

# Political Polarization and Social Media in the United States

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By

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On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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## **Introduction**

I plan to uncover and diagnose the influence of Facebook and Twitter on early twenty-first century political polarization within the United States. Political polarization, the ideological gap between conservatives and liberals, in the United States is skyrocketing. This trend can be traced to sometime between the years 1994 and 2016, as the percentage of Republicans who viewed Democrats as “very unfavorable” rose from 21% in 1994 to 58% in 2016. For Democrats, strong unfavorability of Republicans rose from 17% to 55% in the same timeframe (Pew, 2016). I believe that the root cause of this rise in polarization stems from the introduction of social media technology in 2004, and their growing user base’s interpretation of social media’s role in society.

I will be focusing specifically on two platforms: Facebook and Twitter. Facebook because of its massive share of the United States population, 55% of Americans use Facebook several times a day (Pew, 2016). Twitter was chosen because of its reputation as a “public square”, lending it to more political conversations than other leading social media platforms (Wired, 2018). A Pew (2019a) survey found that among the top 10% of tweeters, almost 70% had tweeted about politics and over 40% had tweeted about politics in the last thirty days. I am intentionally not delving into the platform Snapchat because it lacks the market share that Facebook commands and the amount of political content that Twitter circulates. Only 40% of Snapchat users have used politics in their snaps (via a political geofilter) (Knight, 2017).

## **Case Context**

Understanding the power of Facebook and Twitter is helpful, but unimportant without the knowledge of their link with a rising problem in the United States. This problem is political polarization at its modern-day worst. Social psychologist Jonathan Haidt and free speech expert Greg Lukianoff noted polarization at its worst on college campuses, and argued this as a change that began with the arrival of Gen Z, everyone born after 1995 (Lukianoff & Haidt, 2018). These students that Haidt and Lukianoff write about were of an age to go through all of middle and high school with Facebook at their fingertips. In their original article in *The Atlantic*, Haidt and Lukianoff argue that Facebook has allowed both an easier way for people to share their moral judgements and a way to alter the power balance between students and teachers for the first time in history (Lukianoff & Haidt, 2015). Social media, they say, has cultivated a “call-out culture” that has made its way to universities. Their evidence for this comes from various incidents around the country where students call for greater restrictions on free speech. This rise in polarization and radicalization, specifically on college campuses, takes place within a segment of the United States in which a large amount of people have spent a majority of their lives using social media.

This knowledge of growing political polarization begs the question: How exactly could spending time on social media platforms cause this increased divisiveness? The easiest place to look to answer this question is the algorithms themselves that determine what individual users see every minute they are logged in. Facebook’s algorithms have become increasingly more complex, making it very difficult to understand how Facebook decides to show each user content. Yet we do have some evidence about how the algorithms work. Lars Backstrom, Facebook’s Engineering manager for News Feed, Facebook’s defacto home page, explains, “For

example, if we show an update to 100 users, but only a couple of them interact with it, we may not show it in your News Feed. But if a lot of people are interacting with it, we might decide to show it to you, too.” (McGee, 2013) This inevitably leads to the most profound, inflammatory, and potentially divisive posts to be ranked quite high.

### **The Crumbling of the Public Discourse: Facebook, Twitter, and Political Polarization**

Tracking the history of social media titans, Facebook and Twitter, shows massive change from their founding in the early 2000s to 2020. Of course, this is not unique to these two platforms as companies traditionally evolve over time. However, the frameworks of Technological Citizenship and Social Construction of Technology (or SCOT) can explain how individuals should act on Facebook and Twitter and how social groups shaped the platforms (Pinch & Bijker, 1987). Technological Citizenship was well described by Clinton J. Andrews in 2006: “The challenge for technological citizens is to ‘reconcile technology’s unlimited potentials for human benefit and ennoblement with its unlimited potentials for human injury, tyrannization, and degradation’. Are you doing your part to keep the balance positive?” (Andrews, 2006). This idea of keeping the balance positive should be key for the millions of Americans using Facebook and Twitter every day.

Additionally, both platforms have had their mission and purpose interpreted and guided by the society that they serve. SCOT argues that technology is directed by social groups rather than by its creator(s) (Pinch & Bijker, 1987). Social groups, or aggregations of individuals, are described as sharing “the same set of meanings, attached to a specific artifact” (Pinch & Bijker, p.118). The presence of many such social groups lends to the idea of the problem-solution link.

This is the concept of how different social groups form solutions for the same problem that best suit their own “set of meanings” (Pinch & Bijker, p.118). The principal piece of evidence Pinch and Bijker provide is the Penny Farthing Bicycle from the 19th century. The bicycle’s air tires were not accepted by the public until they saw them utilized in a race and viewed them not as practical but stylish. The second argument they make is that technology is extremely flexible in its early stages of development. This flexibility allows for society to direct the technological artifacts with increased effectiveness during development. They call this “interpretative flexibility” (Pinch & Bijker, p.121).

Revisiting the history of Facebook and Twitter reveals ripe potential for “interpretative flexibility” in both companies. In 2004, Mark Zuckerberg was a Harvard undergrad with impressive coding skills. He scraped photos from multiple “face books” that Harvard used to document students and created a website to compare female classmates. His frustration with having to manually grab photos from numerous Harvard repositories, or place where things are stored, led to his desire to see all Harvard students under one unified “face book”. He subsequently founded a company in order to do this, and after overwhelming success at Harvard, Facebook expanded to other elite universities before opening up to everyone in the world over 13 years old (Barr, 2018). At this time, Zuckerberg saw Facebook as a place to “most importantly... see who people’s friends are” and “find some interesting new information about people” (Bullseye, 2004). Compare this with the Facebook of 2019 that includes features like Facebook Dating, Facebook Marketplace, a cryptocurrency venture, non-profit fundraisers, all while boasting a United States user-base of over 200 million (Statistica, 2020). Zuckerberg’s original vision of founding a company to unite his university took on a life of its own, and I believe that

Facebook's "interpretative flexibility" during its early years contributed to it fulfilling the wishes of a society that so desperately wanted to interact more.

Around the same time, another college-dropout, Jack Dorsey, was developing his own new idea for a connective platform, Twitter. New Yorker writer D.T. Max (2013) offers an intimate look at Dorsey, chronicling the developer-by-trade's 'invention' of Twitter. Max details the well-known story of Dorsey and two co-workers trying to come up with ideas to save their failing company, as Dorsey asks, "What if we used S.M.S. to report what you're doing, and also to receive news of what everyone else is doing?" (2013) The rest is history. In the years since, Twitter has evolved from a platform in which users were invited to share what it was they were *doing* to one in which users were guided to share how they *felt*. This is supported by Twitter's 'Tweet' feature switching from asking "What are you doing?" to "What's happening?" in 2009.

Max (2013) provides an inside look at how Twitter evolved from 2006 to 2013. The article portrays an early stage Twitter seeking an identity with a flexibility (per Pinch & Bijker's "interpretive flexibility") to become whatever company the world needed or wanted them to be. This led to the transition of Twitter from a status update service to a service for giving voice to opinions. This interpretative flexibility has placed the power firmly in the hands of the people who use Facebook and Twitter. Technological citizenship asks that the people help tip the balance positively, but that positivity has yet to be seen.

### **Research Question and Methods**

To what extent have Facebook and Twitter contributed to heightened political polarization in the United States in the last decade? In my research project, I will seek to explore

the influence of society on the development of Facebook and Twitter through the lens of the Social Construction of Technology. In the years leading up to the American Civil War, Abraham Lincoln remarked, “A house divided against itself, cannot stand.” With polarization on the rise again, these words are even more important in 2020, and are precisely the reason that these questions and this research is so important.

I plan on cultivating a large amount of survey data from reputable sources, such as the Pew Research Center, and using this data to understand the scope and impact of political polarization in the United States since 2004. This will draw a picture that describes the polarization found in the United States as well as the reach that Facebook and Twitter have on a large portion of the United States public. Additionally, I plan on looking into how two United States presidents, both former and current, use their Twitter accounts, understanding the volume of their tweets, the number of followers they have, the content of their tweets, and the conversations their tweets create. By understanding how politicians utilize Twitter, I will explain the methods by which political statements and stances are formulated from the root source. This will also grant a glimpse at the first responses to tweets, gauging the initial reactions of supporters and protestors in real time.

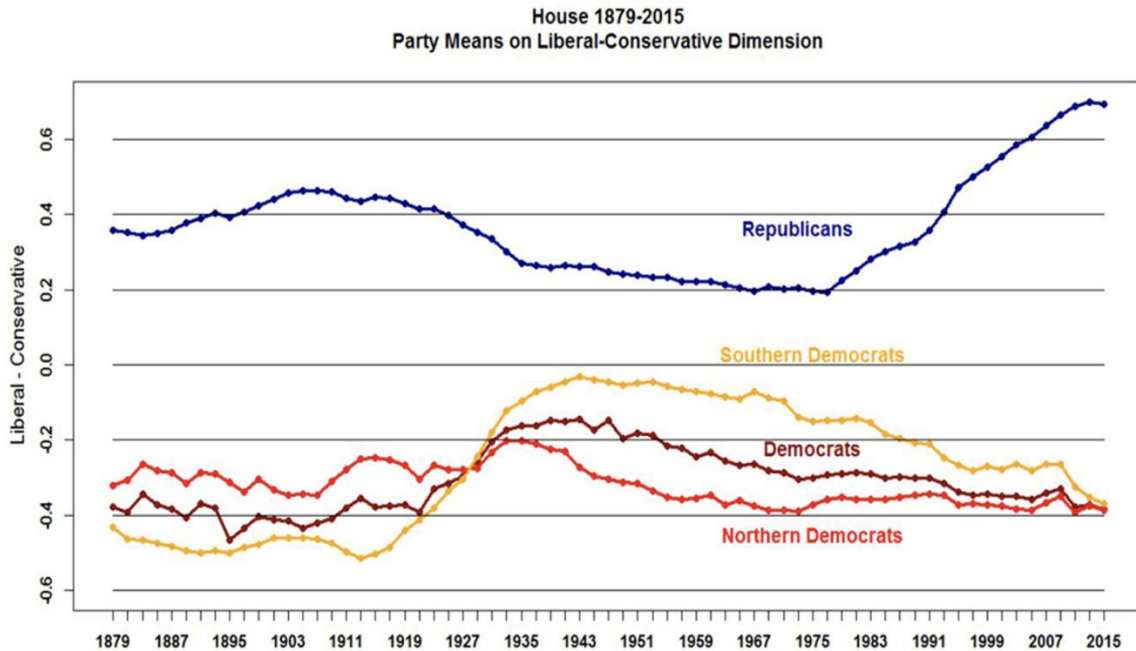
In my final round of research, I conducted a survey of Facebook and/or Twitter users that self-identify as “politically-active” and “not politically-active”. This helps to form a greater picture of how different users interact with social media platforms and what they inevitably get out of them. The goal of the survey will be to discover political beliefs, rate of Facebook activity and/or use, and how often users are exposed to views with which they either agree or disagree.



What is expected out of this survey and subsequent analysis is a clearer understanding of how Facebook and Twitter may have cultivated an environment that divides.

## **Results**

After undergoing three rounds of research, I discovered evidence that Facebook and Twitter contributed to rising levels of political polarization. Political polarization was shown to have risen between the years of 2004 and 2014 among the United States public. Additionally, it was found that key political figures in the U.S. with mass followings, greater than 50 million followers, have the ability to create corrosive conversation over Twitter both with and without intention. Finally, it was revealed that the most radical voices constitute a large portion of the conversation on social media platforms, and liberal social media users are more likely to live in proverbial echo chambers than conservatives. Data collected from the University of Southern California showed that political polarization in Washington DC has been rising since the 1980s. Figure 1 illustrates this point, using the House of Representatives as evidence.



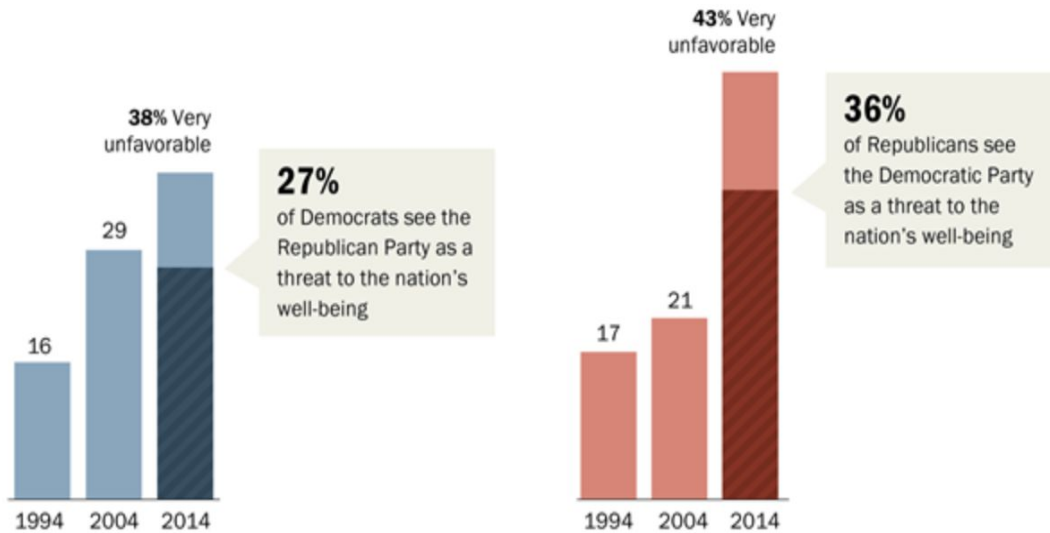
**Figure 1.** Political Polarization since 1879 (Paisley, 2016)

However, Pew Research Center found that polarization among American individuals was not rising substantially between the years of 1994 and 2004 (Pew, 2014). Pew revealed that beginning in 2004, Democrats and Republicans were viewing their opposing party in a more and more negative light (see Figure 3) *while simultaneously* becoming more radical in their values (see Figure 2). While Figure 2 shows that the conditions were changing from 1994 through 2004, it wasn't until 2014 that both parties truly began to reach concerning levels of contempt.

## Beyond Dislike: Viewing the Other Party as a 'Threat to the Nation's Well-Being'

Democratic attitudes about the Republican Party

Republican attitudes about the Democratic Party



Source: 2014 Political Polarization in the American Public

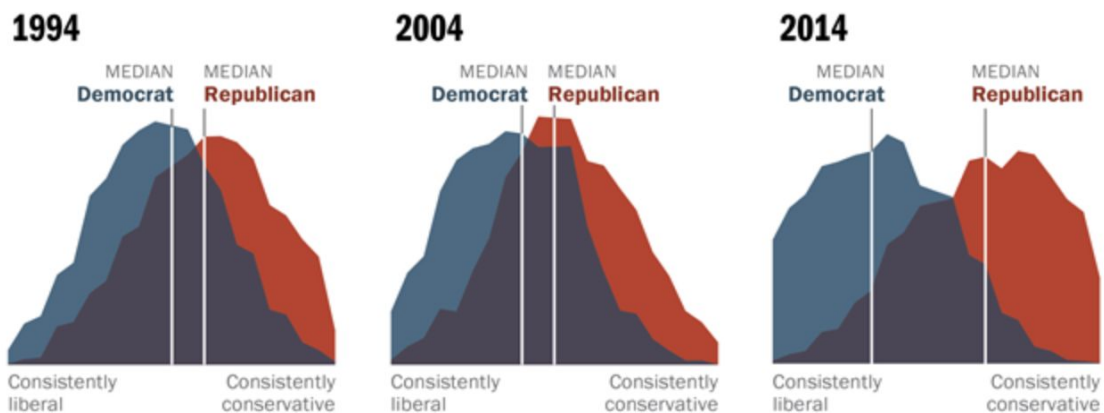
Notes: Questions about whether the Republican and Democratic Parties are a threat to the nation's well being asked only in 2014. Republicans include Republican-leaning independents; Democrats include Democratic-leaning independents (see Appendix B).

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Figure 2. Negative views of opposition (Pew, 2014)

## Democrats and Republicans More Ideologically Divided than in the Past

Distribution of Democrats and Republicans on a 10-item scale of political values



Source: 2014 Political Polarization in the American Public

Notes: Ideological consistency based on a scale of 10 political values questions (see Appendix A). The blue area in this chart represents the ideological distribution of Democrats; the red area of Republicans. The overlap of these two distributions is shaded purple. Republicans include Republican-leaning independents; Democrats include Democratic-leaning independents (see Appendix B).

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Figure 3. Increasing party divide (Pew, 2014).

During this time period, social media giants Facebook and Twitter were accumulating massive user-bases in the United States with roughly 180 million and 58 million each in 2020, respectively (Statistica, 2020). This massive share of the U.S. population cultivated platforms ripe for political discourse. Yet according to surveys by Pew Research Center, “46% of U.S. social media users say they are ‘worn out’ by political posts and discussions.” (Pew, 2019b) Further, a majority of social media users who engage politically on their platforms end up feeling as if they had “less in common politically” (Pew, 2019b) after their experience. These discoveries showed that healthy discourse was becoming less and less frequent, and that instead of providing a safe and constructive platform for ideas to be discussed, the platforms were doing the opposite.

This begs the question: if so many people hate talking politics on these platforms, why do they do so? In the case of Twitter, this question is easily answered by another 2019 Pew survey that found “a small group of prolific users account for a majority of political tweets sent by U.S. adults” (2019c). Among this small group, 55% were either very liberal or very conservative and 64% rated the opposite party very negatively. Although they only constitute 6% of all tweeters in the U.S, they account for 73% of the tweets sent about national politics. This active group more often than not will pose a threat to the political discourse over Twitter, as fellow active users will often see tweets sent by radical and polarizing figures, and will often perceive the opposing party through the lens of the most radical.

Case studies of the Twitter feeds of two Presidents, Donald Trump and Barack Obama, uncovered a shocking revelation about influential political leaders on social media. In the month

of February of 2020, I went through the last twenty original tweets (tweets that were not retweets, quote retweets, or replies) of Trump and Obama to better understand the volume of conversation that was a result of their individual tweets. To get an idea of this measure of conversation, I noted the amounts of replies for each original tweet as well as the follower count for each President, see Table 1 below.

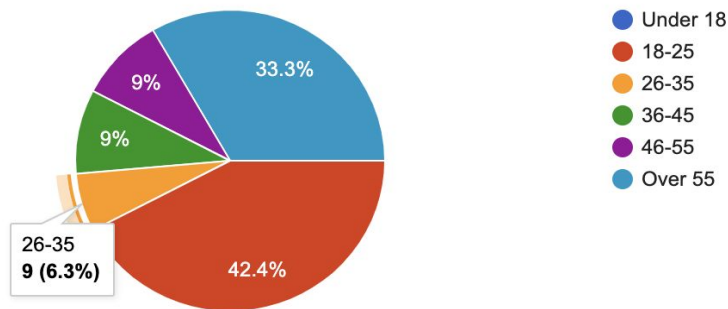
President	Number of Followers	Mean of Replies	Median of Replies	Max of Replies	Min of Replies
Barack Obama	113.3 million	14970	5650	78400	1900
Donald Trump	73.2 million	6820	5900	15900	3900

**Table 1.** U.S. President’s Tweets and Replies (Source: Twitter).

What stands out among these numbers was that while Obama’s tweets were exclusively non-confrontational and Trump’s tweets were mostly confrontational, the number of replies were nearly identical (by median measurement). The replies were also equally confrontational and divisive. This revealed that regardless of the influential politician’s actions on Twitter, positive or negative, the conversation resulting was consistently corrosive.

### **Politics and Social Media Survey**

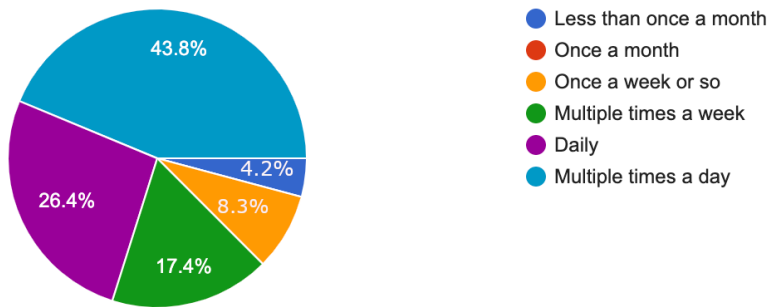
The final round of research was in the form of a survey of 143 U.S. citizens released in February of 2020 that was designed to gauge political activeness on social media, consistency of personal partisanship with social media connections’ partisanship, and exposure to political posts on social media. The age demographics of the respondents are shown in Figure 4, below.



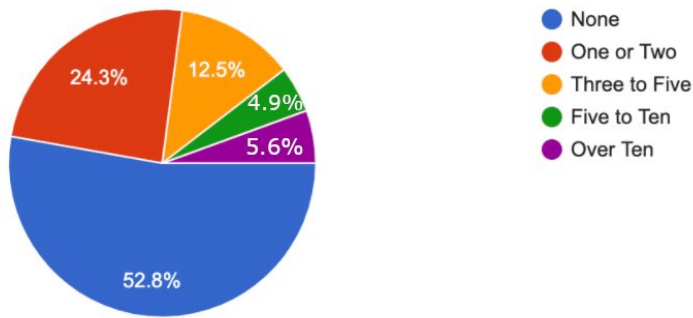
**Figure 4.** Age Demographics of Politics and Social Media Survey

The survey found that 19.4% of those surveyed self-identified as “politically-active” on social media. Among those that consider themselves active politically, over 50% self identified as either “very conservative” or “very liberal”. This is in line with the Pew survey from the first round of research and supports the claim that posts on social media about politics are often done by those with the most extreme views. Additionally, the hours spent on Facebook and hours spent on Twitter were measured for both politically-active and non-politically-active users. A difference in means test showed that those who were politically-active spent more time per week on Facebook. A subsequent test on Twitter users did not show ample evidence that politically-active participants spent any more time on Twitter. While no observations can be made about hours spent on Twitter, the evidence that politically-active users spent more time weekly on Facebook shows that Facebook is susceptible to becoming a more political site simply by the fact that political users are more often to spend more time on it.

While only 19.4% self identified as politically-active on social media, almost 50% of those surveyed chose to follow at least one politician and over 87.5% view posts about politics at least once a day (see Figure 5 & 6). These statistics revealed two things: even those who do not view themselves as politically active still engage politically on social media (by choosing to follow politicians) and even those who do not follow politicians or consider themselves politically active are exposed to political posts multiple times a day whether they like it or not.



**Figure 5.** *How Often Respondents See Political Posts on Social Media*



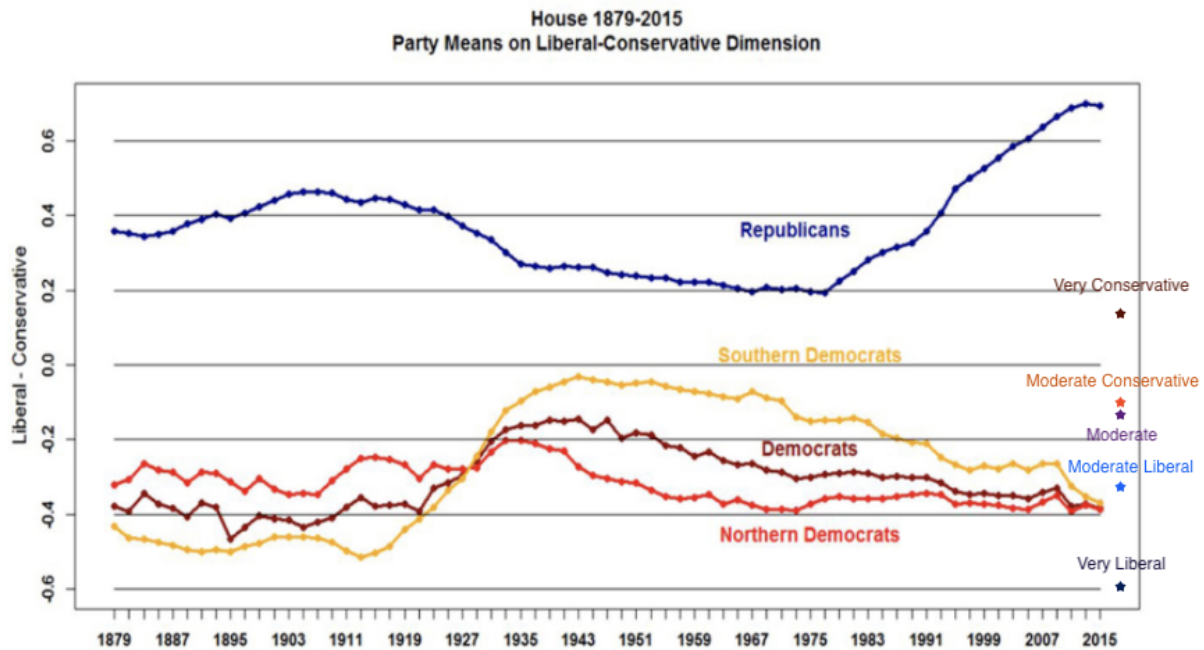
**Figure 6.** How many Politicians Respondents Follow on Social Media

The survey asked the respondents to identify their political affiliation as one of the following: very conservative, moderate conservative, moderate, moderate liberal, or very liberal. I will call this Political Affiliation. They were then asked to give their best estimate of the political affiliation of their friends/connections on social media with the same options given. I will call this Friend Political Affiliation. With this information, I calculated the mean Friend Political Affiliation for each group of Political Affiliation where -1 is the most liberal and 1 is the most conservative. These results are shown below in Table 2 and Figure 7 (taken from a chart showing political polarization from earlier in the paper).

Political Affiliation	Mean Score	Standard Deviation	Number of Instances
Very Conservative	0.1666667	0.5232681	15
Moderate Conservative	-0.1	0.4210377	45
Moderate	-0.109375	0.5037661	32
Moderate Liberal	-0.3333333	0.3304473	30
Very Liberal	-0.6	0.3872983	15

**Table 2.** Mean Friend Political Affiliation by Personal Political Affiliation





**Figure 7.** Mean Friend Political Affiliation by Personal Political Affiliation

A difference between means test was then calculated for each Political Affiliation group, finding that the only groups that did not have a significant difference in Friend Political Affiliation were moderate conservatives and moderates.

This data reveals that those surveyed who are either moderately liberal or very liberal are caught in proverbial echo chambers, with the evidence showing their followings are mostly made up of friends and connections with similar views to their own. However, the data does not support the idea that both sides of the aisle are impacted by echo chambers, as moderate

conservatives believe they have connections that lean liberal, and very conservative respondents only slightly lean conservative in their friends and connections.

## **Discussion**

The research completed during this process supports a finding by Christopher Bail and his colleagues at Duke University in 2018 about social media and political polarization. This study found that among conservatives there was significant evidence that “exposure to *opposing* views on social media can increase political polarization”. There was insufficient evidence to show that liberals were affected by exposure to conservative voices on social media. In the research conducted in the survey, liberals surveyed appeared to be caught in echo chambers yet conservatives were not. Bail’s study combined with the survey in this investigation, provide arguments that liberals and conservatives in the United States are becoming more and more polarized by social media but for differing reasons.

With the growing popularity of Facebook and Twitter, the power of Social Construction of Technology (SCOT) keeps rising. Although Mark Zuckerberg and Jack Dorsey admit the problems that their platforms are causing, society has guided Facebook and Twitter extensively, which makes this polarization these platforms inflame difficult to address. Further aiding in this problem is the lack of good technological citizenship, i.e. individuals doing their part to keep the balance of life positive, in United States society. The research shows that many of the problems social media causes are from many individuals acting out against one another in unhealthy ways, which could be reduced with improved technological citizenship.

When undergoing this research there were a number of limitations. Namely, the survey conducted did not result in an equal distribution of age groups. The survey was quite unrepresented for ages 26-54 as 42.4% of those surveyed were between 18-25 and 33.3% were over 55. Another limitation came when looking into the Twitter feeds of President Obama and President Trump. While I could easily note the volume of replies, it was more difficult to get a quantitative measure of the content of the replies. Qualitative analysis showed that the content was similar, but without a quantitative measure, it was difficult to prove content similarity.

In the future, I would recommend adding another round of research to investigate Facebook comments on political pages. This could have the same effect as investigating the Twitter replies to Obama and Trump but using another platform. With Russia and other foreign countries accused of using Facebook and Twitter to influence political elections, a look at bots, deep fakes, and other social media manipulation would be increasingly relevant. I would also add more questions to the survey to assess feelings of animosity toward the opposing party (similar to the Pew studies from 2014). This would allow me to investigate whether there is a connection between heavy social media usage and dislike of opposing political parties.

As a computer scientist, I will use this research to understand how technologies I produce can take on lives of their own. Neither Jack Dorsey nor Mark Zuckerberg anticipated the problems that their groundbreaking technologies would bring to society, and neither creator made conscious efforts to advance their technologies towards this destination. However, Facebook and Twitter have become everyday necessities in the United States. Looking forward as a computer scientist I must think carefully about any technology I create or improve upon, and

consider how bad actors might use that technology to sow unrest and harm into society, both consciously and unconsciously.

## **Conclusion**

The findings from this research signify that since the introduction of Facebook and Twitter into United States society, political polarization has been on the rise. The research reveals that the growing divide between parties is likely caused by two different things on social media platforms. Liberals building networks of social media connections and friends that share their own ideologies, have constructed echo chambers that are increasingly reflecting their own biases and distrust of the opposing party. Conservatives, viewing themselves as outnumbered and surrounded by those with liberal ideologies, are becoming increasingly less tolerant of opposing views. On top of this, social media platforms are dominated by those who describe themselves as very liberal and very conservative, creating a corrosive social media environment in which users who consistently see the extremes battle it out.

Unfortunately there is no easy fix for these deeply rooted problems in Facebook and Twitter. The research revealed that even uniting and positive language from notable politicians on social media led to confrontational and counterproductive Twitter conversation. The best route forward is to encourage good Technological Citizenship. By encouraging citizens to use Facebook and Twitter responsibly and in healthy ways, unhealthy habits may be curbed slightly.

This research shows the effect that social media platforms have had on the society of the United States in the past decade. There are over 325 million people currently living in the United States, and citizens must be protective of the freedoms and rights granted to them. The problems introduced by Facebook and Twitter can be mitigated with a colossal effort from both sides of the aisle, and the country's future depends upon it.

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