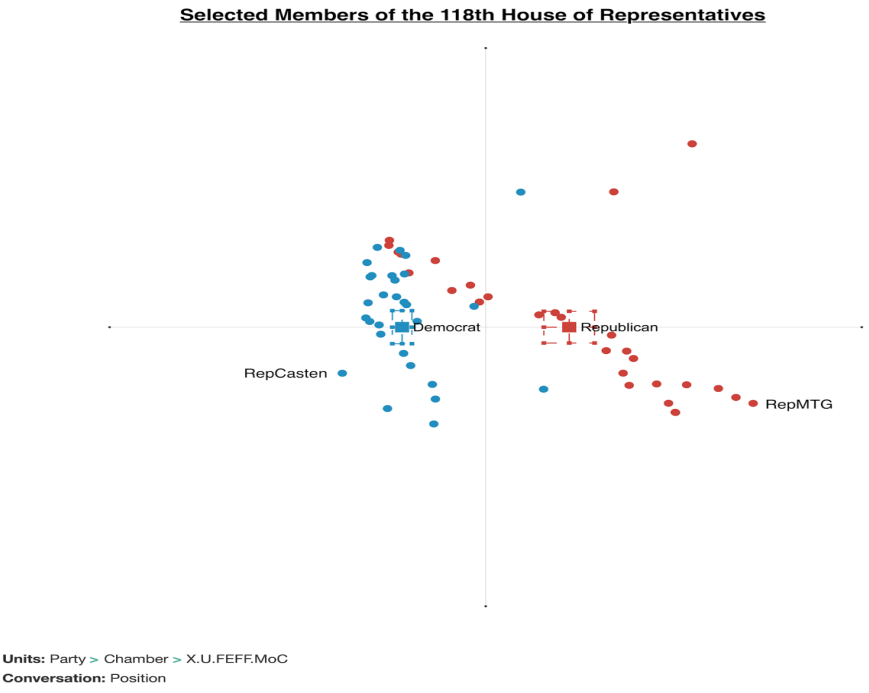
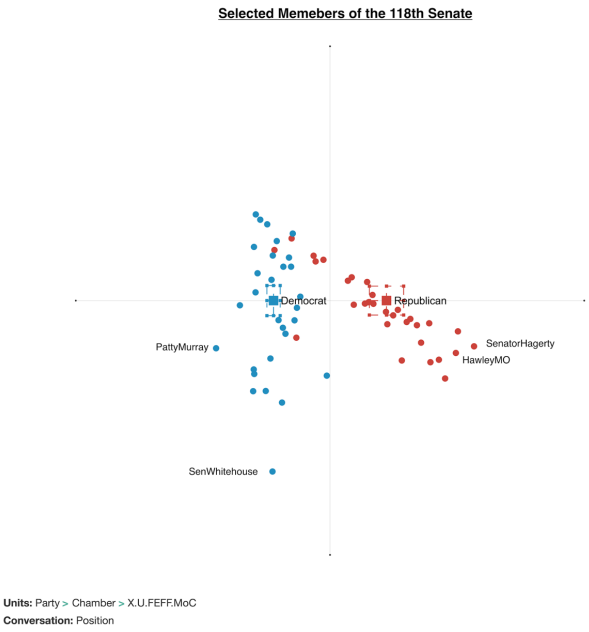


Figure 10

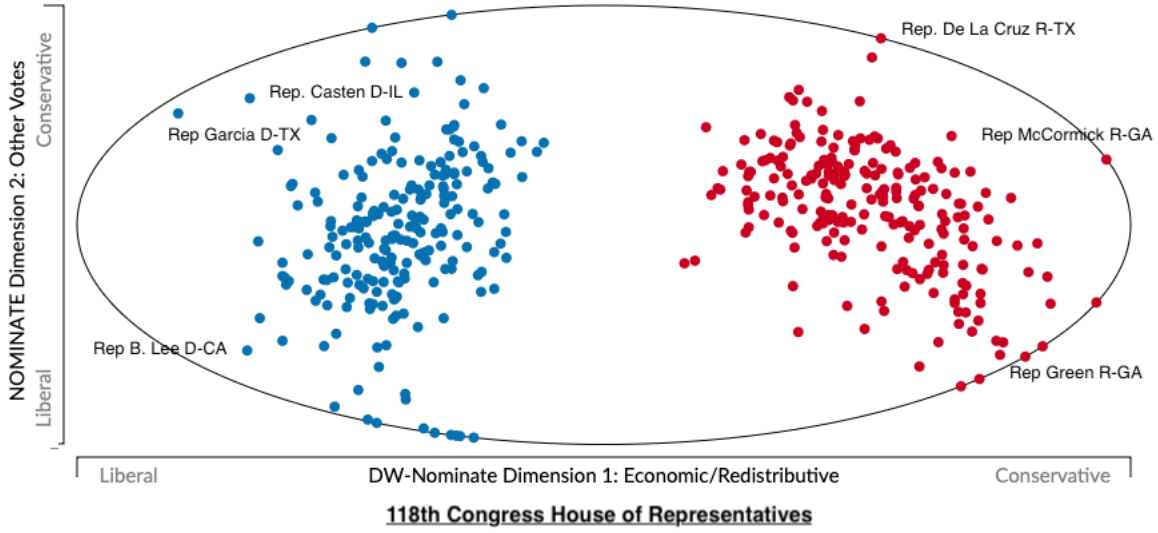
ENA results for RQ1: Senators



In general, for both the Democrat and Republican Representatives and Senators, the outliers are predictable based on the candidates' position in the ENA study (Figure 9 & 10) to their relative DW-Nominate Positioning see Figure 11; however, the centrist are less predictable as there is overlap as mentioned above in the ENA but none in DW-Nominate (Lewis et al., 2023). Part of this may be attributed to the catch-all polarization categories that are simply based on terms and keywords used on Twitter. Many of the terms at the center of each party will likely be the same.

Figure 11:

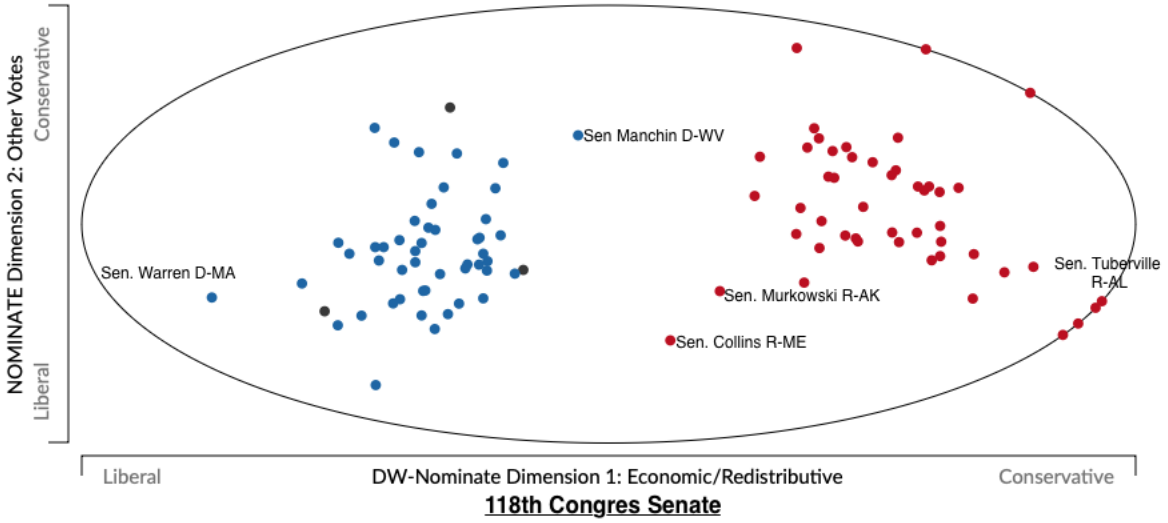
118th Congress House of Rep. DW-NOM. Distribution



Note. Adapted from "DW-Nominate Plot: Representatives." VoteView.com, Lewis et. Al (2023) https://voteview.com/congress/house. Reprinted with permission.

Figure 12

118th Congress Senators DW-NOM. Distribution

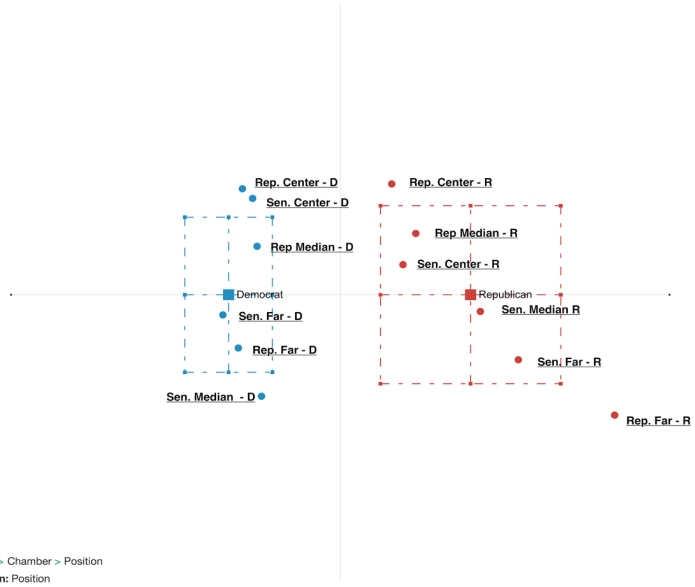


Note. Adapted from "DW-Nominate Plot: Representatives." VoteView.com, Lewis et. Al (2023) https://voteview.com/congress/house. Reprinted with permission.

Figure 12 shows the average ENA results for each party's Far, Median, and Center sub-group. Across the Democratic Senators, the distributions were also quite similar except for Democratic Senators in the Median range who were the most polarized of the Democratic party based on their ENA average scores. This is an exciting occurrence; one reason for this unexpected outlier is that one of the more prolific members of the Senate Democrats was included in the study, Sen. Charles Schumer, D-NY, at the median. I hypothesize that because Sen. Schumer is the appointed leader of the Democratic Senators, his voice is supposed to be the voice of the party, and as Congress is becoming seemingly more polarized, choosing polarizing rhetoric as the leader might be encouraged at the party level. The averages in Figure 18 indeed show that on a party level, there is increased polarization as there is zero cross-over between any of the averaged groups. The similarities in the outliers seen in Figures 8, 9, 10, and 13 suggest that the ENA models reflecting the high levels of polarization used by Members of Congress on Twitter are correlated DW-Nominate Scores.

Figure 13

ENA Averages for MoC by Group Average



Comparing the results to the Hemphill et al. (2016) study, which correlated DW-Nominate scores to hashtag use on Instagram, found some interesting correlations. For example, Sen. Joe Manchin D-WB was more likely to use red hashtags (ones used by the Republican party) and was found on the right side of the Y-Axis in the ENA study (Hemphill et al., 2016). Additionally, Sen. Rand R-KY was an outlier on the far right in both studies (Hemphill et al., 2016). Unfortunately, there were few other MoCs that I could compare using the #Polar Scores as a validation tool. However, it will be interesting should Twitter make changes that bring back the effectiveness of the hashtag (Hemphill et al., 2016).

Research Question 2: Results and Findings

Research Question 2 follows Question 1 in so much as it looks at how individuals respond to the tweets shared by Members of Congress online by adding value

components to the amount of shares, replies, and likes each tweet gets. Question 1 revealed that MoCs use social media to leverage their platforms to promote various forms of polarizing rhetoric. What is unanswered by Question 1 is: How influential are these tweets in being polarizing? RQ2 asks: Is Twitter's algorithm giving preferential status to the political elite who use polarizing tweets to generate higher user engagement resulting in higher ad revenue? The null hypothesis suggested that Twitter does not give polarizing tweets preferential treatment, and the hypothesis suggests that Twitter's algorithm favors highly polarized tweets.

The study was conducted using the same Twitter data from Question 1 but further analyzed and modified the coding to reveal the type of polarization being used in the studied tweets. These codes were broken down into three specific categories of the tweeter's affective or pernicious polarizing tweets, which were as follows: Government (Republicans/Democrats side blaming the other), Social (MoC condemning social issues relevant to their opposition as being related to any decline) and finally the Economy (MoC criticizing economic policies of the other parties). The same categorical considerations were made when looking into Neutral/Unifying tweets to determine at what level of social media engagement these tweets were either disappearing or not being shared at scale.

Using ENA, RQ2, and the previously mentioned coding system (also seen in Table 3) across all the 24,000 tweets, three different models were created. The second ENA analysis took the top 200 most shared tweets of the 24,000, then were hand coded again using the same coding system. Then finally, on the third ENA review, the codes for all Left and Right designations were removed, Social Government and Economic

categories were combined, and the Neutral/Unifying codes all into a single category to determine if polarizing tweets were, in fact, more likely to gain virality among the Twitter users.

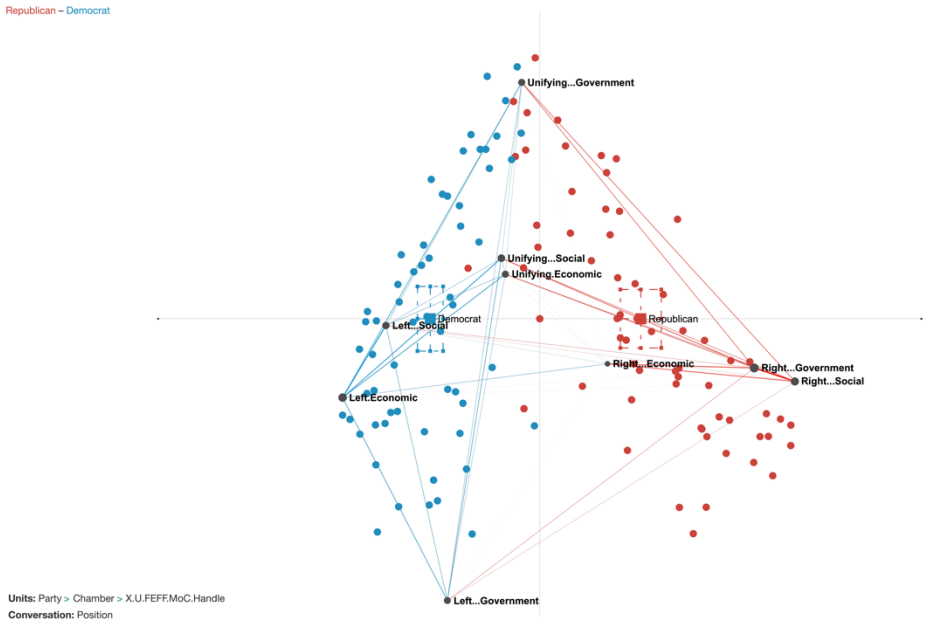
The study revealed in RQ1 that politicians at the median tended to use both liberal (L) and conservative (R) polarizing terms while still maintaining a strong emphasis towards neutrality/unification, as depicted in Figure 18 as Sen. Far L & R were above the X-Axis revealing higher usage of neutral/unifying tweets than negative ones. What was surprising was Democratic Senators, in the median of their party, on average, were more polarized on Twitter than their constituents identified as far left by their DW-Nominate scores (Lewis et al., 2023). This suggests that while these members of Congress might be less polarizing in terms of their voting record, they are using polarizing rhetoric on Twitter to engage their audience. To test this, two approaches to ENA were used with the ENA web tool on RQ2 to determine if the users are engaging with these polarizing tweets or if they are falling on deaf ears (Marquart et al., 2021; D. W. Shaffer et al., 2016). I used the coding system in Table 3 below across all the 24,000 tweets downloaded in RQ1 and added a ranking based on engagement from Twitter users by assigning averages of likes and shares from each MoC tweets. Following this, to narrow the study, codes for all Left and Right designations were removed. They were coded specifically for Social, Government, and Economic categories, and all the Neutral/Unifying codes all into a combined single category to determine what type of polarizing tweet was more likely to gain virality among the Twitter users.

Rather than looking specifically at individuals, MoCs were divided into four categories, Highest Engagement, Above Median, Below Median, and Lowest

Engagement. The level of engagement was determined by ranking each congressional member by their average number of likes from the subset of 200 tweets downloaded. An infinite stanza was used, as was used in RQ1, since only recent tweets were being reviewed and not looking at the comments following each tweet. The primary model used in RQ2 had co-registration correlations of 0.99 (Pearson) and 0.99 (Spearman) for the first dimension and co-registration correlations of 0.99 (Pearson) and 0.99 (Spearman) for the second. These measures indicate that there is a strong goodness of fit between the visualization and the original model. Not unlike the results from RQ1, similar variations of polarization found in the Far Right, Far Left, and centrist were identified in the matrix created by the ENA model. Figure 14 reflects all the Congressional Members studied using all nine codes coded using nCoder with networks for Republicans and Democrats created.

Figure 14

ENA Results RQ2

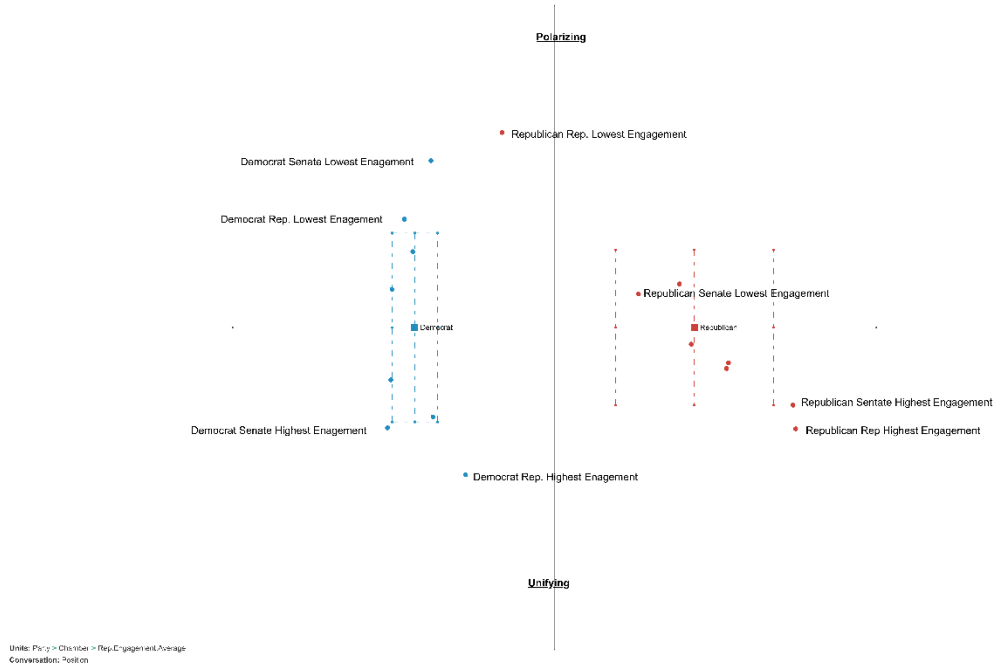


By breaking down each code into the causes of polarization (Social, Economic, and Governmental), the immediate result revealed a far less visible crossover between even among the centrist Republicans and Democrats. Politicians move down and away from the Y-Axis as they become more polarized and less unifying.

When narrowing the study down, looking at specific groups of politicians ranked and categorized by their average level of engagement, the ability to determine how the most engaged MoC's tweets compare to the lesser engaged. To this, a quartile system was used to count the average likes and retweets, and each MoC studied was categorized. Those with the Highest Engagement, unsurprisingly, were the most polarizing, seen at the low end of the Y-axis, and the lowest engaging politicians were on the highest point of the Y-axis, seen in Figure 15.

Figure 15

ENA Result RQ2: Engagement Averages



When broken down by engagement, those with higher levels of polarization see the highest levels of engagement, and as an MoC becomes less polarizing, they see less engagement on Twitter. Another study found nearly identical results and suggested that these behaviors by MoCs encourage increased funding from their donors (Ballard et al., 2023). Additionally, Ballard et al. (2023) found that MoCs of the president's opposite party were often more vitriol and polarizing. In the case of averages, this wasn't necessarily the case in the study, however on an individual level, regarding the most polarizing Republican (Rep. Greene – GA Figure 16) vs. the most polarizing Democrat (Sen. Warren – MA Figure 17) on Twitter, the Republican MoC was the most polarizing with a very high network score seen on the third ENA study comparing only codes for causes of polarization.

Figure 16

ENA Results for @RepMTG

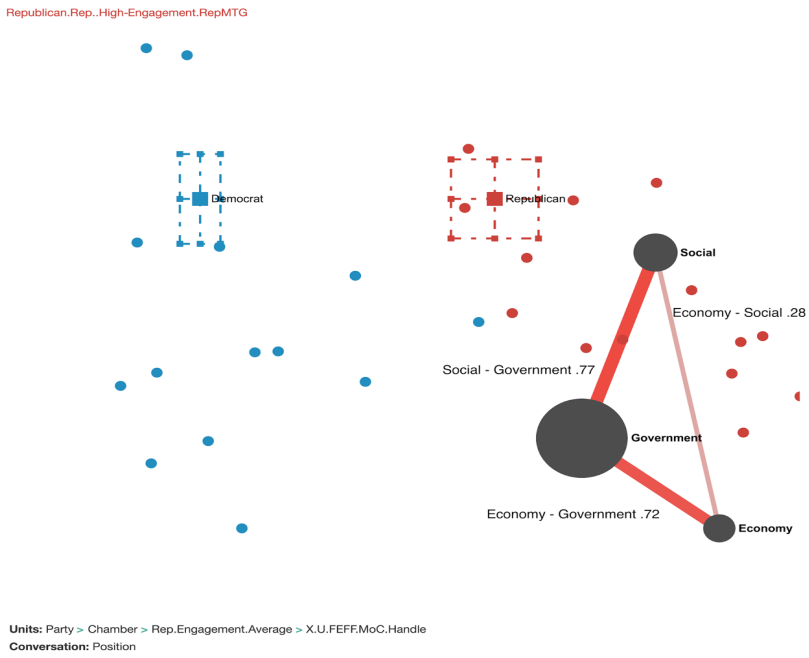
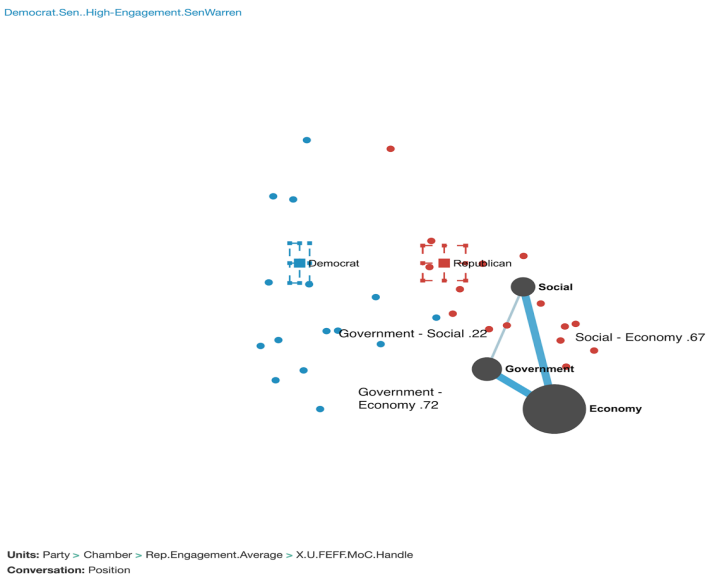


Figure 17

ENA Results for SenWarren

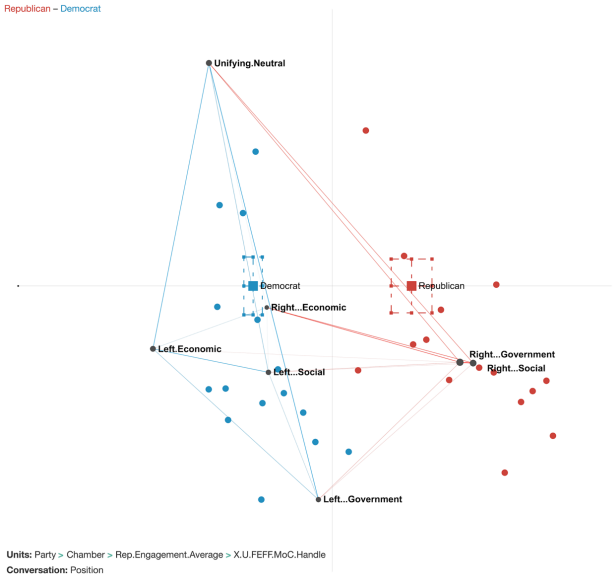


When comparing Figures 16 and 17, the nodes on each suggest a shift in concerns for both ideological extremes amongst conservatives and liberals. Typically, Republicans are viewed as expressing economic concerns and being the party of business owners and those fiscally concerned; however, the nodes suggest that Rep Greene R-GA's primary concern is government overreach and social concerns, versus Sen. Warren D-MA, who is more focused on Economic issues. Further analysis was gathered to test whether this was true for all members of Congress from each party; the findings revealed that Republicans confirmed that there certainly was a shift towards Government and Social concerns; however, Democrats were significantly more scattered. Figure 18 looks at the highest engaging MoC studied, and not unlike Rep. Greene R-GA, the Republican MoC was clustered more significantly around the Social and Government nodes. The lesser engaged MoC from the Republican party, seen in Figure 18, is clustered closer to Unifying and Economic, which is in keeping with the

past perceptions of the Republican party (Klein, 2020). Democrats with the highest engagements (Figure 18) are clustered a bit more scattered, and the thin lines between the network scores suggest that there is not a high correlation between any of the nodes and the party average, which was the highest at .21 for Unifying/Neutral and Left Economic.

Figure 18

Results for Republicans and Democrats



The primary objective of RQ2 was to determine if the Twitter algorithm favored polarizing tweets. The results seen in Figure 15 provide a solid reason to assume that polarizing tweets get higher likes and shares. The results of this study suggest that further research on Twitter algorithms favoring polarizing rhetoric be considered.

Research Question 3: Results and Findings

The final question of the study looks at the potential negatives of polarizing rhetoric on social media. The question: Were President Donald Trump's (@realDonaldTrump) and President Jair Bolsonaro of Brazil (@jairbolsonaro) tweets

leading up to the uprising of January 6, 2021, and January 8th, 2023, respectively, responsible for the unfortunate and subsequent events? The null hypothesis suggests that Former President Donald Trump's and former Brazilian President Jair Bolsonaro's tweets did not significantly impact the January 6, 2021, uprising in Washington D.C. or the January 8, 2023, uprising in Brazil. The hypothesis concludes that using ENA, former President Donald Trump and former President Jair Bolsonaro tweets used rhetoric that may have had a significant impact on the events that took place on January 6 and January 8.

The study again uses ENA to compare two separate data sets to determine if in fact, the former presidents' use of Twitter had a significant impact on the subsequent insurrections. This study was met with many challenges as Elon Musk eliminated Twitter API access in late July of 2023 while the study was taking place. This limited the ability for individuals to retrieve legacy data from Twitter feeds and made it nearly impossible to extract both quote tweets and comments on tweets. To best answer the question, two small data sets were used.

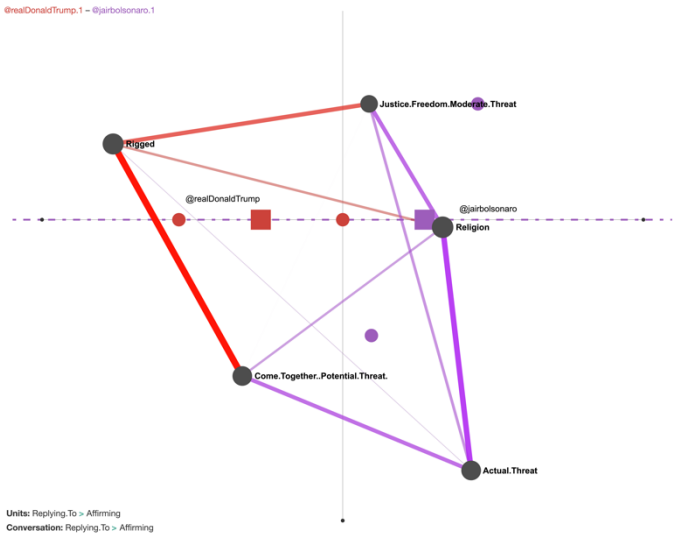
The first data set comprised of responses of from both president's twitter followers. Because there had been many comments in response to the January 6th uprising made on @realDonaldTrump's account, only 56 quotes from former President Trump's tweet on December 19th, 2020 were recovered that were prior to the Jan 6 date. From former President Bolsonaro I was able to manually copy 142 tweets prior to January 8th insurrection in response to his post on October 30th, 2023 (which have been cited as the tweets having potentially caused each insurrection). These were manually coded using the codes seen in Table 5 (above) and be imported into the ENA

web tool (Bugs et al., 2023; Harton et al., 2022; Marquart et al., 2021). The model had co-registration correlations of 0.98 (Pearson) and 0.99 (Spearman) for the first dimension and co-registration correlations of 0.99 (Pearson) and 0.98 (Spearman) for the second. These measures indicate that there is a strong goodness of fit between the visualization and the original model. Five codes were used after ranking the responses in groups of those affirming the respective president or descending, and then grouped by their respective quintile-ranked VADER sentiment scores (Hutto, 2023).

The results seen in Figure 19 include the averages for those who responded to @realDonaldTrump and @jairbolsonaro, who were identified as supporters based on the rhetoric used in the tweet. For @realDonaldTrump (red) the most substantial network was between the potential minimal threat and Rigged with a network score of .5 in the line on Figure 19. For @jairbolsonaro (purple), the most substantial network of .42 was between Religion and Actual threats. This is unsurprising as the former President of Brazil uses religious language frequently in his tweets and rhetoric, invoking biblical quotes referencing weapons and armor.

Figure 19

ENA Results RQ3 Part 1



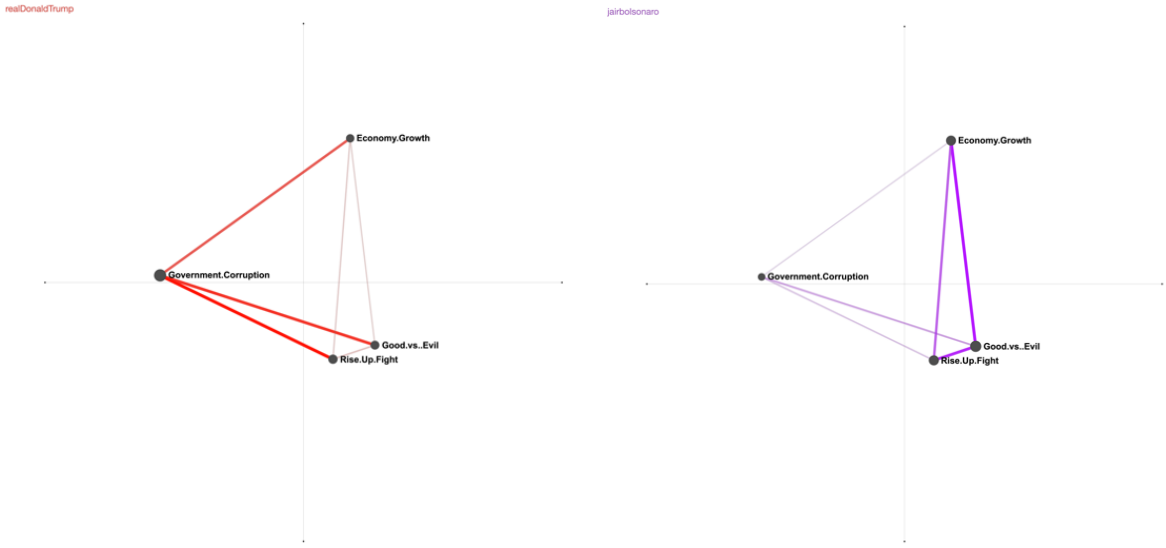
The study, however, was less conclusive for showing threats on behalf of Donald Trump followers, a part of this might be because many of the accounts and hashtags used at the time invoking violence were banned from Twitter after January 6. What is interesting is that several media outlets reported that Twitter was ineffective at managing threats of violence in the January 8 uprising (Dwoskin, 2023; Scott, 2023; Stargardter & Ayres, n.d.). It was reported by Dwoskin (2023) that several of the previously banned terms following the January 6 rising in the United States, like “Stop the Steal,” were being used in Portuguese. Whether Twitter had either failed to remove this ban or unsuccessfully recognized the tweet due to the language variance was not revealed by Twitter; however, further studies should take place.

The similarities between January 6 and 8 are unsurprising; however, understanding the rhetoric leading up to and following by both former Presidents Trump and Bolsonaro is essential in understanding if polarizing language can instigate riots.

The coding seen in Table 8 was applied to 500 of each president's Twitter accounts leading up to the event and two days after using nCoder. The following codes were then uploaded to the ENA web tool for analysis. The model of the former presidents' tweets had co-registration correlations of 1 (Pearson) and 1 (Spearman) for the first dimension and co-registration correlations of 1 (Pearson) and 1 (Spearman) for the second. These measures indicate that there is an intense goodness of fit between the visualization and the original model. The following models seen in Figure 20 were produced using the ENA webtool coding looking at the average @realDonaldTrump and @jairbolonaro tweet accounting for the level of engagement (low, median, and high) with a conversation engaging the sentiment scores using a quintile system (lowest, low, medium, high, highest) with an infinite stanza. The most substantial network for @realDonald Trump was between Government Corruption and Rise up/Fight with a score of .55, while @jairbolsonaro's most substantial network was narrowly Economy/Growth and Good vs. Evil with a score of .52, only just above Good vs. Evil and Rise up/Fight at .51. These networks are engaging, as there is a higher use of non-polarizing discussion in @jairbolsonaro's feed, this is reflective of their average VADER sentiment scores, @jairbolsonaro averaged .159 while @realDonaldTrump average just .070.

Figure 20

Results for RQ3 Engagement Considered



What becomes increasingly concerning is how much the levels of polarization increase among both presidents' tweets when one examines only the highest levels of engagement. For @realDonaldTrump, the highest network connection at the highest engagement was between Government Corruption and Rise up/Fight, with a network score of 1.00 and a score of .87 between Government Corruption and Good vs. Evil (seen in Figures 21 and 22). Similarly, @realjairbolsonaro had the most substantial connection at Good vs. Evil and Rise up/Fight with a score of .94 in Figure 21.

Figure 21

RQ3 Part 2: Highest Engagement @realDonaldTrump

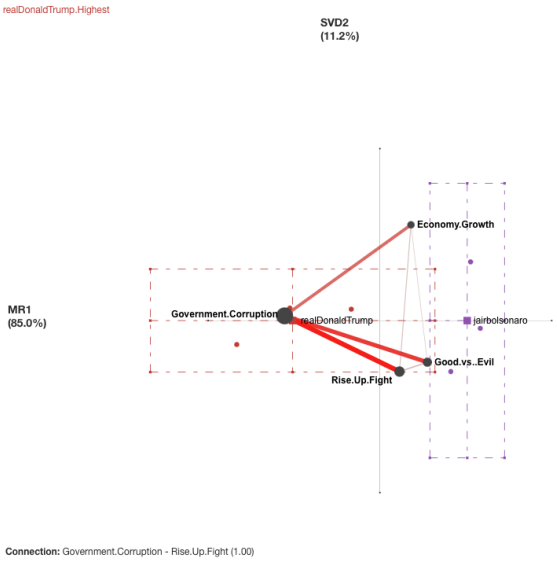
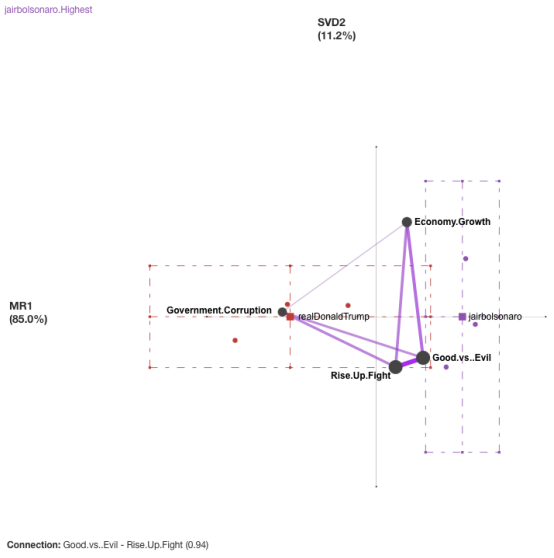


Figure 22

RQ3 Part 2: Highest Engagement @jairBolsonaro



Conclusively it is nearly impossible to say that the rhetoric of both former President Trump and Jair Bolsonaro led to the subsequent insurrections. However, the studies reveal that both used highly inflammatory language in their tweets. While neither

directly asked their followers to attack the capitols, they gave what many followers felt was sufficient validation for attacking the capital. Several insurrections on trial for the January 6 attack cited the tweets from @realDonaldTrump and comments made by the former president at his preceding rally for their call to arms (Dreisbach, 2022; Harton et al., 2022). While these are not enough to preclude guilty verdicts, the Washington D.C. district attorney has filed four criminal charges against him: “conspiracy to defraud the U.S., conspiracy to obstruct an official proceeding, obstruction of an official proceeding, and conspiracy against the rights of the citizen” (Debussman, 2023). Former President Jair Bolsonaro, on the other hand, was yet to be charged with any crimes in Brazil.

Chapter 5: Implications

Summary of Study and Findings

Determining the best approach for studying polarization can be challenging as there are many contrarian viewpoints on polarization in the United States. There are some that believe that America is not polarized, but instead, partisan sorting is causing the illusion of polarization in America (Fiorina et al., 2008). Regardless of these contradictory viewpoints, the research concluded in this study showed that polarization does exist in the context of Members of Congress and their use of Twitter. To more significant concern, the level of vitriol content being created on social media by the MoC, or political elite, can be identified as pernicious polarization, which can only lead to dire consequences, as seen in the January 6 and 8 insurrections (McCoy & Somer, 2019).

This study conjectures that there is an existence of elite polarization that is evident based on the usage of Twitter by many members of Congress. The study used data specifically from Twitter because it is utilized by nearly all the Members of Congress and with nearly 78 million American users (Shepherd, 2023). Creating a study using Epistemic Network Analysis was designed such that the triggers of polarization could be identified in the rhetoric of the specified MoC while creating networks between the types of rhetoric being used (D. W. Shaffer, 2018).

This study chose to look specifically at members of Congress and former Presidents Bolsonaro and Trump to determine if their influence on social media, specifically Twitter, was polarizing and, in specific cases instigating insurrections. By framing the study in three parts, I determined if there was polarizing rhetoric on social media, how effective polarizing rhetoric was in engaging an audience, and if potentially harmful rhetoric could be cause for concern.

Research Question 1

RQ1 asked if the MoC studied were using polarizing language on Twitter. Polarization was defined in two categories Left Polarizing and Right Polarizing. Then a Neutral/Unifying category was added to catch all non-polarizing tweets. The study reviewed tweets by coding them with the nCoder machine learning tool and loading the ENA Webtool after completing the VADER Sentiment analysis (Hutto, 2023; Marquart et al., 2019, 2021).

The results of the ENA study revealed less significant polarization at the center but increased polarization at the extremes when comparing DW-NOMINATE scores to ENA network placement (Lewis et al., 2023; Marquart et al., 2021). This is not out of the

norm as multiple studies have concluded that far right and far left members of Congress, as well as their constituents, had shown increasingly more protective of their partisan identity as well as likely to attack their rivals (Bail et al., 2018; Rathje et al., 2021; Van Bavel et al., 2021).

What was noteworthy, however, was the correlation between the VADER sentiment analysis and the level of polarization determined by the DW-NOMINATE (Lewis et al., 2023). Politicians who were scored as having higher levels of polarization were more likely to use hostile rhetoric. This isn't unanticipated, but the strong linear regressions for both Senators (r2=.96) and Representatives of the House (r2=.96) suggest that VADER sentiment analysis could be a good gauge for monitoring social media content (Hutto, 2023).

Monitoring and regulating content has proven to be challenging and costly for social media companies due to the extensiveness of their user base. This theoretically reveals VADER as an effective tool for monitoring content; ideally, social media companies take it upon themselves to harness the power of AI to be more proactive in protecting its users (Hutto, 2023). This was evident in the instance of the January 8 insurrection in Brazil. One journalist concluded that Telegram, Facebook, and Instagram were all negligent in their recognition of the events as they transpired, even though all the signs indicating an insurrection were actively being posted (Scott, 2023). It appears that AI will offer new avenues to look at social media in real-time and provide insights that might prevent negative actions from occurring.

Research Question 2

RQ2 took it one step further by breaking down the types of rhetoric used to polarize. The categories selected were social, government (often identified as political, for this study, it carries the same meaning), and economic. These tend to be the key concerns when voters make election decisions (Budge et al., 1987). Social concerns for both parties have been hot tokens as debates over the Supreme Court's recent overturn of Roe v. Wade have ignited both parties into heated partisan dialogue (Swers, 2023). In government/political, this code focuses primarily on attacks on the other side, generally when searching through all the Tweets studied, it was more likely for Democratic Members of Congress to mention Trump negatively and Republicans to mention Biden negatively than it was for either party to congratulate/or praise their respective President. The last coded category was economic; for Republicans, this was generally targeted at "Bidenomics" and blaming President Joseph R. Biden for the inflation. Democrats, on the other hand, were expressing their economic woes over acrimonious tweets about the Supreme Court's rejection of Biden's student debt relief and Republicans' lagging in working with Biden.

The categorical breakdown of types of polarizing rhetoric seen on Twitter further provided the additional insights needed to show how political elites leverage affective and pernicious tweets. The ENA web tool study revealed that Twitter was amplifying the voices of the most vitriolic and hostile tweets and rewarding them. The study showed that the most polarizing members of both parties saw much higher engagement than those who were ideologically centrist. This is a piece of familiar information, as Rathje et al. (2021) uncovered this in their respective study; however, what RQ2 reveals is that

politicians are leveraging consistent underlying themes to gain further momentum on social platforms while using hostile rhetoric. Figure 23 breakdown the highest engaging members of Congress in the study; the anticipated members like RepMTG (Rep Greene R-GA) and RepAndyBiggsAZ are seen at the far bottom right, indicating high polarization. However, the distribution for Democrats is not as predictable individually. Figure 24 shows the lowest engaging MoC on Twitter and most of them are in the center upper quadrants signifying more unifying and less polarization. The stark differences between Figures 23 and 24 show how polarizing rhetoric is more powerful in terms of distribution and engagement on Twitter.

Senator John Ossoff, D-GA, a Junior Senator, was categorized as a Far Democrat because his DW-NOMINTE score was one of the ten lowest at -.454. However, he frequently works with Republican Senators (Lewis et al., 2023). Sen. Offsoff, who defeated a Republican incumbent in the 2020 elections, narrowly won in a runoff. Author and Journalist Ezra Klein describes this high level of polarization driving this competitiveness in politics (Klein, 2020, p. 250).

Figure 23

Highest Engaged Sen. & Reps.

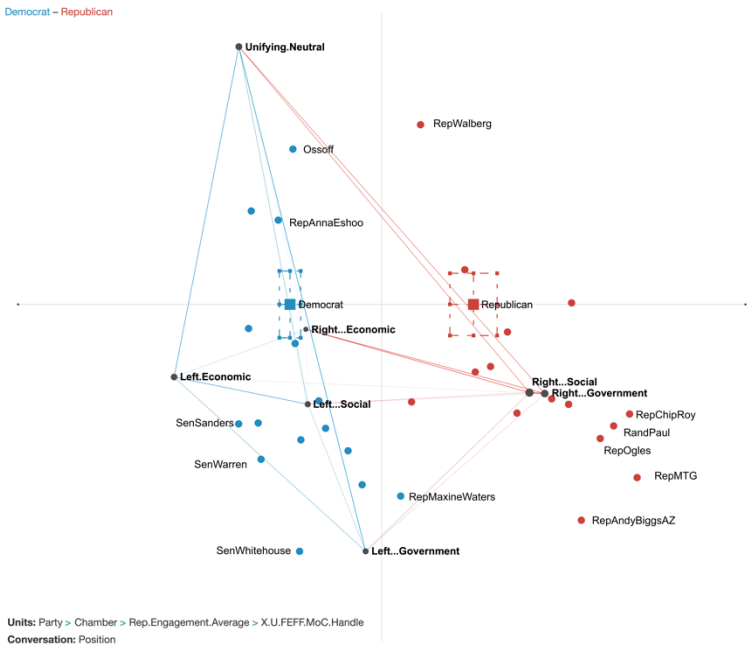
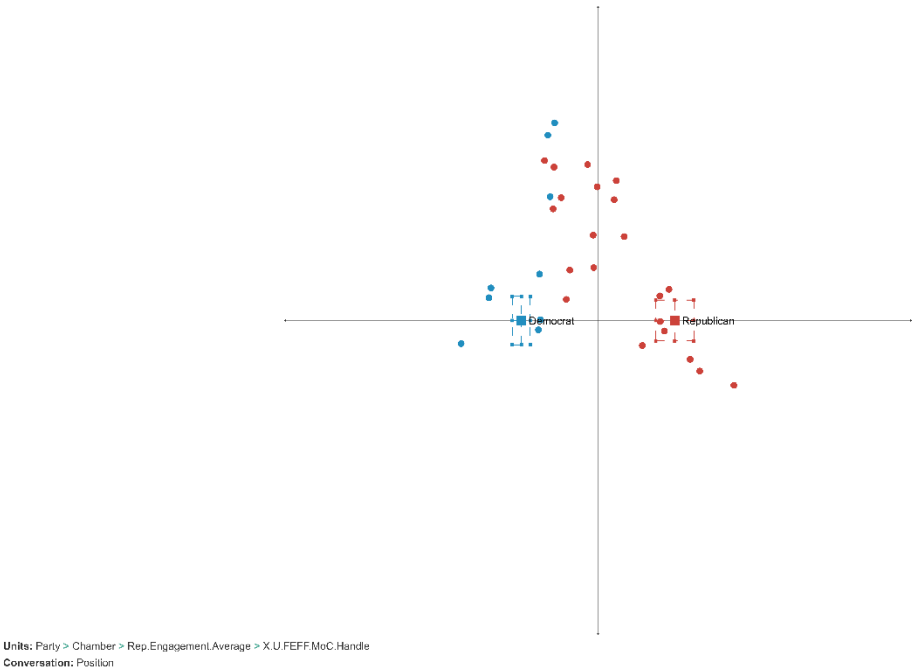


Figure 24

Lowest Engaging Members of Congress

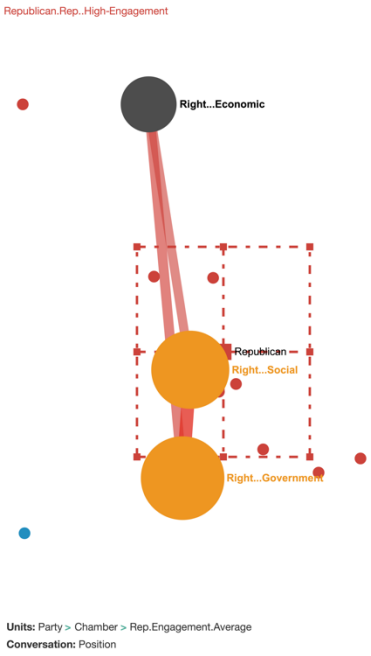


Former President Donald Trump in 2016 had successfully dismantled traditional strategy by becoming a significant outsider with highly charged political views. Democrats, on the other hand, have typically stepped away from propelling outsiders, and much of this is because there is less amount of deviation in the party (Noel, 2016). Comparing DW-NOMINATE scores, the median for the Republican party is .51 while the Democrats are much closer to the center at -.37 (Lewis et al., 2023). The Republican party is generally more divided than the Democratic party, and as a result, there are certainly higher instances of polarization; this is both evident in voting behavior and the rhetoric seen on Twitter. The results of this fractioning have seen an increase in new rifts forming in the Republican Party. First, it was the Tea Party, and now it is the Freedom Caucus (Noel, 2016). The Freedom Caucus has been relatively unsuccessful in security a majority, they have added incredible challenges for Speaker of the House Kevin McCarthy, but overall, they cannot gain leadership at the Presidential level or even the highest party seats (Baer, 2023; Noel, 2016).

While the Freedom Caucasus has been less successful in the elections, RQ2 reveals its success on Twitter, so much so that a shift in Republican ideology seems to be occurring on Twitter. House Freedom Caucasus Members, who have attached themselves to the former President Trump, leveraged much of the xenophobic rhetoric espoused by Trump. With the ENA web tool, an additional study using the RQ2 data set with just the Highest Engaged Republicans and the polarizing codes identified for conservatives/right in Figure 25 (Marquart et al., 2021). The results revealed that Government and Social concerns were the highest tweeted among highly engaged Republicans, with a network score of .72.

Figure 25

Republican High Engagement



Social concerns seen in the codes for Republicans on Table 3 that had high occurrence were "Southern Border," "Child sex trafficking," "Protect Children's innocence," and "religious liberty." Child sex trafficking has been a remarkably dividing term as followers of the QAnon conspiracy have leveraged this narrative as an attack on the Democratic elite (Bleakley, 2023). While it is disheartening the rhetoric being spread by MoC on the right, it is no surprise. One study suggests that QAnon has leveraged hashtags like "Pizzagate," a QAnon theory of child sex abuse among the liberal elite, as a weapon to band extremists together, forming paramilitary groups like the Proud Boys and One Percenters (Bleakley, 2023).

General societal normative beliefs about the Republican Party suggest a party focused on less government and more economic relief (Brandt & Spälti, 2018; Levendusky, 2009). The focus on social issues and government regulation of these

issues reflect much of the conservative ideological narratives of the Trump Republicans' focus on their elite has shifted (Klein, 2020; Levendusky, 2009). Results like this perhaps explain why Representative Margorie Taylor Greene, R-GA, would actively use the term Christian as her first descriptor under her name on her Twitter profile. Viewers of her profile will attach that descriptor to her political identity. Members of Congress are leveraging the Christian identity to further the us vs. them narratives; much of this can be attributed to the birtherism movement created by Trump, who frequently referred to Former President Obama as a Muslim (Klein, 2020). This pernicious polarization creates the strong party loyalty witnessed among Republicans with Donald Trump at the helm (Barber & Pope, 2019). Partisan identity is no longer just political as it is becoming a personal identity, especially for those at the extremes of each party (Iyengar & Westwood, 2015).

Before social media, the ability to openly state one's religious identity and attach it to their political identity required specific channels and airtime from media sources. In the modern world, Twitter has given platforms to Members of Congress who might not have had similar opportunities to be seen nationally. Rep Greene's highly charged rhetoric is easily engageable and enforceable due to social media's ability to allow followers to engage and share (Grover et al., 2019). This clustering of individuals created by social media is mainly responsible for the appearance of more echo chambers online (Cinelli et al., 2021).

Figure 26

Democrat High Engagement

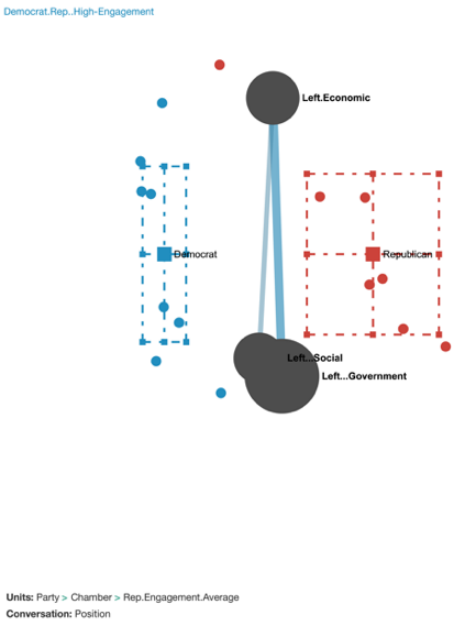


Figure 26 reveals how the perceived norms for Democratic elite, have slightly change and shifted. The Democratic Members of Congress among the highest engaged posts on Twitter, were focused on Economic and Government concerns with a network score of .55 but this is only slight above Government and Social at .52 (See Figure 26). This shift towards economics isn't surprising as the narrative often repeated by Senator Warren D-MA and Sanders I-VT is over student debt relief. One study found that MoC who supported President Biden's Student debt relief plan saw a political benefit and a boost in their potential votes (SoRelle & Laws, 2023). SoRelle & Laws' (2023) survey showed that nearly 72% of respondents supported student debt relief plan, this included 33% who identified as Republican. The study suggest that failed "red wave" in the 2022 midterms indicated significant student voter turnout who supported the student debt relief plan (SoRelle & Laws, 2023).

Research Question 3

For RQ3, the ENA web tool was again used, to evaluate not only former President Trump and Bolsonaro, but also to examine the rhetoric espoused by their followers (Marquart et al., 2021). By adding responses to the former presidents' tweets insights into the engagement and actions of their followers was added validation of the perceived threat of violence made. For example, @realDonaldTrump tweeted "we'll be wild" these famous three words taken in the context of many meant to be there for Donald Trump on January 6th, and help prevent the confirmation of the votes for President Biden (Harton et al., 2022; Trump, 2020).

Additional studies have established that polarization wasn't always occurring at the social level, but predominantly in partisan identity politics manifested by the political elite (Mason, 2015, 2016; J. L. McCoy & Somer, 2021). Mason (2015) suggest that American's are more attached to their political identity than ever and that even though politically that nation is aligned, that identity politics are driving this animosity. The study aimed to show how politically charged rhetoric demonstrating identity politics are frequently leveraged by Members of Congress and other influential individuals on social media. These narratives have had significant consequences and can be linked to events like January 6 and January 8 (Bugs et al., 2023; Harton et al., 2022). There are several other objective reports and academic studies pointing to social media's influence over coups, insurrections, and uprisings there are going to be more should these polarizing individuals continue to produce content freely (Bugs et al., 2023; Dwoskin, 2023; Ribeiro et al., 2017; Scott, 2023; Tønnesson et al., 2022).

The top-down theories of polarization have been linked to several studies mentioned in this paper (Banda & Cluverius, 2018; J. L. McCoy & Somer, 2021). The results of RQ2 and RQ3 provide sufficient evidence to display that there is unquestionably a strong correlation between user engagement on Twitter with elite polarizing rhetoric. RQ2 indicated that when politicians use inflammatory and polarizing rhetoric, their engagement increased considerably. The least engaged members of Congress were those who were closest to the center ideologically and used neutral and unifying terms like “bipartisan” or “come together”.

Part of this can be identified as the user being inclined to participate in the acrimonious dialogue. The MAD model presented by Brady et al. (2022) reveals the propensity of human nature on social media to engage with content that is more likely to instigate than to bring together. However, it is now considered to be common knowledge among these social media giants how powerful the influence of conflict is on social media (Rathje et al., 2021). The question that remains to be answers is: who is to blame for the algorithm ranking polarizing content higher, is it the politician who takes the bait and continues to feed the system or the creator of the system?

The findings from RQ3 revealed that there is cause to believe that the actions taken on social media by former President Trump and former President Bolsonaro had inspired insurrections in both Washington D.C in various ways. While Twitter provided a tool for the rapid dissemination of information, it also became a rallying tool for supporting Bolsonaro and Trump. Groups of insurrectionist were able to mobilize rapidly by using hashtags and sharing the leaders tweets to band together and ultimately lead insurrections (Dwoskin, 2023; Harton et al., 2022). Now deciding whether Bolsonaro,

Trump, or Twitter should be liable to the following actions is arguably a moot point since the decision was made on an individual level by each insurrectionist. This does present a new moral quandary however, one does pass a certain form of responsibility to both the influencer and the one providing the platform, in this case Bolsonaro, Trump, and Twitter.

Political leaders, especially MoC and former Presidents, have responsibility to maintain and protect democratic values in order for healthy democracies to survive. McCoy et al. (2018) demonstrate how Trump's anti-establishment rhetoric help lead his way to victory in the 2016 election. Trump's narrative of being a victim of oppression from the establishment resonates with his followers. They are exhausted by the "establishment" and the messages of distrust of the government that Trump voices is codified in their belief that they are being manipulated (J. L. McCoy & Somer, 2021). Trump has so successfully designed his narrative around distrusting the government, that even with four criminal trials facing him in the advent of the 2024 election, his poll numbers far outpace his fellow Republican candidates (Best et al., 2023).

Implications for Practice and Scholarship

Even though academic Twitter API access has been revoked, it is still going to be imperative for research on tweets to be conducted. This study revealed multiple instances of polarization being amplified by Twitter. The results of such amplification could be attributed to violent uprisings around the world (Bugs et al., 2023; Harton et al., 2022; Tønnesson et al., 2022). The issue of polarization seems mute when looking at the level of harm encountered from events triggered by social media; it creates the necessity for academics, businesses, as well as politicians to take note and begin to

work together to formulate policies and strategies to mitigate any potential future violence. Understanding polarization and how it affects being influenced is essential. However, there is an immediate need to monitor and protect individuals from future harm regardless of the perceived definition of the rhetoric being used by the political elite.

Study Limitations

When this study began, Twitter had open API access to their platform; sadly, in May of 2023, Elon Musk removed this access, forcing academics to either pay an exorbitant fee for legacy data collection or use scraping tools like TwExportly (Calma, 2023; TWExportly, 2023; Twitter, 2023a). While a great tool, TwExportly (2023) can only extract tweets by username and cannot extract comments on specific tweets. This limited the study to reviewing tweets of specific accounts instead of the entire House of Representatives and Senate. Additionally, retrieving legacy comments from the former president's account @realDonaldTrump was challenging because Elon Musk's policies removed the ability for Twitter accounts to see more than a certain number of tweets a day (Calma, 2023). This way, when retrieving comments for @realDonaldTrump's "will be wild," I could only retrieve 56 comments written before the January 6 uprising (Trump, 2020). Comments made after January 6 on that post would not provide insight into the question being asked in the study.

Another limitation is the assumption that the tweets are the true intention of the Members of Congress or the former Presidents. Rouge aids, or even misinterpretations of the tweets, happen regularly on social media. The speed at which people can post and share on social media often means unintended posts can become viral and taken

out of context before an individual can remove the tweet. Politicians are held to a higher standard and must exercise caution when using social media. Former President Donald Trump may not intend to instigate the insurrection in the capitol on January 6; however, as a leader with a highly influential voice, he is entirely responsible for anything he tweets or says.

Defining the origin of the polarization seen on Twitter was one of the aims of this study, and while the study provides some vital insights, there is still much-needed research. There is a myriad of other social platforms that have gained significant momentum. One journalist attributed Telegram to the January 8 uprising in Brazil. In the United States, the use of the platform Parler had potentially a significant impact on the events that took place on January 6 (Dwoskin, 2023, 2023; Harton et al., 2022). While potentially less significant and widespread than Twitter, Truth Social, Gettr, Telegram, and many more might be more important to monitor as they tend to cater to fringe groups with potentially more polarizing and hostile views (Fischer, 2022).

Short-form video is the new format that has taken social media by storm as the platform TikTok has rocketed toward controversial success. A study on adolescent TikTok users in China found that TikTok is addictive and highly influential (Qin et al., 2022). One positive found that it was an effective and rapid way of informing the youth. However, this could have negative consequences (Qin et al., 2022). This study was limited to text-based resources for monitoring and evaluating polarization online; future studies should consider examining narrative dialogue in the short form video social platforms for issues surrounding polarization.

Recommendations for Practice and Future Research

While this study is a comprehensive review of how Members of Congress and former leaders are becoming more polarized in their use of Twitter, the study opens further research into the specifics of the types of polarization. Pernicious polarization is the driving force behind the elite polarization. Members of Congress and former politicians turn to their social media feeds to espouse vitriol dialogue attacking the other side. The study gave insight into Twitter's algorithm's favoritism towards sharing the polarized dialogues mentioned in the coding sets of RQ1, RQ2, and RQ3 and showed how these tweets gained higher views, likes, and shares. However, the study fails to determine if these individuals are the compelling force behind this phenomenon. The MAD model introduces the concept of moral contagion in social media being driven by group identity and social reinforcement. However, additional research is needed to gain further insight into the external consequences of these types of interactions (Brady et al., 2022).

RQ3 does provide some foundation for linking former President Trump and former President Bolsonaro's social media accounts; however, much more needs to be studied in this space as humans are getting more and more of their information from social media. The American Academy of Pediatrics contained a study that revealed that children following specific social media influencers were more likely to change their diets based on influencers' actions (Coates et al., 2019). There is undoubtedly a need for greater insight into this as information on social media is so quickly spread and shared that disinformation has in the past and will continue to elicit serious harm and, in some cases, death (Tønnesson et al., 2022).

I believe that social media companies, specifically Twitter and Facebook, need to continue to their use of flagging content, however, rather than shadow banning it, provide an explanation for why content is being flagged. This would help restore trust in the context of platforms and help users understand potential bias. For example, the World Health Organization (WHO) recommends that Twitter, Facebook, and other social media companies limit certain information regarding COVID-19 on social media (Cosentino, 2023, pp. 21-22). Some of the information recommended to be blocked by the WHO was specifically linking Wuhan to the virus for fear of reprisal against Asian communities around the world (Cosentino, 2023, p. 22). After nearly three years of social media companies blocking information regarding the potential lab leak at the Wuhan Institute, a Senate hearing on March 3rd, 2023, revealed that the lab leak was in fact a potential cause for the COVID-19 epidemic (Committee on Oversight and Accountability, 2023).

As mentioned in the limitation, further research into the new social media platforms like Telegram, Truth Social, and Gettr should be done to understand how these new platforms might create or inhibit pernicious polarization. The study is also limited to the United States and briefly looks at Brazil and former President Jair Bolsonaro's failed attempt at reelection. Populist leaders have run successful campaigns around the world and have leveraged social media to their advantage. Understanding what about social media is attractive to the populist follower is highly important. While many might assume it is echo chambers that power the campaign of former President Donald Trump, the reality is it his ability to operate outside of that vacuum and create a co-evolved media strategy has enabled him to defy conventional

political strategies (Postill, 2018). Hitler and the Nazi party were able to defy the establishment's role in what was traditional media at the time by leveraging radio broadcasts in the 1930s and gaining tremendous power through a newly invented media format (Adena et al., 2015).

Closing Comments

While many are turning to the government for regulation of social media companies, the challenges are massive as government regulation moves at a much slower pace than technology. For example, it took the world wide web seven years to reach 100 million users, TikTok nine months, ChatGPT two months, and Threads hit this milestone in just five days (granted it leveraged ownership of the existing platform Instagram to migrate its followers; Rao, 2023). If platforms like Instagram (owned by Meta) start getting regulated, the laws applying to them could influence their decision to spin off new apps that might be immune from the legislation. Meta's creation of Threads was a response to the growing frustrations of Twitter users, as Elon Musk's takeover has brought some drastic unfavorable changes (Conger & Frenkle, 2022; Rao, 2023). This brings a challenge for both regulators and business owners when deciding who is responsible for managing content created on social media. The answer is still unclear; as mentioned earlier, Section 230 has provided many companies with significant leeway regarding the content created and posted on their respective platforms (Cramer, 2020, p. 230; D.O.J., n.d.). This needs to change as there clearly is an influence created by the platform’s use of their proprietary algorithms as certain content, is given favoritism, as noted by the results of RQ2: Figure 15.

Former President Donald Trump, in a social media post, had called out Congress for their inability to make significant changes to Section 230 and even signed an executive order in the past to try and block it (which failed in court) (Siripurapu, 2020). Politicians in Utah and Arkansas have passed regulations in their own state legislatures targeted at social media with the intention of protecting children. However, some believe the law's creators intended to harm young adolescents by forcing them to share their private profiles with their parents (Murphy, 2023). Additionally, there are cases in Texas and Florida heading toward the Supreme Court that are suing Meta (Facebook), Twitter, and Alphabet (Google) for blocking first amendment rights (Chung, 2023). These lawsuits are controversial as they target social companies for blocking information being shared on the platforms. The COVID-19 Epidemic put more pressure on social media companies to be monitoring their content than ever before for fear of misinformation being tied back to their platform (Gisondi et al., 2022). This pressure revealed the weakness of social platforms and uncovered their inability to protect their users from misinformation (Gisondi et al., 2022). Reiterating the Simon et al. (2020) study revealed that while only 20% of the misinformation regarding COVID-19 was created by top-down misinformation (politicians, celebrities, and public figures), it accounts for 69% of the total social engagement. This study reveals that, like COVID-19, the most inflammatory and polarizing politicians are typically the most shared on Twitter. The problem is that these politicians rarely offer solutions that provide sustainable options for societies in general.

As of August 29th, 2023, US Special Operations and Command (USSOCCOM) entered an agreement with AI technology company Accrete to use their software

Argus™ to work on detecting disinformation in real time (Accrete, Inc., 2023). The intention of USSCOM use of Argus™ is to protect the American public from disinformation campaigns from foreign actors, however, some speculate that this might be more problematic as there is a potential for misuse and increase censoring limiting free speech (US Special Operations Command Will Deploy., 2023). I believe while AI should be used for monitoring and detecting mis/disinformation it ultimately should provide an interstitial, or warning that the content is potentially false and provide reasonings for the platform's decision to create the warning. This way free speech is protected, and consumer trust can be reestablished in the long term with social media platforms.

The biggest problem America and the world are facing today is that elite polarization (specifically when it is pernicious) is creating pressure for partisan identity that extends beyond political life and into personal life (Barber & Pope, 2019; Klein, 2020; J. L. McCoy & Somer, 2021; Noel, 2016). When I was a child, I was told that it was rude to ask someone you voted for; society generally regarded this as private information. Apart from that might have been my upper-middle-class upbringing in an outwardly liberal community but secretly highly conservative fiscally. The conventions of keeping personal voting behavior private changed after the 2000 elections when Bush defeated Al Gore. What was surprising was that while Gore won the popular vote, he did it with less than 700 counties; Hillary Clinton in 2016 won the popular vote but lost the electoral college with less than 500 counties (more than 1000 counties less than Bill Clinton had won with few votes in 1990; Klein, 2020, p. 66).

The urban-rural divide narrative has long since been a part of party politics and is extending into daily life more and more as social media has empowered individuals to connect in echo chambers (Sasahara et al., 2021). While social media has the ability to connect users from across the globe, the tendency of users, albeit a function of human nature as well as the respective platform, is one where the user engages in homophily and strengthens personal confirmation bias (Sasahara et al., 2021). This trend toward homophily and echo chambers is a result of human nature as well as the idea of political acrophily, the tendency of individuals to associate with others who also share extreme political views (Goldenberg et al., 2023). This acrophily, as described by Goldenberg et al. (2023), drives the partisan sorting that is dividing Americans. The famous Pauline Kael's quote about not knowing anyone who voted for Nixon is most likely the case for people who voted for opponents of other highly liberal or conservative candidates (Brandt & Spälti, 2018). Brown & Enos (2021) study revealed that partisan isolation is distinct from even racial and ethnic segregation and extends across all of the United States. This separation creates and enables the acrophily encountered in the. Twitter feeds I studied extend into the media (Goldenberg et al., 2023).

How did Americans and possibly the world i.e. Hungry, Turkey, Brazil, and Venezuela become so acrimonious and unharmonized (McCoy et al., 2021)? Social media has provided a platform for both hate and love, and sadly these platforms make more money over acrimonious dialogue than shared pictures of grandchildren (Rathje et al., 2021; Riemer & Peter, 2021). Riemer & Peter (2021) define algorithmic audiencing as a tool created by social platforms to generate feeds that produce profits over free speech. Part of this audiencing can be attributed to the acrophily witnessed in Brazil and

the United States. If the least shared members of Congress had the same views as @realDonaldTrump, would January 6 have occurred? There is no way to answer this with certainty, as some believe that cross-party exposure increases polarization (Bail et al., 2018).

The ultimate problem this dissertation seeks to address is preventing pernicious social media rhetoric from turning into violent uprisings. Many parties share responsibility regarding what happened on January 6 and January 8. Political elites, Members of Congress, politicians, and world leaders can influence and espouse rhetoric on social platforms to a like that has never been seen before in history. The speed and virality at which one can disseminate messages to the world becomes greater daily. Fixing this problem requires many different parties to work together to provide a solution that prevents further harm to individuals.

I argue that all parties involved have a responsibility to preserve democracy and reduce hard. Platforms like Twitter, Facebook, TikTok, and many others are going to be tasked with even more significant challenges of monitoring content as AI has given rise to the deep fake. This technology is particularly worrisome as individuals will have difficulty discerning between reality and fiction. Political leaders, politicians, and influencers are also responsible for maintaining a moral high ground. Their ability to transform their followers into insurrectionists is concerning. In the end, however, it is the responsibility of the individual to learn and be mindful of the ideological minefield the world has become. Individuals like Alex Jones create and reiterate narratives like lizard people to purposely dehumanize his opponents (Van den Bulck & Hyzen, 2020). This dehumanization is dangerous as individuals believe that compromise is impossible. The

reality is that Republicans, Democrats, or whatever one might identify as, generally, all have identical needs (food, water, shelter). Insinuating calls for violence or leveraging pernicious polarization damages the democratic values outlined in the United States Constitution. Politicians must come together and resist the urge to buy into the human desire for moral contagion (Brady, et al., 2022) and seek to work with their opponents rather than alienating them.

REFERENCES

Abramowitz, A. (2008). Don't Blame Primary Voters for Polarization. *The Forum*, *5*(4). https://doi.org/10.2202/1540-8884.1210

Abramowitz, A. I. (2010). *The disappearing center Engaged citizens polarization and American democracy*. Yale University Press. https://www-jstor-org.lib.pepperdine.edu/stable/j.ctt1njms8

Abramson, P. R., & Aldrich, J. H. (1982). The Decline of Electoral Participation in America. *The American Political Science Review*, *76*(3), 502–521. https://doi.org/10.2307/1963728

Accrete, Inc. (2023, August 29). *U.S. Special Operations Command (USSOCOM) awards Accrete contract for AI agent Argus to detect disinformation threats from social media*. RSS. https://www.accrete.ai/news/u-s-special-operations-command-ussocom-awards-accrete-contract-for-ai-agent-argus-to-combat-ai-generated-disinformation-threats-from-social-media

Adena, M., Enikolopov, R., Petrova, M., Santarosa, V., & Zhuravskaya, E. (2015). Radio and the Rise of The Nazis in Prewar Germany *. *The Quarterly Journal of Economics*, *130*(4), 1885–1939. https://doi.org/10.1093/qje/qjv030

Akinwotu, E. (2021, October 7). *Facebook's role in Myanmar and Ethiopia under new scrutiny*. The Guardian. https://www.theguardian.com/technology/2021/oct/07/facebooks-role-in-myanmar-and-ethiopia-under-new-scrutiny

Allcott, H., Gentzkow, M., & Yu, C. (2019). Trends in the Diffusion of Misinformation on Social Media (Working Paper 25500). *National Bureau of Economic Research*. https://doi.org/10.3386/w25500

Andrist, S., Collier, W., Gleicher, M., Mutlu, B., & Shaffer, D. (2015). Look together: Analyzing gaze coordination with epistemic network analysis. *Frontiers in Psychology*, *6*, 1016. https://doi.org/10.3389/fpsyg.2015.01016

Associated Press. (2021, November 16). *Wyoming Republican party stops recognizing Liz Cheney as member.* The Guardian. https://www.theguardian.com/us-news/2021/nov/15/liz-cheney-wyoming-republican-party-trump

Atad, E., Lev-On, A., & Yavetz, G. (2023). Diplomacy under fire: Engagement with governmental versus non-governmental messages on social media during armed conflicts. *Government Information Quarterly*. https://doi.org/10.1016/j.giq.2023.101835

B. Joyce & J. Deng. (2017). Sentiment analysis of tweets for the 2016 US presidential election. *2017 IEEE MIT Undergraduate Research Technology Conference (URTC)*, 1–4. https://doi.org/10.1109/URTC.2017.8284176

Baer, E. (2023). The House Freedom Caucus, Kevin McCarthy's Race for Speaker, and the Fate of Rules Reform in the 118th Congress. *The Forum*, *21*(2), 163–191. https://doi.org/10.1515/for-2023-2013

Bahrami, M., Findik, Y., Bozkaya, B., & Balcisoy, S. (2018). Twitter Reveals: Using Twitter Analytics to Predict Public Protests. *ArXiv*. https://www.semanticscholar.org/paper/Twitter-Reveals%3A-Using-Twitter-

Analytics-to-Predict-Bahrami-Findik/a7dfd87a842f8a6b2ce9f54242bafa592488e951

Bail, C. A., Argyle, L. P., Brown, T. W., Bumpus, J. P., Chen, H., Hunzaker, M. B. F., Lee, J., Mann., M., Merhout, F., & Volfovsky, A. (2018). Exposure to opposing views on social media can increase political polarization. *Proceedings of the National Academy of Sciences of the United States of America*, *115*(37), 9216–9221.

Ballard, A. O., DeTamble, R., Dorsey, S., Heseltine, M., & Johnson, M. (2023). Dynamics of Polarizing Rhetoric in Congressional Tweets. *Legislative Studies Quarterly*, *48*(1), 105–144. https://doi.org/10.1111/lsq.12374

Banda, K. K., & Cluverius, J. (2018). Elite polarization, party extremity, and affective polarization. *Electoral Studies*, *56*, 90–101. https://doi.org/10.1016/j.electstud.2018.09.009

Banks, A., Calvo, E., Karol, D., & Telhami, S. (2021). #PolarizedFeeds: Three Experiments on Polarization, Framing, and Social Media. *The International Journal of Press/Politics*, *26*(3), 609–634. https://doi.org/10.1177/1940161220940964

Barber, M., & Pope, J. C. (2019). Does Party Trump Ideology? Disentangling Party and Ideology in America. *American Political Science Review*, *113*(1), 38–54. https://doi.org/10.1017/S0003055418000795

Barberá, P., Jost, J. T., Nagler, J., Tucker, J. A., & Bonneau, R. (2015). Tweeting From Left to Right: Is Online Political Communication More Than an Echo Chamber? *Psychological Science*, *26*(10), 1531–1542. https://doi.org/10.1177/0956797615594620

Baumann, F., Lorenz-Spreen, P., Sokolov, I. M., & Starnini, M. (2020). Modeling Echo Chambers and Polarization Dynamics in Social Networks. *Physical Review Letters*, *124*(4). https://doi.org/10.1103/PhysRevLett.124.048301

Bell, E. (2016, 63). *Facebook is eating the world*. Columbia Journalism Review. https://www.cjr.org/analysis/facebook_and_media.php

Bessi, A. (2016). Personality traits and echo chambers on facebook. *Computers in Human Behavior*, *65*, 319–324. https://doi.org/10.1016/j.chb.2016.08.016

Bessi, A., Zollo, F., Del Vicario, M., Puliga, M., Scala, A., Caldarelli, G., Uzzi, B., Quattrociocchi, W., & Preis, T. (2016). Users Polarization on Facebook and Youtube. *PLOS ONE*, *11*(8). https://doi.org/10.1371/journal.pone.0159641

Best, R., Bycoffee, A., Fuong, H., & Groskoph, C. (2023, September 18). National: President: Republican primary: 2024 Polls. FiveThirtyEight. https://projects.fivethirtyeight.com/polls/

Bleakley, P. (2023). Panic, pizza and mainstreaming the alt-right: A social media analysis of Pizzagate and the rise of the QAnon conspiracy. *Current Sociology*, *71*(3), 509–525. https://doi.org/10.1177/00113921211034896

Boddington, Paula. (2017). Towards a code of ethics for artificial intelligence (1–1 online resource. *Springer*; WorldCat.org, 17-20. https://doi.org/10.1007/978-3-319-60648-4

Bolsonaro, J. (2022, October 30). [Tweet]. https://twitter.com/jairbolsonaro/status/1586553183584780289

Bowman, D., Swiecki, Z., Cai, Z., Wang, Y., Eagan, B., Linderoth, J., & Shaffer, D. W. (2021). The Mathematical Foundations of Epistemic Network Analysis. In A. R.

Ruis & S. B. Lee (Eds.), *Advances in Quantitative Ethnography* (pp. 91–105). Springer International Publishing. https://doi.org/10.1007/978-3-030-67788-6_7

Brady, W. J., Crockett, M. J., & Van Bavel, J. J. (2022). The MAD Model of Moral Contagion: The Role of Motivation, Attention, and Design in the Spread of Moralized Content Online. *Perspect Psychol Sci*, *15*(4), 978–1010. https://doi.org/10.1177/1745691620917336

Brady, W. J., Wills, J. A., Jost, J. T., Tucker, J. A., & Van Bavel, J. J. (2017). Emotion shapes the diffusion of moralized content in social networks. *Proceedings of the National Academy of Sciences*, *114*(28), 7313–7318. https://doi.org/10.1073/pnas.1618923114

Brandt, M. J., & Spälti, A. K. (2018). Norms and explanations in social and political psychology. *The Politics of Social Psychology*, 26–43.

Branscombe, N., Ellemers, N., Spears, R., & Doosje, E. (1999). The context and content of social identity threat. *Sepsis*, 35–55.

Brown, J. R., & Enos, R. D. (2021). The measurement of partisan sorting for 180 million voters. *Nature Human Behaviour*, *5*(8), 998–1008. https://doi.org/10.1038/s41562-021-01066-z

Brückner, S., Schneider, J., Zlatkin-Troitschanskaia, O., & Drachsler, H. (2020). Epistemic Network Analyses of Economics Students' Graph Understanding: An Eye-Tracking Study. *Sensors*, *20*(23), Article 23. https://doi.org/10.3390/s20236908

Budenz, A., Purtle, J., Klassen, A., Yom-Tov, E., Yudell, M., & Massey, P. (2019). The case of a mass shooting and violence-related mental illness stigma on Twitter. *Stigma and Health*, *4*, 411–420. https://doi.org/10.1037/sah0000155

Buder, J., Rabl, L., Feiks, M., Badermann, M., & Zurstiege, G. (2021). Does negatively toned language use on social media lead to attitude polarization? *Computers in Human Behavior*, *116*.

Budge, I., Robertson, D., & Hearl, D. (1987). *Ideology, Strategy and Party Change: Spatial Analyses of Post-War Election Programmes in 19 Democracies*. Cambridge University Press.

Bugs, G. T., de Araujo, A. S., Saez-Trumper, D., & Firmino, R. (2023). Mapping Political Extremism on Twitter in Brazil. In O. Gervasi, B. Murgante, A. M. A. C. Rocha, C. Garau, F. Scorza, Y. Karaca, & C. M. Torre (Eds.), *Computational Science and Its Applications – ICCSA 2023 Workshops* (pp. 439–454). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-37114-1_30

Calma, J. (2023, May 31). Scientists say they can't rely on Twitter anymore. *The Verge*. https://www.theverge.com/2023/5/31/23739084/twitter-elon-musk-api-policy-chilling-academic-research

Campbell, J. (2018). Polarized: Making sense of a divided America. *Princeton University Press* (p. 40-41).

Campbell, J. E. (2005). Why Bush Won the Presidential Election of 2004: Incumbency, Ideology, Terrorism, and Turnout. *Political Science Quarterly*, *120*(2), 219–241.

Capitol Breach Cases. (2021, February 4). United States Department of Justic. https://www.justice.gov/usao-dc/capitol-breach-cases

Carmines, E. G., & Stimson, J. A. (1989). Issue evolution: Race and the transformation of American politics (1–1 online resource (xvii, 217 p.)). *Princeton University Press*; WorldCat.org. http://public.eblib.com/choice/PublicFullRecord.aspx?p=6273583

Carothers, T. 1956-, & O'Donohue, A. (2019). Democracies divided: The global challenge of political polarization (1–1 online resource (vi, 311 pages)). *Brookings Institution Press;* WorldCat.org. https://search.ebscohost.com/login.aspx?direct=true&scope=site&db=nlebk&db=nlabk&AN=2087801

Chen, G. M. (2011). Tweet this: A uses and gratifications perspective on how active Twitter use gratifies a need to connect with others. *Computers in Human Behavior, 27(2)*, 755–762. https://doi.org/10.1016/j.chb.2010.10.023

Chung, A. (2023, August 15). Biden administration tells US Supreme Court to review social media laws. *Reuters*. https://www.reuters.com/world/us/biden-administration-tells-us-supreme-court-review-social-media-laws-2023-08-14/

Cinelli, M., De Francisci Morales, G., Galeazzi, A., Quattrociocchi, W., & Starnini, M. (2021). The echo chamber effect on social media. *Proceedings of the National Academy of Sciences*, *118*(9). https://doi.org/10.1073/pnas.2023301118

Coates, A. E., Hardman, C. A., Halford, J. C. G., Christiansen, P., & Boyland, E. J. (2019). Social Media Influencer Marketing and Children's Food Intake: A Randomized Trial. *Pediatrics*, *143*(4). https://doi.org/10.1542/peds.2018-2554

Cohen, S. B. (2019, November 22). *ADL's Never Is Now 2019 | ADL International Leadership Award Presented to Sacha Baron Cohen—YouTube*. https://www.youtube.com/watch?v=ymaWq5yZIYM

Committee on Oversight and Accountability (2023, March 8). COVID Origins Hearing Wrap Up: Facts, Science, Evidence Point to a Wuhan Lab Leak. Retrieved September 7, 2023, from https://oversight.house.gov/release/covid-origins-hearing-wrap-up-facts-science-evidence-point-to-a-wuhan-lab-leak%EF%BF%BC/

Conger, K., & Frenkle, S. (2022, December 2). Hate Speech's Rise on Twitter Under Elon Musk Is Unprecedented, Researchers Find. *The New York Times*. https://www.nytimes.com/2022/12/02/technology/twitter-hate-speech.html

Conger, K., Isaac, M., & Frenkel, S. (2021, January 6). Twitter and Facebook Lock Trump's Accounts After Violence on Capitol Hill. *The New York Times*. https://www.nytimes.com/2021/01/06/technology/capitol-twitter-facebook-trump.html

Coscia, M., & Rossi, L. (2022). How minimizing conflicts could lead to polarization on social media: An agent-based model investigation. *PloS One*, *17*(1). https://doi.org/10.1371/journal.pone.0263184

Cosentino, G. (2023). The Infodemic: Disinformation, Geopolitics and the Covid-19 Pandemic. Bloomsbury Publishing.

Cramer, B. W. (2020). From Liability to Accountability: The Ethics of Citing Section 230 to Avoid the Obligations of Running a Social Media Platform. *Journal of Information Policy*, *10*, 123–150. https://doi.org/10.5325/jinfopoli.10.2020.0123

Creswell, J. W., & Poth, C. N. (2016). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. Sage Publications.

Crouch, J., & Rozell, M. J. (2014). The Media's Impact on Perceptions of Political Polarization. In *The Handbook of Media and Mass Communication Theory* (pp. 287–300). John Wiley & Sons, Ltd. https://doi.org/10.1002/9781118591178.ch16

D'Angelo, A.-L. D., Ruis, A. R., Collier, W., Shaffer, D. W., & Pugh, C. M. (2020). Evaluating how residents talk and what it means for surgical performance in the simulation lab. *American Journal of Surgery*, *220*(1), 37–43. https://doi.org/10.1016/j.amjsurg.2020.02.016

Debussman, B. (2023, August 3). *Donald Trump pleads not guilty to election charges in latest arraignment.* BBC News. https://www.bbc.com/news/world-us-canada-66400315

U.S. Department of Justice. *Review of Section 230 of the Communications Decency Act of 1996*. (n.d.). https://www.justice.gov/archives/ag/department-justice-s-review-section-230-communications-decency-act-1996

Desilver, D. (2022). *The polarization in today's Congress has roots that go back decades*. https://www.pewresearch.org/short-reads/2022/03/10/the-polarization-in-todays-congress-has-roots-that-go-back-decades/

Diermeier, D., & Li, C. (2019). Partisan Affect and Elite Polarization. *American Political Science Review*, *113*(1), 277–281. https://doi.org/10.1017/S0003055418000655

Dreisbach, T. (2022, July 13). *How Trump's "will be wild!" tweet drew rioters to the Capitol on Jan. 6.* NPR. https://www.npr.org/2022/07/13/1111341161/how-trumps-will-be-wild-tweet-drew-rioters-to-the-capitol-on-jan-6

Druckman, J. N., Klar, S., Krupnikov, Y., Levendusky, M., & Ryan, J. B. (2021). Affective polarization, local contexts and public opinion in America. *Nature Human Behaviour*, *5*(1), Article 1. https://doi.org/10.1038/s41562-020-01012-5

Drus, Z., & Khalid, H. (2019). Sentiment Analysis in Social Media and Its Application: Systematic Literature Review. *Procedia Computer Science*, *161*, 707–714. https://doi.org/10.1016/j.procs.2019.11.174

Drutman, L. (2019, September 24). *The Moderate Middle Is A Myth*. FiveThirtyEight. https://fivethirtyeight.com/features/the-moderate-middle-is-a-myth/

Dubois, E., & Blank, G. (2018). The echo chamber is overstated: The moderating effect of political interest and diverse media. *Information, Communication & Society*, *21*(5), 729–745. https://doi.org/10.1080/1369118X.2018.1428656

Dubovi, I., & Tabak, I. (2021). Interactions between emotional and cognitive engagement with science on YouTube. *Public Understanding of Science* Vol. 30, Issue 6, pp. 759-776. https://doi.org/10.1177/0963662521990848

Duggan, M., & Smith, A. (2016, October 25). *The Political Environment on Social Media.* Pew Research Center: Internet, Science & Tech. https://www.pewresearch.org/internet/2016/10/25/the-political-environment-on-social-media/

Dwoskin, E. (2023, January 10). *Come to the 'war cry party': How social media helped drive mayhem in Brazil*. Washington Post. https://www.washingtonpost.com/technology/2023/01/08/brazil-bolsanaro-twitter-facebook/

Elbagir, S., & Yang, J. (2019). Sentiment Analysis on Twitter with Python's Natural Language Toolkit and VADER Sentiment Analyzer. In *IAENG Transactions on Engineering Sciences* (pp. 63–80). World Scientific. https://doi.org/10.1142/9789811215094_0005

Elon Musk [@elonmusk]. (2022, November 20). *The people have spoken. Trump will be reinstated. Vox Populi, Vox Dei.* [Tweet]. Twitter. https://twitter.com/elonmusk/status/1594131768298315777

Estepa, J. (2018, May 31). *Covfefe, one year later: How a late-night Trump tweet turned into a phenomenon*. USA TODAY. https://www.usatoday.com/story/news/politics/onpolitics/2018/05/31/covfefe-one-year-anniverary-donald-trumps-confusing-tweet/659414002/

Everett, B., Allison, N., & Levine, M. (2022, November 11). *'They completely f--ked up': How the GOP lost its grip on the Senate majority*. POLITICO. https://www.politico.com/news/2022/11/11/republicans-senate-majority-00066009

Fair, L. (2019). *FTC's $5 billion Facebook settlement: Record-breaking and history-making* (Vol. 2020, Issue Jun 4,). https://www.ftc.gov/news-events/blogs/business-blog/2019/07/ftcs-5-billion-facebook-settlement-record-breaking-history

Fiorina, M. P., Abrams, S. A., & Pope, J. C. (2008). Polarization in the American Public: Misconceptions and Misreadings. *The Journal of Politics*, *70*(2), 556–560. JSTOR. https://doi.org/10.1017/s002238160808050x

Fischer, S. (2022, October 18). *Rich conservatives fund new media universe*. Axios. https://www.axios.com/2022/10/18/conservatives-social-media-kanye-elon-musk

Flaxman, S., Goel, S., & Rao, J. M. (2016). Filter Bubbles, Echo Chambers, and Online News Consumption. *Public Opinion Quarterly*, *80*(S1), 298–320. https://doi.org/10.1093/poq/nfw006

Garen J. Wintemute, Sonia Robinson, Andrew Crawford, Julia P. Schleimer, Amy Barnhorst, Vicka Chaplin, Daniel Tancredi, Elizabeth A. Tomsich, & Veronica A. Pear. (2022). Views of American Democracy and Society and Support for Political Violence: First Report from a Nationwide Population-Representative Survey. *MedRxiv*. https://doi.org/10.1101/2022.07.15.22277693

Garson, J. (2023). *How to analyze the sentiment of your own Tweets* [Jupyter Notebook]. @TwitterDev. https://github.com/twitterdev/weekly-tweet-sentiment (Original work published 2020)

Garson, J. (2020, June 18). *How to analyze the sentiment of your own tweets*. https://developer.twitter.com/en/blog/community/2020/how-to-analyze-the-sentiment-of-your-own-tweets

Garvey, J. H. (1979). Children and the First Amendment. *Texas Law Review*, *57*.

Geiger, A. (2014, June 12). *Political Polarization in the American Public.* Pew Research Center - U.S. Politics & Policy. https://www.pewresearch.org/politics/2014/06/12/political-polarization-in-the-american-public/

Geiger, A. (2016, June 22). *Partisanship and Political Animosity in 2016.* Pew Research Center - U.S. Politics & Policy. https://www.pewresearch.org/politics/2016/06/22/partisanship-and-political-animosity-in-2016/

Ghaffary, S. (2023, March 23). *Why advertisers aren't coming back to Twitter*. Vox. https://www.vox.com/technology/2023/3/23/23651151/twitter-advertisers-elon-musk-brands-revenue-fleeing

Gisondi, M. A., Barber, R., Faust, J. S., Raja, A., Strehlow, M. C., Westafer, L. M., & Gottlieb, M. (2022). A Deadly Infodemic: Social Media and the Power of COVID-19 Misinformation. *Journal of Medical Internet Research*, *24*(2), e35552. https://doi.org/10.2196/35552

Golbeck, J., Grimes, J. M., & Rogers, A. (2010). Twitter use by the U.S. Congress. *Journal of the American Society for Information Science and Technology*, *61*(8), 1612–1621. https://doi.org/10.1002/asi.21344

Goldenberg, A., Abruzzo, J. M., Huang, Z., Schöne, J., Bailey, D., Willer, R., Halperin, E., & Gross, J. J. (2023). Homophily and acrophily as drivers of political segregation. *Nature Human Behaviour*, *7*(2), 219–230. https://doi.org/10.1038/s41562-022-01474-9

Goldman, E. (2018). *An Overview of the United States' Section 230 Internet Immunity* (SSRN Scholarly Paper 3306737). https://doi.org/10.2139/ssrn.3306737

Google Translate. (n.d.). Retrieved August 16, 2023, from https://translate.google.com/

Green, D. P., Palmquist, B., & Schickler, E. (2004). *Partisan Hearts and Minds: Political Parties and the Social Identities of Voters*. Yale University Press.

Green, D., Palmquist, B., & Shickler, E. (2004). *Partisan Hearts and Minds*. Yale University Press. https://yalebooks.yale.edu/9780300101560/partisan-hearts-and-minds

Greve, J. E., & Gambino, L. (2023, January 7). *Kevin McCarthy wins House speaker bid after gruelling 15-vote saga*. The Observer. https://www.theguardian.com/us-news/2023/jan/06/kevin-mccarthy-republican-wins-house-speaker

Grisales, C., & Swartz, K. (2023, March 7). *Despite McConnell's rebuke, McCarthy defends Jan. 6 tape release to Fox News.* NPR. https://www.npr.org/2023/03/07/1161686255/fox-tucker-carlson-jan-6-security-tapes-mcconnell-manger

Grover, P., Kar, A. K., Dwivedi, Y. K., & Janssen, M. (2019). Polarization and acculturation in US Election 2016 outcomes – Can twitter analytics predict changes in voting preferences. *Technological Forecasting and Social Change*, *145*, 438–460. https://doi.org/10.1016/j.techfore.2018.09.009

Guynn, J. (2020, October 28). *Jack Dorsey testifies that Twitter does not have the ability to influence elections during Senate hearing*. USA TODAY. https://www.usatoday.com/story/tech/2020/10/28/twitter-ceo-jack-dorsey-twitter-does-not-influence-elections/6059951002/

Haidt, J. (2022, April 11). *Why the Past 10 Years of American Life Have Been Uniquely Stupid.* The Atlantic. https://www.theatlantic.com/magazine/archive/2022/05/social-media-democracy-trust-babel/629369/

Hallgren, K. A. (2012). Computing Inter-Rater Reliability for Observational Data: An Overview and Tutorial. *Tutorials in Quantitative Methods for Psychology*, *8*(1), 23–34.

Hamilton, E., & Hobbs, W. (2021). Epistemic Frames and Political Discourse Modeling. In A. R. Ruis & S. B. Lee (Eds.), *Advances in Quantitative Ethnography* (pp. 32–46). Springer International Publishing. https://doi.org/10.1007/978-3-030-67788-6_3

Hare, C., & Poole, K. T. (2014). The Polarization of Contemporary American Politics. *Polity*, *46*(3), 411–429. JSTOR.

Harknik, A. (2022, December 19). *Four Jan. 6 committee members won't return to Congress in 2023*. NBC News. https://www.nbcnews.com/meet-the-press/meetthepressblog/four-jan-6-committee-members-wont-return-congress-2023-rcna62385

Hart, P. S., Chinn, S., & Soroka, S. (2020). Politicization and Polarization in COVID-19 News Coverage. *Science Communication*, *42*(5), 679–697. https://doi.org/10.1177/1075547020950735

Harton, H. C., Gunderson, M., & Bourgeois, M. J. (2022). "I'll be there with you": Social influence and cultural emergence at the capitol on January 6. *Group Dynamics: Theory, Research, and Practice*, *26*, 220–238. https://doi.org/10.1037/gdn0000185

Harvard IOP Youth Survey. (2022, October 27). Fall 2022 Harvard Youth Poll. The Institute of Politics at Harvard University. https://iop.harvard.edu/fall-2022-harvard-youth-poll.

Hawkins, A. J. (2023, May 15). *Elon Musk is stuck with his "Twitter sitter" after court rejects bid to toss SEC settlement*. The Verge.

https://www.theverge.com/2023/5/15/23723969/elon-musk-twitter-sitter-sec-settlement-court-reject

Hemphill, L., Culotta, A., & Heston, M. (2016). #Polar Scores: Measuring partisanship using social media content. *Journal of Information Technology and Politics*, *13*(4), 365–377.

Hern, A. (2020, June 11). *Twitter aims to limit people sharing articles they have not read.* The Guardian. https://www.theguardian.com/technology/2020/jun/11/twitter-aims-to-limit-people-sharing-articles-they-have-not-read

Herrera, H., & Sethi, R. (2022). *Identity-Based Elections.* CEPR. https://cepr.org/publications/dp17203

Hetherington, M. J. (2001). Resurgent Mass Partisanship: The Role of Elite Polarization. *American Political Science Review*, *95*(3), 619–631. https://doi.org/10.1017/S0003055401003045

Hines, K. (2023, April 6). *How The Twitter Algorithm Affects Users And Advertisers*. Search Engine Journal. https://www.searchenginejournal.com/twitter-algorithm-source-code/484171/

Hong, S., & Kim, S. H. (2016). Political polarization on twitter: Implications for the use of social media in digital governments. *Government Information Quarterly*, *33*(4), 777–782. https://doi.org/10.1016/j.giq.2016.04.007

Hopkins, D. J. (2018). *The Increasingly United States: How and Why American Political Behavior Nationalized*. University of Chicago Press. https://press.uchicago.edu/ucp/books/book/chicago/I/bo27596045.html

Huder, J. (n.d.). *It's Congress's Fault: How Congress Polarizes America | The Government Affairs Institute*. Retrieved April 6, 2023, from https://gai.georgetown.edu/its-congresss-fault-how-congress-polarizes-america/.

Huszár, F., Ktena, S. I., O'Brien, C., Belli, L., Schlaikjer, A., & Hardt, M. (2022). Algorithmic amplification of politics on Twitter. *Proceedings of the National Academy of Sciences*, 119(1). https://doi.org/10.1073/pnas.2025334119

Hutto, C. J. (2023). *vader-sentiment: VADER Sentiment Analysis. VADER (Valence Aware Dictionary and sEntiment Reasoner) is a lexicon and rule-based sentiment analysis tool that is specifically attuned to sentiments expressed in social media, and works well on texts from other domains.* (3.2.1.1) [Python]. https://github.com/Holek/vader_sentiment

Iandoli, L., Primario, S., & Zollo, G. (2021). The impact of group polarization on the quality of online debate in social media: A systematic literature review. *Technological Forecasting and Social Change*, 170. https://doi.org/10.1016/j.techfore.2021.120924

Iyengar, S., Lelkes, Y., Levendusky, M., Malhotra, N., & Westwood, S. J. (2019). The Origins and Consequences of Affective Polarization in the United States. *Annual Review of Political Science*, *22*(1), 129–146. https://doi.org/10.1146/annurev-polisci-051117-073034

Iyengar, S., & Westwood, S. J. (2015). Fear and Loathing across Party Lines: New Evidence on Group Polarization. *American Journal of Political Science*, *59*(3), 690–707. JSTOR.

Jones, M. I., Sirianni, A. D., & Fu, F. (2022). Polarization, abstention, and the median voter theorem. *Humanities and Social Sciences Communications*, *9*(1), 43. https://doi.org/10.1057/s41599-022-01056-0

Kerr, J., Panagopoulos, C., & van der Linden, S. (2021). Political polarization on COVID-19 pandemic response in the United States. *Personality and Individual Differences*, *179*, 110892. https://doi.org/10.1016/j.paid.2021.110892

Kessler, G., Rizzo, S., & Kelly, M. (2021, February 10). *Analysis | Trump's false or misleading claims total 30,573 over 4 years*. Washington Post. https://www.washingtonpost.com/politics/2021/01/24/trumps-false-or-misleading-claims-total-30573-over-four-years/

Kim, Y. M. (2020, March 5). *New Evidence Shows How Russia's Election Interference Has Gotten More Brazen | Brennan Center for Justice*. https://www.brennancenter.org/our-work/analysis-opinion/new-evidence-shows-how-russias-election-interference-has-gotten-more

Klein, E. (2020). *Why We're Polarized*. Simon & Schuster. http://ebookcentral.proquest.com/lib/pepperdine/detail.action?docID=5995684

Kreiss, D., & Mcgregor, S. C. (2019). The "Arbiters of What Our Voters See": Facebook and Google's Struggle with Policy, Process, and Enforcement around Political Advertising. *Political Communication*, *36*(4), 499–522. https://doi.org/10.1080/10584609.2019.1619639

Krisher, T. (2022, April 27). *Elon Musk ordered to abide by SEC settlement over 2018 tweets*. PBS NewsHour. https://www.pbs.org/newshour/economy/elon-musk-ordered-to-abide-by-sec-settlement-over-2018-tweets

Lane, D. S., Lee, S. S., Liang, F., Kim, D. H., Shen, L., Weeks, B. E., & Kwak, N. (2019). Social media expression and the political self. *Journal of Communication*, *69*(1), 49–72. https://doi.org/10.1093/joc/jqy064

Latané, B. (1981). The psychology of social impact. *American Psychologist*, *36*, 343–356. https://doi.org/10.1037/0003-066X.36.4.343

Latané, B. (1996). Dynamic Social Impact: The Creation of Culture by Communication. *Journal of Communication*, *46*(4), 13–25. https://doi.org/10.1111/j.1460-2466.1996.tb01501.x

Lee, A. H.-Y. (2022). Social Trust in Polarized Times: How Perceptions of Political Polarization Affect Americans' Trust in Each Other. *Political Behavior*, *44*(3), 1533–1554. WorldCat.org. https://doi.org/10.1007/s11109-022-09787-1

Lerman, R. (2020, August 11). *Facebook says it has taken down 7 million posts for spreading coronavirus misinformation.* Washington Post. https://www.washingtonpost.com/technology/2020/08/11/facebook-covid-misinformation-takedowns/

Levendusky, M. (2009). *The Partisan Sort: How Liberals Became Democrats and Conservatives Became Republicans*. University of Chicago Press.

Levendusky, M. (2013). Partisan Media Exposure and Attitudes Toward the Opposition. *Political Communication*, *30*(4), 565–581. https://doi.org/10.1080/10584609.2012.737435

Levine, S., & Lerner, K. (2023, April 19). *Fox and Dominion settle for $787.5m in defamation lawsuit over US election lies | Fox News-Dominion case | The*

Guardian. https://www.theguardian.com/us-news/2023/apr/18/fox-dominion-settle-us-defamation-lawsuit

Levy, R. (2021). Social Media, News Consumption, and Polarization: Evidence from a Field Experiment†. *American Economic Review*, *111*(3), 831–870. WorldCat.org. https://doi.org/10.1257/aer.20191777

Levy Roee. (2021). Social Media, News Consumption, and Polarization: Evidence from a Field Experiment. *American Economic Review*, *111*(3), 831–870.

Lewis, J. B., Poole, K., Rosenthal, H., Boche, A., Rudkin, A., & Sonnet, L. (2023). *Voteview: Congressional Roll-Call Votes Database* [dataset]. https://voteview.com/

Lorenz-Spreen, P., Oswald, L., Lewandowsky, S., & Hertwig, R. (2022, November 7). *A systematic review of worldwide causal and correlational evidence on digital media and democracy | Nature Human Behaviour*. https://www.nature.com/articles/s41562-022-01460-1

Luttig, M. D. (2018). The “Prejudiced Personality” and the Origins of Partisan Strength, Affective Polarization, and Partisan Sorting: Prejudiced Personality and Polarization. *Political Psychology*, *39*, 239–256. https://doi.org/10.1111/pops.12484

Lyu, K., & Kim, H. (2016). Sentiment Analysis Using Word Polarity of Social Media. *Wireless Personal Communications*, *89*(3), 941–958. https://doi.org/10.1007/s11277-016-3346-1

M. Otala, J., Kurtic, G., Grasso, I., Liu, Y., Matthews, J., & Madraki, G. (2021). Political Polarization and Platform Migration: A Study of Parler and Twitter Usage by

United States of America Congress Members. *Companion Proceedings of the Web Conference 2021*, 224–231. https://doi.org/10.1145/3442442.3452305

Malloy, T., & Schwartz, D. (2021). *January 11, 2021 – 74% of Voters Say Democracy in the U.S. Is Under Threat, Quinnipiac University National Poll Finds; 52% Say President Trump Should Be Removed from Office* [dataset].

Marquart, C. L., Hinojosa, C., Swiecki, Z., Eagan, B., & Shaffer, D. W. (2021). *Epistemic network analysis (Version 1.7.0)* [Computer software]. http://app.epistemicnetwork.org

Marquart, C. L., Swiecki, Z., Eagan, B., & Shaffer, D. W. (2019). *ncodeR: Techniques for Automated Classifiers* (0.2.0.1) [Computer software]. https://cran.r-project.org/web/packages/ncodeR/index.html

Mason, L. (2015). “I Disrespectfully Agree”: The Differential Effects of Partisan Sorting on Social and Issue Polarization. *American Journal of Political Science*, *59*(1), 128–145. https://doi.org/10.1111/ajps.12089

Mason, L. (2016). A Cross-Cutting Calm: How Social Sorting Drives Affective Polarization. *Public Opinion Quarterly*, *80*(S1), 351–377. https://doi.org/10.1093/poq/nfw001

McCoy, J. L., & Somer, M. (2021). Political Parties, Elections, and Pernicious Polarization in the Rise of Illiberalism. In *Routledge Handbook of Illiberalism*. Routledge, pp. 486-95.

McCoy, J., Rahman, T., & Somer, M. (2018). Polarization and the Global Crisis of Democracy: Common Patterns, Dynamics, and Pernicious Consequences for

Democratic Polities. *American Behavioral Scientist*, *62*(1), 16–42. https://doi.org/10.1177/0002764218759576

McCoy, J., & Somer, M. (2019). Toward a Theory of Pernicious Polarization and How It Harms Democracies: Comparative Evidence and Possible Remedies. *The ANNALS of the American Academy of Political and Social Science*, *681*(1), 234–271. https://doi.org/10.1177/0002716218818782

McKee, M., & Diethelm, P. (2010). How the growth of denialism undermines public health | The BMJ. *BMJ*. https://doi.org/10.1136/bmj.c6950

McKnight, P. E., & Najab, J. (2010). Mann-Whitney U Test. In *The Corsini Encyclopedia of Psychology* (pp. 1–1). John Wiley & Sons, Ltd. https://doi.org/10.1002/9780470479216.corpsy0524

McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a Feather: Homophily in Social Networks. *Annual Review of Sociology*, *27*(1), 415–444. https://doi.org/10.1146/annurev.soc.27.1.415

Misiejuk, K., Scianna, J., Kaliisa, R., Vachuska, K., & Shaffer, D. W. (2021). Incorporating Sentiment Analysis with Epistemic Network Analysis to Enhance Discourse Analysis of Twitter Data. In A. R. Ruis & S. B. Lee (Eds.), *Advances in Quantitative Ethnography* (pp. 375–389). Springer International Publishing. https://doi.org/10.1007/978-3-030-67788-6_26

Misinformation and disinformation. (2023). Https://Www.Apa.Org. https://www.apa.org/topics/journalism-facts/misinformation-disinformation

Morris, D. S. (2021). Polarization, partisanship, and pandemic: The relationship between county-level support for Donald Trump and the spread of Covid-19

during the spring and summer of 2020. *Social Science Quarterly*, *102*(5), 2412–2431. https://doi.org/10.1111/ssqu.13053

Mueller, R. S. (2019). *Report on the Investigation into Russian Interference in the 2016 Presidential Election*. Melville House.

Murphy, H. (2023, May 15). *US states' social media laws to protect kids create challenges for platforms*. Ars Technica. https://arstechnica.com/tech-policy/2023/05/us-states-social-media-laws-to-protect-kids-create-challenges-for-platforms/

Nabi, R. L., & Oliver, M. B. (2009). *The SAGE Handbook of Media Processes and Effects*. SAGE Publications.

Ng, L. H. X., Cruickshank, I. J., & Carley, K. M. (2022). Cross-platform information spread during the January 6th capitol riots. *Social Network Analysis and Mining*, *12*(1). https://doi.org/10.1007/s13278-022-00937-1

Noel, H. (2016). Ideological Factions in the Republican and Democratic Parties. *The ANNALS of the American Academy of Political and Social Science*, *667*(1), 166–188. https://doi.org/10.1177/0002716216662433

Nordbrandt, M. (2021). Affective polarization in the digital age: Testing the direction of the relationship between social media and users' feelings for out-group parties. *New Media & Society*. https://doi.org/10.1177/14614448211044393

Orth, T. (2022, August 27). *Two in five Americans say a civil war is at least somewhat likely in the next decade | YouGov*. YouGovAmerica. https://today.yougov.com/topics/politics/articles-reports/2022/08/26/two-in-five-americans-civil-war-somewhat-likely

Osmundsen, M., Bor, A., Vahlstrup, P. B., Bechmann, A., & Petersen, M. B. (2020). *Partisan polarization is the primary psychological motivation behind political fake news sharing on Twitter*. PsyArXiv. https://doi.org/10.31234/osf.io/v45bk

Ott, B. L. (2017). The age of Twitter: Donald J. Trump and the politics of debasement. *Critical Studies in Media Communication*, *34*(1), 59–68. https://doi.org/10.1080/15295036.2016.1266686

Pang, N., & Ng, J. (2017). Misinformation in a riot: A two-step flow view. *Online Information Review*, *41*(4), 438–453. https://doi.org/10.1108/OIR-09-2015-0297

Papakyriakopoulos, O., & Goodman, E. P. (2022). *The Impact of Twitter Labels on Misinformation Spread and User Engagement: Lessons from Trump's Election Tweets* (SSRN Scholarly Paper 4036042). https://doi.org/10.2139/ssrn.4036042

Pew Research Center. (2022). *Social Media and News Fact Sheet*. https://www.pewresearch.org/journalism/fact-sheet/social-media-and-news-fact-sheet/

Plutzer, E., & Berkman, M. (2018). *Americans not only divided, but baffled by what motivates their opponents – The McCourtney Institute for Democracy*. https://democracy.psu.edu/poll-report-archive/americans-not-only-divided-but-baffled-by-what-motivates-their-opponents/

Polyakova, A. (2019, April 18). What the Mueller report tells us about Russian influence operations. *Brookings*. https://www.brookings.edu/blog/order-from-chaos/2019/04/18/what-the-mueller-report-tells-us-about-russian-influence-operations/

Poole, K. (2008). The Roots of the Polarization of Modern U.S. Politics. *Revista de Ciencia Politica*, *28*. https://doi.org/10.2139/ssrn.1276025

Poole, K. T. (2005). *Spatial Models of Parliamentary Voting—Cambridge University Press*. Cambridge University Press.

Poole, K. T. (2007). *Ideology and Congress: A Political Economic History of Roll Call Voting*.

Poole, K. T., & Rosenthal, H. (1985). A Spatial Model for Legislative Roll Call Analysis. *American Journal of Political Science*, *29*(2), 357. https://doi.org/10.2307/2111172

Postill, J. (2018). Populism and social media: A global perspective. *Media, Culture & Society*, *40*(5), 754–765. https://doi.org/10.1177/0163443718772186

Department of Health, Education, and Welfare, & National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (1979). The Belmont Report. Ethical principles and guidelines for the protection of human subjects of research. https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/read-the-belmont-report/index.html

Qin, Y., Omar, B., & Musetti, A. (2022). The addiction behavior of short-form video app TikTok: The information quality and system quality perspective. *Frontiers in Psychology*, *13*. https://www.frontiersin.org/articles/10.3389/fpsyg.2022.932805

Rao, P. (2023, July 13). *How Long it Took for Popular Apps to Reach 100 Million Users*. Visual Capitalist. https://www.visualcapitalist.com/threads-100-million-users/

Rathje, S., Van Bavel, J., J., & van der Linden, S. (2021). Out-group animosity drives engagement on social media. *Proceedings of the National Academy of Sciences*

of the United States of America, *118*(26). https://doi.org/10.1073/pnas.2024292118

Reiljan, A. (2020). 'Fear and loathing across party lines' (also) in Europe: Affective polarisation in European party systems. *European Journal of Political Research*, *59*(2), 376–396. https://doi.org/10.1111/1475-6765.12351

Ribeiro, M. H., Calais, P. H., Almeida, V. A. F., & Meira Jr, W. (2017). *"Everything I Disagree With is #FakeNews": Correlating Political Polarization and Spread of Misinformation* (arXiv:1706.05924). arXiv. http://arxiv.org/abs/1706.05924

Riemer, K., & Peter, S. (2021). Algorithmic audiencing: Why we need to rethink free speech on social media. *Journal of Information Technology*, *36*(4), 409–426. https://doi.org/10.1177/02683962211013358

Rohlinger, D. A., Rose, K., Warren, S., & Shulman, S. (2023). Does the Musk Twitter Takeover Matter? Political Influencers, Their Arguments, and the Quality of Information They Share. *Socius*, 9. https://doi.org/10.1177/23780231231152193

Roy, T. (2012). *The East India Company: The World's Most Powerful Corporation*. Penguin Books India.

Ruis, A., Siebert-Evenstone, A., Pozen, R., Eagan, B. R., & Shaffer, D. (2019). *Finding Common Ground: A Method for Measuring Recent Temporal Context in Analyses of Complex, Collaborative Thinking*. International Conference on Computer Supported Collaborative Learning. https://www.semanticscholar.org/paper/Finding-Common-Ground%3A-A-Method-for-Measuring-in-of-Ruis-Siebert-Evenstone/be8f2c87a74d5c631362b090b6a04b815ae4eeea

Russell, A. (2021). Minority Opposition and Asymmetric Parties? Senators' Partisan Rhetoric on Twitter. *Political Research Quarterly*, *74*(3), 615–627. https://doi.org/10.1177/1065912920921239

Saeedy, A., Cooper, L., & Corse, A. (2023, March 3). *WSJ News Exclusive | Twitter's Revenue, Adjusted Earnings Fell About 40% in Month of December*. WSJ. https://www.wsj.com/articles/twitters-revenue-adjusted-earnings-fell-about-40-in-month-of-december-ee91f1eb

Sasahara, K., Chen, W., Peng, H., Ciampaglia, G. L., Flammini, A., & Menczer, F. (2021). Social influence and unfollowing accelerate the emergence of echo chambers. *Journal of Computational Social Science*, *4*(1), 381–402. https://doi.org/10.1007/s42001-020-00084-7

Satuluri, V., Wu, Y., Zheng, X., Qian, Y., Wichers, B., Dai, Q., Tang, G. M., Jiang, J., & Lin, J. (2020). SimClusters: Community-Based Representations for Heterogeneous Recommendations at Twitter. *Proceedings of the 26th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining*, 3183–3193. https://doi.org/10.1145/3394486.3403370

Schlesinger, J. A., & Schlesinger, M. S. (2006). Maurice Duverger and the Study of Political Parties. *French Politics*, *4*(1), 58–68. https://doi.org/10.1057/palgrave.fp.8200085

Schnaider, K., Schiavetto, S., Meier, F., Wasson, B., Allsopp, B. B., & Spikol, D. (2021). Governmental Response to the COVID-19 Pandemic—A Quantitative Ethnographic Comparison of Public Health Authorities' Communication in Denmark, Norway, and Sweden. In A. R. Ruis & S. B. Lee (Eds.), *Advances in*

Quantitative Ethnography (pp. 406–421). Springer International Publishing. https://doi.org/10.1007/978-3-030-67788-6_28

Scott, M. (2023, January 9). *Everyone saw Brazil violence coming. Except social media giants – POLITICO*. POLITICO. https://www.politico.eu/article/brazil-violence-social-media-lula-bolsonaro-riot-insurrection-coup/

SEC.GOV. (2018, September 27). *Elon Musk Charged With Securities Fraud for Misleading Tweets*. https://www.sec.gov/news/press-release/2018-219

Shaffer, D., Hatfield, D., Svarovsky, G., Nash, P., Nulty, A., Bagley, E., Frank, K., Rupp, A., & Mislevy, R. (2009). Epistemic Network Analysis: A Prototype for 21st-Century Assessment of Learning. *International Journal of Learning and Media*, *1*, 33–53. https://doi.org/10.1162/ijlm.2009.0013

Shaffer, D., & Ruis, A. (2017). *Epistemic Network Analysis: A Worked Example of Theory-Based Learning Analytics.* In Handbook of Learning Analytics (pp. 175–187). Society for Learning Analytics Research. (pp. 175–187). https://doi.org/10.18608/hla17.015

Shaffer, D. W. (2014). *Formatting Data for Epistemic Network Analysis*. https://www.epistemicnetwork.org/pdfs/2019/09/ENA-data-formatting.pdf

Shaffer, D. W. (2018). *Quantitative ethnography*. Cathcart Press.

Shaffer, D. W., Collier, W., & Ruis, A. R. (2016). A Tutorial on Epistemic Network Analysis: Analyzing the Structure of Connections in Cognitive, Social, and Interaction Data. *Journal of Learning Analytics*, *3*(3), Article 3. https://doi.org/10.18608/jla.2016.33.3

Shepherd, J. (2023, May 16*). 23 Essential Twitter Statistics You Need to Know in 2023*. The Social Shepherd. https://thesocialshepherd.com/blog/twitter-statistics

Siebert-Evenstone, A. L., Irgens, G. A., Collier, W., Swiecki, Z., Ruis, A. R., & Shaffer, D. W. (2017). In Search of Conversational Grain Size: Modeling Semantic Structure using Moving Stanza Windows. *Journal of Learning Analytics*, *4*(3), Article 3. https://doi.org/10.18608/jla.2017.43.7

Simon, F., Howard, P. N., & Nielsen, R. K. (2020, April 7). Types, sources, and claims of COVID-19 misinformation. *Reuters Institute for the Study of Journalism*. https://reutersinstitute.politics.ox.ac.uk/types-sources-and-claims-covid-19-misinformation

Simon, S. (2021). Trump's Insurrection and America's Year of Living Dangerously. *Survival*, *63*(1), 7–16. https://doi.org/10.1080/00396338.2021.1881247

Singh, M. (2023, March 24). *Utah bans under-18s from using social media unless parents consent*. The Guardian. https://www.theguardian.com/us-news/2023/mar/23/utah-social-media-access-law-minors

Siripurapu, A. (2020, December 2*).* Trump and Section 230: What to Know. *Council on Foreign Relations*. https://www.cfr.org/in-brief/trump-and-section-230-what-know

SoRelle, M. E., & Laws, S. (2023). The political benefits of student loan debt relief. *Research & Politics*, *10*(2), 20531680231174080. https://doi.org/10.1177/20531680231174079

Spell, G., Guay, B., Hillygus, S., & Carin, L. (2020). An Embedding Model for Estimating Legislative Preferences from the Frequency and Sentiment of Tweets.

Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP), 627–641. https://doi.org/10.18653/v1/2020.emnlp-main.46

Stargardter, G., & Ayres, M. (n.d.). *Brazil's crowdfunded insurrection leaves paper trail for police | Reuters*. Retrieved August 17, 2023, from https://www.reuters.com/world/americas/brazils-crowdfunded-insurrection-leaves-paper-trail-police-2023-01-16/

Sullivan, S., Warner-Hillard, C., Eagan, B., Thompson, R. J., Ruis, A. R., Haines, K., Pugh, C. M., Shaffer, D. W., & Jung, H. S. (2018). Using epistemic network analysis to identify targets for educational interventions in trauma team communication. *Surgery*, *163*(4), 938–943. https://doi.org/10.1016/j.surg.2017.11.009

Sunstein, C. R. (1999). The Law of Group Polarization. *John M. Olin Program in Law and Economics*, *Working Paper No. 91*. https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=1541&context=law_and_economics

Swers, M. L. (2023). After Dobbs: The Partisan and Gender Dynamics of Legislating on Abortion in Congress. *The Forum*, *21*(2), 261–285. https://doi.org/10.1515/for-2023-2016

The Greater Idaho Movement. (2023). https://www.greateridaho.org/

Theiss-Morse, E., Barton, D.-G., & Wagner, M. W. (2015). Political Trust in Polarized Times. In B. H. Bornstein & A. J. Tomkins (Eds.), *Motivating Cooperation and Compliance with Authority: The Role of Institutional Trust* (pp. 167–190). Springer International Publishing. https://doi.org/10.1007/978-3-319-16151-8_8

Theocharis, Y., Lowe, W., van Deth, J. W., & García-Albacete, G. (2015). Using Twitter to mobilize protest action: Online mobilization patterns and action repertoires in the Occupy Wall Street, Indignados, and Aganaktismenoi movements. *Information, Communication & Society*, *18*(2), 202–220. https://doi.org/10.1080/1369118X.2014.948035

Tinker v. Des Moines Independent Community School District, 393 U.S. 503 (1969). (n.d.). Justia Law. Retrieved May 10, 2023, from https://supreme.justia.com/cases/federal/us/393/503/

Tokita, C. K., Guess, A. M., & Tarnita, C. E. (2021). Polarized information ecosystems can reorganize social networks via information cascades. *Proceedings of the National Academy of Sciences*, *118*(50). https://doi.org/10.1073/pnas.2102147118

Tolchin, M. (2019). *Glass Houses: Congressional Ethics And The Politics Of Venom*. Routledge. https://doi.org/10.4324/9780429500213

Tønnesson, S., Zaw Oo, M., & Aung, N. L. (2022). Pretending to be States: The Use of Facebook by Armed Groups in Myanmar. *Journal of Contemporary Asia*, *52*(2), 200–225. https://doi.org/10.1080/00472336.2021.1905865

Törnberg, P. (2022). How digital media drive affective polarization through partisan sorting. *Proceedings of the National Academy of Sciences*, *119*(42), e2207159119. https://doi.org/10.1073/pnas.2207159119

Törnberg, P., Anderson, C., Lindgren, K., & Banisch, S. (2021). Modeling the emergence of affective polarization in the social media society. *PloS One*, *16*(10).

Trump, D. (2020, December 19). *Donald J. Trump on Twitter*. https://twitter.com/realDonaldTrump/status/1340185773220515840

TWExportly (2.6). (2023). [Computer software]. https://100xtools.com/twexportly

Twitter. (2023a). *Twitter API | Products*. https://developer.twitter.com/en/products/twitter-api

Twitter. (2023b, March 31). Twitter's Recommendation Algorithm. *Twtitter's Recommendation Algorithm*. https://blog.twitter.com/engineering/en_us/topics/open-source/2023/twitter-recommendation-algorithm

US Special Operations Command Will Deploy Argus AI Program to Scour Social Media for Disinformation, Misinformation, and Malinformation; National Security Authority to Protect U.S. Internet from Pain (2023, September 1). The Conservative Treehouse. https://theconservativetreehouse.com/blog/2023/09/01/us-special-operations-command-will-deploy-argus-ai-program-to-scour-social-media-for-disinformation-misinformation-and-malinformation-national-security-authority-to-protect-u-s-internet-from-pain/

Valenzuela, S., Correa, T., & Gil de Zúñiga, H. (2018). Ties, Likes, and Tweets: Using Strong and Weak Ties to Explain Differences in Protest Participation Across Facebook and Twitter Use. *Political Communication*, *35*(1), 117–134. https://doi.org/10.1080/10584609.2017.1334726

Van Bavel, J. J., Rathje, S., Harris, E., Robertson, C., & Sternisko, A. (2021). How social media shapes polarization. *Trends in Cognitive Sciences*, *25*(11), 913–916.

Van den Bulck, H., & Hyzen, A. (2020). Of lizards and ideological entrepreneurs: Alex Jones and Infowars in the relationship between populist nationalism and the post-global media ecology. *International Communication Gazette*, *82*(1), 42–59. https://doi.org/10.1177/1748048519880726

Vosoughi, S., Roy, D., & Aral, S. (2018). The spread of true and false news online. *Science*, *359*(6380), 1146–1151. https://doi.org/10.1126/science.aap9559

Voteview. (2022). Voteview. https://voteview.com/

US Special Operations Command Will Deploy Argus AI Program to Scour Social Media for Disinformation, Misinformation, and Malinformation; National Security Authority to Protect U.S. Internet from Pain (2023, September 1). The Conservative Treehouse. https://theconservativetreehouse.com/blog/2023/09/01/us-special-operations-command-will-deploy-argus-ai-program-to-scour-social-media-for-disinformation-misinformation-and-malinformation-national-security-authority-to-protect-u-s-internet-from-pain/

Wakefield, R. L., & Wakefield, K. (2023). The antecedents and consequences of intergroup affective polarisation on social media. *Information Systems Journal*, *33*(3), 640–668. https://doi.org/10.1111/isj.12419

Wang, Y., McKee, M., Torbica, A., & Stuckler, D. (2019). Systematic Literature Review on the Spread of Health-related Misinformation on Social Media. *Social Science & Medicine*, *240*, 112552. https://doi.org/10.1016/j.socscimed.2019.112552

Weatherbed, J. (2023, April 14). *Twitter Blue subscribers now have a 10,000 character limit*. The Verge. https://www.theverge.com/2023/4/14/23683082/twitter-blue-10000-character-limit-bold-italic-features-substack-newsletter

Wiederkehr, R. B., Aaron Bycoffe, Ritchie King, Dhrumil Mehta and Anna. (2023, September 18). *National: President: Republican primary : 2024 Polls*. FiveThirtyEight. https://projects.fivethirtyeight.com/polls/

Wood, B. D., & Jordan, S. (2017). *Party Polarization in America: The War Over Two Social Contracts*. Cambridge University Press.

Wood, D., McMinn, S., & Feng, E. (2019, September 17). *China Used Twitter To Disrupt Hong Kong Protests, But Efforts Began Years Earlier*. NPR. https://www.npr.org/2019/09/17/758146019/china-used-twitter-to-disrupt-hong-kong-protests-but-efforts-began-years-earlier

Wooldridge, A. R., Carayon, P., Shaffer, D. W., & Eagan, B. (2018). Quantifying the Qualitative with Epistemic Network Analysis: A Human Factors Case Study of Task-Allocation Communication in a Primary Care Team. *IISE Transactions on Healthcare Systems Engineering*, *8*(1), 72–82. https://doi.org/10.1080/24725579.2017.1418769

Yarchi, Baden, & Kligler-Vilenchik. (2021). Political Polarization on the Digital Sphere: A Cross-platform, Over-time Analysis of Interactional, Positional, and Affective Polarization on Social Media. *Political Communication*, *38*(1), 98–139. WorldCat.org. https://doi.org/10.1080/10584609.2020.1785067

Zimbra, D., Abbasi, A., Zeng, D., & Chen, H. (2018). The State-of-the-Art in Twitter Sentiment Analysis: A Review and Benchmark Evaluation. *ACM Transactions on*

Management Information Systems, *9*(2), 5:1-5:29. https://doi.org/10.1145/3185045

Zingher, J. N., & Flynn, M. E. (2018). From on High: The Effect of Elite Polarization on Mass Attitudes and Behaviors, 1972–2012. *British Journal of Political Science*, *48*(1), 23–45. https://doi.org/10.1017/S0007123415000514

Zogby. (2021, February 4). *The Zogby Poll®: Will the US have another civil war?* https://zogbyanalytics.com/news/997-the-zogby-poll-will-the-us-have-another-civil-war

Zubrow, K., Gavrilovic, M., & Ortiz, A. (2021, October 4). *Whistleblower's SEC complaint: Facebook knew platform was used to "promote human trafficking and domestic servitude."* CBS News. https://www.cbsnews.com/news/facebook-whistleblower-sec-complaint-60-minutes-2021-10-04/